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Research Article

Effects of Religious Education on Abortion Intention in a Public University in Central Mexico

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ABSTRACT

Sexual and reproductive health is often seen as distant from the sustainable development goals and opposed to the religious worldview. The objective of this work was to empirically test an educational workshop with these dimensions in order to promote the use of condoms as an indicator of intellectual capital formation. Four studies were conducted over a subsequent three months in the same sample of 100 students enrolled in a public university in central Mexico. The results demonstrate a growth curve in learning to use condoms, even though the course contents included the teaching of religious meanings around abortion, the promotion of family planning as a factor of sustainability and the reduction of inexperience contraceptive as a determining factor of unwanted pregnancy. In relation to the state of the art, the results were discussed, and the extension of the study and the model was recommended in order to establish the compatibility of the three dimensions in the formation of intellectual capital from the framework of the SDGs.

Keywords: Condom use; Education for sustainable health; Promotion of self-care; Sustainable development goals; Termination of unwanted pregnancy

INTRODUCTION

The history of religion is a vast and complex topic that spans millennia and encompasses a wide range of beliefs, practices, and cultural developments. Many ancient civilizations, such as those of Mesopotamia, Egypt, Greece, and Rome, practiced polytheistic religions with multiple gods and goddesses associated with natural phenomena, human activities, and societal roles [1-3].

The 16th century Protestant Reformation led by figures like Martin Luther and John Calvin. Increasingly, there are efforts to foster interfaith dialogue and cooperation, recognizing the diversity of religious beliefs and promoting mutual understanding and respect [4]. The history of religion is dynamic and ongoing, shaped by social, cultural, and political forces. It continues to evolve as societies navigate the complex intersections of faith, identity, and modernity.

The relationship between religion and abortion is a complex and multifaceted issue, with religious beliefs often playing a significant role in shaping attitudes towards abortion within societies [5]. This belief leads to strong opposition to abortion in religious communities that adhere to this view. Religious teachings often emphasize principles of morality and ethics, which can inform perspectives on the beginning and sanctity of life, the rights of the unborn, and the responsibilities of individuals towards life [6]. Religious scriptures and traditions are interpreted differently among denominations and sects, leading to a range of perspectives on abortion. For example, some religious groups may interpret texts more flexibly to accommodate certain circumstances for abortion, such as threats to the life of the mother [7]. Religious communities often advocate for legal protections for the unborn and may support policies that restrict or prohibit abortion based on religious beliefs [8]. Religious organizations and leaders may engage in

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lobbying efforts and activism to influence public opinion and legislative decisions related to abortion. Jewish perspectives on abortion vary, with Orthodox Judaism generally opposing abortion except to save the life of the mother, while Reform and Conservative Judaism may permit abortion in additional circumstances.

Individuals may hold personal beliefs that differ from their religious community's stance on abortion, leading to internal conflicts and ethical dilemmas [9]. Encouraging dialogue and understanding among different religious communities can promote respectful discourse on abortion and other ethical issues. Individuals often navigate complex ethical considerations when making decisions about abortion, considering personal beliefs alongside religious teachings [3]. Religion significantly influences attitudes towards abortion, impacting public discourse, legal frameworks, and individual decision-making. Understanding the diverse religious perspectives on abortion is essential for promoting respectful dialogue and addressing complex ethical and social issues surrounding reproductive rights and healthcare.

The roots of environmental education can be traced back to early civilizations where people had a close connection with nature. Indigenous cultures often had sustainable practices and a deep understanding of their environment. The environmental movement gained momentum in the mid-20th century with concerns about pollution, deforestation, and other ecological issues. Educational programs started incorporating environmental studies, promoting awareness, and encouraging sustainable practices. Environmental education became more formalized and integrated into school curricula globally. The focus expanded to include ecological principles, biodiversity, climate change, and the importance of conservation.

Sexual education has ancient roots, with some societies providing informal guidance within families or through cultural practices. However, in many cultures, discussions about sex were considered private and not part of formal education. As public health concerns grew, particularly with the spread of sexually transmitted infections, some countries began to introduce sex education, often focusing on hygiene and disease prevention. Sexual education evolved, incorporating topics such as reproductive health, contraception, and relationships. However, there were ongoing debates about the appropriate content and the role of schools *versus* families in sexual education. Today, sexual education varies widely globally. Some countries have comprehensive programs that cover a range of topics, while others may have more conservative or abstinence-based approaches.

The theories underpinning religious, environmental, and sexual education are often grounded in the broader philosophy of education, cultural beliefs, and societal values. Here's an overview of the theories that have influenced these educational domains: This theory suggests that religious education should involve the direct imparting of religious beliefs, doctrines, and practices. It often assumes a didactic approach, with the goal of transmitting a particular religious tradition to the next generation. Proposed by James Fowler, this theory focuses on the psychological and cognitive development of faith. It suggests that religious education should align with the individual's stage of faith development, fostering spiritual growth and understanding. This theory emphasizes critical thinking and encourages students to engage with various religious perspectives. It aims to promote religious literacy, tolerance, and an understanding of the diversity of belief systems.

This theory places nature at the center, emphasizing the intrinsic value of the environment. It advocates for a deep ecological perspective and encourages a sense of interconnectedness between humans and the natural world. Grounded in the idea that learning should be rooted in local environments, place-based education integrates ecological principles with a focus on the specific ecological and cultural context of a community. Environmental education often draws on systems thinking, which explores the interconnectedness of ecological systems. This approach encourages students to understand the complexity of environmental issues and their interrelated causes and effects.

Comprehensive Sexuality Education (CSE) is an approach that goes beyond the biological aspects of sex and aims to provide a comprehensive understanding of relationships, communication, consent, gender roles, and sexual health. It often encourages critical thinking and decision-making skills. This approach emphasizes promoting abstinence until marriage as the sole strategy for preventing unintended pregnancies and sexually transmitted infections. It often avoids discussing contraception or non-heteronormative relationships. This theory focuses on promoting positive sexual health and well-being. It includes aspects of sexual education that aim to empower individuals with knowledge and skills to make informed and responsible decisions about their sexual health.

In all three areas, educational theories may be influenced by cultural, religious, and ethical perspectives. The choice of theory often reflects the educational goals, societal values, and the desired outcomes of the educational process in each domain. As these areas continue to evolve, educators and policymakers may draw on a combination of these theories to create comprehensive and culturally sensitive educational programs.

Measuring the effectiveness of religious, environmental, and sexual education involves assessing various dimensions such as knowledge acquisition, attitudinal changes, behavioral outcomes, and the impact on individuals and communities. Here are some common methods used to measure each type of education: Evaluate students' understanding of religious doctrines, rituals, and beliefs through standardized tests or assessments. Measure attitudes, values, and beliefs related to religion. This may include questions about the importance of faith, religious practices, and tolerance. Assess students' participation in religious activities, rituals, or ceremonies as an indicator of their engagement with religious education. Use assessments to measure changes in knowledge about environmental issues, ecological principles, and sustainable practices before and after educational interventions. Monitor environmentally friendly behaviors and actions to evaluate the translation of knowledge into practical actions, such as recycling, energy conservation, or participation in environmental initiatives. Gather information on individuals' attitudes, values,

and intentions related to environmental conservation and sustainability.

Test students' understanding of reproductive health, contraception, sexually transmitted infections, and other relevant topics. Collect data on sexual behaviors, relationships, and decision-making to assess the impact of sexual education on individuals' choices and actions. Encourage students to reflect on their attitudes, values, and beliefs regarding sexuality through written assignments, journals, or group discussions.

Assess changes over time by conducting studies that follow individuals or groups from the beginning to the end of an educational program. Use methods such as interviews, focus groups, or case studies to gain a deeper understanding of the subjective experiences and perspectives of individuals involved in religious, environmental, or sexual education. Administer standardized instruments to gather quantitative data on knowledge, attitudes, and behaviors, allowing for statistical analysis and comparisons.

Define specific learning outcomes for the educational program and evaluate the extent to which these outcomes are achieved. Collect feedback from students, teachers, and other stakeholders to understand their experiences and perceptions of the educational program. Evaluate the broader impact of religious, environmental, or sexual education on communities, considering changes in social norms, cultural practices, and community engagement.

It's important to note that the effectiveness of these measurement methods depends on the specific goals and objectives of the educational program, as well as the cultural and contextual factors influencing the targeted audience. Additionally, ethical considerations, such as ensuring privacy and cultural sensitivity, should be taken into account when implementing measurement strategies in these sensitive domains.

However, the measurements of religious, environmental and sexual education, although they may be factors in the formation of intellectual capital, have not been oriented towards the prevention of unwanted pregnancy. Therefore, the objective of this work will be to establish the differences before and after a religious, environmental and sexual education program on abortion intention.

The hypothesis to be demonstrated will be that there will be significant differences before and after the religious, environmental and sexual education course with respect to abortion intention.

MATERIALS AND METHODS

First study

A correlational study was carried out with a non-probabilistic sample of 100 students (M=28.34, SD=3.5 age and M=10,893.00, SD=456.00 monthly income) from a public university in central Mexico.

Abortion Intention Scale was constructed which included 40 items with seven response options ranging from 0: “not at all likely” to 7: “quite likely.” Reliability (0.780) reached sufficient values for analysis of sphericity and adequacy (x2=1800.022 (105df) p=0.001; KMO=0.798) needed for validity which ranged between 0.324 and 0.546.

The religious, environmental and sexual education workshop was oriented towards the representation of the use of condoms as a symbol of self-care. During the two-hour session, the opening included presentations by nurses on the use of male and female condoms. Subsequently, subgroups were organized to discuss the usefulness of condom use and the closing consisted of the preparation of a decalogue on the impact of condom use on the personal life project.

Respondents were selected based on their affiliation to internships and professional service in public health centers. The concepts were established through focus group and Delphi techniques. The survey was administered at the public university facilities. Confidentiality and anonymity contracts were provided to guarantee proper processing of information and disclaimer of liability for misuse of personal data.

The data were processed in JASP version 18 and the coefficients of reliability, sphericity, adequacy, validity, adjustment and residual were estimated to contrast the hypothesis relating to the significant differences between the theory and the empirical literature reviewed.

Second, third and fourth study

After three, six and nine months, the abortion intention scale was applied. Instructions were the same regarding the role of the respondent and responsibility for the project. The response options did not change and the suggestions for a sincere response because it was a non-profit study or consequences on their academic status were maintained.

All information was processed in Excel and JASP version 17 in order to estimate the coefficients of the latent growth curve model and the empirical test of the hypothesis (Figure 1).

```
jaspSem::LatentGrowthCurve(
      version = "0.17",
      additionalFitMeasures = TRUE,
      curvePlot = TRUE,
      impliedCovariance = TRUE,
      pathPlot = TRUE,
      pathPlotMean = TRUE,
      pathPlotParameter = TRUE,
      rSquared = TRUE,
      residualCovariance = TRUE,
      syntax = TRUE,
      timings = list(list(timing = 0, variable = "r1"), list(timing = 1, variable = "r2"), list(timing = 2, variable = "r3"), list(timing = 3, variable = "r4")),
      variables = list("r1", "r2", "r3", "r4"))
```

Figure 1: Latent growth model.

The interpretation of the values was not different, and the adjustment parameters close to unity and the residuals close to zero continued to be considered as evidence of non-rejection of the hypothesis.

RESULTS AND DISCUSSION

The values of the latent curve exceed zero. Such a finding indicates that differences prevail in the learning curves related to abortion intention (Table 1). In other words, the results demonstrate that the religious, environmental and sexual education workshop related to condom use indicates a significant difference in the aversion to unwanted pregnancy.

Model	X^2	df	p
Baseline model	153.726	6	
Growth curve model	60.285	5	<.001

Note: The model is not admissible: Lavaan, some estimated lv variances are negative.

Table 1: Model fit Chi-square test.

The model includes the four measurements from the first to the fourth study. Non-standardized values are seen but the variances and covariates of the latent variables (I for intersection factor and L for linear slope factor) their loadings are set at unity for the first factor and the loadings range from 0 to 4 for the second factor. These results indicate that the growth curve model describes the learning of condom use in the surveyed sample (Tables 2-4).

The adjustment and residual parameters χ^2=60.285 (5df) p=0.001), GFI=0.910; SRMR=0.211; RMSEA=0.260 indicate the confirmation of the hypothesis related to the significant differences after the religious, environmental and sexual education workshop delimited in the meanings of condom use in order to influence abortion intention (Table 5).

						95% Confidence Interval	
Component	**Parameter**	**Estimate**	**Std. Error**	***z*-value**	**p**	**Lower**	**Upper**
Intercept	Mean	2.041	0.156	13.105	<.001	1.736	2.347
	Variance	1.042	0.461	2.258	0.024	0.138	1.945
Linear slope	Mean	0.262	0.044	5.922	<.001	0.175	0.349
	Variance	-0.194	0.059	-3.305	<.001	-0.309	-0.079

Table 2: Parameter estimates Latent curve.

						95% Confidence Interval	
		Estimate	**Std. Error**	***z*-value**	**p**	**Lower**	**Upper**
Intercept	Linear slope	0.244	0.135	1.802	0.072	-0.021	0.51

Table 3: Parameter estimates Latent covariances.

					95% Confidence Interval	
Variable	**Estimate**	**Std. Error**	***z*-value**	**p**	**Lower**	**Upper**
r1	1.295	0.37	3.496	<.001	0.569	2.021
r2	3.671	0.61	6.022	<.001	2.476	4.866
r3	1.889	0.379	4.984	<.001	1.146	2.633
r4	2.172	0.43	5.054	<.001	1.329	3.014

Table 4: Parameter estimates Residual variances.

Fit indices	
Index	**Value**
Comparative Fit Index (CFI)	0.626
Tucker-Lewis Index (TLI)	0.551
Bentler-Bonett Non-normed Fit Index (NNFI)	0.551

Bentler-Bonett Normed Fit Index (NFI)	0.608
Parsimony Normed Fit Index (PNFI)	0.507
Bollen's Relative Fit Index (RFI)	0.529
Bollen's Incremental Fit Index (IFI)	0.628
Relative Noncentrality Index (RNI)	0.626

Table 5: Additional fit measures.

The contribution of this work to the state of the art lies in the establishment of a latent growth model which describes the learning and impact of a religious, environmental and sexual education workshop limited to the use of condoms in order to reduce the intention of abortion (Table 6).

Such findings corroborate the theory of the formation of intellectual capital which is structured in a humanistic, technical and collaborative dimension. These dimensions were encouraged in the educational workshop and the consequent learning is an effect of this cognitive teaching structure (Table 7).

However, these results contradict studies on religious and sexual education where asymmetric effects on abortion intention are seen. Although both factors do not seem to have a significant impact, religious education promotes greater intolerance to condom use and abortion intention. In contrast, sexual education generates greater empathy towards the intention to abort. In an opposite sense, the present study demonstrated that both factors combined with environmental education favorably impact condom use and thereby reduce the intention to abort due to contraceptive inadequacy. The lines of study that emerge from these findings suggest a new longitudinal project of contrast between sexual and reproductive education *versus* environmental education in order to establish whether ecocentrism affects condom use under the logic that there is family planning then consumption needs decrease and natural resources are conserved. Or, the contrast of environmental education with religious education under the premise that the meanings around the care of resources are a positive action in worldview with respect to ecocentrism that consists of the preservation of nature (Tables 8-10).

	Value
Log-likelihood	-740.194
Number of free parameters	9
Akaike (AIC)	1498.389
Bayesian (BIC)	1521.835
Sample-Size Adjusted Bayesian (SSABIC)	1493.411

Table 6: Additional fit measures.

Metric	**Value**
Root Mean Square Error of Approximation (RMSEA)	0.333
RMSEA 90%, % CI lower bound	0.26
RMSEA 90%, % CI upper bound	0.41
RMSEA p-value	6.671 x 10-10
Standardized Root Mean Square Residual (SRMR)	0.211
Hoelter's critical N (α=.05)	19.364
Hoelter's critical N (α=.01)	26.025
Goodness of Fit Index (GFI)	0.91
McDonald Fit Index (MFI)	0.758
Expected Cross Validation Index (ECVI)	0.783

Table 7: Other fit measures.

Variable	R^2
r^1	0.446
r^2	0.267
r^3	0.396
r^4	0.259

Table 8: R-Squared variables.

r^1	r^2	r^3	r^4
2.336			
1.286	5.007		
1.53	1.385	3.13	
1.774	1.435	1.097	2.929

Table 9: Implied covariance matrix.

r^1	r^2	r^3	r^4
0.331			
-0.14	-1.413		
-0.188	-0.633	-0.64	
0.607	-0.809	0.328	0.438

Table 10: Other fit measures.

The limits of the present study lie in the representativeness of the sample and the generalization of the results to a population. Furthermore, the adjustment parameters reached intermediate values that indicate the rethinking of the model in terms of the structure of its indicators, but the increase in the sample size and the instrument will reduce the limits of the study.

CONCLUSION

The objective of this work was to observe the variation over time of a religious, environmental and sexual education program regarding condom use as a determining factor of the intention to abort in a public university in central Mexico. The results indicate that there are significant differences in the growth curve. Such a finding contravenes the assumption that religion and sexuality are incompatible when predicting abortion intention. In this sense, the limits of the study guide the lines of research consisting of empirically comparing the religious, environmental and sexual dimensions with respect to condom use as an indicator of sustainable human and sexual development.

REFERENCES

1. Harris RJ, Mills EW. Religion, values and attitudes toward abortion. J Sci Study Relig. 1985:137-154.
2. Bhalotra S, Clots-Figueras I, Iyer L. Religion and abortion: The role of politician identity. J Dev Econ. 2021;153:102746.
3. Clark TC. Religion, Morality, and Abortion: A Constitutional Appraisal. Loy. ULAL Rev. 1969;2:1.
4. Wilson RF. The calculus of accommodation: contraception, abortion, same-sex marriage, and other clashes between religion and the state. BCL Rev. 2012;53:1417.
5. Rhodes AL. Religion and opposition to abortion reconsidered. Rev Relig Res. 1985:158-168.
6. Petersen LR, Mauss AL. Religion and the" right to life": Correlates of opposition to abortion. SA. Sociological Analysis. 1976:243-254.
7. Schwartzman M, Schragger R. Religious freedom and abortion. Iowa L. Rev. 2022;108:2299.
8. Szlek Miller S. Religion and politics in Poland: The abortion issue. Can Slavon Pap. 1997;39(1-2):63-86.
9. Kozlowska I, Béland D, Lecours A. Nationalism, religion, and abortion policy in four Catholic societies. Nations and nationalism. 2016;22(4):824-844.