Assessment of the Need for Polygamy Among Men in Southern Sierra Leone, A Structural Equation Modeling Approach

Regina Baby Sesay, Sheku Seppeh

Department of Mathematics and Statistics, School of Technology, Njala University, Njala, Sierra Leone

Abstract*: The belief system of most Sierra Leoneans is highly glued to their culture, religion, and tradition. As a result, most Sierra Leoneans regard polygamy as a legal married institution. However, in recent years, civilization and western religions, like Christianity, have not only forbidden the act of polygamy among married men but have also highlighted some of the cons (or disadvantages) of their involvement in the act of polygamy. This has gradually changed the belief system of most Sierra Leoneans and has resulted in a gradual decline in the number of wives adored by most provincial men. As a result of the decline in the number of wives acquired by married men, the acquisition of numerous girlfriends and concubines (also called side chicks) by most provincial men has risen in recent years. The reason for this uncontrollable desire for involvement in the act of polygamy by most provincial men is yet to be investigated. To maintain a peaceful society in relation to the institution of marriage, the need to understand the main drive (or reason) behind polygamy is vital. This research work, therefore, aims at identifying the main factors influencing the need (or desire) for polygamy among provincial men in the southern part of Sierra Leone. To achieve this, a two-stage cluster sampling methodology was adopted to randomly select 600 men from the selected chiefdoms in the Moyamba district. Considering the research objective and the latent nature of the dependent and independent variables involved, a structural equation modeling methodology was used in the analysis to identify the main factors influencing the provincial men's need or desire to be involved in the act of polygamy. Out of the four structural equation models used in the analysis, model 2 with dependent latent variable," intention" and independent latent variables: "Attitudes" and "Subjective Norms" (like social recognition, ethnicity and desire for children) was found to be more plausible with outstanding fitness as it passed all the fitness tests including the chi-square test. The result of the empirical analysis using the structural equation models showed that there are positive and significant relationships between the dependent latent variable, "polygamy" and each of the independent latent variables, social norms, and perceived behavioral control. The result also showed that a positive and significant relationship existed between the dependent latent variable "intention" for polygamy and each of the independent latent variables: subjective norms, attitude, and perceived behavioral control.

***Keywords*: Polygamy; Sierra Leone; Structural Equation; Confirmatory Factor Analysis; Africa; Model Fit|**

I. INTRODUCTION

Polygamy in most West African countries, especially Sierra Leone, has been a well-developed and generally accepted system of marriage. Polygamy (literally, poly = many + gamous = marriages) is a plural form of marriage in which a man has many wives, a woman has many husbands (also known as polyandry), or multiple people of different or same-sex marriages. However, the type of polygamy discussed in this research work is one with two or more wives married to a single husband. It is a type of marriage institution that involves multiple wives sharing a single husband. This system of marriage that is frequently practiced by most West African men is mostly associated with West African customs and traditions.

Polygamy as a system of marriage has not been easily welcomed by most women in Sierra Leone, especially when the husband's love usually shifts from the first wife to the second wife, and the second wife will usually be subordinate to the first wife, doing most of the tiresome work, almost as if she were a servant to the first wife, and will be inferior to the first wife in status [4]. As a result of their dissatisfaction, most young women who are married to polygamous men are often secretly involved in the act of adultery due to the fact that their husband spends most of his time with their co-wives [13]. This is especially true in the Sierra Leone provinces where most men are only fulfilled when they have many partners as wives.

Despite its appearance to many African women as a highly undesirable social system, polygamy continues to be a way of life for many provincial men in Sierra Leone.The acceptance and persistence of polygamy among the provincial people are mainly due to the fact that the cultural values of the people are tied down to their way of life [16]. As a result, much literature has been written in support of polygamy. Most of these were written by Africans in order to justify the rationale for a polygamous form of marriage among Africans [29], [35], [37], [1].

Although for some people, the act of polygamy is just a way of life that yields sexual satisfaction, there are many salient justifications for this system of marriage in Sierra Leone. According to the report of [28], one's motive for taking a second wife is different from his reason for taking the third wife. Most men marry more than one wife for different reasons including: social, economic, religious, and domestic, Therefore, the need for marrying more than one wife may

vary based on the need of the husband. Some African men take to polygamy for domestic reasons, including alleviating the first wife's problem of overworking. In the southern part of Sierra Leone, polygyny is considered an economic advantage for many households. Specifically, the increased rate of polygamy in the southern province of Sierra Leone is rooted in the sexual division of labor in subsistence farming (e.g., cutlass and hoe-farming) and the large economic contribution of women in farming activities [3]. In these farming regions, farm work is often divided between males and females. In times of farm preparation and planting, the tasks of felling trees and clearing in preparation for new plots; the building of farm huts for laborers; the fencing of fields against wild animals like "cutting grass", and plowing for the planting of new crops, are usually done by the men and their older sons. [8], [18]. Whiles, the husband's younger wives are in charge of other aspects of cultivation, such as food processing, transportation, and meal preparation for the family.

Also, as a culturally accepted practice, the desire to support the widow and the children of a deceased brother (or an immediate family member) can force a provincial man who is already married to take an additional wife.

In addition, the desire for a male child is another factor that has led many provincial men to marry additional wives if their first wive do not have children, especially male children [36]. This implies that, if the first wife bears only female children, the next best option would always be to marry another wife for the expressed purpose of raising male children [24].

The above-mentioned points for the need to marry more than one wife show that people get involved in polygamy (or live polygamous lifestyles) for a variety of reasons. Therefore, an awareness of the main reasons for the practice of polygamy among provincial men is considered vital for a peaceful society. To help address this important societal issue, this research used a structural equation modeling methodology to investigate the drive behind the provincial men's desire (or need) for polygamy. Many unmeasurable factors (also called constructs or latent variables) were considered as possible reasons for the provincial men's involvement in the act of polygamy. These potential determinants of polygamy were found to be unmeasurable, meaning that they could not be directly measured by the researchers. However, with the help of the theory of planned behavior (TPB), personal observation, and the researchers' knowledge of most of the customs and traditions of the study area, each latent variable (or potential determinant) was adequately measured using the appropriate measurement variables.

Finally, based on the objective of this research, the following research hypotheses were tested by the fitted structural equation models:

Hypotheses

H1: "Social norms" have a significant effect on provincial men's involvement in the act of polygamy.

H2: "Perceived behavioral control" has a significant effect on provincial men's involvement in the act of polygamy

H3:' "Economic' value" has a significant effect on provincial men's involvement in the act of polygamy

H4: "Subjective norms" have a significant effect on provincial men's intention for polygamy

H5: "Attitude" has a significant effect on provincial men's intentions for polygamy

H6: "Economic value" has a significant effect on provincial men's intention for polygamy

II. MATERIALS

Theoretical Review

Statistical modeling techniques like the analysis of variance, multiple regression, multinomial regression, and logistic regression have been frequently applied by researchers from various fields of study in an attempt to solve most real-world problems by testing hypothesized relationships between variables of interest. However, most of these techniques require that all the variables used in the analysis be observable and that all variables should be measured without systematic or random error [21]. However, the world is full of unmeasurables (concepts that cannot be directly measured), and in estimating the relationships among such unmeasurable theoretical concepts, each observation of the real world must be accompanied by a certain degree of measurement error that can either be random or systematic in nature.

To overcome most of the shortcomings of some of the regression-type statistical modeling techniques, this research used a second generational modeling technique called structural equation modeling (SEM) to obtain a more precise measurement of the theoretical concepts under study [9] and to account for the measurement errors in the observed variables.

In addition to its ability to bring together both the measurement and the structural models into a simultaneous statistical test [22], the SEM is also capable of testing models with multiple dependent variables. The measurement equations test the accuracy of the proposed measurements by assessing relationships between latent variables and their associated indicator variables, while the structural equations test the statistical hypotheses for the study through the assessment of the proposed (or hypothesized) relationships between the theoretical constructs called latent variables. More importantly, the SEM has the ability to model the error terms for the indicator variables and to incorporate mediating variables that can help to better explain the relationships between the dependent and independent variables. These features make the SEM an outstandingly useful statistical tool that can depict real-world situations or happenings in a diagrammatic (path diagram) and mathematical models that can easily be comprehended by both readers and researchers.

In this research work, the statistical analysis using the SEM methodology used the two-step modeling procedure that involves the measurement modeling and the structural modeling [19]. The measurement model is estimated during the first stage of the analysis using confirmatory factor analysis (CFA). The CFA helps to assess the adequacy of the measurement model to make sure that the hypothesized (or proposed) model provides a good fit to the data used for the analysis. The CFA is also used to measure the contribution of each indicator (or measured) variable to the associated latent variable. The second stage of the analysis involves the estimation of the structural model.

A. Assessment of the fit statistics for the CFA

Assessing the model fit is a vital aspect of CFA, as it helps to know if the model under consideration is a good fit model. In the CFA, various fit statistics were used to help determine whether the model provided an adequate fit for the available data. The first test statistic normally considered in a goodness of fit test is the chi-square test statistic. The chi-square test statistic reveals the magnitude of the difference between the expected covariance matrix and the observed covariance matrix. In other words, the chi-square test statistic reveals the extent (or size) of the difference between our model-implied covariance matrix and the sample covariance matrix. . A smaller chi-square value (e.g., close to zero) with a chi-square p-value greater than 0.05 shows that the difference between the expected and observed covariance matrices (which is an indicator of a good fit) is minimal. That is, if our model-implied covariance matrix actually matched the sample covariance matrix the chi-square test would not be statistically significant.

However, because the chi-square test is problematic as it is known to be highly sensitive to sample size [25], it is usually recommended to consider other fit statistics in the evaluation of the model fit.

Table l presents a summary and corresponding cut-off values. of the most commonly-used goodness-of-fit indices for the verification of model adequacy in CFA.

Table l: Summary Of Commonly-Used Goodness-Of-Fit Indices And Their Corresponding Cut-Off Values

Type of **Goodness-of-fit index**	**Acceptable cut-off value**
P- value for the global χ^2 test	> .05
Normed Fit Index (NFI)	> .90
Nonnormed fit index (NNFI	> .90
Comparative Fit Index (CFI)	> .95
Adjusted Goodness-of-Fit Index (AGFI)	> .90
Goodness-of-Fit Index (GFI)	> .95
Root Mean Square Error of Approximation (RMSEA)	< .06
p value for RMSEA	> .05

B. The Structural Equation

Similar to regression, the structural equation is use to predicts the values of the endogenous (or dependent) variables. However, in predicting the endogenous (or dependent) variable, the general equation for the structural equation model is formulated such that, the endogenous latent variables are a function of the endogenous effect of themselves ($\beta\eta$);the effects of the exogenous variables on the endogenous variables ($\Gamma\xi$) together with the error or stray causes denoted as ς Hence, the general equation for the structural equation model is given as:

$$\eta = \beta\eta + \Gamma\xi + \varsigma$$

Where:

$\eta = latent\ endogenous\ variable$

$\beta = the\ path\ from\ one\ endogenous\ latent\ variable$

$to\ another\ endogenous\ endogenous\ latent\ variable$

Γ = the path from exogenous to endogenous

ξ= the exogenous latent variable

ς = structural error

III. METHODOLOGY

A. Study Area

The study was carried out in the Moyamba District in the Southern part of Sierra Leone. This part of the country is mainly occupied by the Mende ethnic group. As a major ethnic group of the country, the Mendes account for about about 30% of the total population of Sierra Leone. The Mende are mostly farmers and hunters.

B. Population Composition, Sample, and Data collection

- *Population*

The Target population for this research comprises of all married men residing in the Moyamba district.

- Sample Size

As a guide in selecting the sample size, the lower bound of the adequate sample size for this research was set using the ratio of the observations to estimated parameters (N: q). Specifically, the ratio of observations to the estimated parameters, as recommended by [31], was set to be 20 to 1 (i.e., 20 observations for each estimated parameter), From Table II, there are 21 manifest or observed variables. As a result, the least sample size or the lower bound for adequate sample size for this research was set to be, 420 (or 20 by 21).

Therefore, for the sample to be a good representation of the population under study, the researchers decided to use a sample size of 600 in the SEM analysis

Sampling Method

Two-stage cluster sampling methodology was employed at the sampling stage of the research. Cluster sampling was considered as an appropriate sampling method because the study area, (ie., Moyamba District) is a geographically dispersed region. The chiefdoms in the District were taken to be the clusters. There were 14 clusters as there are 14 chiefdoms in the Moyamba District. During the first stage of the two-stage cluster sampling, seven chiefdoms (Kaiyamba, Korie, Kamajei, Dasse, Kowa, Fankuya and Kongboro) were randomly selected out of the 14 chiefdoms. At the second stage, some of the men were randomly selected from within each chosen cluster (or Chiefdom) to be included in the sample. A total of 600 men were included in the sample. Data were collected from the selected men.

- *Data collection*

Data were collected from the selected respondents using structured questionnaires with instruments fully guided by personal observation and the theory of planned behavior (TPB). The TPB attempts to explain why people engage in and sustain certain behaviors. Therefore, the TPB was featured in the construction of the instrument used in the data collection. The TPB works with six main constructs that collectively represent a person's actual control over the behavior.

The polygamy needs assessment consisted of 21 items that were each rated on a seven-point Likert scale from (1) Very strongly support polygamy to (7) Very Strongly oppose polygamy. Higher scores indicate higher levels of perceived opposition to polygamy. However, the nature or direction of response options depended on the type of manifest variable that the item intended to measure.

C. Type of Data

One of the requirements in using SEM is that the data should have an interval scale. However, some researchers highlighted that Likert scale data can be taken as interval data and can therefore be analyzed parametrically [10]. Reference [7] also supported this fact by stating that a 5-point Likert scale can be categorized as an interval scale.

In addition, due to the difficullty attached to measuring human behavior, and based on recommendations from the TBP literature [13], the Likert scale used in the questionnaire for this research work included 7 points,

IV. EMPIRICAL ANALYSIS

Based on the theory of planned behavior (TPB) coupled with personal observation and past research, the empirical analysis aims to use the structural equation modeling technique to assess the relationships between the actual involvement in the act of polygamy and the main factors postulated or hypothesized to be responsible for such involvement by men living in the southern part of Sierra Leone

Table II: Exogeneous (Exo.V), Endogeneous (Endo.V) And Manifest Variables To Be Modeled

Variable Name	EXO V / ENDO V	Associated manifest variable	Measurement scale
Intention (i.e., Behavioral Intension)	ENDO V	-Intention to minimize polygamy -Intention to stop polygamy -Intention to be involed in polygamy	7-point likert scale)
Act of polygamy	ENDO V	-Level of actual Involvement in polygamy (or number of partners) -Frequency of involvement in polygamy (number of time) -Length of time spent in polygamy	7-point likert scale)
Attitude towards Polygamy	EXO V	-Polygamy is foolish -Polygamy is harmful -Polygamy is not peaceful	7-point likert scale)
Social Norms	EXO V	-Ethnic group opinion about polygamy -Religious opinion about polygamy -Partner's influence -Families' influence -close friends' influence	7-point likert scale)
Subjective norms		-Social Status, to earn respect -Regeneration to protect family lineage	
Perceived Behavioral Control over Polygamy	EXO V	-Complete Self control not be involved in polygamy -Knows how to refuse to have more than one partner at a time	7-point likert scale)
Economic Value	EXO V	-To increase labor force -To help in domestic work -Trade to bring in income	7-point likert scale)

A. *Assessing Assumptions*

Like other statistical techniques, SEM makes certain distributional assumptions about the data that need to be met for reliable results. The main assumption considered under the SEM methodology is that the sample data conforms to a multivariate normal distribution, meaning that each measured variable is normally distributed and that the linear combination of the variables is also normally distributed [20]

Therefore, the SEM analysis begins with the normality assessment for each measured variable. However, due to the fact that this research work considered the 7-point scale for each measured variable as continuous, the assumption of normality was violated. For this purpose, the *lavaan* "MLM' estimator was used as a fitting function in the analysis. The *lavaan* "MLM' estimator in R statistical software uses a maximum likelihood procedure and provides a Satorra-Bentler scaled test statistic and robust standard errors, each of which can make amendments (or corrections) for the multivariate normality violation in the SEM analysis.

B. Factor Reliability

The factor reliability for each latent variable (or construct) used in the SEM analysis is presented in Table III. The Cronbach's alpha value indicates the internal consistency reliability of each item. Mathematically, Cronbach's alpha is regarded as the average of all possible split-half correlations between items composing a latent construct. The output from Table III shows that Cronbach's alpha values for the factors, polygamy, and attitude are well above the recommended value of 0.7, which is a clear indication of good reliability. For factors like Intention, social norms, perceived behavioral control, economic value and subjective norms, Cronbach's alpha values are each around 0.7, which also indicates acceptable reliability for each of the factors.

Table III: Factor Reliability

Factor (LV)	Cronbach's alpha value for each Factor
Intention	0.69
polygamy	0.81
Attitude	0.84
Social Norms	0.73
Perceived Behavioral Control	0.76
Economic Value	0.7
Subjective norms	0.65

The models used in the empirical analysis are defined in Table IV. In addition, each of the models described in Table IV is clearly depicted in the path diagrams presented in figures: 1,2,3, and 4 respectively

C. Model Assessment: Assessing the SEM fit statistics

The need to examine the model fit statistics before proceeding to interpret parameter estimates is crucial in structural equation modeling. This is because the interpretation is only considered valid if the SEM is a well-fitting model. Therefore, to determine the validity of the present models (i.e., model 1a, models 1b, model 2, and model 3) and to compare the four models in terms of performance in achieving the research objective, we looked at several fit statistics.

Like any SEM analysis, the null hypothesis in the present SEM analysis is that the covariance matrix reproduced by each of the models specified is statistically the same as the input covariance matrix. This means that unlike the usual hypothesis testing where we hope to reject the null hypothesis with a p-value less than the chosen significant value (i.e., $p<0.05$), here, we look forward to holding up to (or not rejecting) the null hypothesis that the two matrices are statistically the same. Therefore, contrary to the normal hypothesis testing, a p-value greater than the chosen significance level is anticipated (e.g., P-value>0.05) to maintain the null hypothesis that the two matrices are statistically the same.

In assessing the model fit for each of the four models (model1a, model1b, model 2, and model 3 as in Table IV))in the present SEM analysis, we first look at the Satorra-Bentler scaled chi-square presented in Table V for each of the four models. From Table V, the chi-square value for model 1a is 72.865 (df=48.000) with p-value = 0.012 which is not statistically significant (i.e., $p=0.012 <0.05$) at the 5% significance level. Therefore, the null hypothesis of no difference between the model implied and actual covariance matrices is rejected for model 1a with the conclusion that there was a difference between the two matrices.

Also, the chi-square value for model 1b is 45.971 (df=24.000) with a p-value = 0.004 which is not statistically significant at the p = .05. This is because the p-value for model1b is less than the chosen significance level of 0.05 which lead to the rejection of the null hypothesis that the covariance matrix reproduced by the specified model, (i.e., model lb) is not the same as the inputted covariance matrix.

Again, from Table V, the chi-square value for model 2 is 35.623 (df=24.000) with a p-value = 0.060 which is statistically significant at the p = .05. This is because the p-value for model 2 is greater than the chosen significance level of 0.05 which leads to failing to reject the null hypothesis that the covariance matrix reproduced by the specified model, model 2 is statistically the same as the inputted covariance matrix.

In addition, from Table IV, the chi-square value for model 3 is 58.360 (df=41.000) with a p-value = 0.038 which is not statistically significant at the p = .05. In other words, the p-value for model 3 is less than the chosen significance level of 0.05 which resulted to the rejection of the null hypothesis that the covariance matrix reproduced by the specified model, model 3 is statistically the same as the input

covariance matrix. Hence, there was a significant difference between the two covariance matrices

However, as already stated under the methodology section of the research work, the chi-square test is highly sensitive to sample size [25], therefore, in addition to the Satorra-Bentler scaled chi-square test, other fit statistics, including the Root Mean Square Error of Approximation (RMSEA); the Comparative Fit Index (CFI); and the standardized root mean square residual (srmr) were also considered in examining the fit of the specified models.

The values of the RMSEA range from zero to one with a smaller RMSEA value indicating a better model fit. A value of 0.06 or less indicates a good model fit. [22], whiles a value of 0.08 or less is mostly regarded as acceptable [5].

From Table V, the RMSEA point estimate for model 1a is 0.046 with a non-significant p-value= 0.622 and 90% CI (0.009, 0.056). This indicated a good fit for model 1a.

Similarly, the RMSEA point estimate for model 1b is 0.061 with a non-significant p-value= 0.228 and the 90% CI (0.034, 0.086). This also indicated a good fit for model 1b.

Again, from Table V, the RMSEA point estimate for model 2 is 0.044 with a non-significant p-value= 0.604 and the 90% CI (0.00, 0.072). This showed that based on the RMSEA, model 2 also had a good fit.

Similarly, from Table V, the RMSE point estimate for model 3 is 0.041 with a non-significant p-value= 0.736 and a 90% CI (0.014, 0.062). This showed that based on the RMSE, model 3 is also a good fitting model.

The next measure of fit considered is the Comparative Fit Index (CFI). The CFI compares the fitted model to a restricted baseline model. It assesses the overall improvement of a working (or proposed) model over an independence model where the observed variables are uncorrelated [6]. The CFI assumes values starting from zero to one with a value closer to one indicating a better fit. An accepted model fit is identified by a CFI value of 0.90 or above [22]. Considering the present fitted models, the CFI values presented in Table V for Models 1a, 1b, 2, and 3 are each above 0.9 which showed that based on the CFI, models 1a, 1b, 2, and 3 are well-fitted models.

Another fit measure used to assess the adequacy of each model is the standardized root mean square residual (srmr) This fit measure assesses model adequacy. An accepted model fit is identified by a srmr value of 0.80 or below. The srmr value for model 1a is 0. 046.which indicated a good fit. For model 1b, the srmr value is 0.047, which also indicated a good fit for model 1b. For model 2, the srmr value is 0.042 which again indicated a good fit for model 2. Finally, the srmr value for model 3 is 0.047 which again indicated a good fit.

The last two fit indices considered were, the Normed Fit Index (NFI) and Nonnormed fit index (NNFI): These two indicators are mostly used to access model fit [2]. For each of the NFI and NNFI indicators, a larger value indicates an improved model fit, and values above 0.90 are regarded as acceptable. The values of the NFI and NNFI for each of the 4 models are above the accepted value of 0.9 which indicated a good fit for each of the models considered in the SEM analysis.

Based on the set of fit measures considered in this research work, it was concluded that each of the 4 models considered in the SEM analysis was reasonably well fitted. However, model 2 was outstandingly well specified and plausible with all-around fitness. This is because model 2 fit the data perfectly well as it passed all the fit measures including the Bentler scaled chi-square test.

Table IV: The Sem Models

Model	Dependent Latent Variable	Independent Latent Variable	Mesurement Variable
Model 1a	Polygamy (Polygam)	Ecoms = Economic Value	Trade Domestic Fam work
		Social Norms	poly_Relig poly_par = partner;s influence poly_frien - friends' influence poly_fam = family influence
		Bcontrol= Behavioral Control	Self_Cont= Self control To_refuse= to refuse to have more than one partner
Model 1b	Polygamy (Polygam)	Social Norms	poly_Relig= Religious opinion poly_par= Partner's influence poly_frien = friends' influence
		Bcontrpl= Behavioral Control	Self_cot = Self control To_refus= to refuse to have more than one partner
Model 2	Intention	Subjective Norms	So_Regcog = Social Status, to earn respect Child= Regeneration poly_ethn= Ethnic group opinion about polygamy -
		Attitudes	Poly_Fool= Polygamy is foolish poly_Ham= Polygamy is harmful poly_peace= Pol ygamy is not peaceful
Model 3	Intention	SEcon=SocioEconomic	Trade Domestic Fam_work = Farm work Child= Regeneration So_Regcog= Social Recognition
		Attitudes	Poly_Fool= Polygamy is foolish poly_Ham= Polygamy is harmful poly_peace= Pol ygamy is not peaceful

Table V; Goodness Of Fit Tests

Fit Measures	Model 1a		Mode1b		Model 2		Model3	
	Test value	p-value	Test value	p-value	Test value	p-value	Test value	p-value
chisq.scaled (df)	72.865 (48.000)	0.012	45.971 (24.000)	0.004	35.623 (24.000)	0.060	58.360 (41.000)	0.038
rmsea.scaled (ci.lower, ci.upper)	0.046 (0.009, 0.056)	00.622	0.061 (0.034,0.086)	0.228	0.044 (0.000, 0.072)	0.604	0.041 (0.014, 0.062)	0.736
cfi.scaled	0.968		0.966		0.982		0.980	
srmr	0.046		0.047		0.042		0.047	
aic	13141.538		9720.360					
bic	13247.182		9794.311					
nnfi	0.947		0.937		0.966		0.955	
nfi	0.907		0.924		0.942		0.922	

The next step after the models have been fitted is to estimate the magnitude of the relationships between the items and their corresponding factors or latent variables. This was achieved using CFA under the measurement equation.

D. Measurement Equation Modeling using CFA

Under the measurement equation modeling, the confirmatory factor analysis was used to link the latent variables to their respective indicators also called measurement variables. At this stage of the SEM analysis, more emphasis was placed on the relationships between latent constructs and the observed variables. In this research, four measurement models (model 1a, model 1b, model 2, and model 3) were used in the analysis.

Table VI presents the unstandardized estimates, standard errors, z-values, and the corresponding p-values for the measurement variables for model 1a. From the output presented in Table VI, apart from poly_fam (family influence on polygamy) measuring the exogenous construct "Social Norms", the p-values for all the other measurement variables were each less than the chosen significance level of 0.05. This showed that each of the measurement variables was significant in measuring their associated constructs.

Table VII: Unstandardized Measurement Equation Estimates For Model 1b

Latent Variables	Item	Estimate	Std.Err	z-value	P(>|z|)
SocialNorms (Exogenous	poly_Relig	1.079	0.099	10.865	0.000
	poly_par	0.584	0.075	7.842	0.000
	poly_frien	1.035	0.077	13.400	0.000
Polygam (Endogenous)	In_poly	1.220	0.065	18.681	0.000
	length_pol	0.941	0.055	16.982	0.000
	Time_poly	1.409	0.076	18.474	0.000
Bcontrol =~ (Exogenous	Self_Cont	1.350	0.079	17.161	0.000
	To_refus	1.386	0.055	25.389	0.000
Regressions					
Dependent or Endogenous Variable	Independent or Exogenous Variable	Estimate (or coefficient)	Std.Err	z-value	P(>|z|)
Polygam ~	SocialNorms	0.412	0.140	2.944	0.003
	Bcontrol	0.720	0.126	5.707	0.000

1) Path Diagram of Unstandardized Estimate for Model 1a:

It is often helpful and easy to understand the hypothesized relationship if the SEM result is displayed in a path diagram [19]. Therefore, the measurement estimates presented in Table V are displayed as path coefficients in the path diagram presented in figure l

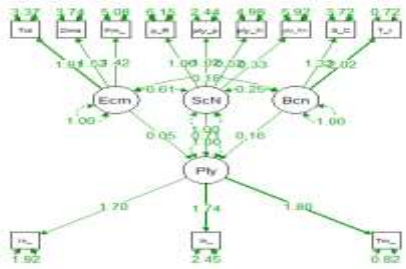

Fig 1: Path Diagram for model 1a

where: Ply=polygamy, Ecm= Economic Value, ScN= Social Norms, Bcn= Behavioral Control

To project a better-fitted model, the insignificant item, poly_fam (family influence on polygamy) measuring the exogenous construct, "Social Norms" was removed from the model. The resulting output is presented in Table VII. From the output, the p-value for all the selected measurement variables was each less than the chosen significance level of 0.05. This showed that each of the measurement variables was statistically significant in measuring their associated constructs.

2) *Path Diagram for Model 1b*:

Similarly, to understand the hypothesized relationship for model 1b, the unstandardized measurement estimates for model 1b (as presented in Table VI were displayed as path coefficients in the path diagram displayed in figure 2

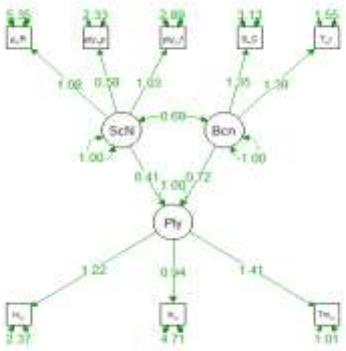

Fig 2: Path Diagram for model 1b

where: Ply=polygamy, ScN= Social Norms, Bcn= Behavioral Control

From the output presented in Table VIII, the p-value for each of the measurement variables is less than the chosen significance level of 0.05. This showed that each of the measurement variables is statistically significant in measuring its associated construct,

Table VI: Unstandardized Measurement Equation Estimates For Model1a

Latent Variables:	Item	Estimate	Std.Err	z-value	P(>|z|)
Ecoms =~ (Exogenous)	Trade Domestic Fam_work	1.811 1.524 1.417	0.152 0.177 0.160	11.891 8.608 8.862	0.000 0.000 0.000
SocialNorms =~ (Exogenous)	poly_Relig poly_par poly_frien poly_fam	1.057 1.015 0.520 0.327	0.203 0.173 0.183 0.200	5.202 5.885 2.842 1.640	0.000 0.000 0.004 **0.101**
Polygam =~ (Endogenous)	In_poly length_pol Time_poly	1.700 1.738 1.804	0.161 0.156 0.167	10.560 11.159 10.773	0.000 0.000 0.000
Bcontrol =~ (Exogenous)	Self_Cont To_refuse	1.318 2.017	0.241 0.308	5.462 6.557	0.000 0.000
Regressions					
Dependent or Endogenous Variable	Independent or Exogenous Variable	Estimate (or coefficient)	Std.Err	z-value	P(>|z|)
Polygam ~	SocialNorms **Ecoms** **Bcontrol**	**0.708** **0.050** **0.162**	**0.271** **0.193** **0.110**	**2.613** **0.260** **1.470**	**0.009** **0.795** **0.142**

3) Path Diagram of Unstandardized Estimate for Model 1a:

It is often helpful and easy to understand the hypothesized relationship if the SEM result is displayed in a path diagram [19]. Therefore, the measurement estimates presented in Table V are displayed as path coefficients in the path diagram presented in figure l

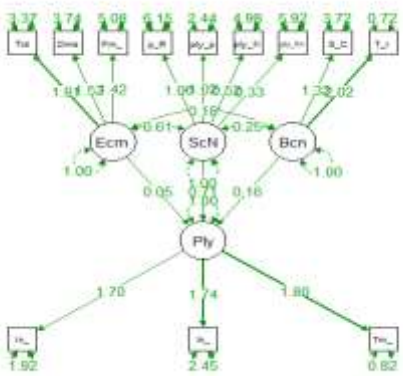

Fig 1: Path Diagram for model 1a

where: Ply=polygamy, Ecm= Economic Value, ScN= Social Norms, Bcn= Behavioral Control

To project a better-fitted model, the insignificant item, poly_fam (family influence on polygamy) measuring the exogenous construct, "Social Norms" was removed from the model. The resulting output is presented in Table VII. From the output, the p-value for all the selected measurement variables was each less than the chosen significance level of 0.05. This showed that each of the measurement variables was statistically significant in measuring their associated constructs.

Table VII: Unstandardized Measurement Equation Estimates For Model 1b

Latent Variables	Item	Estimate	Std.Err	z-value	P(>|z|)
SocialNorms (Exogenous	poly_Relig poly_par poly_frien	1.079 0.584 1.035	0.099 0.075 0.077	10.865 7.842 13.400	0.000 0.000 0.000
Polygam (Endogenous)	In_poly length_pol Time_poly	1.220 0.941 1.409	0.065 0.055 0.076	18.681 16.982 18.474	0.000 0.000 0.000
Bcontrol =~ (Exogenous	Self_Cont To_refus	1.350 1.386	0.079 0.055	17.161 25.389	0.000 0.000
Regressions					
Dependent or Endogenous Variable	Independent or Exogenous Variable	Estimate (or coefficient)	Std.Err	z-value	P(>|z|)
Polygam ~	SocialNorms Bcontrol	0.412 0.720	0.140 0.126	2.944 5.707	0.003 0.000

4) *Path Diagram for Model 1b*:

Similarly, to understand the hypothesized relationship for model 1b, the unstandardized measurement estimates for model 1b (as presented in Table VI were displayed as path coefficients in the path diagram displayed in figure 2

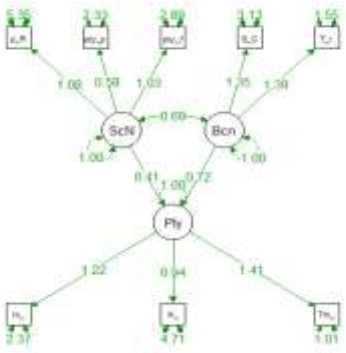

Fig 2: Path Diagram for model 1b

where: Ply=polygamy, ScN= Social Norms, Bcn= Behavioral Control

From the output presented in Table VIII, the p-value for each of the measurement variables is less than the chosen significance level of 0.05. This showed that each of the measurement variables is statistically significant in measuring its associated construct,

Table VIII: Unstandardized Measurement Equation Estimates For Model 2

Latent Variables:	Item	Estimate	Std.Err	z-value	P(>|z|)
attitudes (Exogenous)	Poly_Fool poly_Ham poly_peace	**2.096** **2.292** **1.435**	**0.093** **0.079** **0.122**	**22.514** **28.925** **11.754**	**0.000** **0.000** **0.000**
Intention (Endogenous)	Int_Stop Int_Mini In_marry	1.187 0.994 1.149	0.182 0.155 0.176	6.534 6.431 6.516	0.000 0.000 0.000
SubjectiveNorms (Exogenous) SubjectiveNorms	So_Regcog Child poly_ethn	1.042 1.534 0.813	0.163 0.164 0.162	6.391 6.391 5.004	0.000 0.000 0.000
Regressions					
Dependent or Endogenous Variable	Independent or Exogenous Variable	Estimate (or coefficient)	Std.Err	z-value	P(>|z|)
Intention ~	SubjectiveNrms	0.825	0.330	2.497	0.013
	attitudes	0.156	0.228	0.682	0.495

5) *Path Diagram for Model 2*:

Also, to understand the hypothesized relationship between the latent constructs and the associated measurement variable for model 2, the unstandardized measurement model estimates for model 2 are presented as path coefficients in the path diagram presented in figure 3 below.

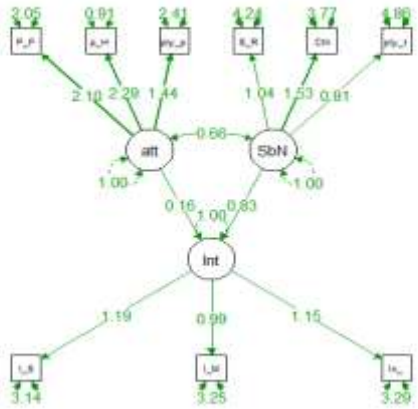

Fig 3: Path Diagram for model 2

where: Int= Intention, att= Attitudes, SbN= Subjective norms Similarly, from the output presented in Table IX, the p-values for each of the measurement variables were less than the chosen significance level of 0.05. This shows that each of the measurement variables is significant in measuring the associated constructs.

Table IX: Unstandardized Measurement Equation Estimate For Model 3

Latent Variables:	Item	Estimate	Std.Err	z-value	P(>|z|)
Intention =~ (Exogenous)	Int_Stop Int_Mini In_poly	1.027 1.336 1.038	0.148 0.153 0.151	6.930 8.713 6.855	0.000 0.000 0.000
SEcon =~ (Endogenous)	Trade Domestic Fam_work Child So_Regcog	1.683 1.673 1.491 1.408 1.458	0.119 0.129 0.129 0.124 0.135	14.184 12.928 12.928 11.361 10.823	0.000 0.000 0.000 0.000 0.000
attitudes =~ (Exogenous)	Poly_Fool poly_Ham poly_peace	2.088 2.292 1.445	0.092 0.073 0.122	22.738 31.269 11.843	0.000 0.000 0.000
Regressions					
Dependent or Endogenous Variable	Independent or Exogenous Variable	Estimate (or coefficient)	Std.Err	z-value	P(>|z|)
Intention ~	Attitudes	0.348	0.139	2.510	0.012
	SEcon	0.491	0.149	3.282	3.282

4) Path Diagram for Model 3: Finally, the hypothesized relationships for model 3 are displayed in the path diagram presented in figure 4. The path coefficients are the unstandardized measurement model estimates presented in Table IX.

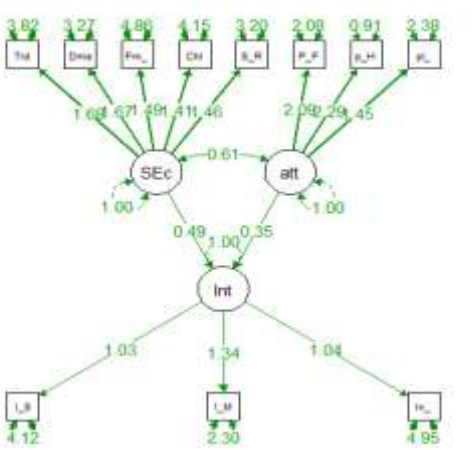

Fig 4: Path Diagram for model 3

where: Int= Intention, att= Attitudes, SEc=socio-Econom

In addition to the unstandardized estimates, the researchers also thought it wise to include standardized coefficients estimates for each of the four models.

The output presented in Table X for model 1a contains the standardized coefficients also called the factor loadings for each of the items loaded on the associated latent variables (LV) together with their corresponding confidence intervals (ci. lower, ci. upper), standard errors (SE), Z values (Wald test), and p-values. The hypothesis tested is that the coefficients are each equal to 0. From Table X, apart from

poly_fam (family influence on polygamy), all the factor loadings were statistically significant with a p-value for each less than the chosen significance level of 0.05 and a lower confidence interval for each factor loading greater than 0.04. This indicated the adequacy of the magnitude of the relationships between the items and their corresponding factors. Therefore, apart from, poly_fam (family influence on polygamy), the hypothesis that a coefficient is equal to 0 was rejected for each variable.

Table X: Stadardized Measurement Equation Estimates For Model 1a

LV	Item	Coefficient (Loadings on latent variable)	ci.lower	ci.upper	SE	Z	p.value
1 Ecoms	Trade	0.702	0.588	0.817	0.058	12.019	0.000
2 Ecoms	Domestic	0.619	0.484	0.753	0.069	9.010	0.000
3 Ecoms	Fam_worK	0.532	0.417	0.648	0.059	9.057	0.000
4 SocialNorms	poly_Relig	0.392	0.248	0.536	0.074	5.331	0.000
5 SocialNorms	poly_par	0.392	0.248	0.536	0.074	5.331	0.000
6 SocialNorms	poly_frien	0.227	0.070	0.384	0.080	2.836	0.005
7 SocialNorms	poly_fam	0.133	0.026	0.292	0.081	1.644	0.100
8 Polyga	In_poly	0.843	0.777	0.909	0.033	25.172	0.000
9 Polygam	length_pol	0.818	0.746	0.889	0.037	22.377	0.000
10 Polygam	Time_poly	0.931	0.880	0.982	0.026	36.035	0.000
11 Bcontrol	Self_Cont	0.564	0.362	0.766	0.103	5.475	0.000
12 Bcontrol	To_refuse	0.922	0.655	1.190	0.136	6.759	0.000

Table XI: : Stadardized Measurement Equation Estimates For Model 1b

LV	Item	Coefficient (Loadings on latent variable)	ci.lower	ci.upper	SE	Z	p.value
1 SocialNorms	poly_Relig	0.423	0.348	0.498	0.038	11.070	0.000
2 SocialNorms	poly_par	0.357	0.278	0.437	0.041	8.823	0.000
3 SocialNorms	poly_frien	0.520	0.448	0.592	0.037	14.126	0.005
4 Polygam	In_poly	0.754	0.703	0.805	0.026	28.935	0.000
5 Polygam	length_pol	0.532	0.476	0.588	0.028	18.744	0.000
6 Polygam	Time_poly	0.897	0.855	0.938	0.021	42.375	0.000
7 Bcontrol	Self_Cont	0.607	0.539	0.675	0.035	17.438	0.000
8 Bcontrol	To_refuse	0.744	0.696	0.793	0.025	30.097	0.000

The output presented in Table XII for model 2 contains the standardized coefficients also called the factor loadings for each of the items loaded on the associated latent variables (LV) together with their corresponding confidence intervals (ci. lower, ci.upper), standard errors (SE), Z values (Wald test), and p-values. The hypothesis tested is that the coefficient was each equal to 0. This hypothesis is rejected for all the measurement variables for model 2 as the p-value for each variable was less than the chosen significant value of 0.05. This showed that the measurement variables were each adequate in measuring their respective latent construct. This further highlighted the adequacy of the magnitude of the relationships between the items and their corresponding factors

Table XII: Stadardized Measurement Equation Estimates For Model 2

LV	Item	Coefficient (Loadings on latent variable)	ci.lower	ci.upper	SE	Z	p.value
Attitudes	Poly_Fool	0.826	0.759	0.893	0.034	24.221	0
Attitudes	poly_Ham	0.923	0.877	0.970	0.024	38.953	0
attitudes	poly_peace	0.679	0.584	0.774	0.048	14.050	0
Intention	Int_Stop	0.676	0.545	0.807	0.067	10.126	0
Intention	Int_Mini	0.603	0.478	0.728	0.064	9.469	0
Intention	In_marry	0.655	0.527	0.783	0.065	10.033	0
SubjectiveNorms	So_Regcog	0.452	0.318	0.585	0.068	6.614	0
SubjectiveNorms	Child	0.620	0.493	0.747	0.065	9.581	0
SubjectiveNorms	poly_ethn	0.346	0.219	0.473	0.065	5.330	0

Similarly, the output presented in Table XIII for model 3 contains the standardized coefficients also called the factor loadings for each of the items loaded on the associated latent variables (LV) together with their corresponding confidence intervals (ci. lower ci. upper), standard errors (SE), Z values (Wald test), and p-values. The hypothesis that the coefficients are each equal to 0 was rejected for all the measurement variables as the p-value for each variable was less than the chosen significant value of 0.05. This showed that the measurement variables were each adequate in measuring their respective latent construct and that the magnitudes of the relationships between the items and their corresponding factors were adequate.

Table XIII Stadardized Measurement Equation Estimates For Model 3

LV	Item	Coefficient (Loadings on latent variable)	ci.lower	ci.upper	SE	Z	p.value
Intention	Int_Stop	0.535	0.398	0.672	0.070	7.657	0
Intention	Int_Mini	0.741	0.628	0.854	0.057	12.891	0
Intention	In_poly	0.505	0.374	0.635	0.067	7.582	0
SEcon	Trade	0.653	0.566	0.739	0.044	14.769	0
SEcon	Domestic	0.679	0.588	0.770	0.047	14.583	0
SEcon	Fam_work	0.560	0.468	0.652	0.047	11.959	0
SEcon	Child	0.569	0.472	0.665	0.049	11.542	0
SEcon	So_Regcog	0.632	0.526	0.737	0.054	11.733	0
Attitudes	Poly_Fool	0.823	0.757	0.889	0.034	24.403	0
Attitudes	poly_Ham	0.923	0.883	0.964	0.021	44.671	0
attitudes	poly_peace	0.684	0.590	0.778	0.048	14.265	0

Next, we look at the R^2 values to give us an estimate of the magnitude of the variance of each item explained by the corresponding latent variable.

D. R^2 for Measurement Models

To understand the percentage of the variance of an item that is explained by a corresponding latent variable in the SEM analysis, it is always helpful to examine the R2 values The R^2 values are the squared standardized loadings of the items. The

R^2 values for each item indicate the percentage of the variance of that item that is explained by the corresponding latent variable. The higher the percentage of the variance of an item that is explained by the factor (or latent variable), the better the item is at measuring the factor.

Table XIV presents the R^2 values for model 1a. From Table XIV, the item with the highest R^2 is the "act of polygamy" item (Time_poly 0.867) measuring the time spent in polygamy. The item with the second highest R^2 value is the "perceived behavioral control" (To_refuse 0.850) item measuring the behavioral control over polygamy, and the lowest R^2 is connected to the 'social norms' item (poly_fam 0.018) measuring the family influence on the act of polygamy.

Table: XIV R^2 Value for MODEL 1a

Item	R2
Trade	0.493
Domestic	0.383
Fam_worK	0.283
poly_Relig	0.154
poly_par	0.297
poly_frien	0.051
poly_fam	0.018
In_poly	0.711
length_pol	0.668
Time_poly	0.867
Self_Cont	0.318
To_refuse	0.850
Polygam	0.388

Table XV presents the R^2 values for model 1b. From Table XV, it can be seen that the R^2 values range from, 0.128 to 0.804, with most of the R^2 values around and above 0.3, This shows that the amount of variance of most ot the item explained by their corresponding latent variables were adequate and that the variation explained by each factor is substantial. The item with the highest R^2 is the "act of polygamy" item (Time_poly 0.804) measuring the time spent in polygamy and the item with the lowest R^2 is the Social Norm item (poly_par 0.128) measuring the partner's influence on the act of polygamy. Above all, the item, 'Polygam' related to the dependent variable, polygamy has an R^2 value above 0.5 (0.523). This shows that the model (Model 1b) with its independent variables explained more than 50% of the variability in the dependent variable (provincial men's behavior in relation to the act of polygamy).

Table Xv: R^2 Value For Model 1b

Item	R^2
1 poly_Relig	0.179
2 poly_par	0.128
3 poly_frien	0.271
4 In_poly	0.569
5 length_pol	0.283
6 Time_poly	0.804
7 Self_Cont	0.368
8 To_refuse	0.554
9 Polygam	0.523

Table XVI presents the R2 values for model 2. From Table XVI, most of the R^2 values for model 2 were around 0.5 and above. This is evidence that most of the items were adequate in measuring their respective constructs. For model 2, the item with the highest R^2 value is the "Attitude" item (poly_Ham 0.852) measuring the attitude that polygamy is harmful (or beneficial). the lowest R^2 is connected to the 'Subjective Norm' item (poly_ethn,0.120) measuring the ethnic or tribal influence on the act of polygamy.

More importantly, the item, 'Intension' related to the dependent variable, has an R^2 0.566). This shows that model 2 with its independent variables explained about 57% of the variability in the dependent variable (provincial men's behavior in relation to polygamy).

Table Xvi: R^2 Value For Model 2

Item	R^2
1 Poly_Fool	0.682
2 poly_Ham	0.852
3 poly_peace	0.461
4 Int_Stop	0.457
5 Int_Mini	0.363
6 In_marry	0.429
7 So_Regcog	0.204
8 Child	0.384
9 poly_ethn	0.120
10 Intension	0.566

Table XVII presents the R^2 values for model 3. From Table XVII, the R^2 values range from, 0.255 to 0.853. Again, the item with the highest R^2 is the "Attitude" item (poly_Ham, 0.853) measuring the attitude of provincial men towards the act of polygamy (that polygamy is harmful or beneficial). The item with the lowest R^2 is the "intention" for the polygamy item (In_poly 0.255) measuring the provincial men's intention to be involved in polygamy. For model 3, most of the R^2 values are around and above 0.3.

This shows that the items were good at measuring their respective constructs.

Table Xvii: R^2 Value For Model 3

IteM	R^2
Int_Stop	0.286
Int_Mini	0.549
In_poly	0.255
Trade	0.426
Domestic	0.461
Fam_work	0.314
Child	0.323
So_Regcog	0.399
Poly_Fool	0.677
poly_Ham	0.853
poly_peace	0.468
Intension	0.363

E. Structural model

This is the second stage of the SEM analysis. At this stage, more attention is drawn to the magnitude of the relationships among the latent constructs. Attention is specifically drawn to the relationship between the exogenous and endogenous variables.

In this study, four structural models, model 1a, model 1b model 2 and, model 3 were considered in the analysis.

The regression coefficient presented for each of the structural equation models (model 1a, model 1b, model 2, and model 3) represents the magnitude of the relationship between an independent variable and the dependent variable. The sign attached to the regression coefficients shows the direction of the relationship

In addition, the R square, R^2 also called the coefficient of determination

helped to throw light on the percentage of variance in the dependent variable that can be explained by the independent variables used in the structural equation model More importantly, the SEM analysis assesses the hypothesized relationships between the latent variables, which leads to testing the statistical hypotheses for the research. Therefore, considering the objective of this research i.e. to access the factors that influence provincial men's desire to be involved in the act of polygamy, the researchers formulated the following hypotheses in relation to the various constructs considered in the study:

Research Hypotheses

H1: "Social norms" have a significant effect on provincial men's involvement in the act of polygamy.

H2: "Perceived behavioral control" has a significant effect on provincial men's involvement in the act of polygamy

H3: "Economic" value has a significant effect on provincial men's involvement in the act of polygamy

H4: "Subjective norms" have a significant effect on provincial men's intention for polygamy

H5: "Attitude" has a significant effect on provincial men's intention for polygamy

H6: "Economic value" has a significant effect on provincial men's intention for polygamy

From the output presented in Table XVIII for model 1a, the regression coefficients for the independent variable, Social Norms is statistically significant (with coefficient = 0.554 and p-value=0.001<0.05)

The hypotheses for model 1a were tested at the 5% level of significance. The result presented in table XVIII shows that it is only hypothesis, H1 that is supported (i.e., the hypothesis H2 and H3 are both rejected for model 1a). This is because; it is only the relationships depicted in H1 that is positive and statistically significant (with p< 0.05). This further implies that the exogenous construct (or independent variable), the social norm has a significant positive influence on the provincial men's involvement in the act of polygamy, To account for the proportion of variance explained by the independent variables used in the model, we look at the R^2 for the structural model.

From Table XIV, the model (model 1a) R^2 is 0.388. This shows that, the independent variables, social norms (SocialNorms), Economic value (Ecoms), and perceived behavioral control (Bcontrol) accounted for about 39 % of the variability in the dependent variable, "polygamy"

1)Structural Model for Model 1a

The hypotheses H1, H2 and H3 were tested under the structural equation modeling for model 1a

The result of the analysis for model 1a is presented in Table XVIII. The output contains standardized regression coefficients, Z values (Wald test), and the associated p-values for testing the null hypothesis that a coefficient is equal to zero (i.e., no relationship). The regression coefficients represent the relationships between each of the independent latent variables (SocialNorms, Ecoms, and Bcontrol) and the dependent latent variable (polygamy). Each regression coefficient represents the magnitude of the relationship between an independent variable and the dependent variable. The sign attached to the standardized regression coefficients shows the direction of the relationship. "

Table XVIII:: Structural Equation Estimate For Model 1a

LV	Item	Coeffi cient	ci. lower	ci. upper	SE	Z	p. value
Polygam	SocialN orms	0.554	0.216	0.892	0.173	3.210	0.001
Polygam	Ecoms	0.039	-0.261	0.339	0.153	0.256	0.798
Polygam	Bcontrol	0.127	-0.046	0.299	0.088	1.442	0.149

2)Structural Model for Model 1 b:

The hypotheses H1 and H2 were tested for tested for model 1b

The analysis result for model 1b is presented in Table XIX. The output contains standardized regression coefficients, Z values (Wald test), and the associated p-values for testing the null hypothesis that a coefficient is equal to zero (i.e., no relationship). The regression coefficients represent the relationships between each of the independent latent variables (SocialNorms, and Bcontrol) and the dependent latent variable (polygamy). Each regression coefficient represents the magnitude of the relationship between an independent variable and the dependent variable. The sign attached to the standardized regression coefficients shows the direction of the relationship. From the output presented in Table XIX for model 1b, the regression coefficients for the independent variables, social norms (SocialNorms) and perceived behavioral control (Bcontrol) were each positive and statistically significant. The hypotheses for model 1b were also tested at the 5% level of significance. The result presented in Table XIX shows that both the hypothesis, H1, and H2 were supported. This is because; both the relationships depicted in H1 and H2 were positive and statistically significant (with p-values< 0.05). This implied that the exogenous constructs (or independent variables), "social norm" and "perceived behavioral control" had a significant positive influence on the provincial men's involvement in the act of polygamy.

To account for the proportion of variance explained by the independent variables used in the model, we look at the R^2 for the structural model, model 1b. From Table XV, the model (model 1b) R^2 is 0.523. This shows that, the independent variables, "social norms" (SocialNorms) and "perceived behavioral control" (Bcontrol) accounted for about 50 % of the variability in the dependent variable" polygamy"

Table XIX: Structural Equation Estimate For Model 1b

LV	Item	Coefficient	ci.lower	ci. upper	SE	Z	p. value
1 Polygam	SocialNorms	0.284	0.102	0.467	0.093	3.052	0.002
2 Polygam	Bcontrol	0.497	0.338	0.656	0.081	6.123	0.000

3) Structural Model for Model 2

The hypotheses H4 and H5 were tested under the structural equation modeling for model 2

The output presented in Table XX contains standardized regression coefficients, Z values (Wald test), and the associated p-values for testing the null hypothesis that a coefficient is equal to zero. The

regression coefficients for model 2 represent the relationships between independent latent variables (SubjectiveNorms and attitudes) and the dependent latent variable 'intension' (intention to be involved in the act of polygamy). Each regression coefficient represents the magnitude of the relationship between an independent variable and the dependent variable. The sign attached to the standardized regression coefficients shows the direction of the relationship. From the output presented in Table XX, the strongest and significant relationship is between subjective norm (SubjectiveNorms) and 'intension' (coefficient= 0.603 with p-value=0.001<0.05) and the weakest and insignificant relationship is between attitudes and intension (coefficient = 0.114 with p-value=0.511>0.05). This shows that the regression coefficient for the independent latent variable, subjective norms and the dependent latent variable, intention for polygamy (polygamy) was statistically significant while the coefficient for the independent variables, perceived behavioral control (Bcontrol), and the dependent variable, 'intension' was not statistically significant.

The hypotheses for model 2, were again tested at the 5% level of significance. The result presented in table XX shows that it is only hypothesis, H4 that is supported (i.e., hypothesis H5 is rejected for this model) This is because; it is only the relationship depicted in H4 that is positive and statistically significant (with p< 0.05). This implied that the exogenous construct (or independent variable), the "subjective norm" has a significant and positive influence on the provincial men's involvement in the act of polygamy.

From Table XVI, the model (model 2) R^2 is 0.566. This shows that the independent variables," subjective norms" (SubjectiveNorms), and "attitude" accounted for about 57 % of the variability in the dependent variable, 'intention' (i.e., the intention of provincial men to be involved in the act of polygamy).

Table XX: Structural Equation Estimate For Model 2

LV	Item	Coefficient	ci. lower	ci. upper	SE	Z	p. value
Intension	Subjective Norms	0.603	0.240	0.965	0.185	3.258	0.001
Intension	attitudes	0.114	-0.225	0.453	0.173	0.657	0.511

4) Structural Model for Model 3

The hypotheses H5 and H6 were tested under the structural equation modeling for model 3

The regression coefficients presented in Table XXI represent the relationships between independent latent variables (attitudes and economic value) and the dependent latent variable 'intention' (i.e., the intention to be involved in the act of polygamy). Each regression coefficient represents the magnitude of the relationship between an independent variable and the dependent variable. The sign attached to the standardized regression coefficients shows the direction of the relationship. From the output presented in Table XXI: the relationships between each of the exogenous independent latent variables (attitudes and Econ) and the endogenous dependent latent variable is positive and statistically significant

with a p-value for each less than the chosen significance level of 0.05. This shows that the regression coefficients for the independent variables, attitude, and economic value, and the dependent latent variable, 'intension' were each statistically significant.

The hypotheses for model 3, were also tested at the 5% level of significance. The result presented in Table XXI: shows that both the hypothesis, H4, and H5 were supported by model 3. This is because; both the relationships depicted in H4 and H5 were each positive and statistically significant (with $p< 0.05$). This implied that the exogenous constructs (or independent variable), attitude, and economic value had a significant and positive influence on the provincial men's intentions for polygamy.

From Table XVII, the model (model 3) R^2 is 0.363. This shows that the independent variables, economic value (Econ) and attitudes account for about 36 % of the variability in the dependent variable, 'intension' (i.e., the intension for polygamy).

Table XXI: Structural Equation Estimate For Model 3

LV	Item	Coefficient	ci. lower	ci. upper	SE	Z	p. value
1 Intention	attitudes	0.278	0.071	0.484	0.105	2.634	0.008
2 Intention	Econ	0.392	0.186	0.597	0.105	3.730	0.000

V. RESULTS AND DISCUSSION

Structural equation modeling was carried out to identify the main factors influencing the provincial men's need (or desire) to be involved in the act of polygamy (or to have more than one partner or wife at a time).

To achieve this, four structural equation models (model 1a, model 1b, model 2, and model 3) were used in the analysis. Model 1b was a nested or reduced form of model 1a. The structural equation modeling methodology was chosen for the analysis due to the latent nature of the dependent and independent variables involved in the analysis.

The fit measures (rmsea, cfi, srmr, nnfi, and nf) employed in the SEM analysis show that all the 4 models considered in this research work were reasonably well fitted as each model passed all the goodness of fit tests except the criteria for the chi-square test, which was only satisfied by model 2. This shows that model 2 was outstandingly well specified and plausible with all-around fitness as it fits the data much more perfectly.

Almost all the factor loadings were adequate, especially for models 1b, 2, and 3. This shows that the latent variables were adequately measured by their associated indicators

The two nested models, model 1a and model 1b, were also compared based on the AIC and BIC values. The AIC and BIC values show that model 1b was more appropriate as compared to model 1a. This was supported by other test statistics like the R^2.

The relationships between the two latent dependent (or endogenous latent) variables, polygamy' and 'intention', and their respective independent (or exogenous latent) variables were each explored using the specified structural equation models.

The results from the structural equation models show that out of the six hypotheses postulated by the researchers, five were supported by the structural equation models. The first hypothesis, H1, was supported by models 1a and 1b. This hypothesis states that "social norms" have a significant influence on men's involvement in the act of polygamy. This is because the relationship between the dependent latent variable, 'polygamy', and the independent latent variable, 'social norms', was positive and statistically significant (with $p < 0.05$). This implied that the exogenous construct (or independent variable), social norms (like religion, family, friends, and ethnicity), has a significant and positive influence on the provincial men's involvement in the act of polygamy. This finding is supported by [17], who also found in research that, even today, pressures from outside the family usually lead people to contract a second wife. Reference [35] also indicated that the practice of polygamy is perceived in African societies as a social practice that ensures family continuity from one generation to another.

The second hypothesis, H2, was supported by model.1b. This hypothesis states that "perceived behavioral control" has a significant influence on men's involvement in the act of polygamy." The hypothesis, H2 was supported because the relationship between the dependent latent variable, "polygamy," and the independent latent variable, "Perceived behavioral control," was positive and statistically significant ($p <0.05$). This implies that the exogenous construct (or independent variable), 'Perceived behavioral control' (like self-control), has a significant and positive influence on the provincial men's involvement in the act of polygamy.

The third hypothesis, H3, was rejected (or not reported) by the structural equation models. This hypothesis, H3, states that "economic value has a significant influence on men's involvement in the act of polygamy." This hypothesis was rejected because the relationship between the dependent latent variable, "polygamy," and the independent latent variable, "economic value," was positive but not statistically significant ($p> 0.05$). This implies that the exogenous construct (or independent variable), 'economic value' (like farm work, domestic work, or trade), has no significant influence on the provincial men's involvement in the act of polygamy.

The fourth hypothesis, H4, was supported by model 2. This hypothesis states that "subjective norms" have a significant influence on the provincial men's intention to be involved in the act of polygamy. This hypothesis was supported because the relationship between the dependent latent variable, "intension," and the independent latent variable, "Subjective Norms," was positive and statistically significant ($p < 0.05$). This implies that the exogenous construct (or independent variable), "subjective norms" (like social recognition,

ethnicity, or desire for children) have a significant and positive influence on the provincial men's intention to be involved in the act of polygamy This result is in line with the findings of [30], who also pointed out that marrying women from different lineages helps the chief to practice a large-scale policy. References [30] [24] also indicated that if the first wife bears only female children, the next best option will be to marry another wife for the expressed purpose of raising male children.

The fifth hypothesis, H5, was supported by model 3. According to this hypothesis, "attitude has a significant influence on men's intention for polygamy."This hypothesis was supported because the relationship between the dependent latent variable, "intention," and the independent latent variable, "attitude," was positive and statistically significant ($p< 0.05$). This implies that the exogenous construct (or independent variable), 'attitude' (like polygamy is harmful or polygamy is beneficial) has a significant and positive influence on the provincial men's intention to be involved in the act of polygamy

Finally, the sixth hypothesis, H6, was supported by model 3. According to this hypothesis, "economic value has a significant influence on men's intention for polygamy."This hypothesis was supported by model 3 because the relationship between the dependent latent variable, "intention," and the independent latent variable, "economic value," was positive and statistically significant ($p< 0.05$). This implies that the exogenous construct (or independent variable), "economic value" (like trade, farm work, or domestic work), has a significant and positive influence on the provincial men's intention to be involved in the act of polygamy. This finding is supported by[25] , who also linked the demand for wives in the Ivory Coast to the productivity of women in agriculture

VI. CONCLUSION

This research aimed at identifying the main factors influencing provincial men's need or desire to be involved in the act of polygamy. Since human behavior cannot be directly measured, the structural equation modeling technique that makes use of latent variables whose measurement purely depends on the observed variables was used in the analysis. Four structural equation models were fitted to the data. The fit measures showed that all the models were well fitted to the data.

Based on the goodness of fit measures, model 2 with dependent variable "intention and independent variables: "Subjective Norms" and" Attitude", was found more plausible as it satisfied all the fit measures, including the chi-square test. More importantly, almost all the factor loadings were adequate, especially for models 1b, 2, and 3. This shows that the latent variables were adequately measured by their associated indicators. Out of the six hypotheses postulated by the research, five were supported by the structural equation models.

The result of the analysis showed that there is a positive and significant relationship between the dependent endogenous construct "polygamy" and the independent latent variables "social norms" and "perceived behavioral control."

Similarly, a positive and significant relationship existed between the dependent endogenous construct 'intention' and the independent latent variables' subjective norms, attitudes, and perceived behavioral control.

VII. RECOMMENDATION

Based on the research findings, the intention or desire to take more wives is significantly related to the independent variable, attitude. That is the attitude of whether polygamy is considered harmful or peaceful. A man may justify his involvement in polygamy as peaceful due to the leisure and benefits he derives from marrying many women. For example, the fun of seeing many wives competing for his love and attention. Some researchers, however, have stated that any aspect of African culture that keeps women in servitude or reinforces their inferiority must be challenged [34], [27] . The researchers therefore, concluded that polygamy can only be peaceful in the marriage institution if it is peaceful for all partners involved (i.e., husband and wives). If polygamy is only peaceful and pleasant to the husband, then care should be taken to resist marrying more than one wife at a time. Reference [27] even considered polygamy as a manifestation of women's oppression in various African cultural contexts.

The result of the SEM analysis also showed that "subjective norms" (like social recognition, ethnicity, or desire for children) are significant determinants of provincial men's intention to be involved in the act of polygamy. This is clearly envisaged in the tradition of wives unconditionally accepting another woman as a co-wife for their husbands. Intuitively, no woman would want to share her husband with another woman. Most of the women who consent to hiring, contracting, or allowing their husbands to take another wife do so against their own will. Some allow their husbands to have a second or additional wife out of fear of being tagged as selfish, wicked, and disrespectful for not yielding to the customs and traditions of their forefathers. Reference [12] even suggested that one should not look to other people for approval and self-esteem but to the one who created us. This research, therefore, strongly recommends that women should not be subjected to such emotional torture by being made to accept another wife or partner for their husbands based on the traditions and customs of the social recognition of the husbands.

Finally, based on the present research findings, "economic value" (like trade, farm work, or domestic work) was found to be a significant determining factor of the provincial men's "intention" for involvement in the act of polygamy. It is therefore recommended that women, especially those in the provinces, should be financially capacitated through formal or informal education to enhance their ability to contribute to the upkeep of their respective homes. Loans (with no interest)

from government and non-governmental organizations, like humanitarian agencies, should be given to some of those women who are interested in trade, with the strict condition of repaying them after a given period of time

REFERENCE

[1] Bake, Emiko. (1988). "Yes, 1 married a second wife for my Husband Climax, 1.3 (8 August) p.10.

[2] Bentler, P. M. and D. G. Bonett (1980) "Significance Tests and Goodness of Fit in the Analysis of Covariance Structures," Psychological Bulletin (88) 3, pp. 588-606.

[3] Boserup Esther. (1970). Woman's Role in Economic Development, London, England & Sterling, Virginia Cromwell Press, Trowbridge.

[4] Boserup Esther. (1970). Women's role in economic development. London, England & Sterling, VA: Cromwell Press, Trowbridge

[5] Browne MW, Cudeck R. (1993) Alternative Ways of Assessing Model Fit. In: Bollen K, Long J, editors. Testing Structural Equation Models. Sage; Newbury Park, CA: 1993. pp. 136–162.

[6] Byrne, B. M. (2006). Structural equation modeling with EQS: Basic concepts, applications, and programming (2nd ed.). Mahwah, NJ: Erlbaum.

[7] Clason, D.L. & T.J. Dormody . 2004. Analyzing Data Measured by Individual Likert-Type items. http://pubs.aged.tamu.edu/jae/pdf/Vol35/35- 04-31.pdf. Tanggal akses : 20 Januari 2009. [2]

[8] Cornwall, Andrea (2005): "Introduction: Perspectives on Gender in Africa". In: Andrea Cornwall (ed), Readings in Gender in Africa, Oxford: James Currey, pp. 1- 19.

[9] David A. Cole and Kristopher J. Preacher,(2014) Manifest Variable Path Analysis: Potentially Serious and Misleading Consequences Due to Uncorrected Measurement Error, Psychological Methods © 2013 American Psychological Association 2014, Vol. 19, No. 2, 300 –315 1082-989X/14/$12.00 DOI: 10.1037/a0033805

[10] Deny, K. 2007. Transformasi Data Ordinal ke Interval dengan Method of Successive Interval (MSI). http://jurnalsdm.blogspot.com/2007/12/transpormasi-data-ordinal-ke-interval.html. Tanggal akses : 1 Oktober 2008

[11] Deny, K. 2007. Transformasi Data Ordinal ke Interval dengan Method of Successive Interval (MSI). http://jurnalsdm.blogspot.com/2007/12/transpormasi-data-ordinal-ke-interval.html. Tanggal akses : 1 Oktober 2008

[12] Fagerstom, DG. 1996. Counselling single adults: a handbook of principles and advice.Grand Rapids, MI: Baker.

[13] Francis, J., Eccles, M.P., Johnston, M., Walker, A.E., Grimshaw, J.M., Foy, R., et al. (2004) Constructing Questionnaires Based on the Theory of Planned Behaviour: A Manual for Health Services Researchers. University of Newcastle, Newscastle

[14] Fenske, James (9 November 2013) "Africa polygamy: Past and present". VoxEU.org. Retrieved 28 May 2020

[15] Gefen, D. and D. Straub (2000) "The Relative Importance of Perceived Ease-ofUse in IS Adoption: A Study of e-Commerce Adopt

[16] Grace Lawrence-Hart (October 2019), The Socio-Cultural Significance of Polygamy in Africa, International Journal of Social Sciences and Humanities ISSN: 2713-4698. Volume 5, Issue 1. Pages 01- 06. July, 2019

[17] Grace Lawrence-Hart (October 2019), The Socio-Cultural Significance of Polygamy in Africa, International Journal of Social Sciences and Humanities ISSN: 2713-4698. Volume 5, Issue 1. Pages 01- 06. July, 2019

[18] Guyer, Jane I. (1986): "Beti Widow Inheritance and Marriage Law: A Social History". In: Betty Potash (ed), Widows in African Societies, Stanford: Stanford University Press, pp. 193-219

[19] Hair Jr., J. F. et al. (1998). Multivariate Data Analysis with Readings. Englewood Cliffs, NJ: Prentice-Hall.

[20] Hair, Joseph F, et al. (2014), Multivariate data analysis (7th edition) (7; Harlow: Pearson)

[21] Haenlein M, Kaplan AM (2004) A Beginner's Guide to Partial Least Squares Analysis. Underst Stat 3:283–297

[22] Hoe, S. L. (2008). Issues and Procedures in Adopting Structural Equation Modeling Technique. Journal of Applied Quantitative Methods, 3, 76-83.

[23] Hu, L.T. and Bentler, P.M. (1999), "Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives," Structural Equation Modeling, 6 (1), 1-55.

[24] Ibeacbuchi, Christian C. (1990) "1988 Lambeth Conference and Polygamy: Its. Implications for the Contemporary Nigerian Church" (B.A. Thesis, Calabar, University of Calabar, 1990)

[25] Jacoby, Hanan G, 1995. "The Economics of Polygamy in Sub-Sahara Africa: Female Productivity and the Demand for wives in Cote d' ivoire" Journal of Political Economy, University of Chicago Press, vol. 103(5), pages 938-971, October.

[26] Jöreskog, K. and Long, J.S. (1993), "Introduction," in Testing Structural Equation Models, Kenneth A. Bollen and J. Scott Long, Eds. Newbury Park, CA: Sage

[27] Kahiga, JK. 2007. Polygamy: A pastoral challenge to the church in Africa. Specific challenges to evangelization in Africa. African Ecclesial Review, 49(1 &2), March-June 2007: 119-147.

[28] King, Noel Q. (1970). Religious of Africa. New York: Harper and Row Publishers. Kisembo, Benezeri, and Aylward Shorter.(1977). African Christian Marriage. London: Cassell and Collier Macmillan Publishers.

[29] Kline, Rex B. (2012), 'Assumptions in Structural Equation Modeling', in Rick H. Hoyle (ed.), Handbook of Structural Equation Modeling (New York and London: The Guilford Press), 111-25.

[30] Kline, R. B. (2015), Principles and practice of structural equation modeling, Gullford publications

[31] Maquet, Jacques. (1975). Africanity: The Cultural Unity of the Black Africa. London: Oxford University.

[32] Mbefo, Luke Nnamdi. (1989). Towards a Mature African Christianity. Enugu: Christian Publications.

[33] Mbeya, CM. 1994. A voice from Zaire. Daughters of Sara,Spring.

[34] Moosa, M. Y. H., Benjamin, R., & Jeenah, F. Y. (2008). A review of multi-spousal relationships-psychosocial effects and therapy. South African Journal of Psychiatry, 12(2), 12-14.

[35] Rieger, M. and Wagner, N. (2011). The Dynamics of Nutrition and Child Health Stocks. IHEID Working Papers 03-2011, Economics Section, The Graduate Institute of International Studies.

[36] Trobisch, Walter. (1978). My Wife made me a Polygamist. 6th edition, Kehl/Rhein: Editions

[37] Yego, Josphat. (1984). "Polygamy and the African Church: A Survey" East African Journal of Evangelical Theology, 3.1 p.69-88.