

Domestic Violence Against Women: A Global Perspective

Remedios T. Navarro¹, Cid A. Javier², Edelyn A. Cadorna³,
Grace A. Garcia⁴, Bonna Mae S. Gorospe⁵

Abstract

Women's physical, reproductive, and emotional health are all significantly impacted by intimate partner violence (IPV), which is now recognized as a serious public health issue. According to the feminist paradigm, intimate partner violence is a complex issue that involves both socio-cultural and psychological elements interacting. To realize an accurate cluster of countries and develop a statistical model to explain the prevalence of domestic violence against women, a data mining model of global domestic violence against women's incidence was constructed. The research results show three clusters among the countries from the different regions of the world, characterized by the variables considered. Moreover, the results reveal that the poverty gap, literacy rate, alcohol consumption of men, the share of the population with alcohol or drug use disorders, prevalence of anxiety disorders in women, and prevalence of depressive disorders in both men and women came out as significant predictors.

Keywords: global domestic violence, feminist theory of violence, cluster analysis, discriminant analysis.

Introduction

Freedom from violence is fundamental for any woman for humane survival and empowerment (United Nations Human Rights, 2014). Ironically, human rights crimes including violence against women continue to plague society today. It is a significant barrier to realizing the 2030 Agenda for Sustainable Development and the rights of

¹ University of Northern Philippines, Vigan City, Ilocos Sur, Philippines, remedios.navarro@unp.edu.ph

² University of Northern Philippines, Vigan City, Ilocos Sur, Philippines, cid.javier@unp.edu.ph

³ University of Northern Philippines, Vigan City, Ilocos Sur, Philippines, edelyn.cadorna@unp.edu.ph

⁴ University of Northern Philippines, Vigan City, Ilocos Sur, Philippines, grace.garcia@unp.edu.ph

⁵ University of Northern Philippines, Vigan City, Ilocos Sur, Philippines, bonnamae.gorospe@unp.edu.ph

women and girls. Regardless of age, race, disability, or other origins, it occurs all around the world and affects all generations, countries, groups, and areas of our societies. In addition, the needs and experiences of men and women in an organization differ. They should however have equal treatment and access to opportunities and services within the organization (Cadorna, 2020).

Domestic violence, as the most common form of violence against women, involves an ongoing pattern of threatening, coercive, and violent behavior in one's intimate relationship. In addition to physical attack, this also refers to verbal threats, emotional and psychological abuse, economic exploitation, and even the murder of another person, all of which make a person feel insecure and make them fear for their safety. Domestic violence is most likely perpetrated by men towards women and children (ANROWS, 2015), making domestic violence a gendered form of violence.

Although the manifestations and forms of domestic violence vary from place to place, there is no doubt that women and girls are over-represented among the victims of this social phenomenon perpetrated throughout history and have been subjected to physical, psychological, and sexual abuse by men in their lives whether brothers, boyfriends or husbands within the family and home settings (Mutavi, 2017)

Parenthetically, wrath, rage, vengeance, and envy are all strong emotions that could motivate someone to carry out criminal activity. A person who has been strongly provoked may become overly emotional and commit a crime as a result (Bersamina, et al., 2021).

The World Health Organization reports that from 2000-2018 across 161 countries, nearly 1 in 3, or 30%, of women globally have been subjected to physical or sexual violence by an intimate partner or non-partner sexual violence or both (WHO, 2021). Moreover, the WHO estimated that more than 640 million women aged 15 and older had been subjected to intimate partner violence (WHO, 2021), which indicates that current or former husbands or intimate partners perpetrate most violence against women.

The gender dimension of homicide or murder is also vital in domestic violence against women. According to the United Nations Office on Drugs that in 2019, around 47,000 women and girls worldwide were killed by their intimate partners or other family members. This indicates that for every 11 minutes, a woman or girl is killed by someone in her own family on the average. The report further included those women and girls in all regions across the world are affected by this type of gender-based violence, with an estimated 18,600 victims; Asia is the region with the highest number of victims

in absolute terms, while Africa is the region with the highest level relative to the size of its female population (UNODC, 2019).

According to the aforementioned statistics, one of the most severe forms of domestic violence is the murder of women and girls by intimate partners or other family members, whom they would ordinarily be expected to trust. Such murders frequently result from earlier instances of gender-based violence, such as psychological, sexual, and physical assault.

The UNODC made it clear that domestic violence affects people of both sexes. However, women and girls carry the most cost of lethal domestic violence, representing roughly 6 out of every 10 murders committed by intimate partners or other family members.

From the feminist theory on domestic violence, the prevalence of domestic violence against women captures two interrelated factors: socio-cultural and psychological. Among others, there are factors influencing domestic violence against women, including the level of education, economic status, alcohol abuse, and psychological and socio-cultural factors (Lewis, 2002). However, despite the fact that variables promoting domestic violence against women are well known, it is crucial to comprehend the sociocultural and psychological aspects of this problem.

Socio-cultural factors are beliefs, customs, and practices within cultures and societies that affect community members' thoughts, feelings, and behaviors (Organization World Health, 2009). Patriarchal attitudes, economic dominance by the husband, attitudes toward traditional gender roles, lack of social support, and stigma surrounding divorce are some of the socio-cultural factors related to domestic violence against women. Furthermore, the socialization of gender roles promotes the view of women as the property or objects of males and has resulted in associations between violence and masculinity.

Psychological influences on mental states include personal processes and meanings. In relation to domestic violence against women, violence and mental health problems and their possible association and coexistence have been extensively researched and published (Varshney, 2016). According to the WHO (2016), domestic violence should be prioritized as a public health problem due to its prevalence and consequences.

Another crucial element is the male ego. Numerous studies have shown an inverse relationship between a husband's academic level and the degree of physical abuse meted out to his wife. Moreover, Johnson (2006) stated that perpetrators of violence had problems controlling their behavior. They are also characterized by the inclination to react impulsively and aggressively in response to the slightest provocation (Holzworth, 2003). As Kubacka-Jasiecka (2006)

claims, persons causing violence more often than not demonstrate a borderline pathology. There is therefore a necessity to consider results of clinical investigations on their characteristics

As such efforts should be made to increase public awareness of domestic violence, its effects, and reporting of such incidents. This paper aims to contribute to a better understanding of the factors that influence the prevalence of domestic violence against women. Moreover, by situating the results of the study within the framework of domestic violence, the study will attempt to construct a statistical model to better understand domestic violence against women, both at the local and global levels.

Literature Review

A micro-level or individual-level viewpoint is used to explain violence against women that focuses on the traits of the perpetrator. Theoretical explanations of violence against women that reflect the micro perspective include social learning theory, psychopathology, psychological and physiological explanations, resource theory, and exchange theory (Jasinski, 2001).

Since learning theory suggests that individuals learn how to behave through both the experience of and exposure to violence (Bandura, 2016), a psychological explanation of violence against women suggests that individuals who are violent toward women have some personality disorder or mental illness that might get in the way of otherwise normal inhibitions about violent behavior. According to biological and physiological arguments, violence against women is connected to natural selection in that men, who are naturally motivated to reproduce as much as possible, would turn to rape when they are unable to locate sexually compatible female partners. Alcohol is another frequent contributing factor to violent crimes against women, according to researchers. Under the exchange theory, individuals are viewed as engaging in certain behaviors to earn a reward or escape punishment; under this theory, men's violence against women can be interpreted as a means for men to maintain their position in the social structure (Anzalo & Carmignani, 2014).

Resource theory is situated within the framework of exchange theory, which views men as using violence within the family to establish power over women within family dynamics when other persuasion resources are lacking (Basile et al., 2013). Macro or socio-cultural theories, in contrast to micro theories, concentrate on the social and cultural contexts that increase the likelihood of violence against women. Many theories that attempt to explain why violence against women occurs might be categorized as macro-oriented theories. These include a subculture of violence, structural stress, patriarchal or feminist

worldview, and cultural acceptance of violence. Socio-cultural theories have made an effort to incorporate social structural and family dynamics as well as the impact of social location (social class, education, and wealth) on violence against women. The development of multidimensional theories of violence, which take into account both societal structural variables and human characteristics, has become more popular in recent years as the trend in theory development involving violence against women.

Morgan (2022) reported other theories which could also explain violence against women. The “loss of control theory” believes men do not express their anger and frustration publicly because of gender-societal expectations. They often choose to abuse their partners privately, not to leave visible evidence of the abuse. The “learned helplessness” theory results from repeated acts of violence that prevent women from resisting the violence or leaving the relationship. They would not leave the relationship because they may not be able to provide for themselves and their children financially or they may be ostracized by their family and community.

The ecological model, which contends that violence is caused by personal, interpersonal, societal, and communal variables, is one of the most often used models for explaining violence, according to the World Health Organization. Young age, low educational attainment, witnessing or experiencing violence as a child, harmful alcohol and drug use, personality disorders, acceptance of violence, and prior partner abuse are some of the individual factors that are linked to a man's increased likelihood of using violence against his partner. Relationship variables include a guy having many partners, economic hardship, male dominance in the family, disagreements within the partnership, and differences in educational attainment (when a woman attained a greater level of education than her male spouse). Community and societal factors have been found across studies, such as gender-inequitable social norms, poverty, low social and economic status of women, weak legal sanctions against IPV within marriage, lack of women's civil rights, including restrictive or inequitable divorce and marriage laws, weak community sanctions against IPV, broad social acceptance of violence as a way to resolve conflict, and armed conflict and high levels of general violence in society (WHO, 2012).

Parenthetically, a gap in knowledge in understanding domestic violence against women is still observed. This is because, apart from the high prevalence of domestic violence in the present era, people's perceptions and understanding of domestic violence are low (Shah, 2012). Moreover, Shah asserted that there is still a lack of statistical models to explain the prevalence of domestic violence against women.

Research Objectives

This study aimed to make a global perspective on women's domestic violence. The specific objectives of the study are as follows: a) to cluster countries in relation to % of women domestic violence against women, poverty, literacy, alcohol consumption, and anxiety disorders, and b) to develop a statistical model to explain the prevalence of domestic violence against women.

Methodology

Research Design. This study is exploratory, using data mining methods, specifically cluster and discriminant analyses.

Data Gathering Tools. Cluster analysis is a set of tools and algorithms used to classify different objects so that the similarity between two objects is maximal if they belong to the same group and minimal otherwise (Verma et al, 2012). (Verma et al., N, 2012). Cluster analysis assumes that the variables were chosen to determine clusters comprehensively represent the factors that may affect the variable under study, in this case, domestic violence against women. Discriminant analysis was used to analyze how the independent variables differentiate the classification of countries in terms of domestic violence against women (Lawler, n.d.)

Data Gathering Procedure. This study considered the following parameters: women violence by an intimate partner (2017), poverty gap index (2019), income inequality index (2019), literacy rate (2011), alcohol consumption (% men of the population), the population share with alcohol or drug use disorders (2019), the share of men with alcohol or drug use disorders (2019), prevalence of anxiety disorders of men (2019), prevalence of anxiety disorders of women (2019), cultural fractionalization, and depression by gender. The parameters from the 143 countries were taken from the reports published by Our World in Data. Research and data are published by Our World in Data to advance efforts to solve the world's most pressing issues. The information focuses on poverty, illness, hunger, climate change, conflict, and existential risks. Minitab and SPSS 26 were used for the cluster and discriminant analyses.

Data gathered in this study were analyzed using cluster analysis and discriminant analysis. The cluster analysis was employed to identify the subgroups of countries based on their similarities in the parameters previously mentioned. The discriminant analysis was used to analyze how the independent variables differentiate the classification of countries in terms of domestic violence against women.

Ethical Considerations. The study complied with the requirements of the Ethical Committee. The data mined from the sources were used for research purposes only. The researchers were mindful of the limitations in the study using data mining techniques.

Statistical Tools. In compliance with assumptions for discriminant analysis, the data gathered was first tested in terms of multicollinearity, normality, and homogeneity of variances. To test multicollinearity, a correlation procedure using the SPSS was used. The researchers ascertained that the independent variables are not correlated with each other. With respect to the test of normality, the data was subjected to One-sample Kolmogorov-Smirnov Test. Meanwhile, the third assumption of homogeneity of variances was tested using the Box-s M Test.

Results and Discussions

1. Cluster Analysis of the Countries

The subgroups within the overall data were found using cluster analysis. By comparing similarities across the previously stated set of attributes, this technique groups together countries. The analysis is exploratory and hypothesis-generating (Everitt et al., cited in Green et al., 2015).

All data sets are continuous variables; the K-Cluster analysis method was utilized. According to Columbia Public Health, K-means is one cluster analysis method that groups observations by minimizing Euclidina distances between them. (K-Means Cluster Analysis | Columbia Public Health). The process scans the data into a classificatory stage to find "dense" data regions known as cluster features (data points that have similar values across several variables). The analysis was conducted using Minitab.

The analysis has identified three clusters among the countries from the different regions of the world. Table 1 shows 95 countries in the first cluster, 39 in the second cluster, and 9 in the third cluster. In comparison to the other two clusters, cluster 3 has the maximum distance from the centroid. However, on average, the three clusters have more or less the same distance from the centroid.

Table 1. Number of observations per cluster

	Number of observations	Within cluster sum of squares	The average distance from the centroid	Maximum distance from the centroid
Cluster 1	95	13178.6	10.2382	25.2994
Cluster 2	39	5030.3	11.7885	19.9564
Cluster 3	9	1863.0	11.9869	32.7169

Cluster 1: Albania, Armenia, Australia, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Brazil, Bulgaria, Cambodia, Canada, Chile, Croatia, Cuba, Cyprus, Denmark, El Salvador, Estonia, Finland, France, Gambia, Georgia, Germany, Greece, Guatemala, Guyana, Honduras, Hungary, Ireland, Israel, Italy, Jamaica, Japan, Kazakhstan, Latvia, Lithuania, Malaysia, Mauritius, Mexico, Moldova, Mongolia, Netherlands, New Zealand, Nicaragua, Nigeria, Norway, Panama, Paraguay, Philippines, Poland, Portugal, Romania, Russia, Singapore, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Trinidad and Tobago, Turkmenistan, United States of America, Uruguay, Uzbekistan, Venezuela, Vietnam

Cluster 2: Algeria, Argentina, Bahrain, Benin, Bhutan, Bolivia, Botswana, Burkina Faso, Chad, China, Colombia, Costa Rica, Dominican Republic, Ecuador, Egypt, Fiji, Ghana, Haiti, India, Indonesia, Iran, Jordan, Kuwait, Kyrgyzstan, Laos, Lebanon, Libya, Malawi, Mauritania, Morocco, Nepal, North Korea, Oman, Peru, Saudi Arabia, Senegal, Sri Lanka, Syria, Tajikistan, Thailand, Togo, Tunisia, Turkey, Ukraine, United Arab Emirates

Cluster 3: Angola, Bangladesh, Burundi, Cameroon, Central African Republic, Congo, Democratic Republic of Congo, Djibouti, Eritrea, Ethiopia, Gabon, Guinea-Bissau, Iraq, Kenya, Lesotho, Liberia, Madagascar, Mali, Mozambique, Namibia, Niger, Pakistan, Rwanda, Sierra Leone, Somalia, Sudan, Tanzania, Uganda, Yemen, Zambia.

Figure 1 to Figure 3 shows the dendrograms generated, showing the distribution of the countries per cluster.

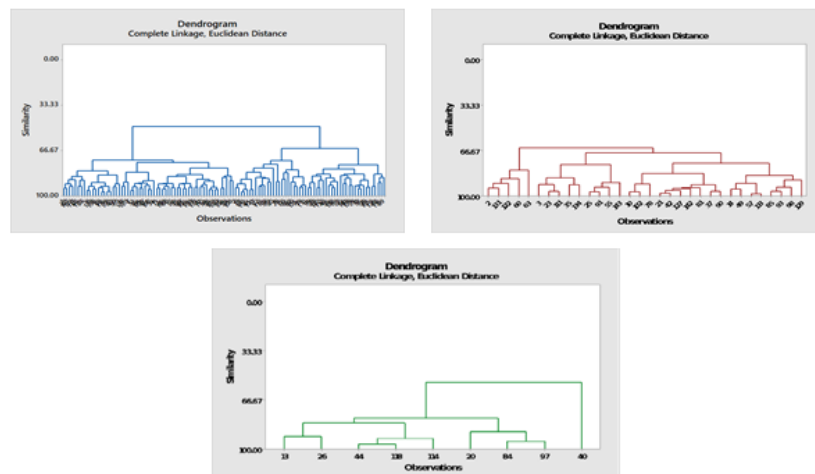


Table 2. Distribution of the Countries per Cluster based on the Regions as categorized by the United Nations

REGION	CLUSTER 1	CLUSTER 2	CLUSTER 3
Europe and Northern America	Albania, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Canada, Croatia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Moldova, Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland, United States of America	Morocco, Ukraine	
Northern Africa and Western Asia	Armenia, Azerbaijan, Cyprus, Georgia, Israel	Algeria, Bahrain, Egypt, Jordan, Kuwait, Lebanon, Libya, Oman, Saudi Arabia, Syria, Tunisia, Turkey, United Arab Emirates	Iraq, Sudan, Yemen
Sub-Saharan Africa	Gambia, Mauritius, Nigeria	Benin, Botswana, Burkina Faso, Chad, Ghana, Malawi, Mauritania, Senegal, Togo	Angola, Burundi, Cameroon, Central African Republic, Congo, Democratic Republic of Congo, Djibouti, Eritrea, Ethiopia, Gabon, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Mali, Mozambique, Namibia, Niger, Rwanda, Sierra Leone, Somalia, Tanzania, Uganda, Zambia
Oceania	Australia, New Zealand	Fiji	
Central and Southern Asia	Kazakhstan, Turkmenistan, Uzbekistan	Bhutan, India, Iran, Kyrgyzstan, Nepal, Sri Lanka, Tajikistan,	Bangladesh, Pakistan
Latin America and the Caribbean	Brazil, Chile, Cuba, El Salvador, Guatemala, Guyana, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Uruguay, Venezuela	Argentina, Bolivia, Colombia, Costa Rica, Dominican Republic, Ecuador, Haiti, Peru	

Eastern and South- Eastern Asia	Cambodia, Malaysia, Philippines, South Korea, Trinidad and Tobago, Vietnam	Japan, Mongolia, Singapore,	China, Indonesia, Laos, North Korea, Thailand
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Almost all the countries in Europe and Northern America are in Cluster 1. Only Morocco and Ukraine are in Cluster 2. Meanwhile, Northern Africa and Western Asia countries are clustered in the second group. The countries in Sub-Saharan Africa are mostly clustered in group 3. The three countries in the Oceania region are scattered in Cluster 1 and 2.

Moreover, the countries in Central and Southern America are scattered in the three clusters. Further scrutiny of the table reveals that 14 countries in Latin America and the Caribbean are scattered in Cluster 1, and eight countries in the second cluster. Finally, most countries in the Eastern and southeastern regions, including the Philippines, are scattered in the first cluster.

Table 3 reflects the characteristics of the specific country for each cluster. The clusters are characterized by the variables considered in the study, such as those reflected in the table. The grand centroid mean was used to describe the countries with respect to the variables. Cluster means higher than the grand centroid is considered high, and those lower are considered low.

Compared to the other clusters, Cluster 1 tends to be low on the prevalence of domestic violence against women, income inequality, and prevalence of depressive disorders for both males and females. They are, however, high on the poverty gap, alcohol consumption of men, and literacy rate.

Cluster 2 countries tend to be high on domestic violence against women, poverty gap, income inequality, and prevalence of depressive disorders of both men and women. They are, however, Low on literacy rate, alcohol consumption by men, the share of the population with Alcohol or Drug Use Disorders, prevalence of anxiety disorders of men, and cultural fractionalization.

Cluster 3, on the other hand, is countries that tend to be high on the prevalence of domestic violence against women, poverty gap, and prevalence of depressive disorders for both men and women. They are Low on almost all the remaining factors: income inequality, literacy rate, alcohol consumption of men, the share of the population with alcohol or drug use disorders, prevalence of anxiety disorders for both men and women and cultural fractionalization.

Table 3. Resulting in cluster centroids of the three clusters

Variable	Cluster 1	Cluster 2	Cluster 3	Grand centroid
Prevalence Of Domestic Violence Against Women	9.5724	20.4575	20.2871	12.6826
Poverty Gap	0.520244	0.1253	0.1255	0.0534
Income Inequality	36.9708	39.7159	36.970	37.5850
Literacy Rate	94.1461	63.1313	32.1599	83.3045
Alcohol Consumption of Men	0.5659	0.3191	0.3360	0.4962
Share of the Population w/ Alcohol or Drug Use Disorders	0.0260	0.0140	0.0111	0.0224
Prevalence of Anxiety Disorders of Men	0.0372	0.0203	0.0152	0.0320
Prevalence of Anxiety Disorders of Women	0.0347	0.0319	0.0289	0.0337
Cultural Fractionalization	0.0576	0.0462	0.0400	0.0540
Prevalence Of Depressive Disorders of Males	2.9802	3.7834	3.6111	3.1997
Prevalence Of Depressive Disorders of Females	4.4916	5.5103	5.3222	4.7718

A closer analysis of the data shows that the prevalence of depressive disorders for both men and women strongly indicates the prevalence of domestic violence against women. Countries low on violence against women are also low on the prevalence of depressive disorders and vice-versa. WHO (2021) states that depression is a common illness worldwide, with an estimated 3.8% of the population affected, including 5.0% among adults and 5.7% among adults older than 60. This result aligns with previous researches conducted. Yu, et al (2019) examined the relationship between mental disorders and intimate partner violence committed by men towards women. Results of their study indicate that majority of the mental diseases examined are linked to a higher probability of women being the victims of intimate partner abuse. Shorey et al. (2012) also examined the association between depression, PTSD, GAD, panic disorder, social phobia, and substance use disorders and the perpetration of IPV among men arrested for domestic violence. Results of the study showed that all mental health issues, with the exception of sexual aggression and panic disorder, were positively correlated with IPV perpetration and came to the conclusion that as the frequency of mental health issues rose, so did the incidence of IPV. Contrarily, Babida (2020) discovered a somewhat positive significant association between aggressive conduct and frustration intolerance, suggesting that the more aggressive behavior is displayed, the more frustration intolerance there is.

Another factor is the literacy rate. Cluster I (low on violence) is High on literacy rate while clusters 2 and 3 (high on domestic violence against women) are Low on Literacy Rate. It is well recognized that women's education level acts as a barrier against violence from intimate partners. This result conforms to the study conducted by Jahromi et al. (2016), which showed a significant relationship between educational attainment and domestic violence. Based on the results, women who attained a low level of education are more likely to suffer from domestic violence. This agrees with the studies conducted by Shams and Taheri as cited in Jahromi, et al, that women with high academic achievement are better able to handle disagreements in personal relationships and suffer from less violence. In addition, a decrease in the likelihood of intimate partner violence is linked to a higher educational attainment among male partners.

2. Discriminant Analysis

The data considered in the study were tested regarding the assumptions of multicollinearity, normality, and homogeneity of variances. To test multicollinearity, a correlation procedure in SPSS was used. The results of the analysis show that the independent variables are not highly correlated to each other. The highest correlation coefficient obtained is around 0.6, which indicates only a moderate degree of relationship, according to the literature. The test of multicollinearity is therefore met.

With respect to the test of normality of the data sets, the One-sample Kolmogorov-Smirnov Test was used. Table 4 summarizes the results of the analysis. Significant results of the normality test ($p < 0.05$) were found in all the data considered in the study. This means that the normality assumption is met.

Table 4. One-Sample Kolmogorov-Smirnov Test

		Women violence by intimate partner	Poverty gap index	income inequality GINI index	Literacy rate	Alcohol Consumption percent of men pop	Share pop with alcohol disorder	Share men with alcohol disorder	Prevalence of anxiety disorder	Prevalence of anxiety disorder among female	cultural fractionalization	Prevalence of depression Disorder among male	Prevalence depression Disorder among female
N		143	143	143	143	143	143	143	143	143	143	143	143
Normal Parameters ^{a,b}	Mean	12.6826	0.0534	37.5850	83.3045	0.4962	0.0224	0.0320	0.0337	0.0540	0.3088	3.199650	4.771818
	Std. Deviation	7.17404	0.09453	7.68946	19.91831	0.25964	0.01162	0.01778	0.00922	0.01787	0.21591	0.780490	1.071535
Most Extreme Differences	Absolute	0.125	0.319	0.095	0.210	0.106	0.092	0.092	0.106	0.127	0.092	0.048	0.035
	Positive	0.125	0.319	0.095	0.201	0.089	0.090	0.090	0.106	0.127	0.092	0.048	0.035
	Negative	-0.084	-0.286	-0.046	-0.210	-0.106	-0.092	-0.092	-0.079	-0.060	-0.076	-0.034	-0.031
Test Statistic		0.125	0.319	0.095	0.210	0.106	0.092	0.092	0.106	0.127	0.092	0.048	0.035
Asymp. Sig. (2-tailed)		.000	.000	.003	.000	.000	.004	.005	.000	.000	.004	.045	.048

a. Test distribution is Normal.

b. Calculated from data.

The third assumption in the use of discrimination analysis is the homogeneity of variances. This was tested using the Box's M Test in this study, as shown in Table 5.

Table 5. Test for Homogeneity of Variance/Covariance

Box's M		
F	Approx.	4.426
	Df1	56
	Df2	28071.790
	Sig.	0.000

It reveals a significant result ($p < 0.05$). Hence, the test of equivalence of variances of the data sets is also met.

Table 6. Classification Results

Put into group	True Group			
	1	2	3	Total
1	57	7	1	65
2	9	30	9	48
3	2	8	20	30
Total	68	45	30	143
N Correct	57	30	20	107
Proportion	0.838	0.667	0.667	

N = 143

N Correct = 107

Proportion Correct

There were 11 independent variables considered in the study, which were hypothesized to contribute to the prevalence of domestic violence against women. Using the stepwise method, results show that only seven (7) came out as significant predictors of the dependent variable based on the seven steps method in Wilk's Lambda Test. Wilks' lambda determines how well each function separates cases into groups. It is equivalent to the proportion of the total variance in the discriminant scores that cannot be accounted for by group differences. Smaller values of Wilks' lambda indicate that the function has a better capacity to discriminate.

Table 7. Wilks' Lambda

Step	Number of Variables	Lambda	df1	df2	df3	Exact F			
						Statistic	df1	df2	Sig
1	1	0.595	1	2	140	47.660	2	140	0.000
2	2	0.436	2	2	140	35.745	4	278	0.000
3	3	0.357	3	2	140	30.965	6	276	0.000

4	4	0.306	4	2	140	27.689	8	274	0.000
5	5	0.290	5	2	140	23.343	10	272	0.000
6	6	0.275	6	2	140	20.423	12	270	0.000
7	7	0.262	7	2	140	18.269	14	268	0.000

Table 7 shows in step 7 where seven variables are included in the model as the smallest Wilk's lambda. It is, therefore, where the greatest discriminatory ability of the function is obtained in this step. The seven variables included in the discriminatory function are poverty gap, literacy rate, alcohol consumption of men, the share of the population with alcohol or drug use disorders, prevalence of anxiety disorders of men, prevalence of anxiety disorders of women, prevalence of depressive disorders of males, and prevalence of depressive disorders of females. Therefore, three statistical models were made for each country with a high, average, and low prevalence of domestic violence against women.

Table 8. Eigenvalues

Function	Eigenvalues	% of variance	Cumulative %	Canonical Correlation
1	1.748a	81.8	81.8	0.798
2	0.390a	18.2	100	0.53

First, the study employed two canonical discriminant functions in the analysis.

Table 8 suggests that the seven independent variables can explain 81.8 percent of the variance in the country data on the prevalence of domestic violence against women. The variables, however, failed to explain 18.2 percent of the variances.

Table 9. Classification Function Coefficients

	Violence Category		
	1.00	2.00	3.00
Poverty Gap	19.378	21.439	38.181
Literacy Rate	0.422	0.386	.359
Alcohol Consumption of Men	10.236	3.727	4.624
Share of the Population with Alcohol or Drug Use Disorders	68.854	-46.507	-1.408
Prevalence of Anxiety Disorders of Women	-3.808	13.255	-34.476
Prevalence Of Depressive Disorders of Males	0.063	2.471	3.217
Prevalence Of Depressive Disorders of Females	6.014	4.560	5.421
constant	-38.760	-31.914	-37.874

Fisher's linear discrimination functions

Table 10. Classification Models

Classification	
The proportion of Domestic violence (High) =	$-37.874 + 38.381 * \text{Poverty Gap} + 0.359 * \text{Literacy Rate} + 4.624 * \text{Alcohol assumption of Men} - 1.408 * \text{Share of the pop with alcohol or drug use disorders} - 34.476 * \text{Prevalence of anxiety disorders of women} + 3.217 * \text{Prevalence of depressive Disorders of ales} + 5.421 * \text{Prevalence of depressive disorders of females}$
The proportion of Domestic violence (Average)=	$-31.914 + 21.439 * \text{Poverty Gap} + 0.386 * \text{Literacy Rate} + 3.727 * \text{Alcohol assumption of Men} - 46.507 * \text{Share of the pop with alcohol or drug use disorders} + 13.255 * \text{Prevalence of anxiety disorders of women} + 2.471 * \text{Prevalence of depressive Disorders of ales} + 4.560 * \text{Prevalence of depressive disorders of females}$
The proportion of Domestic violence (Low)=	$-38.760 + 19.378 * \text{Poverty Gap} + 0.422 * \text{Literacy Rate} + 10.236 * \text{Alcohol assumption of Men} + 68.854 * \text{Share of the pop with alcohol or drug use disorders} + 13.255 * \text{Prevalence of anxiety disorders of women} + 0.063 * \text{Prevalence of depressive Disorders of ales} + 6.041 * \text{Prevalence of depressive disorders of females}$

The above models explain the predicted membership of countries with a high, average, and low proportion of domestic violence. The main factor that discriminates against countries with a high proportion of domestic violence is the percentage of poverty gap. On the other hand, the main factor that discriminates against countries with the average proportion of domestic violence is the percentage of poverty gap. Meanwhile, the share of the population with alcohol or drug use disorder is the number one factor that discriminates against countries with a low proportion of domestic violence against women.

Conclusions

The first cluster of countries consists of almost all the countries in Europe and Northern America, the majority of the countries of Eastern and South-Eastern Asia and Latin America and the Caribbean, and. These countries tend to be low on the prevalence of domestic violence against women, income inequality, and prevalence of depressive disorders for both males and females but high on poverty gap, alcohol consumption of men, and literacy rate. The second cluster mostly consists of countries in Northern, Western, Central, and Southern Asia. They tend to be high on domestic violence against women, poverty gap, income inequality, and prevalence of depressive disorders of both men and women but low on literacy rate, alcohol consumption by men, the share of the population with alcohol or drug use disorders, prevalence of anxiety disorders of men, and cultural fractionalization.

The third cluster mostly consists of countries from Sub-Saharan Africa that tend to be high on the prevalence of domestic violence against women, poverty gap, and prevalence of depressive disorders for both men and women but low on almost all the remaining factors.

Using the discriminant analysis, seven dependent variables came as factors that significantly discriminate the countries with a high, average, and low proportion of domestic violence against women. These are the poverty gap, literacy rate, alcohol consumption of men, share of the population with alcohol or drug use disorders, the prevalence of anxiety disorders in men, prevalence of anxiety disorders in women, prevalence of depressive disorders in males, and prevalence of depressive disorders of males.

Recommendations

Thus, violence against women can be decreased if countries strengthen their programs that increase literacy rates and decrease poverty gaps, the prevalence of alcohol or drug use, anxiety, and depressive disorders. Countries' education, health, and economic sectors should identify strategies to address their current situations along the stated factors. Raising awareness about domestic violence and gender equality, as well as policy formulations may be considered strategies.

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