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## RESEARCH ARTICLE

### HIV/AIDS Risky Behavior Model for LGBT Youth in the Gorontalo Province

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#### Abstract:

##### Context:

The behavior model for preventing HIV/AIDS transmission in lesbian, gay, bisexual, and transgender (LGBT) youth can contain HIV/AIDS information in this population.

##### Objective:

According to Planned Behavior Theory (PBT), human growth within different social environments may gain further information on various issues. This information can be the basis of their behavioral beliefs, social demands of essential others (normative beliefs), and obstacles that can prevent them from showing certain behaviors (control beliefs). These factors can influence intention and behavior. This study aims to develop a model for HIV/AIDS risk-related behavior among LGBT youth based on PBT.

##### Methods:

This was an observational study using a cross-sectional approach. The modeling used the Structural Equation Model (SEM) pathway through the AMOS 8.50 software application. The variables in this study are internal factors, such as religious obedience, knowledge, beliefs, intention, and risky behavior.

##### Participants:

This study occurred in Gorontalo Province with 200 LGBT youths with risky behaviors.

##### Results:

Risk behavior modeling results of LGBT youths in Gorontalo; Religious adherence affects risk behavior through intention. Overall, research results from the study using the PBT approach emphasize that religious obedience does not directly affect the behavioral variables but rather beliefs and intentions.

##### Conclusion:

HIV/AIDS prevention programs for LGBT youth should focus on religious activities.

**Keywords:** LGBT youth, Risky behavior, HIV/AIDS, PBT, TPB, LGBT.

#### Article History

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## 1. INTRODUCTION

This article contains the theory of implementing Plan behavior (TPB) in a behavior model based on local wisdom to prevent HIV/AIDS infection in vulnerable groups, especially the adolescent population, which continues to increase. This model can be applied by the Health Service in conducting

preventive programs and promotion of HIV/AIDS, especially in groups of adolescents who have risky behavior. The authors would like funding for this research to come entirely from researchers and are not tied to any funding source, both government agencies and other parties. Thank to all parties who assisted in this research, including the Head of the Gorontalo Provincial Health Office and editing ([www.editage.com](http://www.editage.com)) for English language editing.

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Gay, lesbian, gay, and transgender communities, such as Gorontalo, are commonly found in central Indonesian provinces. Several gay, transgender, and lesbian groups in Gorontalo have over 5,000 members. Some members have been open and open about their sexual orientation, and others have chosen not to disclose their sexual orientation [1, 2].

Data from the Contagious Disease Unit at the Provincial Health Office of Gorontalo shows that there were 394 cases of sexually transmitted diseases (STDs) from January to December 2017. The number of sexually transmitted infections through syndromic approach and laboratory check [1]. According to the group showed that males were the riskiest group with 364 cases (92,4%), followed by gay people with 24 cases (6,1%), customers of sexual workers with 4 cases (1,1%), high-risk couples with 2 cases (0,5%), and transgender people with 675 cases (2,1%).

Adjzen, who proposed the Theory of Planned Behavior (PBT), states that attitudes influence behavior through informed decision-making and reasoning. The impact of attitudes is limited to three things: (a) behavior is determined not only by a general attitude but also by a particular attitude towards something; (b) behavior is influenced not only by attitudes but also by subjective norms about what a person wants others to do; and attitudes, as well as subjective norms, form intentions toward a particular behavior [3].

People who grew up in different social settings may receive different types of information about different issues [4]. This information becomes the basis for beliefs about the consequences of behavior (behavioral beliefs), the social needs of significant others (normative beliefs), and challenges that may prevent them from expressing themselves. A particular behavior (control belief). Therefore, these factors can influence intention and behavior [5].

## 2. METHODS

This research analyzes the pattern of risky behavior of LGBT youth (Lesbian, Gay, Bisexual, Transgender) related to HIV/AIDS in Gorontalo Province. The variables in this study include the level of knowledge, intentions, and beliefs of LGBT youth, which are shaped by behavioral thoughts, normative views, and control beliefs. This research is an observational study with the cross-sectional method. The research subjects included LGBT youth who were 17 years old at the time of the survey. According to data from the Gorontalo Provincial AIDS Commission for 2021, the total LGBT population in Gorontalo Province is 523 people; the sample in this study was 200 LGBT people spread across the region. Sampling was carried out randomly, where the piece selected was LGBT youth who were localized at the time the research was conducted. This unintentional sampling technique made the work biased toward LGBT women who were present in the research sample area at the time. Considering that the research sample consisted of LGBT people who were challenging to reach, the researchers used peer support group (KDS) organizations from Gorontalo Province as informants. 87 respondents came from Gorontalo City, 32 from Gorontalo

Regency, 53 from Pohuwato Regency, and around 28 from North Gorontalo Regency.

This research was ethically permitted by the Health Research Ethics Commission (KEPK) of Gorontalo State University in Indonesia (reference number No.40/UN47.B7/KE/2023.). The data collection strategy first requires official permission. The researcher obtains approval to become a voluntary respondent by using written statements to be interviewed and the data to be used as research. Before the respondent gave his consent, the researcher explained directly to the respondent the purpose of the study and its implications; 200 samples were collected; Researchers used primary data in the form of filling out questionnaires and in-depth interviews containing questions about knowledge, youth beliefs, and intentions towards LGBT youth. Data was collected by recording characteristic and clinical data and filling out questionnaires by the research sample.

Data analysis was conducted using bivariate analysis to determine the relationship between variables. Namely, Beliefs that influence risky behavior among LGBT youth, Intention towards risky behavior among LGBT youth, and Types of Risky Behavior among LGBT youth. Data analysis used SPSS 21 software, and then the data were statistically analyzed using a structural equation model (SEM\_channel) with AMOS version 8.50.

## 3. RESULTS

The results of the study on the belief variable in LGBT youth are presented in Table 1.

**Table 1. Beliefs influencing risky behavior among LGBT youths in the Gorontalo province.**

Beliefs	Very Good	Good	Quite Good	Not Good	Total
Behavior beliefs	83 (69.2%)	18 (9.0%)	18 (9.0%)	7 (3.5%)	200 (100%)
Normative beliefs	20 (10.0%)	136 (68.0%)	24 (12.0%)	20 (10.0%)	200 (100%)
Control beliefs	22 (11.0%)	136 (68.0%)	21 (10.5%)	21 (10.5%)	200 (100%)

Source: Primary data, 2022

**Table 2. Intention toward risky behavior among LGBT youth in the Gorontalo province.**

Intention	Very Good	Good	Quite Good	Not Good	Total
Free sex	40 (20.0%)	111 (55.5%)	30 (15%)	19 (9.5%)	200 (100%)
Condom use	63 (31.5%)	86 (43.0%)	26 (13.0%)	25 (12.5%)	200 (100%)
Medical examination	48 (24.0%)	118 (59.0%)	30 (15.0%)	4 (2.0%)	200 (100%)

Source: Primary data, 2022

LGBT youth's intention not to have unprotected sex is classified as good behavior (55.5%); intention to use condoms during sex was also rated as good behavior (43.0%), as shown in Table 2.

The behaviors of LGBT youth are categorized as high-risk, consisting of free sex behavior (34.5%), usage of tattoo needles or piercing needles (34.0%), and usage of narcotics (33.5%). The details are in Table 3.

**3.1. Path Analysis Model for LGBT Youth**

Models of risky behavior by LGBT youth are presented in Fig. (1).

Based on this analysis of the path of LGBT youth, variable beliefs, as measured from behavioral beliefs, norms, and controls, significantly influence intention. Thus, choice has a significant effect on behavior. Cultural, mass media and economic factors significantly influence understanding of

LGBT youth. This study also shows that religious observance significantly affects intention, with a p-value of 0.001.

An analysis of LGBT youth's risky behavior pathways shows that these behaviors are motivated by the abovementioned intentions and beliefs. Furthermore, religious observance indirectly affects groups of LGBT youth who engage in dangerous behaviors of choice. Table 4 analyzes the correlation between variables and risk behaviors of LGBT youth in Gorontalo province.

**3.2. Testing the Model**

Before conducting route analysis, a global fitness model using fitness standards was used. The standard of conformity is shown in Table 5.

**Table 3. Types of risky behaviors among LGBT youths in the Gorontalo province.**

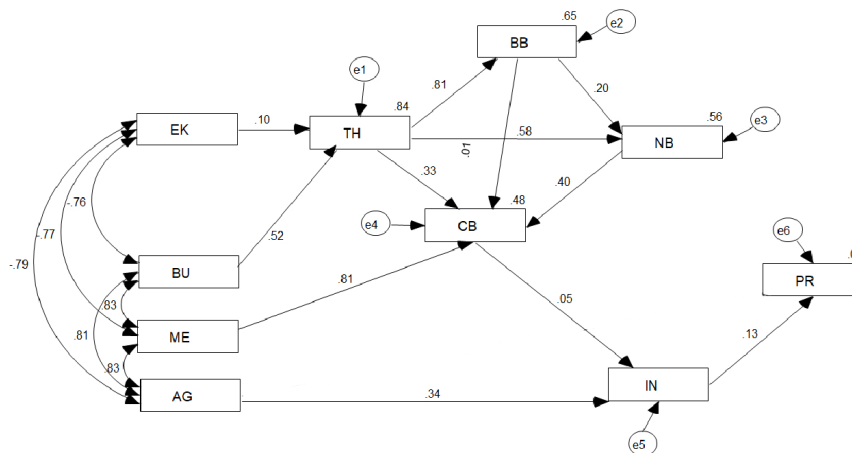
Behavior	Not at Risk	Risky	Very Risky	Total
Behavior	116 (58.0%)	15 (8.5%)	69 (34.5%)	200 (100%)
Tattoo/ piercing needle	128 (64.0%)	4 (2.0%)	68 (34.0%)	200 (100%)
Narcotic usage	120 (60.0%)	13 (6.5%)	67 (33.5%)	200 (100%)

Source: Primary data, 2022

**Table 4. Analysis of the correlation between variables influencing risky behavior among LGBT youth in the Gorontalo province.**

Influence	$\beta$	P	Result
Economy → Knowledge	0.177	0.001	Significant
Culture → Knowledge	0.528	0.001	Significant
Media → Knowledge	0.570	0.001	Significant
Knowledge → Behavior Beliefs	0.812	0.001	Significant
Behavior Beliefs → Normative Beliefs	0.475	0.001	Significant
Knowledge → Normative Beliefs	0.373	0.001	Significant
Normative beliefs → Control Beliefs	0.342	0.003	Significant
Knowledge → Control Beliefs	0.463	0.001	Significant
Control Beliefs → Intention	0.256	0.015	Significant
Religion → Intention	0.434	0.001	Significant
Intention → Behavior	0.427	0.001	Significant

Source: structural equation model (SEM\_channel) with AMOS version 8.50



**Fig. (1).** Path analysis model for LGBT youth.

Source: structural equation model (SEM\_channel) with AMOS version 8.50

**Table 5. Test of the final model on LGBT youths based on goodness-of-fit criteria.**

Goodness-of-fit Criterion	Cut of Value	Final Model
Chi-Square	0.001	0.001
Significance	0.001	0.001
Probability CMIN/DF	small =df	2.231
GFI	<2.0	0.888
RMSEA	>0.90	0.125
NFI	<0.08	0.913
CFI	>0.90	0.949
RMR	<0.05	0.028

Notes: descriptive model suitability measure. The value is expected to be greater than 0.90

Evaluation of the LGBT youth model using the fit criterion considers this model appropriate due to the low chi-square (0.001) and RMR (0.023) values.

## 4. DISCUSSION

### 4.1. HIV/AIDS Prevention Model for LGBT Youths

The model analyzing the path of LGBT youth, based on PBT, indicates that the intention variable influences LGBT youth to engage in risky behaviors. Evaluation of the model based on chi-square test, NFI and RMR shows that the model is suitable [6].

### 4.2. The Influence of Culture, Mass Media, and Religious Observance on the Intentions and Behavior of LGBT Youth

Religious obedience significantly influences the intentions of LGBT youth. Humans have gradually internalized religious values. Individual acceptance becomes ideological understanding, which later turns into beliefs [7]. These beliefs manifested as daily behaviors. Religious norms believed by certain community groups are the cultural values of that community and the regulations and sanctions for those who overstep these regulations [8]. This type of community is often called a religious community [9]. Religious values are passed on to the new generations through socialization within community institutions, such as the family, social environment, and school [10, 11].

From a social perspective, individuals strive to establish meaningful relationships with others through religion and achieve shared commitment through adherence to it. For most people, religion is a basic philosophy of life. When they become parents, many young adults in their 20s and 30s practice practices they were previously unaware of. Other results show that regardless of their beliefs, they will return to their religion [4].

For young people, religion is as essential as morality. As Adams and Gullotta explain, religion provides a moral framework so people can compare their behavior through it. Religion can stabilize behavior and describe its reason for being in this world. Religion provides refuge and peace, especially for young people seeking self-existence [12].

The results of this study confirm the findings of Wusu, who studied the religion, beliefs, and sexual behavior of young

people in the municipality of Lagos, Nigeria [5]. The survey was conducted in Lagos Metropolis with 1,026 people aged 12 to 19 years selected by multi-stage sampling method. This study found that religion was not significantly correlated with sexual behavior in young men and that faith was significantly associated with multiple sexual partners in young women [13]. This study concluded that religion did not play an essential role in reducing high-risk sexual behavior among young men [14]. However, this association was only moderately effective in preventing risky sexual behavior in women [12].

Furthermore, a study by Heubner and Garrod highlights the importance of religious and spiritual orientation for the morality of Nigerian youth. Their research found young people with excellent spiritual direction, regular church attendance, and less risky sexual orientation [15].

In addition, a study of 954 young Australians (15-19 years old) found that young people who consider themselves very religious but have little active participation in religious activities are still at high risk for sexual behavior and substance abuse [4]. This study shows that young people who are not addicted to alcohol and who are sexually active tend to have good family relationships, maintain close and very affectionate relationships with their families, and have high levels of commitment [16].

### 4.3. Effects of Behavioral Beliefs, Normative Beliefs, and Control Beliefs on Young People's Intentions

The modeling of LGBT youth shows that beliefs (behavioral beliefs, normative beliefs, and control beliefs) have no influence or insignificant influence on intention.

The effect of controlling beliefs on intention in young women showed a significant influence [17, 18]. This study confirms the conclusion of Schwarzer and Renner, who explored dimensions describing self-efficacy. This can be described as self-control and the belief to continue exhibiting positive behaviors despite relatively large challenges [5]. Self-efficacy allows individuals to learn to deflect or avoid risky behaviors and control themselves to prevent them, regardless of intense internal and external pressures [19, 20]. Beliefs in risky behaviors examined the socialization of risky behaviors [21]. It revealed that two students (6.25%) in the sample had high self-confidence, and 21 students (91.3%) had very high self-confidence, which made them refuse to engage in risky behaviors [7].

This result contrasts with the concept of PBT, which states that some beliefs form intentions before that intention directly influences behavior. However, the current study is consistent with Lin, and Huey-Ling, who created a new model to predict sexual preferences in young adults [22]. Variable correlation analysis revealed a nonsignificant correlation between beliefs and intention to perform risky sexual behaviors. This correlation suggests that young people's opinions often conflict with their choice to engage in risky sexual behaviors [23]. The results of this study raise questions regarding the strength of young people's beliefs about a stable social environment and norms for nurturing sexual intentions. Therefore, other variables are mainly social and cultural (peer pressure, school environment, and family factors) [24]. By studying the factors that influence sexual beliefs and intentions, we can identify specific aspects of young people's sexual behavior [25].

#### 4.4. Influence of Intention on Youths' Behavior

A study by Ajzen defines intention as the tendency of behaviors to wait for the right time and opportunity to manifest into action. Similarly, Friedman argues that intention is an individual plan or solution to perform some behavior following one's attitude. Intent is also defined as similar definitions, and we define intention as an individual's plan to engage in something in the future [26, 27].

The present study indicates that the intentions of LGBT youth in the province of Gorontalo positively influence risk behaviors. Thus, intentions directly influence the HIV/AIDS-related risk behaviors of LGBT youth [2, 28].

The influence of controlling beliefs on the intentions of LGBT youth shows a significant correlation. This finding is concluded with research that describes aspects of self-efficacy [29, 30].

#### CONCLUSION

Behavioral patterns of LGBT youth in Gorontalo province are heavily influenced by religious intentions and adherence.

#### RECOMMENDATION

Measures to prevent HIV/AIDS among LGBT youth should follow a religious approach.

#### LIST OF ABBREVIATIONS

**STDs** = Sexually Transmitted Diseases

**TPB** = Theory of implementing Plan Behavior

#### ETHICS APPROVAL AND CONSENT TO PARTICIPATE

This research was ethically permitted by the Health Research Ethics Commission (KEPK) at the State University of Gorontalo in Indonesia (reference number No.40/UN47.B7/KE/2023.).

#### HUMAN AND ANIMAL RIGHTS

No animals were used for studies that are the basis of this research. All the humans were used in accordance with the ethical standards of the committee responsible for human

experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2013 (<http://ethics.iit.edu/ecodes/node/3931>).

#### CONSENT FOR PUBLICATION

Informed consent was obtained from all participants.

#### STANDARDS OF REPORTING

STROBE guidelines were followed.

#### AVAILABILITY OF DATA AND MATERIALS

Data will be made available upon request but will be controlled. To protect patient confidentiality and anonymity, the data bases were de-identified and access strictly limited. The data that support the findings of this study are available from the corresponding author [I.I] upon reasonable request.

#### FUNDING

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#### CONFLICT OF INTEREST

The authors declare that there is no conflict of interest in this publication.

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