



2023

Factors Influencing Sexuality, Gender and Norms of Adolescent: A Cross-Sectional Study Among Adolescent in Indonesia

Tantut Susanto

Tirta Amerta Isworo

Dewi Rokhmah

Follow this and additional works at: <https://digital.car.chula.ac.th/jhr>



Part of the [Medicine and Health Sciences Commons](#)

Factors Influencing Sexuality, Gender and Norms of Adolescents: A Cross-Sectional Study Among Adolescents in Indonesia

Tantut Susanto ^{a,*}, Tirta Amerta Isworo ^b, Dewi Rokhmah ^c

^a Department of Community, Family & Geriatric Nursing, Faculty of Nursing, Universitas Jember, Jember, Indonesia

^b Postgraduate of Master Public Health, School of Postgraduate Program, Universitas Jember, Jember, Indonesia

^c Department of Health Promotion, Faculty of Public Health, Universitas Jember, Jember, Indonesia

Abstract

Background: The current study explored the factors related to the sexuality, gender, and norms among Indonesian adolescents via structural equation modelling.

Method: A cross-sectional design was performed among 394 adolescents from August to October 2020 in East Java of Indonesia. A self-administered questionnaire measured factors that influenced sexuality, gender, and norms of adolescents. We used smart PLS (*Partial Least Squares*) to analyze the data.

Results: Two correlations emerge among independent variables, namely sociodemographic of adolescent and knowledge of reproductive health (RH) and human immunodeficiency virus (HIV) ($p < 0.001$) and sociodemographic of parents and family structure and function of RH ($p < 0.001$). Sociodemographic of parents ($p = 0.003$), knowledge of RH and HIV ($p = 0.012$), and family structure and function of RH ($p = 0.006$) were directly related to sexuality, gender, and norms of adolescent. Sociodemographic of adolescents ($p = 0.031$) and parents ($p = 0.024$) were indirectly related to the sexuality, gender, and norms of adolescent through knowledge of RH and HIV. Our model explains 39.9% of the variance in sexuality, gender, and norms of adolescents.

Conclusion: Factors that influence sexuality, gender, and norms of the adolescent should be explored during puberty to maintain positive attitudes towards sexuality, gender, and norms. Furthermore, there needs to be comprehensive education on sexuality, gender, and norms to promote gender equality and to tackle harmful stereotypical attitudes. The education can be tailored to lead to increase positive perceptions of sexuality, gender, and norms among adolescents.

Keywords: Sexuality, Gender, Norms, Adolescent, Family, Reproductive health

1. Introduction

The impact of sexuality, gender and norms of adolescents varies over time and between cultures. Indonesian societal and familial trends that cause gender role differences include different positional roles of boys and girls in status, either imposed or fundamental universal rights. These roles are manifested in smoking as a masculine symbol for boys or the expectation of marriage at an early age for girls [1]. Adolescent reproductive

health attitudes due to gender norms and rigid gender norms can harm sexuality, such as dating behaviour [1]. A previous study reported differences in gender and sexual orientation, with males engaging in more sexting than females. Moderate and high levels of sexting could be a risk factor for certain problematic behaviours, including dating violence [2]. We conceptualize factors associated with sexuality, gender and adolescent norms based on reproductive health during adolescent development and family systems development in an Indonesian context.

Received 10 January 2021; revised 6 August 2021; accepted 4 September 2021.
Available online 31 August 2022

* Corresponding author.
E-mail address: tantut_s.psik@unej.ac.id (T. Susanto).

<https://doi.org/10.56808/2586-940X.1007>

2586-940X/© 2023 College of Public Health Sciences, Chulalongkorn University. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

In the family context, the connection between parents and adolescents could be facilitated by family structure and family function to reduce risky reproductive health behaviour in adolescents [3]. However, in Indonesia, parents have difficulty discussing reproductive health issues with their adolescents due to social, cultural, religious norms in Indonesia [1]. Parents and adolescents are limited to discuss about menstruation, masturbation, and dating with their parents related to dating behaviour among adolescents girls in Indonesia [4].

Furthermore, in Indonesia, the parent's role in caring for adolescents is influenced by the family system's components, including structure and function [5]. In addition, the structure and function of family are directly correlated with local wisdom based on social, culture, and religious norms [6]. In this context, it is essential to identify an approach to promote the development of family systems based on equality within the gender norm sexuality in adolescent reproductive health (GNS-ARH) to promote positive youth development. To our knowledge, there is only limited evidence regarding the interaction between the child development and reproductive health and family systems development in an Indonesia context that identifies factors that influence sexuality, gender and norms. These factors could form the basis of an approach promoting equality in gender norms among adolescents in an Indonesian context to reduce stereotyping, disparities, and inequalities in gender norm attitudes among adolescents. The sexuality, gender and norms of adolescent issues in a family system context should be explored using the Partial Least Squares Structural Equation Modeling technique (PLS-SEM) [7,8].

PLS-SEM is a particular specification model that can describe the structural path between constructions (structural models) and the relationship between each structure and the related indicators (measurement models) [8]. The factors that influence the sexuality, gender and norms of adolescent will be visualized in a graphically by describing the factors related to the sexuality, gender and norms of adolescent. Our current study's purpose is to investigate the factors associated with the sexuality, gender and norms of adolescent among Indonesian adolescents via PLS-SEM within an Indonesian context.

2. Methods

2.1. Design and participants

We conducted a school-based cross-sectional study among adolescents and their parents in the

Jember regency, East Java province of Indonesia, from August to October 2020. This study focuses on the Jember areas because previous studies have shown that the parents' care for adolescents in the Pandalungan tribe is unique and based on local wisdom and values. These conditions are reflected in the spirituality, family structure and function, and family development tasks [5]. Therefore, in the current study, we focused on the Jember areas to explore on sexuality, gender, and norms of adolescents.

The population of adolescents aged 16–19 years in Jember regency was 25,231 [1]. We estimated the sample size using this formula: $\frac{N}{1+N(d)^2}$ with a 95% confidence interval and precision of 5%. Therefore, we included 394 adolescents aged 16–19 years and their parents in this study. Among eight sub-districts of Jember, we selected East Java of Indonesia because it represented different regions and included both urban and rural areas. Participants were selected by random cluster sampling from nine educational districts in different parts of the city (north, south, east, west, and central) with different socio-demographic backgrounds. We selected each of the cluster samples using a proportional random sampling. Eligible participants were senior high school students registered at the selected schools who had agreed to participate and obtained consent from their parents. We excluded participants who did not demonstrate the ability to understand and respond to survey questions. We paired data from the children and their parents' questionnaires.

2.2. Ethical consideration

The study was approved by the Ethical Committee Review Board of Indonesia of the Faculty of Dentistry, University of Jember No. 879/UN25.8/KEPK/DL/2020.

2.3. Procedure

We obtained permission from the students' teachers to conduct the survey in their schools. Next, we spoke with students in their classrooms to obtain their consent and explain the risk and benefit of the study. We also sent a letter to their families, informing them of the study details and soliciting the written informed consent of those who agreed to participate. Informed consent was obtained in the Indonesian language.

After parental permission was received, we obtained written consent from the adolescents to

participate in this study. The adolescents completed the questionnaires in their classrooms. To avoid bias, we asked the participants to answer the socio-demographic questions first, and then complete questions on sexuality, gender and norms of adolescents next in a private room.

The parents who agreed to participate in the study completed the questionnaires in their homes and sent them back to school with their children. The teachers collected these completed questionnaires and returned them to researchers.

2.4. Measures

We used self-administered questionnaires in the Indonesian language to measure adolescent and parent variables. For adolescents, we used the Illustrative Questionnaire for Interview-Surveys with Young People from WHO [9] used in previous study in Indonesia [1]. In our earlier study, we calculated Cronbach's alpha for reliability for all data collection instruments for adolescents used in this study [1]. Questionnaires for adolescents measured sociodemographic data, knowledge of reproductive health (RH) and HIV, and sexuality, gender and norms of adolescent.

The socio-demographic of adolescent measurement included the child's age (years), gender, religion, ethnicity, access to information on reproductive health (access versus no access), and have ever dated someone (yes versus no) [1].

Knowledge of RH and HIV [1] measured adolescent' understanding of changes in puberty and knowledge of HIV. HIV was selected as a topic because it is a general topic about sexually transmitted diseases in adolescent reproductive health. We assessed this knowledge using 25 questions with yes (2) or no (1) responses. The scores for the 25 questions were added to provide a composite score of knowledge of RH and HIV. Higher scores indicated an increased understanding of RH and HIV. Scores were categorized into three categories (low, moderate, and high).

In the present study, sexuality, gender and norms of adolescents were considered dependent variables. These variables were measured via 21 questions based on a 3-point Likert-type scale (disagree = 1, neither agree nor disagree = 2, agree = 3) [9]. The scores of these 21 questions were added to provide a composite score of gender norms and sexuality. Higher scores indicated more positive perceptions of GNS-ARH. We categorized scores into two categories (positive and negative).

Meanwhile, we were measured parents' socio-demographic data, as well as family structure and

function to provide RH of adolescents. Sociodemographic of parents included questions about the parent's age, gender, number of family members, ethnic, and education background, family's monthly income, and living areas [9].

To measure the parents' variable, we used questions about family structure and function for providing ARH, which we found to have good reliability in our previous study [10]. Family We included 25 questions to measure family structure and function to provide RH. All questions were based on a 4-point Likert-type scale, ranging from never (1) to always (4) for positive questions, and from never (4) to always (1) for negative questions. We asked parents 25 questions about providing adolescent reproductive health needs for their children as family as system [10]. Higher scores indicated a more positive effect of family structure and function on RH. We categorized scores into two categories (positive and negative).

Independent variables in the adolescents' data included socio-demographics of adolescents and knowledge of RH and HIV. The parents' data included sociodemographic of parent and family structure and function to provide RH for adolescents. In the contrast, the dependent variable was sexuality, gender, and norms of adolescent.

2.5. Statistical analyses

All data were analysed using the IBM Statistical Package for Social Sciences (SPSS) software program, version 22.0. To calculate the participants' characteristics, we used descriptive statistics. To determine the differences in the sexuality, gender and norms of adolescents among boys and girls, we were used a t-independent test. We conducted the PLS-SEM analysis using SmartPLS 3.6 software to identify the factors related to the sexuality, gender and norms of adolescent among Indonesian adolescents. This software provides regular updates through discussion among its users [11]. PLS-SEM is applied in "Program R," which requires knowledge of computer sciences.

We used PLS-SEM modeling to identify which confirmatory factors are more reliable and valid. The value of factor loadings/outer loadings and average variance extracted (AVE) in PLS-SEM is better than covariance based-structural equation monitoring (CB-SEM), even though using the same data [11]. If applied correctly, PLS-SEM path modelling performs well and doesn't conflict with the CB-SEM method, which focuses more on statistical analysis. CB-SEM and PLS-SEM complement each other. The advantages of the PLS-SEM

approach is that it is nonparametric and variance-based, while the weaknesses of the CB-SEM approach is parametric and covariance-based [12].

Modeling with the PLS path is an entirely SEM analysis method that can explain model factors and composite model for construct measurements, prediction of the recursive and non-recursive structural model, and testing of fit model [7]. The Smart PLS software used in measurement models and structural models [12] to measure and confirm convergence and differentiate the validity of measures. In this study, we calculated that Cronbach's Alpha to assess the reliabilities of all subfactors were greater than 0.7 [13].

To explain the changes in the contracts described in the model, we were used Principal component analysis as the basis for the PLS analysis. There are two stages in PLS analysis. First, we measured the measurement model, and then we measured the structural model. To calculate the relationship between the variables studied, namely the apparent variables (sub-factors) and the latent variables (factors), we were used a measurement model to test the validity and reliability aspects of the construct measurement. Then, to estimate the construction path coefficients, we were used a structural model analysis that determined the association between construct variables. This path coefficient is an indicator of the ability of each variable to predict the model.

3. Results

The characteristics of adolescents and parents were shown in Table 1. Of the 473 adolescents who received the questionnaire, 394 adolescents completed the questionnaire. The response rate of this study was approximate 83.3%. 48 parents refused to participate, while 31 parents did not return their questionnaires to school. Of the adolescents who participated, 47.7% were male and 52.3% were female. The majority of adolescents (53.6%) started puberty at an appropriate age, which was <11 years for girls and <13 years for boys. 35.3% of adolescents had ever dated and had a boy or girlfriend. Most adolescents (69.8%) had not previously accessed RH information. In addition, 36.3% of the parents who completed the questionnaires were male, and 63.7% were female. A majority of parents (57.9%) were 32–54 years of age, and 54.6% were living in rural areas.

Fig. 1 illustrated the levels of the adolescent knowledge of RH and HIV and the family structure and function of RH. A sizable percentage (36%) of adolescents had low levels of knowledge of RH and HIV. Meanwhile, 59.4% of parents had positive attitudes about the family structure and function of

Table 1. Characteristic of participants (n = 394).

Characteristic of adolescent	n	%
Gender		
Male	188	47.7
Female	296	52.3
Have started puberty		
Late	183	46.4
Appropriate	211	53.6
Religion		
Islam	389	98.7
Christian	5	1.3
Access of information of reproductive health		
Access	119	30.2
Not access	275	69.8
Have dating		
Yes	139	35.3
No	255	64.7
Characteristic of parents	n	%
Age		
Less than 32 year	166	42.1
32–54 year	228	57.9
Gender		
Male	143	36.3
Female	251	63.7
Number of family/Family size		
Less than 5	207	52.5
More than 5	187	47.5
Ethnic		
Madura	304	77.2
China	5	1.3
Jawa	85	21.6
Salary per month		
Less than 2,355,662.9 IDR	235	59.6
More than 2,355,662.9 IDR	159	40.4
Education background		
Elementary and Junior	149	37.8
High School		
Senior high school	144	36.5
Graduate school	101	25.6
Living areas		
Rural	215	54.6
Urban	179	45.4

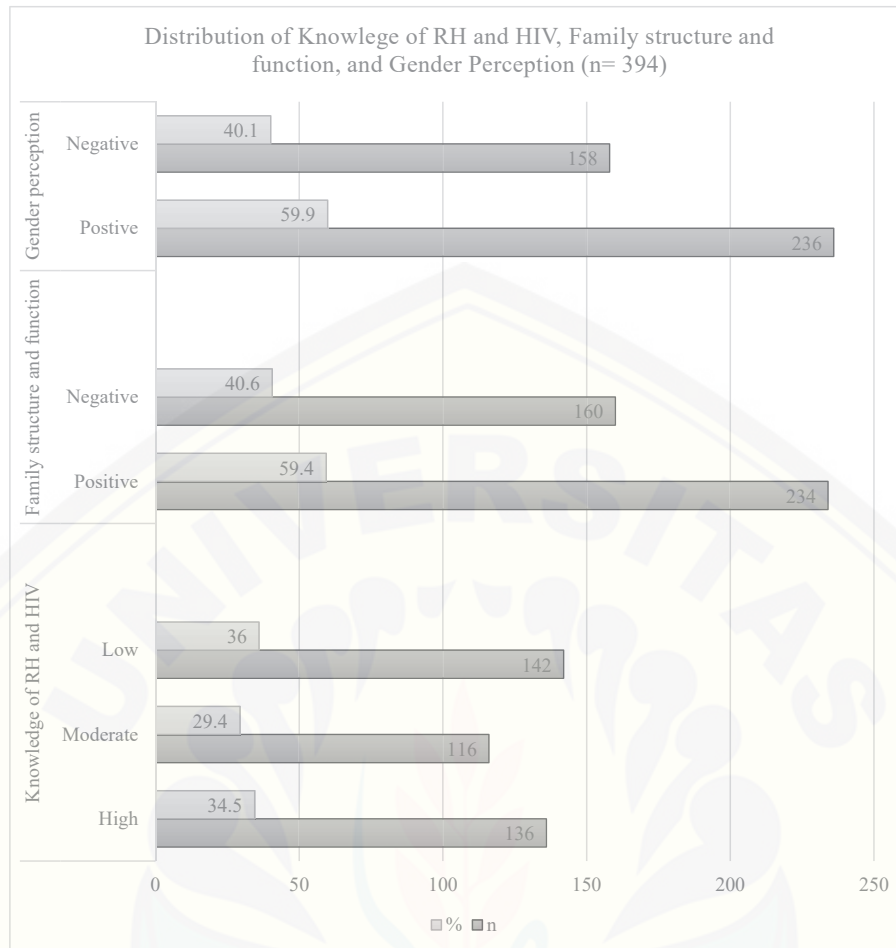
Note: Late = for girls ≥ 11 year, boys ≥ 13 year; Appropriate = for girls <11 year, boys <13 year.

RH. Furthermore, 59.9% of adolescents had positive attitudes about sexuality, gender and norms of adolescents.

Mean scores of sexuality, gender and norms of adolescents among male and female adolescents were 43.07 (SD = 4.27) and 43.02 (SD = 4.50), respectively. There were no differences of sexuality, gender and norms among male and female adolescents ($t = 0.098$; $p = 0.922$).

3.1. Measurement model

We applied Smart PLS to examine our model trials. There are three measures for determining the quality of the model [11]: measurement model, structural model, and structural regression equation



Note: Knowledge of RH and HIV (Low <60%; Moderate= 60 – 75%; High ≥ 75%). Family structure and function (Negative < ; Positive ≥). Gender perception of ARH (Negative < 43.2; Positive ≥ 43.2).

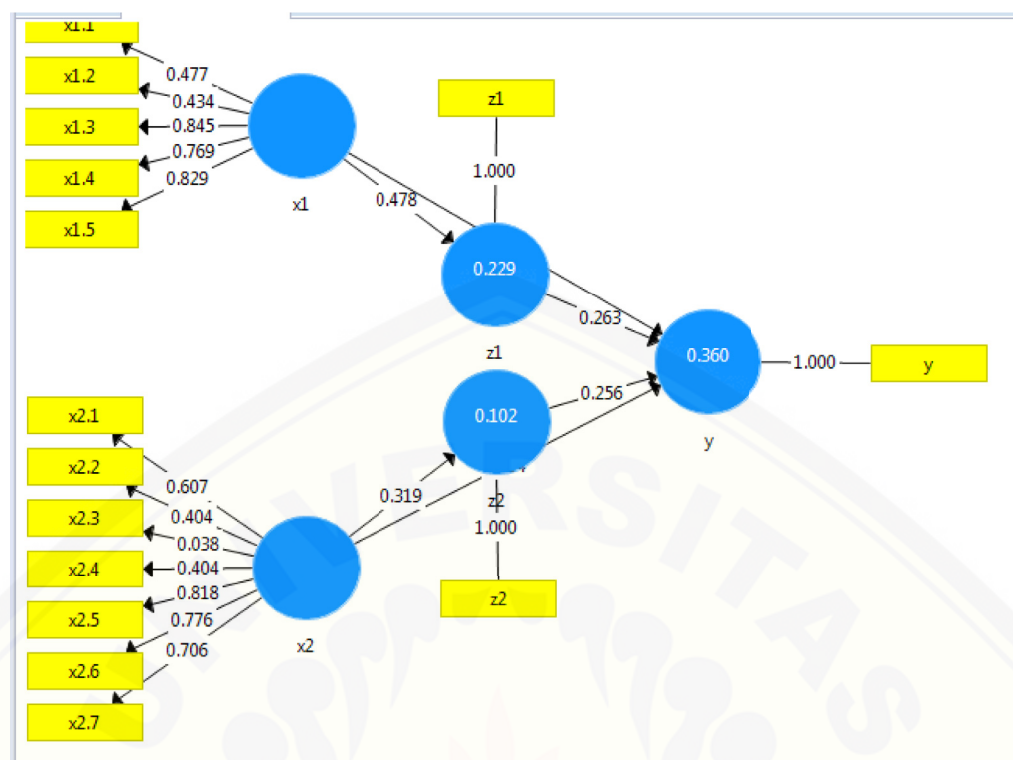
Fig. 1. Distribution of knowledge of reproductive health (RH) and human immunodeficiency virus (HIV), Family structure and function of RH, and Gender perception of adolescent reproductive health (ARH).

used in the structural model. Reliability testing and measurement of separate sub-factors tested in the measurement module were tested by tracing the convergent and discriminatory validity of the construction steps.

A separate sub-factor measurement was performed for the measurement model test. Convergent and discriminatory validity of the construct measures were used to measure reliability. The factors that influence sexuality, gender, and norms of the adolescent are the variables of parents, and adolescents were tested in the first steps. The validity test is conducted to validate the discriminatory validity, convergent validity, and the reliability of the measurement model [14]. Fig. 2 is the model depicting the initial path model through testing the Smart PLS Algorithm, which is pragmatic. Fig. 2 contains the associations, coefficients, and loading values. The strength of Smart PLS is measured by

the average variance extracted (AVE). When the AVE is greater than 0.50, this indicates the value for each factor captures more than half of variances or minimize the error variances. In this case, convergent and discriminant validity from PLS-SEM has successfully fulfilled the requirement needed. Confirmatory Factor Analysis (CFA) is the extension of exploratory factor analysis that can be obtained from SPSS. This method can be indicate the regression weight [12].

In the first stage, we were used SMART PLS to analyze and assess the reliability and validity of the measurement module. SMART PLS was also used for a separate sub-factor assessment and identification of the loading factor. A loading factor of 0.45 can be used as the minimum value for each sub-factor [13]. Meanwhile, in our study as shown in Fig. 2, we were used a subfactor loading measurement above 0.50 to be accepted [15]. Dimensional



Note:

X1 : Sociodemographic of adolescent	X2 : Sociodemographic of parent
x1.1 : Gender	x2.1 : Age
x1.2 : Age of puberty	x2.2 : Gender
x1.3 : Religion	x2.3 : Number of family
x1.4 : Access of reproductive health	x2.4 : Ethnic
x1.5 : Having boy/girl friend	x2.5 : Salary per month
z1 : Knowledge of RH and HIV	x2.6 : Educational background
z2 : Family structure and function of RH	x2.7 : Living areas
y : Perception of GNS-ARH pertains to the adolescent's perception	

Fig. 2. First stage for structural model of perception of gender norm sexuality in adolescent reproductive health (GNS-ARH) in initial model.

sub-factors that subsidized most minor to the latent constructs were then detached from the dimension model to improve the model fit. The resultant final path model is shown in Fig. 3. Fig. 3 represents the result after the dropouts for further investigation.

3.2. Reliability

Cronbach's alpha and composite reliability were used to analyze the inner consistency measurement model. We were performed on composite reliability for valuation of construct reliability and prediction of inner constancy. However, composite reliability was more appropriate than Cronbach's alpha for PLS-SEM, we used these if undertake that all

indicators were similarly consistent. We used composite reliability of more than 0.70 and the least score of above 0.60 for Cronbach's alpha [13]. Table 2 described composite reliability and Cronbach's alpha values produced by PLS algorithms. Table 2 revealed that the Cronbach's alpha value was above 0.721, and composite reliability score was more than 0.843. Therefore, these parameters indicate the model was reliable and trustworthy.

3.3. Convergence and discriminant

Average Variance Extracted (AVE) tests were performed to analyze convergent validity of dignified constructs, composite reliability scores, and

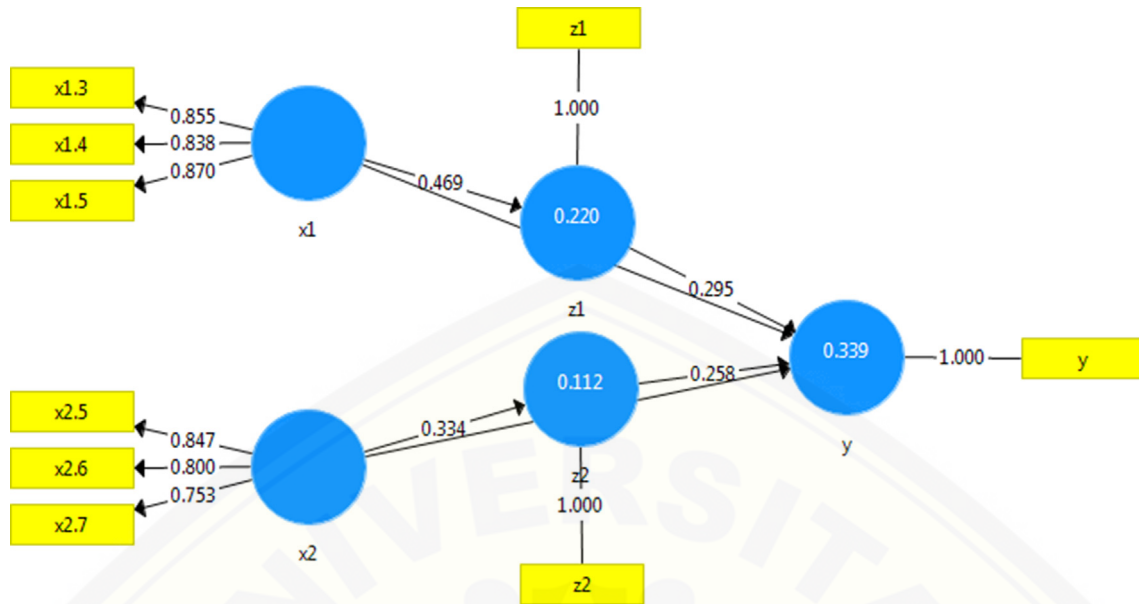


Fig. 3. Final structural model of perception of gender norm sexuality in adolescent reproductive health (GNS-ARH).

Cronbach's alpha [16] stated in Table 2. To achieve the validity, we were designated that all the considered Cronbach's alpha standards and composite reliability scores needed to be above 0.7. At the same time, the dimension sub-factor was suitable for their constructs. The AVE actions the amount of variance that construct detentions from its displays compared to the amount due to dimension errors [16]. The consequences of the AVE test shown in Table 2 confirm that the AVE scores constructs are more significant than 0.642.

Discriminant validity mentions the degree to which any single construct is diverse from the additional constructs in the model. In the model, the sub-factors of every construct should be distinct from those of other constructs. The values recorded in Table 2 and Fig. 2 express the diagonal line of standards covering the AVE square root and constructs correlations. Discriminant validity is conventional by confirming that the diagonal line standards are more significant than their columns and rows [16].

Table 2 showed that all reflexive indicator constructs produce a loading factor value greater than

0.70, which means that all construct variables were valid. Likewise, the Average Variance Extracted (AVE) value generated by all reflexive constructs were above 0.50. Therefore, all variables have met the requirements of convergent validity and reliability. The Cronbach's alpha value produced by all constructs were all above 0.70. We concluded that all indicators of reflexive constructs were reliable.

3.4. Structural model analysis

Structural Model Analysis Smart PLS software was used to observe the structural model as confirmed in the research. Path coefficient assessment was included in the structural model indicating the power of the relations among the R-square value, independent variable, and dependent variable. PLS-SEM relies on bootstrap procedure to test the significance of estimated path coefficients. The bootstrap procedure creates random subsamples of observations randomly drawn from the original data set [12]. This model uses two hundred and fifty-two subsamples to define the consequence level of the paths definite within the structural

Table 2. Indicators of latent constructs.

Variable	Average Variance Extraced (AVE)	Cronbachs Alpha	Composite Reliability
Sociodemographic of adolescent	0.730	0.817	0.890
Sociodemographic of parent	0.642	0.721	0.843
Knowledge of RH and HIV	1.000	1.000	1.000
Family structure and function of RH	1.000	1.000	1.000
Perception of GNS-ARH	1.000	1.000	1.000

model. A significance level of 5% ($p < 0.05$) was used to indicate statistical significance. The level of significance using the extent of the identical factor estimates between the constructs is indicated in the resultant t-value. Table 3 contains the results of the structural model.

The repeated bootstrap parameter estimates are then used to create an empirical sampling distribution for each model parameter. The empirical sampling distribution's standard deviation is used as proxy for the empirical standard error for the parameter [11]. The PLS-SEM results of all the bootstrap samples provide the standard error for each path model coefficient. With this information, a student's t-test can be performed to measure the significance of path model relationships [12].

Table 3 showed that each latent variable's validity and reliability were tested using the Smart PLS software. Parameters of each variable were considered valid when the loading value (λ) with the latent variable was greater or equal to 0.5. If the variable had a loading value (λ) of less than 0.5, then it was dropped because the variable was considered not good enough to measure the latent variable accurately. In Table 3, we show that there were seven variables with loading values (λ) less than 0.5, including the variables x1.1, x1.2, x1.3, x2.1, x2.2, x2.3, and, x2.4. Furthermore, these seven variables were dropped from structural model. In the Fornell and Larcker criterion test of the model, the squared correlations were compared with the correlations from other latent constructs. The results showed that all of the correlations were smaller relative to the squared root of average variance exerted along the diagonals, implying satisfactory discriminant validity. This proved that the observed variables in every construct indicated the given latent variable. These results confirmed the discriminant validity of the model [12].

3.5. Assessment of fit

For PLS path modeling, Goodness-of-fit (GoF) is recommended as a worldwide fit measure. In this research, evaluation of PLS path modeling

accompanies the goodness-of-fit (GoF) measure. GoF ($0 < \text{GoF} < 1$) is defined as the geometric mean of the average community/AVE and average R^2 (for endogenous construct). $\text{GoF} = \sqrt{\text{average } R^2 * \text{average communality}}$. We calculated the GoF value for this research model was 0.537. The baseline values for validating the PLS model worldwide were GoF large = 0.331, GoF small = 0.1 and GoF medium = 0.25 [17].

The q-square statistic was calculated to evaluate the superiority of path model. A Q-square greater than zero indicates that the model has predictive significance. The square statistic measures the prognostic significance of the model by repeating the experiential values by the model itself. In Fig. 3, we presented that the Q-square statistics were less than 0 (zero), which indicates [14] the model's predictive significance.

A complete analysis of the measurement models and structural model for the final model confirms both models. All of the hypotheses were statistically significant. The results of this study support a richer and accurate picture of the factors affecting the sexuality, gender and norms of adolescent among Indonesian adolescents. Fig. 3 shown a final structural model of factors that influenced the sexuality, gender and norms of adolescents. There was no correlation between sociodemographic of adolescents and sexuality, gender and norms of adolescents ($p = 0.210$). Two correlations emerge among independent variables, namely sociodemographic of adolescents and knowledge of RH and HIV ($p < 0.001$) and sociodemographic of parent and family structure and function of RH ($p < 0.001$). Sociodemographic of the parent ($p = 0.003$), knowledge of RH and HIV ($p = 0.012$), and family structure and function of RH ($p = 0.006$) were directly related to the sexuality, gender and norms of adolescent. Sociodemographic of adolescent ($p = 0.031$) and parent ($p = 0.024$) are indirectly related to the sexuality, gender and norms of adolescent via knowledge of RH and HIV. From the equation model results, the R^2 value for the perception of sexuality, gender and norms of adolescent was 0.311. This means that the variables

Table 3. Path Coefficients along with their bootstrap value and T value.

Variabel	Original sample	Sample mean	Standard deviation	T statistic	p-value
x1 → y	0.143	0.141	0.114	1.256	0.210
X1 → z1	0.469	0.468	0.081	5.783	0.000
X2 → y	0.314	0.319	0.107	2.937	0.003
X2 → z2	0.334	0.355	0.093	3.603	0.000
Z1 → y	0.295	0.311	0.117	2.522	0.012
Z2 → y	0.258	0.252	0.093	2.773	0.006

x1, x2, z1, and z2 only explain about 39.9% of the variation in the sexuality, gender and norms of adolescent.

4. Discussion

The present study found no differences in sexuality, gender and norms among male and female adolescents in Indonesian context. The present study's findings may be expected, based on research on sexuality, gender and norms of adolescents. However, to the best of our knowledge, this is the first study to determine which factors—both adolescent and parental—influence sexuality, gender and norms of adolescents in Indonesia. Our study indicates that sexuality and gender norms are the same between girls and boys based on society and culture, presenting a challenge to gender equality in Indonesia.

Our findings have identified a correlation between sociodemographic of adolescents and knowledge of RH and HIV. At the same time, there was a correlation among sociodemographic of parents and family structure and function of RH. These findings reflected that sexuality, gender and norms of adolescents are formulated considering family characteristics as systems, including family structure and function. The low development in the family system impact the adolescents. The failure of family task development resulted in children's lack of information on RH issues and the family's less maturation [10].

Meanwhile, access to information on RH was associated with sexuality, gender and norms of adolescent girls. This result was similar to previous studies in three Asian cities [18]. This indicates that girls have less access to RH information, despite advanced technologies and boundaries. Improvements in their ability to access information might improve the flexibility of adolescent girls' views towards sexuality, gender and norms of adolescents and may prevent gender inequalities.

We also found that sociodemographic of the parents was directly related to the sexuality, gender and norms of adolescent. This finding is consistent with the results of a previous study, in which the parent's characteristic of family appeared to be associated with sexuality, gender and norms of adolescents [1]. This indicated that the nature of this association varies between genders, which expresses stereotypical and inequitable gender attitudes across cultural settings. This finding suggests to encourage attitudes towards gender roles and norms that are positive to the adolescents in the family system, parents should provide examples of gender role

behaviours without pressuring the adolescents for cultural sensitivity, particularly in an Indonesian context.

In the present study, knowledge of RH and HIV was directly related to sexuality, gender and norms of adolescent. This may be reflected that RH's information and access of among adolescents in the Indonesian context are limited regarding Indonesia's social and cultural landscape. This situation may reflect the changes in adolescent life experience during puberty based on globalization, causing new challenging behaviours [1]. This finding also indicates that views and practices relating to RH and sexuality are influenced by religiosity. Islam is the predominant religion in Indonesia. It is essential to identify and understand gaps between Islamic doctrines and adolescents' views and behaviors in understanding RH and sexuality. Our results highlight the importance of gender norms and sex education for preventing potentially rigid attitudes towards sexuality, gender and norms of adolescents based on values and religious norms, particularly Islamic norms in the context of sex education, to help adolescents understand their sexuality.

The research found that family structure and function of RH was directly related to the sexuality, gender and norms of adolescent, which is consistent with a previous study, in which communication between children and parents [19] and the connectedness of their relationship [20] are related to children's sexual and gender norms. This might be explained by the fact that many parents are uncomfortable talking to their children about RH issues due to societal, cultural, and religious influences in Indonesia. However, adolescents who openly communicate were found to experiment more in dating, expressing their feelings, and sexual behaviour. This result suggests that parents should be aware of available opportunities for discussing sexual behaviours and dating with their adolescent children. Development a culturally appropriate language for communicating with adolescents and challenging their misconceptions associated with sexual maturation and gender attitudes is required.

Furthermore, adolescent's and parent's sociodemographic were indirectly related to the sexuality, gender and norms of adolescent via knowledge of RH and HIV. This may be caused by the influence of parents' ethnicity in the development of sexuality, gender and norms of adolescents. Previous studies showed that ethnicity and gender were correlated with body image and opposite sex figure preferences of rural adolescents [21]. These results may be related to the lack of

discussion between parents and adolescents and how this situation influences adolescents' knowledge of sexuality. This may also be reflected in the lack of acceptance in Indonesian society of issues relating to sexuality, resulting in a lack of gender equality in RH based on society, culture, and religion. The results of this study indicate that sexuality, gender and norms of adolescents' education must be sensitive to socio-cultural factors in order to improve adolescents' knowledge. This indicates that religion must also be considered if the taboo element of sexuality and inequality in Indonesia is to be reduced.

Meanwhile, parental control and restriction affected gender attitudes and behaviours of very young adolescents in Nepal [22]. This may be explained by the fact that the family environment is the first social environment experienced by children and plays a valuable role in influencing attitudes towards gender. The development of coping strategies and adaptation early in life is based on family values and norms. These findings suggest that parents should demonstrate open attitudes towards gender roles and norms through open communication within the family system. Therefore, parents and adolescents should communicate openly and honestly about gender attitudes regarding the child's gender, based on social, cultural, and religious sensitivities in Indonesia.

4.1. Strengths and limitations of the study

The strengths of the present study lie in its combining of both child and parent variables within the family system to address sexuality, gender and norms of adolescents and the fact that this study examines society, culture, and religion in an Indonesian setting. The present study identified several factors that should be considered in developing programs to promote equality among sexuality, gender, and norms of adolescents within the community based upon sensitivities of Indonesia's culture and society.

The present study has certain limitations, including the measurement of factors determining sexuality, gender and norms of adolescent by children's gender. Our study may differ from that of other studies, based on the definition of the variables and sample size. The sample of adolescents and parents recruited to measure family function in the present study may not be representative of the Indonesian population. However, among eight districts were included, we included individuals with different socio-economic positions and a dynamic population structure.

5. Conclusion

Sexuality, gender and norms of adolescents are influenced by sociodemographic of a parent, knowledge of RH and HIV of adolescent, and family structure and function of RH. Meanwhile, adolescents' and parents' sociodemographic are indirectly associated with adolescents' sexuality, gender and norms via knowledge of RH and HIV. Comprehensive education within the family-adolescent framework should be tailored to the specific needs and influences of family communication patterns and processes. These programs should be developed with sensitivity to the Indonesia's social and cultural mores and within a compatible moral framework of the Islamic religion. Such programs should protect the Islamic community by preventing negative attitudes towards sexuality, gender and norms of adolescent in the context of the family environment.

Funding

The author(s) received financial support from the Ministry of Research, Technology, and Higher Education, Directorate General of Resources for Research, Technology and Higher Education (KEMENRISTEK-DIKTI) of Indonesia for the Master Thesis as the founder of research No. B/87/E3/RA.00/2020.

Conflict of interest

The authors(s) declare no potential conflicts of interest concerning the research, authorship, and publication of this article.

Acknowledgments

The author would like to thank the Ministry of Research, Technology, and Higher Education, Directorate General of Resources for Research, Technology and Higher Education (KEMENRISTEK-DIKTI) as the founder. Postgraduate of Master Public Health, School of Postgraduate Program, Universitas Jember for supporting the research.

References

- [1] Susanto T, Rahmawati I, Wuryaningsih EW, Saito R, Kimura R, Tsuda A, et al. Prevalence of factors related to active reproductive health behavior: a cross-sectional study Indonesian adolescent. *Epidemiol Health* 2016;38:1–10. <https://doi.org/10.4178/epih.e2016041>.
- [2] Morelli M, Bianchi D, Baiocco R, Pezzuti L, Chirumbolo A. Sexting, psychological distress and dating violence among adolescents and young adults. *Psicothema* 2016;28:137–42. <https://doi.org/10.7334/psicothema2015.193>.

- [3] Markham CM, Lormand D, Gloppen KM, Peskin MF, Flores B, Low B, et al. Connectedness as a predictor of sexual and reproductive health outcomes for youth. *J Adolesc Health* 2010; 46:S23–41. <https://doi.org/10.1016/j.jadohealth.2009.11.214>.
- [4] Isworo TA, Susanto T, Rochmah D. Dating behaviour and its associated factors among female adolescents in Indonesia : a school-based survey. *J Keperawatan Soedirman (The Soedirman J Nursing)* 2020;15:160–8.
- [5] Susanto T, Rasni H, Susumaningrum LA, Rahmawati I, Yunanto RA, Septiyono EA. Caring for adolescents based on the wisdom of Indonesian pandalungan culture: an ethnographic pilot study. *J Pediatr Nurs* 2020;55:e270–8.
- [6] Susanto T, Rasni H, Susumaningrum LA. Using values of local wisdom for family healthcare of adolescents in the Indonesian context. *Sri Lanka J Child Heal* 2019;48:256–8.
- [7] Henseler J, Hubona G, Ray PA. Using PLS path modeling in new technology research: updated guidelines. *Ind Manag Data Syst* 2016;116:2–20. <https://doi.org/10.1108/IMDS-09-2015-0382>.
- [8] Sarstedt M, Cheah JH. Partial least squares structural equation modeling using SmartPLS: a software review. *J Mark Anal* 2019;7:196–202. <https://doi.org/10.1057/s41270-019-00058-3>.
- [9] Cleland J. Illustrative questionnaire for interview-surveys with young People. WHO; 2006. p. 1–58. http://www.who.int/entity/reproductivehealth/topics/adolescence/sample_core_instruments.doc.
- [10] Susanto T, Arisandi D, Kumakura R, Oda A, Koike M, Tsuda A, et al. Development and testing of the family structure and family functions scale for parents providing adolescent reproductive health based on the friedman family assessment model. *J Nurs Meas* 2018;26:1–20.
- [11] Afthanorhan WMABW. A comparison of partial least square structural equation modeling (PLS-SEM) and covariance based structural equation modeling (CB-SEM) for confirmatory factor Analysis. *Int J Eng Sci and Innovative Technol (IJESIT)* September 2013;Volume 2(Issue 5).
- [12] Hussain S, Fangwei Z, Siddiqi AF, Ali Z, Shabbir MS. Structural equation model for evaluating factors affecting quality of social infrastructure projects. *Sustainability* 2018; 10:1415. <https://doi.org/10.3390/su10051415>.
- [13] Silaparasetti V, Srinivasarao GVR, Khan FR. Structural equation modeling analysis using smart pls to assess the occupational health and safety (ohs) factors on Workers'Behavior. *Humanit Soc Sci Rev* 2017;5:88–97. <https://doi.org/10.18510/hssr.2017.524>.
- [14] Henderson D, Sheetz SD, Trinkle BS. The determinants of inter-organizational and internal in-house adoption of XBRL: a structural equation model. *Int J Account Inf Syst* 2012;13: 109–40. <https://doi.org/10.1016/j.accinf.2012.02.001>.
- [15] Hulland J. Use of partial least squares (pls) in strategic management research: a review of four recent studies. *Strat Manag J* 1999;20:195–204. <https://doi.org/10.1038/aps.2012.31>.
- [16] Fornell C, Larcker DF. Evaluating structural equation models with unobservable variables and measurement error. *J Mar Res* 1981;XVIII:39–50.
- [17] Akter S, D'Ambra J, Ray P. Trustworthiness in mHealth information services: an assessment of a hierarchical model with mediating and moderating effects using partial least squares (PLS). *J Am Soc Inf Sci Technol* 2011;62:100–16. <https://doi.org/10.1002/asi>.
- [18] Zuo X, Lou C, Gao E, Cheng Y, Niu H, Zabin LS. Media's contribution to sexual knowledge, attitudes, and behaviors for adolescents and young adults in three Asian cities. *J Adolesc Health* 2012;50:S18–25. <https://doi.org/10.1016/j.jadohealth.2011.12.001>.
- [19] Coetzee J, Dietrich J, Otjombe K, Nkala B, Khunwane M, van der Watt M, et al. Predictors of parent-adolescent communication in post-apartheid South Africa: a protective factor in adolescent sexual and reproductive health. *J Adolesc* 2014;37:313–24. <https://doi.org/10.1016/j.adolescence.2014.01.006>.
- [20] Wight D, Williamson L, Henderson M. Parental influences on young people's sexual behaviour: a longitudinal analysis. *J Adolesc* 2006;29:473–94. <https://doi.org/10.1016/j.adolescence.2005.08.007>.
- [21] Jones LR, Fries E, Danish S. Gender and ethnic differences in body image and opposite sex figure preferences of rural adolescents. *Body Image* 2007;4:103–8. <https://doi.org/10.1016/j.bodyim.2006.11.005>.
- [22] Lundgren R, Beckman M, Chaurasiya SP, Subhedi B, Kerner B. Whose turn to do the dishes? Transforming gender attitudes and behaviours among very young adolescents in Nepal. 2013. [Http://DxDoiOrg/101080/135520742013767520](http://DxDoiOrg/101080/135520742013767520).