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## Role of Gender in Leadership Style of Christian Higher Education

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### **Abstract**

*Education is the backbone of a nation. The recently announced education policy of the Government of India gives more thrust to enhance the quality of education, thereby developing people into good citizens. The higher education institutions in Kerala founded by Catholic Church also envisioned the new education policy. The Catholic Church started this charism of education at the beginning of the sixteenth century. In this study, the researcher aims to assess the performance of Christian Higher Education Institutions (CHEIs) to see how far it is in attune with the Leadership Style of Jesus. The Multigroup Analysis (MGA) - MICOM is done for the analysis to verify the role of Gender differences in Christian Higher Education Leadership Style. This research study is conducted in seventy-five colleges of various disciplines like arts and science, engineering, medical under six universities state of Kerala in India.*

**Keywords:** Leadership, Leadership Style, Role of Gender in Leadership Style, Gender Difference in Christian Higher Education.

### **Introduction**

The Bible is the Holy Book of Christians. The four Gospels speak about the ministry, leadership style, and life of Jesus. In the Gospel of St John, Chapter fourteen verses six Jesus proclaimed: “I am the way, the truth, and the life” (Nelson, 1994). Jesus was leading an exemplary life by giving his disciples a pattern and a model of leadership and living as a human being. He selected a group of disciples and trained them to lead a life according to His model. Jesus was a leader with a difference. He was a friend to everybody. The leadership Style of Jesus was notable and emulative to the new generation to bring a more civilised society in this modern world. Therefore, the researcher has taken in this study the leadership style of Jesus – Love of God, Love of Neighbour, and Shepherding as the Christian model of leadership style in higher education institutions. The leadership style of Jesus has influenced many people and races across the world. It serves as a strong foundation for Catholic ministries, especially the education ministry of the Church. Hence, it is imperative to evaluate the role of gender and the influence of the leadership style of Jesus in the Performance of the Christian Higher Education Institution of Kerala.

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**Demographic Profile of Respondents:**

The demographic profile gives us the characteristics of the sample respondents selected for the study. Table 1 represents the demographic profile of the sample respondents.

**Table 1:** Profile of Sample Respondents

Sl. No.	Description	Category	Number	Percentage ( per cent)
1.	Gender	Male	287	44.4
		Female	360	55.6
		Total	647	100.0
2.	Age	Youngster	224	34.6
		Adults	206	31.8
		Elderly	217	33.5
		Total	647	100.0
3.	Educational Qualification	Up to graduation	191	29.5
		Post-Graduation and M.Phil.	281	43.4
		Doctoral Degree	175	27.0
		Total	647	100.0
4.	Academic Discipline	Arts and Science & B.Ed. Colleges	486	75.1
		Engineering Colleges	112	17.3
		Health and Allied Science Colleges	49	7.6
		Total	647	100.0
5.	University Affiliation	Mahatma Gandhi University	343	53.0
		Kerala University	81	12.5
		Kannur University	23	3.6
		Calicut University	39	6.0
		APJ Abdul Kalam Technological University	112	17.3
		The Kerala University of Health and Allied Science	49	7.6
		Total	647	100.0

*Source: Primary Data*

The table above provides the demographical profile of the sample respondents. Out of 647 samples collected, 44.4 % were male and 55.6% were female. The classification of respondents based on age reveals that the majority of them were young. Based on age, respondents are classified as young (17-32), middle-aged (33-44) and seniors (45-78). Out of 647 respondents, 34.6% were young and 31.8% were middle-aged and 33.5% were seniors. The division or levels of classification is made based on the lowest value, middle value and highest value. Regarding the Educational qualification of respondents, 29.5% of the respondents have education up to graduation, 43.5% have Post-Graduation or M.Phil., and 27% have a doctoral degree.

Based on academic discipline, colleges are classified into Arts and Science & B.Ed. Colleges, Engineering Colleges, Health and Allied Science Colleges. Out of 647 respondents, 75.1% belong to Arts and Science & B.Ed. Colleges; 17.3% belong to Engineering Colleges; 7.6% belong to Health and Allied Science Colleges. According to University Affiliation, respondents are from Mahatma Gandhi University, Kerala University, Kannur University, Calicut University, APJ Abdul Kalam Technological University, and Kerala University of Health and Allied Science. Out of 647 respondents, 53% respondents belong to Mahatma Gandhi University; 12.5% belong to Kerala University; 3.6% belong to Kannur University; 6% belong to Calicut University; 17.3% belong to APJ Abdul Kalam Technological University; 7.6% belongs to Kerala University of Health and Allied Science.

**Exploratory Factor Analysis of construct and variable*****Leadership Style of Jesus:***

The final questionnaire carried 28 variables that indicate the leadership style of Jesus. To reduce the number of dimensions, the Exploratory Factor Analysis (EFA) procedure using Principal Component Analysis with varimax rotation was administered on the collected data.

Before applying the EFA, the researcher also checked whether the data is fit for factor analysis. Both the Kaiser Meyer Olkin (KMO) measure of sampling adequacy (0.963) is well above the threshold limit and Bartlett's test of Sphericity is also found significant (Sig <.001).

The EFA brought out three prominent components of the Leadership Style of Jesus that account for a 69.7% variance. These components were labelled as the love of God (LOG), Love of neighbour (LON) and shepherding (SHD). The result is presented in Table 2.

**Table 2:** Leadership Style of Jesus in Christian Higher Education Institutions

Code	Variables	Mean	SD	Loadings	Alpha
<b>Leadership Style of Jesus Total Reliability</b>		4.11	0.688		0.949
<b>Love of Neighbour</b>		4.15	0.761		0.946
LON1	Patient Listening	4.04	0.932	0.835	
LON2	Caring	4.16	0.977	0.831	
LON3	Showing Mercy	4.02	0.906	0.801	
LON4	Compassion	4.23	0.859	0.783	
LON5	Righteousness	4.13	0.920	0.779	
LON6	Considering Others	4.14	0.975	0.753	
LON7	Respect	4.32	0.813	0.746	
LON8	Importance of Service	4.24	0.836	0.696	
LON9	Selfless Service	4.06	0.958	0.684	
<b>Variance Explained</b>		<b>33.21</b>			
<b>Love of God</b>		4.04	0.777		0.925
LOG1	Knowing the Will of God through Prayer	4.12	1.006	0.818	
LOG2	Obedying God's Commandments	3.99	0.980	0.780	
LOG3	Glorifying God by bearing witness to Jesus	3.97	0.962	0.775	
LOG4	Helps the people to lead a holy life	3.97	0.952	0.726	
LOG5	Give importance to Christian Values	4.46	0.791	0.687	
LOG6	Following Christian Leadership Style	4.00	0.986	0.678	
LOG7	Spiritual Environment	3.96	0.980	0.665	
LOG8	Creating Leaders	3.88	1.002	0.637	
<b>Variance Explained</b>		<b>27.02</b>			
<b>Shepherding</b>		4.19	0.936		0.599
SHD1	Practising Christian Faith	4.07	1.287	0.874	
SHD2	Guiding	4.31	0.896	0.704	
<b>Variance Explained</b>		<b>9.42</b>			
<b>Total Variance Explained</b>		<b>69.7 per cent</b>			

### *Adoption of UN Sustainable Development Goal - Quality Education*

The UN Sustainable Development Goals (SDGs) - Quality Education has 12 variables in the questionnaire. Firstly, the researcher checked whether the data is fit for factor analysis. Then, an Exploratory Factor Analysis (EFA) procedure using Principal Component Analysis with varimax rotation was administered to the collected data. Both the Kaiser Meyer Olkin (KMO) measure of sampling adequacy (0.912) is well above the threshold limit and Bartlett's test of Sphericity is also found significant (Sig <.001). The EFA brought out two prominent components of the Adoption of the UN Sustainable Development Goal - Quality Education that accounts for 66.8 per cent

variance. These components were labelled as the Quality Education for Sustainable Development (QESD), and Quality Education for Global Citizenship (QEGC). The result is presented in Table 3.

**Table 3:** Adoption of UN Sustainable Development Goal - Quality Education

Code	Variables	Mean	SD	Loadings	Alpha
<b>SDG Scale of Overall Reliability</b>		4.12	0.674		0.904
<b>Quality Education for Sustainable Development (QESD)</b>		4.27	0.689		0.879
<b>SD1</b>	Importance to Human Rights	4.27	0.867	0.829	
<b>SD2</b>	Culture of Peace and Non-violence	4.41	0.795	0.817	
<b>SD3</b>	Sustainable lifestyle	4.26	0.806	0.758	
<b>SD4</b>	Promotes Gender Equality	4.34	0.964	0.736	
<b>SD5</b>	Life skills for sustainable development	4.21	0.876	0.689	
<b>SD6</b>	Teaching Professional Ethics	4.13	0.912	0.663	
<b>Variance Explained</b>					<b>39.4</b>
<b>Quality Education for Global Citizenship (QEGC)</b>		3.90	0.821		0.851
<b>GC1</b>	Intercultural education and international understanding	3.89	1.075	0.863	
<b>GC2</b>	Knowledge about global citizenship	3.72	1.025	0.862	
<b>GC3</b>	Promotes global citizenship	4.06	0.892	0.667	
<b>GC4</b>	Teaching global citizenship	3.94	0.948	0.635	
<b>Variance Explained</b>				<b>27.4</b>	
<b>Total Variance Explained</b>				<b>66.8</b>	
				<b>per cent</b>	

***Problems that hinder the adoption of the Leadership Style of Jesus***

CHEIs face a lot of hurdles or Problems while adopting the Leadership Style of Jesus. The researcher has administered Exploratory Factor Analysis to reduce the dimensions. Both the Kaiser Meyer Olkin (KMO) measure of sampling adequacy (0.787) is well above the threshold limit and Bartlett's test of Sphericity is also found significant (Sig <.001). The EFA brought out one prominent component of problems that hinder the adoption of the Leadership Style of Jesus which accounts for a 61.4 per cent variance. This component was labelled as the Problems Encountered

(PE). The result is presented in the table.

**Table 4:** Problems that hinder the adoption of the Leadership Style of Jesus

Code	Variables	Mean	SD	Loadings	Alpha
<b>Problems Encountered</b>		3.52	0.890		0.842
<b>PE1</b>	Generating capital funds	3.60	1.14	0.835	
<b>PE2</b>	Changes in perception of people	3.48	1.11	0.784	
<b>PE3</b>	The attitude of the government and authorities	3.54	1.15	0.776	
<b>PE4</b>	Financial problem	3.62	1.18	0.767	
<b>PE5</b>	Changes in the concept of spirituality	3.34	1.11	0.754	
<b>Total Variance Explained</b>		61.4 per cent			

### *Performance of Christian Higher Education Institutions*

The Christian Higher Education Institutions Performance (CHEIP) indicates 15 variables in the final questionnaire. The Exploratory Factor Analysis has been done for data analysis. Both the Kaiser Meyer Olkin (KMO) measure of sampling adequacy (0.950) is well above the threshold limit and Bartlett's test of Sphericity is also found significant (Sig <.001). The EFA brought out one prominent component of the performance of Christian Higher Education Institutions that accounts for a 65.9 per cent variance. This component was labelled as the Christian Higher Education Institutions Performance (CHEIP). The result is presented in Table.

**Table 5:** Christian Higher Education Institution Performance Loadings

Code	Variables	Mean	SD	Loadings	Alpha
<b>CHP1</b>	Good value system	4.31	0.786	0.874	0.947
<b>CHP2</b>	Love and joy	4.27	0.871	0.846	
<b>CHP3</b>	Caring and sharing	4.25	0.872	0.837	
<b>CHP4</b>	Self-esteem	4.49	0.725	0.826	
<b>CHP5</b>	Character formation	4.31	0.854	0.818	
<b>CHP6</b>	Courage to face challenges	4.19	0.853	0.808	
<b>CHP7</b>	Follows the leadership style of Jesus	4.07	0.980	0.807	
<b>CHP8</b>	Faithful to Jesus	4.21	0.919	0.806	
<b>CHP9</b>	Changes in Community	4.23	0.810	0.800	
<b>CHP10</b>	Learning Environment	4.54	0.702	0.753	
<b>CHP11</b>	Professional knowledge	4.35	0.754	0.752	
<b>Total Variance Explained</b>		65.9 per cent			

### **Structural Model**

This section deals with the structural model explaining the relationship between the Leadership Style of Jesus, UN SDGs Quality Education for Sustainable Development and Global Citizenship,

Problems Encountered and Christian Higher Education Performance. Here the focus is on the presentation of a model’s predictive capabilities and the relationship between the constructs. The structural model presented in this research study uses seven constructs, viz., Leadership Style of Jesus – Love of God (LOG), Love of Neighbour (LON), and Shepherding (SHD), UN SDGs – Quality Education for Sustainable Development (QESD), and Quality Education for Global Citizenship (QEGC), Problems Encountered (PE), and Christian Higher Education Institution Performance (CHP). The result is presented below as I. Collinearity Analysis, II. Assessment of Path Coefficients ( $\beta$ ), III. Coefficient of Determination ( $R^2$ ), IV. Effect Size ( $f^2$ ), V. Predictive Relevance ( $Q^2$ ).

### Collinearity Analysis

“Multicollinearity is a state of very high inner-correlation or inner association among the independent variables. The presence of the same cause can cause a disturbance in the data that makes the statistical inferences unreliable. Therefore, the structural model must be devoid of the multicollinearity problem. The Variance Inflation Factor (VIF) score below five can be accepted as reliable” (Hair et al., 2020; Ringle et al., 2017; Sarstedt et al., 2018). Here we have to examine each set of predictors in the structural model for collinearity. The below table is the test result.

**Table 6:** Collinearity Analysis of the Structural Model

Constructs	Code	Measurement Items	VIF
<b>Love of God</b>	LOG 1	Knowing the Will of God through Prayer	2.312
	LOG 2	Obedying God’s Commandments	2.795
	LOG 3	Glorifying God by bearing witness to Jesus	2.773
	LOG 4	Helps the people to lead a holy life	2.556
	LOG 5	Give importance to Christian Values	2.158
	LOG 6	Following Christian Leadership Style	2.498
	LOG 7	Spiritual Environment	2.532
	LOG 8	Creating Leaders	2.312
<b>Love of Neighbour</b>	LON 1	Patient Listening	3.538
	LON 2	Caring	3.040
	LON 3	Showing Mercy	3.424
	LON 4	Compassion	2.829
	LON 5	Righteousness	2.922
	LON 6	Considering Others	2.623
	LON 7	Respect	2.471
	LON 8	Importance to Service	2.237
<b>Shepherding</b>	SHD 1	Practising Christian Faith	1.262
	SHD 2	Guiding	1.262
<b>Sustainable</b>	SD 1	Importance to Human Rights	2.523

<b>Development</b>	SD 2	Culture of Peace and Non-violence	1.919
	SD 4	Promotes Gender Equality	1.764
	SD 5	Life skills for sustainable development	1.929
	SD 6	Teaching Professional Ethics	1.808
<b>Global Citizenship</b>	GC 1	Intercultural & International Understanding	1.942
	GC 2	Provide knowledge about global citizenship	2.318
	GC 3	Promotes Global Citizenship	2.131
	GC 4	Teaching Global Citizenship	1.918
<b>Problems Encountered</b>	PE 1	Generating capital funds	2.432
	PE 2	Changes in Perception of People	1.825
	PE 3	The attitude of the Government and authorities	1.788
	PE 4	Financial Problems Changes in the concept of	2.050
	PE 5	spirituality	1.807
<b>CHEIs Performance</b>	CHP 4	Self-esteem	2.442
	CHP 5	Character Formation	2.327
	CHP 6	Courage to face challenges	2.421
	CHP 7	Follows the Leadership Style of Jesus	3.551
	CHP 8	Faithful to Jesus	3.538
	CHP 9	Changes in Community	2.140
	CHP 10	Learning Environment	2.181
	CHP 11	Professional Knowledge	2.167

Source: Primary Data

The above table shows the actual result of the test of collinearity. “The test result shows that the collinearity of the indicator of each predictor’s construct tolerance (VIF) value is higher than 0.20” (Joseph F. Hair, 2014) and the variance inflation factor (VIF) value is lower than 5. Therefore, there is no collinearity issue or problem here.

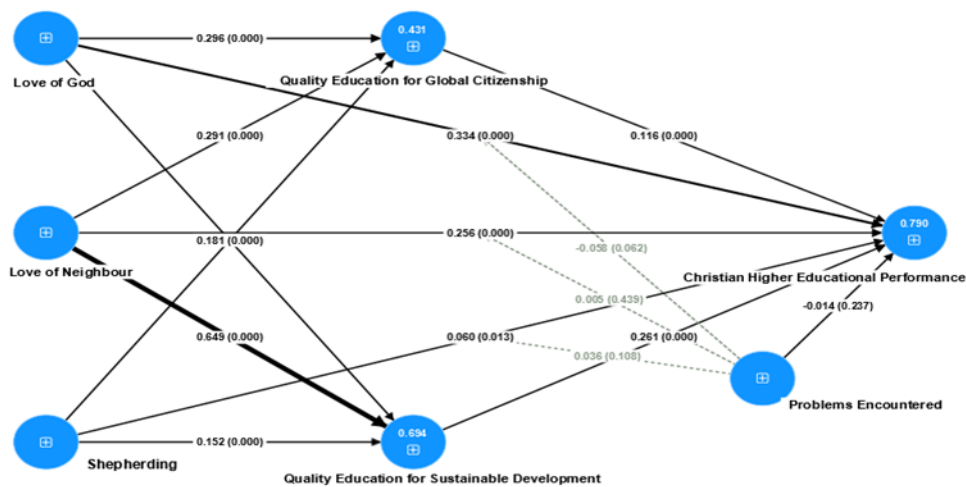
### Assessment of Path Coefficients ( $\beta$ )

“When there is no issue with collinearity, the next step is to examine the size and significance of the path coefficients” (Joseph F. Hair, 2014). “It represents the hypothesized relationships among the constructs. The path coefficients have a standardized beta value between -1 and +1. Estimated path coefficients close to + 1 signify a strong and positive relationship and a value close to – 1 implies a strong negative relationship. The closer the estimated coefficients are to zero, the weaker they are in predicting the endogenous (dependent) constructs and a low value close to zero is usually not significantly different from zero (Hair et al., 2013). Testing for significance requires the application of the bootstrapping and examination of p-values. If the t-value is greater than 1.96 (Pearson, 1895) and the p-value is less than 0.05 is considered significant and acceptable” (Christian M. Ringle, 2017) (Biau et al., 2010; Grabowski, 2016).



The analysis of path coefficients of the structural model tests the following hypotheses that show the probable relationships among the outlined latent variables.

- H<sub>11</sub>** Love of God is significantly associated with Sustainable Development.
- H<sub>12</sub>** Love of God is significantly associated with Global Citizenship.
- H<sub>13</sub>** Love of God is significantly associated with Christian Higher Educational Performance.
- H<sub>14</sub>** Love of Neighbour is significantly associated with Sustainable Development.
- H<sub>15</sub>** Love of Neighbour is significantly associated with Global Citizenship.
- H<sub>16</sub>** Love of Neighbour is significantly associated with Christian Higher Educational Performance.
- H<sub>17</sub>** Shepherding is significantly associated with Sustainable Development.
- H<sub>18</sub>** Shepherding is significantly associated with Global citizenship.
- H<sub>19</sub>** Shepherding is significantly associated with Christian Higher Educational Performance.
- H<sub>110</sub>** Sustainable Development is significantly associated with Christian Higher Educational Performance.
- H<sub>111</sub>** Global Citizenship is significantly associated with Christian Higher Educational Performance.
- H<sub>112</sub>** Problems Encountered is significantly associated with Christian Higher Educational Performance.



**Figure 1:** Leadership Style of Jesus and Its Influence in CHEIs: Structural Model

**Table 7:** Leadership Style of Jesus and Its Influence in CHEIs – Path Coefficients of the Structural Model

Constructs	Path Coefficients ( $\beta$ )	t value	p-value	Decision
Love of God → Sustainable Development	0.132	3.141	0.001	Supported
Love of God → Global Citizenship	0.296	5.671	0.000	Supported
Love of God → Christian Higher Educational Performance	0.334	10.042	0.000	Supported
Love of Neighbour → Sustainable Development	0.649	17.837	0.000	Supported
Love of Neighbour → Global Citizenship	0.291	5.814	0.000	Supported
Love of Neighbour → Christian Higher Educational Performance	0.256	5.384	0.000	Supported
Shepherding → Sustainable Development	0.152	4.701	0.000	Supported
Shepherding → Global Citizenship	0.181	4.753	0.000	Supported
Shepherding → Christian Higher Educational Performance	0.060	2.238	0.013	Supported
Sustainable Development → Christian Higher Educational Performance	0.261	4.953	0.000	Supported
Global Citizenship → Christian Higher Educational Performance	0.116	4.140	0.000	Supported
Problems Encountered → Christian Higher Educational Performance	-0.014	0.717	0.237	Not Supported

Source: Primary Data

The above table shows the path coefficient at a 5 per cent significance level with PLS bootstrapping. The above result reveals that all the path coefficients are significant except Problems Encountered and Christian Higher Education Performance. And the result sufficiently explains the association between various constructs regarding the influence of the Leadership Style of Jesus, Quality Education for Sustainable Development and Quality Education for Global Citizenship and Christian Higher Education Performance. Therefore, all the hypotheses from H11 to H111 are

supported (t-value > 1.96 and p-value < 0.05) and H112 is not supported (t-value < 1.96 and p-value > 0.05).

**I. Coefficient of Determination (R<sup>2</sup>)**

In general, “R<sup>2</sup> values of 0.75, 0.50, or 0.25 for the dependent constructs can be described as respectively substantial, moderate, or weak predictive accuracy” (Henseler, 2016)

**Table 8:** Coefficient of Determination (R<sup>2</sup>) of the Structural Model

Constructs	R-square	R-square adjusted
Christian Higher Educational Performance	0.789	0.786
Global Citizenship	0.430	0.427
Sustainable Development	0.694	0.692

Source: Primary Data

The above table shows that Christian Higher Educational Performance (R<sup>2</sup> = 0.789) is above 0.75 as predictivity is substantial. The Quality of Education Sustainable Development (R<sup>2</sup> = 0.694) is above 0.50 as predictivity is moderate. And, the Quality of Education for Global Citizenship (R<sup>2</sup> = 0.430) is above 0.25 as predictivity is weak.

**II. Effect Size (f<sup>2</sup>)**

Assessment of the effect size (f<sup>2</sup>) is interpreted by comparing the standard value of f and the actual result of the effect size value. The standard criterion is that f<sup>2</sup> values of 0.02, 0.15, and 0.35, respectively, represent small, medium, and large effects (Cohen, 1988).

**Table 9:** Effect Size (f<sup>2</sup>) of the Structural Model

	Christian Higher Educational Performance	Global Citizenship	Sustainable Development
Global Citizenship	0.025		
Love of God	0.157	0.068	0.047
Love of Neighbour Problems Encountered	0.117	0.071	0.713
Shepherding	0.001		
Sustainable Development	0.005	0.042	0.056
	0.150		

Source: Primary Data

The above values show the effect size (f<sup>2</sup>) values of the relationship between constructs. Love of Neighbour has a large effect on Quality Education for Sustainable Development (f<sup>2</sup> = 0.713). Love

of God ( $f^2 = 0.157$ ) and Quality Education for Sustainable Development ( $f^2 = 0.150$ ) have a medium effect on Christian Higher Educational Performance. Love of Neighbour ( $f^2 = 0.117$ ) and Quality Education for Global Citizenship ( $f^2 = 0.025$ ) have a small effect on Christian Higher Educational Performance. Love of God ( $f^2 = 0.068$ ), Love of Neighbour ( $f^2 = 0.071$ ), and Shepherding ( $f^2 = 0.042$ ) have a small effect on the Quality of Education for Global Citizenship. Love of God ( $f^2 = 0.047$ ) and Shepherding ( $f^2 = 0.056$ ) have a small effect on Quality Education for Sustainable Development.

### III. Predictive Relevance ( $Q^2$ )

“As a rule of thumb, the Predictive Relevance ( $Q^2$ ) values larger than zero indicate the path model’s predictive relevance for a particular dependent construct. By contrast, a  $Q^2$  value less than or equal to zero indicates a lack of predictive relevance” (Joseph F. Hair, 2014).

The below table provides the  $Q^2$  result of the model through the cross-validated redundancy index.

**Table 10:** Predictive Relevance ( $Q^2$ ) of the Structural Model

Constructs	$Q^2$	RMSE	MAE
<b>Christian Higher Educational Performance</b>	0.746	0.506	0.369
<b>Global Citizenship</b>	0.422	0.763	0.582
<b>Sustainable Development</b>	0.689	0.560	0.408

Source: Primary Data

The above result of the predictive relevance ( $Q^2$ ) value shows that Christian Higher Educational Performance ( $Q^2 = 0.746$ ), Quality Education for Sustainable Development ( $Q^2 = 0.689$ ), Quality Education for Global Citizenship ( $Q^2 = 0.422$ ). The values meet the threshold criteria of  $Q^2 > 0$ , which implies that all the dependent variables in the model retain acceptable predictive relevance.

### Multigroup Analysis (MGA) - Measurement Invariance of Composite Models (MICOM)

This section highlights the leadership style of Jesus and Its Influence on Select CHEIs of Kerala by using **Multi-Group Analysis (MGA)**. This analysis is meant for hypothesis testing of the predefined groups to know if there are any significant differences in the groups obtained by using partial least squares structural equation modelling (Hair et al., 2014). The intention of this analysis here is to explore differences that can be traced back to observable characteristics. The MGA-MICOM is done for the analysis of the role of Gender differences in Christian Higher Education Leadership Style.

“According to Henseler et al. (2016), before proceeding to perform the multigroup analysis, it is necessary to study the MICOM. The objective of this MICOM study is to confirm that the differences between the two groups are, in fact, due to differences between the latent variables and not to other issues. In other words, the differences are only due to differences in the structural model and not in the measurement model” (Henseler, 2016).

“When using Structural Equation Modelling (SEM), group comparisons can be misleading unless researchers establish the invariance of their measures. While methods have been proposed to analyse measurement invariance in common factor models, research lacks an approach in respect of composite models. The researchers can present a novel procedure to assess the measurement invariance in the context of composite models. Researchers in various disciplines need to conduct this kind of assessment before undertaking multigroup analyses. Researchers can use the MICOM procedure as a standard means to assess the measurement invariance” (Henseler, 2016).

“There is a three-step procedure to analyse the measurement invariance of composite models (MICOM) when using variance-based SEM, such as partial least squares (PLS) path modelling. A simulation study allows us to assess the suitability of the MICOM procedure to analyse the measurement invariance in PLS applications. The three-step procedure consists of the following elements: configural invariance, compositional invariance, and the equality of composite mean values and variances. The MICOM procedure appropriately identifies no, partial, and full measurement invariance” (Henseler, 2016).

### ***Role of Gender in the Interrelationships among Leadership Style of Jesus, UN SDG of Quality Education and CHEIs Performance.***

Gender has an important role in the Jesus leadership style, UN SDG of Quality Education and CHEIs Performance. This analysis checks the influence of gender variance in the style of leadership, UN SDG Quality Education and CHEIs Performance.

### ***Permutation Analysis MGA-MICOM: Male Vs Female***

***The criterion of Configural Invariance:*** For this, there is no formal test. The criterion for fulfilling the indicators on all the constructs should be the same in both male and female groups. And ensure that the models, construct, and latent variables in the construct should remain the same. Secondly, identical data treatments should be given in male and female groups for missing values, extreme values, coding, reverse coding, and handling of missing values. In addition to that identical algorithms should be used for inner and outer measurement models.

### **Discussion:**

Here in this research study all the above criteria are fulfilled. Therefore, configural invariance is achieved. We can proceed to the next step which is compositional invariance.

**Table 11:** MICOM - Step 3: Compositional Invariance of Male Vs Female

	<b>Original correlation</b>	<b>Correlation permutation means</b>	<b>5.00 per cent</b>	<b>Permutation p-value</b>
<b>Love of God</b>	0.999	1.000	1.000	0.001
<b>Love of Neighbour</b>	1.000	1.000	1.000	0.358
<b>Shepherding</b>	1.000	0.998	0.992	0.962
<b>Quality Education for Global Citizenship</b>	1.000	1.000	1.000	0.931
<b>Quality Education for Sustainable Development</b>	1.000	1.000	0.999	0.152
<b>Problems Encountered</b>	0.990	0.990	0.971	0.363
<b>Christian Higher Educational Performance</b>	1.000	1.000	1.000	0.931

***The Criterion of Compositional Invariance:***

The score of identical composites (i.e., latent variables) should be identical across the groups. In addition to that the correlation of all the constructs between the groups is 1 or in other words, the p-value is insignificant (more than 0.05). If these are satisfied, then compositional invariance is achieved.

**Discussion:**

In step 3, compositional invariance of Male Vs Female, we could see the original correlation is greater than or equal to the correlation permutation mean of Love of Neighbour, Shepherding, Quality Education Global Citizenship, Quality Education Sustainable Development, Problems Encountered and Christian Higher Education Performance it is good. But in Love of God, the original correlation is less than the correlation permutation means, it is bad (Gaskin, 2022). "If both configural invariance and compositional invariance are established, then partial measurement invariance is confirmed, and the researcher can proceed to compare the path coefficients with the MGA" (Jun-Hwa Cheah, 2020). Here in this research result one of the p-values (Love of God) is less than 0.05, therefore males and females are to be presented separately for structural and measurement models. The next step is the equality of composite mean values and variance.

**Table 12:** MICOM - Step 3 (a) Mean difference: Male Vs Female

	<b>Original differenc e</b>	<b>Permutation mean difference</b>	<b>5.00 per cent</b>	<b>95.00 per cent</b>	<b>Permutati on p-value</b>
<b>Love of God</b>	-0.146	0.002	-0.130	0.134	0.033
<b>Love of Neighbour</b>	0.181	-0.003	-0.139	0.120	0.012
<b>Shepherding</b>	0.054	0.002	-0.132	0.145	0.250
<b>Quality Education for Global Citizenship</b>	0.056	0.001	-0.126	0.132	0.233
<b>Quality Education for Sustainable Development</b>	0.173	0.000	-0.137	0.13	0.018
<b>Problems Encountered</b>	0.194	0.000	-0.133	0.128	0.006
<b>Christian Higher Educational Performance</b>	0.056	0.001	-0.126	0.132	0.233

***The criterion of Equality of Mean:***

Mean of each construct in each group should not be significantly different. If it is significant, we cannot pool the data and must give separate results for males and females. If the p-value is greater than 0.05 which is good, it means that there is no significant difference between males and females in that path. If the p-value is less than 0.05, it means that their original means are significantly different.

**Discussion:**

In step 3 (a) equality of means, we could see the permutation p-value is not significant in Love of God, Shepherding, Quality Education for Global Citizenship, and Christian Higher Education Institution. This means, there is equality of means among these constructs. But the permutation p-value is significant in Love of Neighbour, Quality Education for Sustainable Development, and Problems Encountered. In these latent variables, there is no equality of means (Gaskin, 2022).

**Table 13:** MICOM - Step 3 (b) Variance difference: Male Vs Female

	<b>Original differenc e</b>	<b>Permutation mean difference</b>	<b>5.00 per cent</b>	<b>95.00 per cent</b>	<b>Permutati on p-value</b>
<b>Love of God</b>	0.036	-0.002	-0.222	0.214	0.386
<b>Love of Neighbour</b>	-0.242	-0.002	-0.187	0.193	0.019
<b>Shepherding</b>	-0.112	-0.006	-0.247	0.228	0.227
<b>Quality Education for</b>	0.077	-0.003	-0.174	0.179	0.218

<b>Global Citizenship</b>							
<b>Quality Education for Sustainable Development</b>			-0.340	-0.003	-0.204	0.202	0.005
<b>Problems Encountered</b>			-0.141	-0.001	-0.163	0.163	0.073
<b>Christian Higher Educational Performance</b>			-0.236	-0.004	-0.205	0.189	0.026

***The criterion of Equality of Variance:***

The variance of each construct in each group should not be significantly different. If it is significant, we cannot pool the data and must give separate results for males and females. If the p-value is greater than 0.05 which is good, it means that there is no significant difference between males and females in that path. If the p-value is less than 0.05, it means that their original means are significantly different.

**Discussion:**

In step 3 (b) equality of variance, we could see the permutation p-value are not significant in Love of God, Shepherding, Quality Education for Global Citizenship, and Problems Encountered. This means, there is equality of variance among them. But the permutation p-value is significant in Love of Neighbour, Quality Education for Sustainable Development, and Christian Higher Education Institution, which means that in these latent variables, there is no equality of variance (Gaskin, 2022).

***The criterion for full or partial invariance:***

“In the case of full measurement invariance, pooling the data is a possible option (i.e., it will increase statistical power), rendering MGA necessary (Henseler, 2016). However, if step I, Step II and the requirement of step III (either equality of composite variance or equality of composite mean) are achieved, then the researcher can claim partial measurement invariance and proceed with MGA” (Jun-Hwa Cheah, 2020). If we achieve partial measurement invariance, then we will be running a multigroup analysis. “Then we will compare the standardized coefficients of the structural model can be compared across the groups” (Joseph F. Hair, 2014). When you achieve the full measurement invariance, you can report the bootstrap MGA result in Smart PLS 4. In bootstrap MGA, the p-value is less than 0.05 means that the mean in males and mean in females is significantly different. And if you achieve only partial measurement invariance, you can report the bootstrapping result. In bootstrapping results, you will get a separate output for males and females. To interpret that, verify the path coefficient, mean values and p-values. If both p-values are more than 0.05 Or less than 0.05, we have achieved the invariants. Otherwise, we have not achieved the invariants.



**Discussion:**

In this research study, we have only partial measurement variance. Therefore, we must go for MGA in Bootstrapping Result.

**Table 14:** Bootstrapping Result

Path	Path Coefficient Male	P-value Male	Path Coefficient Female	P-value Female	Variance (Both p-value >/< =0.05) is YES
LOG>CHP	0.349	0.000	0.345	0.000	Yes
LOG>QEGC	0.327	0.000	0.260	0.000	Yes
LOG>QESD	0.073	0.134	0.206	0.000	No
LON>CHP	0.231	0.001	0.260	0.000	Yes
LON>QEGC	0.211	0.003	0.364	0.000	Yes
LON>QESD	0.669	0.000	0.606	0.000	Yes
SHD>CHP	0.024	0.308	0.087	0.002	No
SHD>QEGC	0.223	0.000	0.149	0.001	Yes
SHD>QESD	0.166	0.000	0.141	0.000	Yes
QEGC>CHP	0.124	0.002	0.112	0.001	Yes
QESD>CHP	0.282	0.000	0.234	0.001	Yes
PE>CHP	0.004	0.445	-0.033	0.102	Yes
PE x LOG > CHP	-0.083	0.093	-0.026	0.293	Yes
PE x LON > CHP	0.034	0.207	0.037	0.187	Yes
PE x SHD > CHP	0.041	0.248	-0.024	0.268	Yes

In the above table, we have the separate result of males and females. If both the p-value of male and female are more than 0.05 or less than 0.05, we have achieved the invariant. Otherwise, there is no invariant.

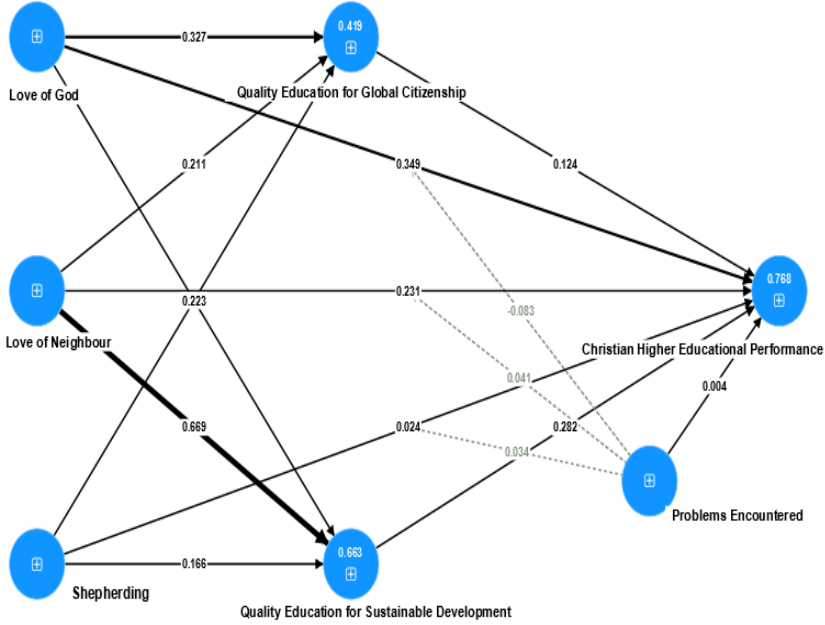


Figure 2: Leadership Style of Jesus and Its Influence in CHEIs: MGA – Male

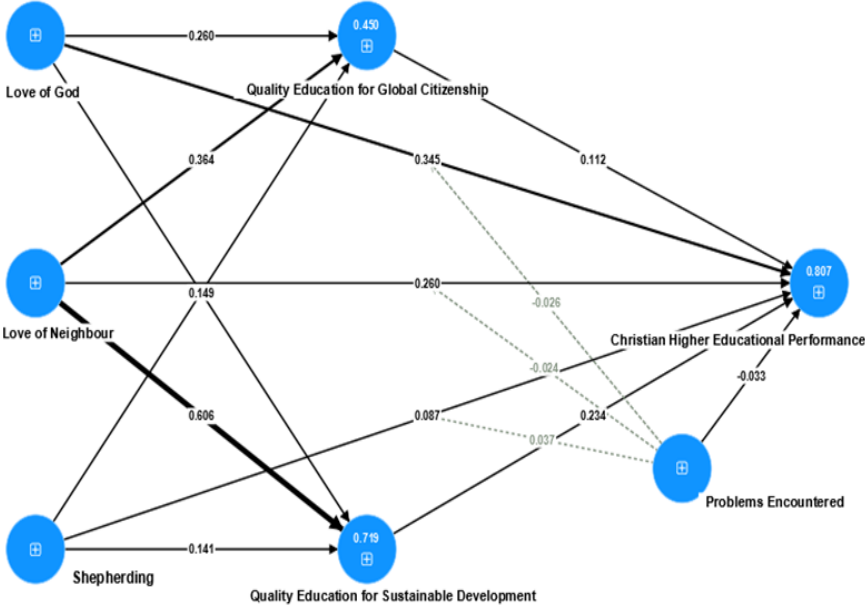


Figure 3: Leadership Style of Jesus and Its Influence in CHEIs: MGA – Female

**Table 15:** Leadership Style of Jesus and Its Influence in CHEIs: Male vs. Female

Path	Male		Female		Male Vs Female		Decision
	Path Coefficients	p-value	Path Coefficients	p-value	Path Coefficients	p-value	
LOG > SD	0.073	0.134	0.206	0.000	-0.133	0.059	Not supported
LOG > GC	0.327	0.000	0.260	0.000	0.067	0.260	Not supported
LOG > CHP	0.349	0.000	0.345	0.000	0.004	0.477	Not supported
LON > SD	0.669	0.000	0.606	0.000	0.063	0.207	Not supported
LON > GC	0.211	0.003	0.364	0.000	-0.154	0.064	Not supported
LON > CHP	0.231	0.001	0.260	0.000	-0.029	0.383	Not supported
SHD > SD	0.166	0.000	0.141	0.000	0.025	0.351	Not supported
SHD > GC	0.223	0.000	0.149	0.001	0.074	0.169	Not supported
SHD > CHP	0.024	0.308	0.087	0.002	-0.062	0.139	Not supported
SD > CHP	0.282	0.000	0.234	0.001	0.048	0.320	Not supported
GC > CHP	0.124	0.002	0.112	0.001	0.012	0.415	Not supported

Source: Primary Data

**Discussion:**

The above result of the analysis shows that there is no significant difference between the Males and females in the association between various factors like the Leadership Style of Jesus, UN SDG Quality Education and CHEIs Performance. But if you see the separate result of male p-value and female p-value, we could see that there are significant p-values in males and females in path coefficient like LOG > GC (Male p-value = 0.000; Females p-value = 0.000), LOG > CHP (Male p-value = 0.000; Females p-value = 0.000), LON > SD (Male p-value = 0.000; Females p-value = 0.000), LON > GC (Male p-value = 0.003; Females p-value = 0.000), LON > CHP (Male p-value = 0.001; Females p-value = 0.000), SHD > SD (Male p-value = 0.000; Females p-value = 0.000), SHD > GC (Male p-value = 0.000; Females p-value = 0.001), SD > CHP (Male p-value = 0.000; Females p-value = 0.001), GC > CHP (Male p-value = 0.002; Females p-value = 0.001). In all these path p-value is less than 0.05 i.e., significantly different. Therefore, in our model, we have only partial measurement invariance and the statistical difference we could see separately in males and females in these paths only.

**Conclusion**

The first section dealt with demographic profiles. The second section explains the assessment of

the measurement model by testing the relationship between constructs and items. This has been done to ensure the reliability and validity of the construct measures to provide support for the suitability to be included in the path model. The result reveals that all the indicator variables and their corresponding constructs in the measurement model have met the required criteria. The third section dealt with the assessment of the structural model. The analysis made in this section reveals the structural model's suitability and strength in explaining various associations and also its capability in initiating further analysis leading to credible inferences. In the fourth section, the Multigroup analysis reveals the role of gender in the influence of the Leadership Style of Jesus – Love of God, Love of Neighbour, Shepherding; UN SDG – Goal Four Target seven Quality Education for Sustainable Development and Global Citizenship; and Problems Encountered; in the Performance of Christian Higher education Institutions Performance. The multigroup analysis shows that there is no significant difference between the Males and females in the association between various factors like the Leadership Style of Jesus, UN SDG Quality Education and CHEIs Performance. This above result may be because of the importance given by Kerala State Government, Christian Communities and Families to Gender Equality and Women Empowerment. We could also see that the government of India also taking necessary steps for gender equality in our country. Therefore, the result proves that the relationship is independent of Gender. In the leadership style of Jesus also, we could see importance is given to women. Jesus has healed them, saved them from bondages and wiped their tears when they have undergone suffering. Jesus patiently listened to them and allowed them to be His disciples. During the crucifixion of Jesus and in the tomb, we can see the presence of the courageous women who flock with Jesus (St. John 19: 25; 20:1-18).

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