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SUICIDE IDEATION: GENDER AND VARIATION OF CORRELATES AMONG UNIVERSITY STUDENTS IN NYANZA REGION, KENYA

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Abstract:
The prevalence of suicide behavior among university students has been an issue of great concern because of its upward trend. This paper examines suicide ideation in relation to gender and the variation of correlates in different universities among university students in the Nyanza region, Kenya. The objectives of the study were to determine gender differences in relation to suicide ideation and how the correlates vary among individual universities. A correlational research design was employed. Four public universities and university counselors were selected using purposive sampling. Stratified sampling was thereafter employed to select undergraduate students based on their year of study. A sample size table developed by Krejcie and Morgan (1970) was used to select 1477 undergraduate students randomly. Data collection instruments included: a student questionnaire, interview schedule and counseling records. Data was analyzed using Statistical Package for Social Sciences (SPSS V20). Descriptive statistics such as frequencies and percentages were used and thereafter, quantitative data was analyzed using chi-square and ANOVA. Thematic analysis was used to analyze qualitative data. The findings revealed gender differences in relation to suicide ideation. The findings further revealed that there is variation in sexual abuse, romantic breakup, COVID-19, alcohol addiction, HIV/AIDS, elections and cyber suicide experiences across the universities. However, there is no variation in financial crisis across universities. The

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study recommends that the university counseling department should equip female students with skills on how to adjust to campus lifestyle without engaging in activities which might end up stressing them. The university should also develop prevention strategies as well as organize follow-up for suicide survivors.

Keywords: suicide ideation, gender, variation of correlates, undergraduate students

1. Introduction

Suicide rates have increased by 60% worldwide, and suicidal behavior is a more frequent challenge than suicide since for every completed suicide, there are 10-20 times more individuals who attempt suicide (Teti, Rebok, Rojas, Grendas, & Daray, 2014). Those who die from suicide are approximated to be one million each year (Teti, Rebok, Rojas, Grendas, & Daray, 2014), and these approximations suggest that by the year 2020, the number of deaths by suicide will increase by 50%, reaching an annual rate of 1.53 million individuals. When a youth dies, it permeates the entire society with a sense of loss and anguish. Suicide behaviors have been on the rise in institutions of higher learning (Kabugi, 2019). One million people die of suicide, and 50% of this constitutes the youths who are in higher levels of education, including colleges and universities (WHO, 2000). The prevalence of suicidal ideation among the youth has been reported to be 40.9% in the Philippines and 17% in Norway (Strandheim, Bjerkeset, Gunnell, Bjørnelv, Holmen & Bentzen, 2014). In Germany, the prevalence of suicide ideation is reported to be 10.7% (Voss, Ollmann, Mich´e, Venz, Hoyer, Pieper, H¨ofler & Beesdo-Baum, 2019) while in Belgium it is 65% (Mortier, Demyttenaere, Auerbach, Cuijpers, Green, Kiekens, Kessler, Nock, Zaslavsky & Bruffaerts, 2017). According to Pandey *et al.* (2019), Portugal has 12.6% prevalence of suicidal thoughts, while Nepal has 13.59%. A study conducted by Canbaz and Terzi (2018) indicates a 17.9% prevalence of suicide behaviour in Turkey. Prevalence of suicide behavior between 2019-2020 was also high among university students in Indonesia, Thailand and Taiwan (Pramukti, Strong, Sitthimongkol, Setiawan, Pandin, Yen & Ko, 2020). In Africa, studies done have indicated the prevalence of suicidal behaviours, for example, a study conducted in Tunisia revealed that the prevalence rates were 26.9% for temporary suicidal ideation and 9.6% for serious suicidal ideation (Guedria-Tekari, Missaoui, Kalai, Gaddour & Gaha, 2019). In Uganda, a study conducted by Kinyanda *et al.* (2012) revealed that the prevalence of suicide ideation was 12.4%.

Kenya is ranked position 114 out of 175 countries with the highest suicide rates in the world (Atellah, 2006-2017) and Kenyan media is full of stories on suicide, especially among university students. Suicidal behaviour is among the concerns that universities have to deal with (Wanyoike, 2015). Few studies conducted in Kenya have indicated the prevalence of suicidal behavior among college students (Wanyoike, 2015; Kabugi, 2019; Nyagwencha & Ojuade, 2021) but none has looked into suicide ideation in relation to gender and variation of correlates in universities in Nyanza region. This necessitated this study. Suicidal behaviour constitutes suicidal ideation (Suicidal thought), attempt and

actual suicide. Before one contemplates suicide or suicide attempt, there is often a thought (suicide ideation). In an attempt to understand, predict and prevent the loss of young lives, early detection at the suicidal ideation stage can help in reducing cases of suicide since an individual can be talked out of suicidal behavior. The correlates considered in this study were; sexual abuse, financial crisis, broken relationships, alcohol, COVID-19, cyber suicide, election and HIV. These correlates have not been looked into conclusively in the Nyanza region with its three counties among the top five leading counties in suicide attempts (National Research Crime Centre, 2019). Therefore, this paper focused on suicide ideation in relation to gender and the variation of correlates among university students in the Nyanza region.

2. Objectives of the Study

- To determine gender differences in relation to suicide ideation.
- To determine how the correlates vary among individual universities

3. Methodology

This study examined gender differences in relation to suicide ideation as well as how the correlates vary among the four universities in Nyanza region, that is; Maseno, Jaramogi Oginga Odinga University of Science and Technology (JOOUST), Kisii and Tom Mboya University. Pragmatism Philosophical assumption and the Three Step Theory of Suicide (3ST) by Klonsky, May and Saffer (2016) guided the study. A correlation research design was adopted in the study. Undergraduate students from the four universities and university counsellors formed the population of this study. The four universities, as well as the university counsellors were selected purposively. The sample size was determined by the sample size table developed by Cohen, Manion and Morrison (2000) totaling 1477 students. That is: 377 students from Maseno, 370 from Jaramogi Oginga Odinga (JOOUST), 370 from Kisii and 360 from Tom Mboya (TMU). Stratified sampling was used to select undergraduate students into homogenous groups, that is, first-year students, second-year students, third-year students and finally, fourth-year students (Cohen, Manion & Morrison, 2000). Simple random sampling was thereafter used to select the students from these strata.

Student's questionnaire, an interview schedule and existing counseling records were used to collect data. The student questionnaire contained the correlates, which were sexual abuse, financial crisis, broken relationship, alcohol, COVID-19 cyber suicide, election and HIV. The interview schedule for the counselors contained questions related to the objectives of the study. The counseling records were used to find out the number of suicidal clients who had sought counseling services as well as to find out more information on the correlates of suicide ideation. Statistical Package for Social Sciences (SPSS V20) was used to analyze data. Descriptive statistics, including frequencies and percentages, were used. Inferential statistics, including chi-square and ANOVA, were

also used to analyze data at a .05 level of significance. Qualitative data was analyzed using themes.

4. Findings

The study tested two hypotheses:
H_{01}: There is no significant difference in gender in relation to suicide ideation.
H_{02}: There is no significant variation among correlates in individual universities.

Table 1: Prevalence of suicide ideation in relation gender

			Suicide Ideation Categories			Total
			Low	Moderate	High	
Gender	Male	Count	579	141	15	735
		% within gender	78.8%	19.2%	2.0%	100.0%
	Female	Count	425	124	30	579
		% within gender	73.4%	21.4%	5.2%	100.0%
Total		**Count**	**1004**	**265**	**45**	**1314**
		% within gender	**76.4%**	**20.2%**	**3.4%**	**100.0%**

Source: Survey Data (2023).

Results show that 5.2% of female students had a high prevalence of suicide ideation compared to 2.0% of males. This implies that the level of suicide ideation in relation to gender varies.

In interviewing university counsellors, three participants said:

"Male students are more suicidal compared to female students."

One participant said:

"Both male and female students are suicidal. From my counselling sessions, there is no particular gender which is more affected than the other."

Results from the interview schedule revealed that 3 University counsellors agree that male students tend to be more suicidal as compared to female students, while on the other hand, one university counselor said the suicidal tendencies are the same for both male and female students. To establish whether the variation was significant or not, a chi-square analysis was computed at a 95.0% confidence level. The results are presented in Table 2.

Table 2: Chi-Square Tests for Prevalence of suicide ideation in relation gender

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.352[a]	2	.003
Likelihood Ratio	11.339	2	.003
Linear-by-Linear Association	8.829	1	.003
N of Valid Cases	1314		

Source: Survey Data (2023).

The critical chi-square table values are (x^2=5.991, df=2 & p=0.05) lower than the computed values (x^2=11.352, df=2 & p=0.03), resulting in the deduction that there is a significant ($p<0.05$) gender difference in relation to suicide ideation. This is in agreement with the results of the study conducted by Nyagwencha and Ojuade (2021), which indicated that suicide was higher among females (36.2%) as opposed to males (24.6%). A study conducted by Goncalves, Sequeira, Duarte and Freitas (2014) on Suicide ideation in higher education students in Portugal concurred with this study that the severity of suicide ideation was higher in female students compared to their male counterparts. The study also concurs with a study conducted by Pereira and Cardoso (2015), which found that suicidal ideators were higher among females than males. Turecki and Brent (2016) also found out that suicide ideation and attempts are high among women, but completed suicide deaths are high among men, which confirms the findings. Mutwiri, Wambugu, Kinuthia and Gachenia (2022), in their study on suicide in Kenyan universities, found out that female students had a high prevalence of suicidal behaviours. The findings of the study, however, contradict the findings in the study conducted by Oji, Ondieki and Ouko (2021), which indicated that there was no significant difference in suicide ideation with respect to gender. The findings also contradict the findings in the study conducted by (Cuadrado, Arias & Garcia 2022) that there is no gender difference in relation to the prevalence of suicide ideation.

4.1 Variation of Correlates among Individual Universities

The second objective of the study was to determine how the correlates vary among individual universities. The second null hypothesis stated that:

H_{02}: There is no significant variation among correlates in individual universities

To test the hypothesis, ANOVA was computed, and descriptive analysis for each individual correlate was indicated to show whether the correlate varied based on the university that students came from.

An analysis of variance involving descriptive statistics was computed if there were significant variations in sexual abuse between the universities. The probability level was set at 95.0% confidence level. The descriptive results are given in Table 3a.

Table 3a: Descriptive Statistics for University and Sexual Abuse

Universities	N	Mean of Sexual Abuse	Std. Deviation
Maseno	278	3.1403	1.78393
JOOUST	370	3.4595	1.54419
Kisii	275	2.5309	1.40189
Tom Mboya	391	3.2199	1.68788
Total	**1314**	**3.1263**	**1.64500**

Source: Survey Data (2023).

The university with the highest mean value of sexual abuse is JOOUST (μ=3.45), followed by Tom Mboya (μ =3.21), which is on average, then Maseno (μ =3.14) and the last was Kisii (μ=2.53). The above results show that there are variations in sexual abuse events based on the number of universities. To establish whether these variations were significant, the ANOVA results are provided in Table 3b.

Table 3b: ANOVA for University and Sexual Abuse

Sexual abuse	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	142.037	3	47.346	18.183	.000
Within Groups	3410.992	1310	2.604		
Total	**3553.029**	**1313**			

Source: Survey Data (2023).

According to the ANOVA result F (3, 1310) =18.183 $p<0.05$), there are statistically significant variations in sexual abuse between universities. Therefore, the null hypothesis, which states that H_{02}: There is no significant variation among correlates in individual universities, is rejected based on the first correlate (sexual abuse), resulting in the conclusion that there are significant variations in sexual abuse among universities.

An analysis of variance involving descriptive statistics was computed to check if there were significant variations in financial crises that students experienced between the universities. The probability level was set at 95.0% confidence level. The descriptive results are given in Table 4a.

Table 4a: Descriptive Statistics for University and Financial Crisis by Students

Universities	N	Mean on financial crisis	Std. Deviation
Maseno	278	2.1043	1.37010
JOOUST	370	2.1270	1.32827
Kisii	275	1.9527	1.17204
Tom Mboya	391	2.1611	1.41317
Total	**1314**	**2.0959**	**1.33325**

Results show that the financial crisis students faced was slightly stressful (μ =2.09) across the four universities in the Nyanza region. To establish whether the means for financial crisis had significant variations, the results of ANOVA are presented in Table 4b.

Table 4b: ANOVA

Financial Crisis	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.679	3	2.560	1.441	.229
Within Groups	2326.239	1310	1.776		
Total	**2333.918**	**1313**			

Source: Survey Data (2023).

According to the ANOVA result F (3, 1310) =1.441 p>0.05), there are no statistically significant variations in financial crisis that students experience between the four universities under investigation. Hence, the null hypothesis, which states that H_{02}: There is no significant variation among correlates in individual universities, is accepted (p>0.05) based on the second correlate (financial crisis). This means that financial crisis experiences are slightly stressful across the four universities in the Nyanza region.

An analysis of variance involving descriptive statistics was computed to check if there were significant variations in romantic break-ups that students experienced between the universities. The probability level was set at 95.0% confidence level. The descriptive results are given in Table 5a.

Table 5a: Descriptive Statistics for University and Romantic Breakup

University	N	Mean on romantic breakup	Std. Deviation
Maseno	278	2.7770	1.61466
JOOUST	370	3.3676	1.49978
Kisii	275	2.3636	1.25802
Tom Mboya	391	3.1483	1.56516
Total	**1314**	**2.9673**	**1.54239**

Source: Survey Data (2023).

The composite score of romantic break-ups across the four universities appears to be moderately stressful (μ =2.96). However, there are differences in the experiences across the universities, with the highest score being recorded for JOOUST (μ =3.36), followed by Tom Mboya (μ =3.14), and the third is Maseno (μ =2.770). However, the romantic break-up experiences by students from Kisii University were found to be slightly stressful (μ =2.36). To establish whether the above means of romantic break-up varied across universities, ANOVA results are provided in Table 5b.

Table 5b: ANOVA on for University and Romantic Breakup

Romantic breakup	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	182.377	3	60.792	27.076	.000
Within Groups	2941.216	1310	2.245		
Total	**3123.593**	**1313**			

According to the ANOVA result F (3, 1310) =27.076 p<0.05), there is a statistically significant variation in romantic break-ups between various universities under study. Therefore, the null hypothesis, which stated that H_{02}: There is no significant variation

among correlates in individual universities, is rejected ($p<0.05$) based on the third correlate (romantic break up). It is therefore concluded that there are significant variations in romantic break-ups by students between the four different universities in the Nyanza region of Kenya.

An analysis of variance involving descriptive statistics was computed to check if there were significant variations in the COVID-19 pandemic experience between the universities. The probability level was set at 95.0% confidence level. The descriptive results are given in Table 6a.

Table 6a: Descriptives for Universities and COVID-19 Pandemic

University	N	Mean of COVID-19	Std. Deviation
Maseno	278	3.2410	1.58154
JOOUST	370	3.3811	1.49005
Kisii	275	2.8982	1.40535
Tom Mboya	391	3.0844	1.54274
Total	**1314**	**3.1621**	**1.51722**

Source: Survey Data (2023).

The descriptive statistics show that the COVID-19 pandemic has brought moderately stressful experiences to students in the four universities under investigation (μ =3.16). However, these moderately stressful experiences seem to vary across the universities, with the highest being recorded for JOOUST (μ =3.38), then Maseno (μ =3.24), Tom Mboya (μ =3.08), and the last was Kisii (μ =2.89). To establish whether these variations were significant at a 95.0% confidence level, ANOVA results are provided in Table 6b.

Table 6b: ANOVA on for University and COVID-19 Experiences

COVID-19	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	40.989	3	13.663	6.003	.000
Within Groups	2981.484	1310	2.276		
Total	**3022.473**	**1313**			

Source: Survey Data (2023).

ANOVA results F (3, 1310) =6.003 $p<0.05$) show that there exist significant variations in COVID-19 pandemic experiences across the four public universities in the Nyanza region. Therefore, the hypothesis that states that H_{02}: There is no significant variation among correlates in individual universities is rejected ($p<0.05$) based on the fourth correlate (COVID-19), resulting in the deduction that there are significant variations of COVID-19 experiences between universities.

An analysis of variance involving descriptive statistics was computed to check if there were significant variations in alcohol addiction experiences between the universities. The probability level was set at 95.0% confidence level. The descriptive results are given in Table 7a.

Table 7a: Descriptives for Universities and Alcohol Addiction

University	N	Mean on Alcohol addiction	Std. Deviation
Maseno	278	3.7626	1.53224
JOOUST	370	3.8324	1.42720
Kisii	275	2.8145	1.35832
Tom Mboya	391	3.5550	1.48027
Total	**1314**	**3.5221**	**1.49939**

Source: Survey Data (2023).

The result shows that alcohol addiction experiences are high across the four universities based on the composite mean (μ =3.52). However, the means appear to vary across the four universities. Only Kisii University had moderately stressful alcohol addiction (μ =2.81). The other three had quite stressful alcohol addiction experiences in the following order: JOOUST (μ =3.83), Maseno (μ =3.76) and Tom Mboya (μ =3.55). The ANOVA results on testing the significance of these variations are given in Table 7b.

Table 7b: ANOVA for Universities and Alcohol Addiction

Alcohol addiction	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	189.809	3	63.270	30.008	.000
Within Groups	2762.051	1310	2.108		
Total	**2951.860**	**1313**			

Source: Survey Data (2023).

ANOVA output F (3, 1310) =30.008 $p<0.05$) indicates that there exists a significant difference in alcohol addiction experiences across the four universities. Therefore, the null hypothesis, which states that H_{02}: There is no significant variation among correlates in individual universities, is rejected ($p<0.05$) on the fifth correlate (alcohol addiction) and the conclusion that there existed statistically significant variations in alcohol addiction experiences between the four public universities in Nyanza region, Kenya.

An analysis of variance involving descriptive statistics was computed to check if there were significant variations in HIV/AIDS experiences between the universities. The probability level was set at 95.0% confidence level. The descriptive results are given in Table 8a.

Table 8: Descriptives on Universities and HIV/AIDS Experiences

University	N	Mean	Std. Deviation
Maseno	278	3.3597	1.77633
JOOUST	370	3.4324	1.58995
Kisii	275	2.6691	1.39196
Tom Mboya	391	3.2558	1.66751
Total	**1314**	**3.2047**	**1.63918**

Source: Survey Data (2023).

Findings reveal that the HIV/AIDS experiences have been moderately stressful across the four universities. Data shows that there are variations across the universities with respect

to HIV/AIDS experiences with JOOUST leading (μ =3.43), Maseno (μ =3.35), Tom Mboya (μ =3.25) and Kisii (μ =2.66). To determine if these variations were statistically significant or not, findings are presented in Table 8b.

Table 8b: ANOVA on Universities and HIV/AIDS Experiences

HIV/AIDS	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	105.779	3	35.260	13.497	.000
Within Groups	3422.151	1310	2.612		
Total	**3527.931**	**1313**			

Source: Survey Data (2023).

ANOVA result F (3, 1310) =13.497 $p<0.05$ shows that there exist statistically significant differences in HIV/AIDS experiences by students from the four universities. Therefore, the null hypothesis, which states that H_{02}: There is no significant variation among correlates in individual universities, is rejected ($p<0.05$) for the sixth correlate (HIV/AIDS), resulting in the deduction that there are no statistically significant variations of HIV/AIDS experiences between the four public universities in Nyanza region, Kenya.

An analysis of variance involving descriptive statistics was computed to check if there were significant variations in election (general and campus) experiences between the universities. The probability level was set at 95.0% confidence level. The descriptive results are given in Table 9a.

Table 9a: Descriptives for Universities and Elections Experiences

Universities	N	Mean on election	Std. Deviation
Maseno	278	3.5827	1.61401
JOOUST	370	3.7378	1.43473
Kisii	275	3.1455	1.46265
Tom Mboya	391	3.4859	1.51545
Total	**1314**	**3.5061**	**1.51671**

Source: Survey Data (2023).

The result shows that election experiences have been quite stressful (μ=3.50) across the four universities based on summed means. However, there were variations in experiences across the universities, with JOOUST (μ=3.73) and Maseno (μ=3.58) recording quite stressful but Tom Mboya (μ=3.48) and Kisii (μ=3.14) universities recorded moderately stressful experiences. Table 9b presents the outcomes of ANOVA significance tests on the existence of variation.

Table 9b: ANOVA for Universities and Elections Experiences

Election	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	57.429	3	19.143	8.463	.000
Within Groups	2963.022	1310	2.262		
Total	**3020.451**	**1313**			

Source: Survey Data (2023).

The ANOVA results result in F (3, 1310) =8.463 $p<0.05$) indicate the existence of significant differences within and between groups of variables under investigation. This means that the null hypothesis, which states that H_{02}: There is no significant variation among correlates in individual universities, is rejected ($p<0.05$) on the seventh correlate (elections) variations between universities. It is therefore concluded that statistically significant variations of election experiences (campus and general) exist between the four universities in the Nyanza region, Kenya.

An analysis of variance involving descriptive statistics was computed to check if there were significant variations in cyber suicide experiences between the universities. The probability level was set at 95.0% confidence level. The descriptive results are given in Table 10a.

Table 10a: Descriptives for Universities and Cyber Suicide Experiences

University	N	Mean on Cyber suicide	Std. Deviation
Maseno	278	3.6223	1.63153
JOOUST	370	3.7865	1.41434
Kisii	275	3.2582	1.44822
Tom Mboya	391	3.5754	1.52545
Total	**1314**	**3.5784**	**1.51218**

Source: Survey Data (2023).

Results show that the average level of cyber suicide experiences is moderately stressful (μ=3.57) across the universities. Further, there are variations on the mean computed as JOOUST leads with cyber suicide experiences (μ=3.78), then Maseno (μ=3.62) and the third Tom Mboya (μ=3.57). Kisii University students appear to have moderately stressful (μ=3.25) experiences in relation to cyber suicide. To establish if the differences were statistically significant, an ANOVA test was computed, and results are presented in Table 10b.

Table 10b: ANOVA for Universities and Cyber Suicide Experiences

Cyber suicide	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	44.759	3	14.920	6.608	.000
Within Groups	2957.668	1310	2.258		
Total	**3002.426**	**1313**			

Source: Survey Data (2023).

According to the ANOVA result F (3, 1310) =6.608 $p<0.05$), there are statistically significant differences in means between and within groups in the variables of cyber suicide and type of universities. Based on the statistics, the null hypothesis, which states that H_{02}: There is no significant variation among correlates in individual universities, is rejected ($p<0.05$) on the eight correlates (cyber suicide), resulting in the deduction that there exists statistically significant variations on cyber suicide experiences across the four public universities in Nyanza region of Kenya.

5. Discussion

The first objective of the study was to determine gender differences in relation to suicide ideation. The findings revealed that female students are more ideators. These findings agree with the findings in a study conducted by Lu *et al.* (2020) in China, which revealed gender differences in relation to suicide ideation among the elderly in Shandong, China. Suicide ideation was higher among female than their male counterparts. A study conducted by Ram, Chaudhury and Jagtap (2018) on the prevalence of suicidal ideation among university students in India also indicated a higher mean score (4.58) in suicide ideation among females than males (2.01). Several studies, including the study by Abel, Sewell, Martin, Bailey-Davidson and Fox (2012) in Jamaica, Hussen and Al-Khalidy (2013) in Iraq, Khokher and Khan (2005) in Pakistan, Li, Li, Lei, Zhang, Liu, Tang, Chen (2014) in China and finally Strandheim, Bjerkeset and Gunnell (2014) in Norway have revealed high suicide ideation among female than male.

On the other hand, the findings of the study conducted by Taylor (2018) in New York on illegal drug use, suicidal ideation and attempted suicide among adolescents contradict the findings in the current study. Taylor (2018) found that male students exhibited high suicidal thoughts compared to female students. At the same time, the findings of the study conducted by Oji, Ondieki and Ouko (2021) in Nairobi County, Kenya, contradict the findings of the current study. In their study, the findings revealed gender differences in suicidal behaviour, with male students being more suicidal than female students. Females are at a higher risk of thinking and attempting suicide, while males are at a higher risk of completing suicide (Mendizabal *et al.*, 2019).

The results of the current study could be attributed to restrictions by society as well as family that might make them feel stressed up in school. According to Ram, Chaudhury and Jagtap (2018), women in the Indian context follow the rules and regulations of society and cannot express anything about their problems and pleasure so they try to cope with the situation, which could bring about suicidal thoughts. Female students could also be going through stressful situations because of the need to belong. This could make them go out of their way so that they fit in on campus in terms of dressing as well as living standards. Some of the female students are from needy backgrounds, so because they cannot afford a certain lifestyle, they engage in activities that might be stressful in order to belong. This could explain why female students in universities in the Nyanza Region are more ideators than their male counterparts.

The second objective was to determine how the correlations vary among individual universities. The findings of the study revealed that there is variation in sexual abuse, romantic breakup, COVID-19 alcohol addiction, HIV/AIDS, elections and cyber suicide across the universities. On the other hand, there is no variation in financial crisis across universities. The difference in variation could be attributed to differences in the environment that the students are in. According to Lester (2021), the environment that one is in impacts their mental health in one way or the other. This is in agreement with the findings in the review done by Milner, Hjelmeland, Arensman and Leo (2013) that

geographical differences can expose one to suicide risk factors such as drug abuse, easy accessibility of lethal suicide means and availability of help services such as mental health services. The review results further revealed that environmental factors have an influence on an individual's values and relationships as well as normative social roles, which can be associated with suicidal risk.

Several studies have explained how the environment can influence suicidal behaviours, which could explain the difference in variation. One such study is the study conducted by Helbich, De Beurs, Kwan, O'Connor and Groenewegen (2018), whose results indicated that mortality rate is associated with the environment one is in. This is also in agreement with the results of a study conducted by Johnson (2021) that the environment has an impact on individual's suicidal behaviour. Palmier (2011) postulated that there are cultural variations in how students think and define correlates, and these culturally related factors and lifestyles can be attributed to suicidal behaviours. On the other hand, Cornelius, Berry, Goodrich, Shiner and Riblet (2021) found that suicide risk was associated with the environment or geographical variables such as high altitude. These environmental and geographical differences could explain the variation of the correlates in different universities in the Nyanza region.

6. Conclusion and Recommendation

The first objective sought to determine gender differences in relation to suicide ideation. The findings revealed that the critical chi-square table values were lower than the computed values, and the deduction was that there was a significant gender difference in relation to suicide ideation. It is logical to conclude that the level of suicide ideation in relation to gender varies, with female students having more suicidal thoughts than their male counterparts. The study recommends that the university counselling department should equip female students with skills on how to adjust to campus lifestyle without engaging in activities which might end up stressing them. The university should also develop prevention strategies as well as organize follow-up for suicide survivors.

The second objective was to determine how the correlates varied among individual universities. ANOVA was computed for each correlate to determine the variations depending on the university. The findings indicated that there exists variation in sexual abuse, romantic break-ups, COVID-19, alcohol, HIV/AIDS, elections and finally, cyber suicide experiences across the four public universities in the Nyanza region. On the other hand, the findings indicated that there were no significant variations in financial crisis that students experienced between the four universities, and financial crisis experiences are slightly stressful across the four universities. The study recommends that more research should be done by the university through the counselling department on environmental-related triggers to suicide so as to develop appropriate prevention strategies.

Conflict of Interest Statement
The authors declare no conflicts of interest.

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