

Relationship between Extraversion Personality Subtype and Suicidal Behavior among Secondary School Students in Kenya

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Abstract The study investigated the relationship between extraversion personality subtype among secondary school students and suicidal behavior in Kenya. The Correlation survey design was adopted for the study. The target population was 6284 secondary school students within Kitutu Central Sub-County, Kisii County, Kenya. The study used Aaron Beck suicidal inventory and Big Five Factor for Personality questionnaires. A reliability coefficient of 0.743 was reported after performing split-half technique. Data collected was analyzed using regression analysis. The result demonstrated that the coefficient of extraversion was significant ($p < 0.05$). The model summary gave $R^2 = 0.244$, which means that extraversion explains 24.4% of the variation in suicidal behaviour. The ANOVA table $F(1, 68) = 0.605$ with $p < 0.05$ indicates that regression is a good fit for analysis of the data. The coefficients table shows that the coefficient of the constant term and the coefficient of extraversion are statistically significant ($p < 0.05$). The negative coefficient shows that there is a negative relationship between extraversion personality and suicidal behaviour, ($R = 0.494$; $P < 0.05$). It is recommended that the Heads of guidance & Counseling in secondary schools should adopt structured counselling programmes to assist vulnerable students to suicide.

Keywords Extraversion personality subtype, Secondary school, Students, Suicidal behavior, Kenya

1. Introduction

Suicide is the culmination of a complex interaction of social, psychological and biological factors. As psychological variables vary from person to person, it is important to identify personality traits that predispose individuals to suicide, acknowledging that personality traits might have biological origins. Neuroticism, broadly defined as the tendency to experience negative emotions in response to stress, has been linked to the full spectrum of suicidal behaviours, although most research has focused on suicidal ideation and non-lethal attempts. The World Health Organization recognizes suicide as one of the world's leading causes of death (Deleo, Bertolele and Lester, 2002).

In United States the data from the co morbidity survey indicates that 4.6% of individuals have a history of suicide attempts (Nock and Kessler, 2006), the Centre for Disease Control and prevention found out that approximately half of individuals who died by suicide in 2004 had at least one diagnosed mental illness, the most common being major

depression 85.2% of case), bipolar disorder 7.4 and schizophrenia 3.3% (Nock *et al* 2006). Additionally, Males were found to be prone to complete suicide, whereas females were more likely to attempt suicide (CDC, 2006).

According to the World Health Organization up to 7000 suicides are reported in Kenya annually with tens of thousands more attempting to kill themselves in what is often blamed on depression, this information emerged during the world's suicide prevention day at the Mathari hospital. The vulnerability can be assisted by using selective prevention strategies such as strong personal relationships using help lines and education as well as training health workers. Similarly, Yari and Apter (2012) also investigated suicide and incidental behavior and in their survey report of WHO in 2007 indicated that in 2020 approximately 1.53 million people will die from suicide and ten to 20 times more people will attempt suicide worldwide.

The estimate represent on the average one earth every 20 seconds and one attempt every one to two seconds (Yari and Apter, 2012). Although on the lower predictive value the presence of psychopathology is probably the single most important predictor of suicide. Most cases reported are within the criteria of psychiatric disorder, demission, and substance use disorders, cluster is personality disorder and schizophrenia (WHO, 2007).

In another study by Figueroa (2008) indicated that most students had reported 75.5% cases of suicide attempts and at

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the sometime the prevalence rates were significantly higher in females not living with both parents, not in the Island. Similarly, Liu, Zhou, Fu, Qin and Wu (2017) also reported cases of ideation and suicide attempts among the patients admitted into the psychiatric hospital in China. Whereas, Swanson and Colman (2011) in United States showed in their finding that parental attempts to suicidal cases had contributed up to 3.5 increases in youth's probability of having suicidal thoughts with a 2.6 increased chance of them attempting suicide. Additionally, factors and risks contributing to youth suicide were academic pressure, alcohol consumption, the loss of a valued relationship, frequent change of residency and poor family patterns (Kastenbaum, 2012).

There are different views on suicide and how people should understand it. In the past, suicide has mostly been viewed as a topic of taboo (Pompili, 2010). Viewed as a sin or crime, it was too shameful to discuss openly in most cultures and religions. Since the rise of science and medicine, however, society has become more inclined to view suicide as a result of mental illness. In the 19th century, a milestone was achieved for understanding suicide from a bio-psychological point of view: There are forces or causes inside the person that cannot be consciously known or considered, but nevertheless influence suicide risk (Pompili, 2010). One must keep in mind that suicide and suicide behavior are not one and the same.

While suicide is defined as the act of intentionally taking one's own life, suicide behaviors also include nonfatal thoughts and behaviors (Nock *et al.*, 2006). According to Nock *et al.* (2006), suicide behavior can be classified into three categories: suicide ideation, suicide plan, and suicide attempt. Suicide ideation refers to ideas, thoughts, and contemplation in regard to suicide; suicide plan refers to formulations of how to take one's life; lastly, suicide attempt is defined as engaging with self-injurious behavior accompanied by intent to actually die (Nock *et al.*, 2006).

The current study was informed by Aaron Beck and Lewis Goldberg as Suicidal theory. The theory emphasizes that people's hopelessness has a significant role in suicidal thoughts, attempts and completion. The theory also continues to assert that about 91% of people with hopelessness later die by suicide and that those with high hopelessness are 11 eleven times more likely to die by suicide than those with lower scores. Similarly, the theory informs the study that previous suicidal experience sensitizes suicide related thoughts and behaviors so that they become more accessible and active.

Literature on the relationship between extroversion and suicidal attempts exists. For example, Abdollah *et al.* (2014) studied personality as one of the underlying factors in suicidal behavior. There was a significant negative correlations existed between three other personality traits --extraversion [$r = -0.306$]. Extraversion personality factor could reduce significantly (as much 14% as are predicted) levels of suicidal ideation. Based on these results, extraversion personality traits are associated with a reduced

risk of suicide. McClure (2017) study assessed associations between suicide ideation and personality characteristics in a sample of community-residing adults 65 years of age and older. A total of 106 older adults (mean age=74.2 years, $SD=5.8$, including 78 women) completed both phases of the study. The majority of participants included in this study were relatively emotionally and psychologically healthy. Within this sample of older adults, more severe suicide ideation was significantly associated with lower Extraversion. Extraversion and Socially Prescribed Perfectionism appear to have particularly robust associations with suicide ideation. Whereas, Agwaya, Aloka and Raburu (2015) also investigated the relationship between personality sub-types and indulgence in behavior problems among selected secondary school students in Kenya. The finding indicated that there was a statistically significant difference (at $P<0.05$ level) in students indulgence in behavior problems scores for the extroversion personality subtype.

Blum, Kaputsa, Doering, Braehler, Wagner and Kersting (2013) assessed the impact of the Big five personality dimensions on suicide in a representative population based sample of adults. The study employed interviews on a representative German population based sample ($n=2555$) in 2011. The study result showed that extraversion was found to be protective. Significant sex differences were also observed for males, extraversion was a protective factor. Tracy, Jerrell and Kimberly (2006) identified the relationship between psychological personality types and suicide ideation where participants of study were 152 juniors enrolled in a public residential high school for the academically gifted students. However, the study found that female students held lower levels of suicide ideation than male students, female students exhibited extroversion-perceiving types held high levels of suicide ideation than those with other types.

A report by Woodward (2005) revealed that, in India one third of suicide cases were mainly committed by young people, Youth suicide in this case is, when a young person generally categorized as someone below age 21 deliberately ends their own life (Machi, 2017). The rates of attempted and completed youth suicide in Western societies and other countries are high. The research reports also indicates gender differences in both males and females however, suicidal thoughts are common among girls, while adolescent males are the ones who usually carry out suicides (WHO, 2007). On a similar note, studies from Kenya also reports greater elements of suicidal behaviours among the youths.

The study conducted by Khasakhala, Maithai and Ndeti (2013) on suicidal behaviour associated with psychopathology in both parents and youths showed there was a significant relationship between maternal depressive disorders ($p<0.001$) and perceived Maternal rejecting parental behaviour ($p<0.001$) with suicidal behaviour in youths. The study further reported that a higher proportion of youths between 16-18 years had suicidal behaviour than the youths below 16 years or above 18 years of age ($p = 0.004$). Most of the studies on suicidal behaviors in Kenya had focused on causes, family histories, conflicts,

psychopathology, and sexual risky behaviours and parenting styles whereas, the current study explored the relationship between personality subtypes and indulgence in suicidal behaviour among secondary school students in Kitutu Central Sub-County, Kenya. The hypothesis was stated as follows:

Hypothesis: *There is no significant relationship between Extroversion personality subtype and suicidal behavior among secondary school students in Kenya.*

2. Research Methodology

An ex-post facto research design was used in the study. The target population was 6284 secondary school students drawn from Kitutu Central, Kisii County, Kenya. A Sample size was 120 students drawn from boys and girls boarding, and mixed secondary schools in the ratio of 60% (72) and girls 40% (48) this was due to the fact that both girls and boys were involved in suicidal behaviors. The students were in the age bracket of 14-18 years and were selected using stratified random sampling technique. The study used Aaron Beck Suicidal Inventory and Lewis Big Five Factor for Personality questionnaires to collect data. The study was

conducted during school learning calendar and the respondents responded on the questionnaires on a voluntary basis. The questionnaires were developed in likert scale where respondents were to indicate their levels of extraversion. A reliability coefficient of 0.743 was obtained using split-half method. The data collected was analyzed using regression analysis with the aid of Statistical Package for Social Sciences (SPSS) version 22.0. The findings were presented using frequencies, tables, standard deviations, mean differences and percentages. Inferential analysis such as Linear Regression analysis was used to analyze the data.

3. Findings & Discussions

To assess the Extraversion Personality Sub-type, students were asked to give their opinion on the following statements related to extraversion personality subtype. The student responses were given on a five scaled statements of strongly agree, agree, neutral, disagree and strongly disagree. They were to rate the statements on that scale based on their opinion and their responses were put in percentages as tabulated in Table 1.

Table 1. Extraversion Personality Subtype

Statement	SA	A	N	D	SD	Mean	STDev
Is talkative	24 (34.3)	15 (21.4)	19 (27.1)	6 (8.6)	6 (8.6)	3.643	1.274
Is reserved	16 (22.9)	10 (14.3)	19 (27.1)	19 (27.1)	6 (8.6)	2.500	1.271
Is full of energy	22 (31.4)	27 (38.6)	13 (18.6)	5 (7.1)	3 (4.3)	3.857	1.081
Generates a lot of enthusiasm	16 (22.9)	15 (21.4)	25 (35.7)	5 (7.1)	9 (12.9)	3.343	1.273
Tends to be quiet	13 (18.6)	11 (15.7)	8 (11.4)	14 (20.0)	24 (34.3)	2.814	1.243
Has an assertive personality	16 (22.9)	24 (34.3)	17 (24.3)	8 (11.4)	5 (7.1)	3.543	1.176
Is sometimes shy, inhibited	11	14	13	17	15	3.157	1.390

From the descriptive statistics presented in Table 1, students indicated their nature of being outgoing as shown by 55.7%, 70.0% and 68.6%. Majority of these students at (57.2%) were also found to be having assertive personality, while 44.3% indicated that they generated a lot of enthusiasm. On the flip-flop, side most of these students (54.3%) disagreed that they were quiet, sometimes shy or inhibited as disagreed by 44.7%. Generally, extraverted students were social, talkative, enthusiastic and outgoing. This finding agrees with Abdollah *et al* (2014) who reported that there was a significant negative correlations existed between three other personality traits --extraversion [$r = -0.306$]. Extraversion personality factor could reduce significantly (as much 14% as are predicted) levels of

suicidal ideation. Based on these results, extraversion personality traits are associated with a reduced risk of suicide. Similarly, McClure (2017) study reported that, more severe suicide ideation was significantly associated with lower Extraversion. Extraversion and Socially Prescribed Perfectionism appear to have particularly robust associations with suicide ideation.

The study sought to establish the relationship between extraversion personality subtype among secondary school students and suicidal behavior. The hypothesis was stated as follows:

Hypothesis: *There is no significant relationship between extraversion personality subtype and suicidal behavior among secondary school students in Kenya.*

In order to achieve this, the researcher modeled a regression equation hypothesized to explain the relationship between extraversion personality subtype and suicidal behavior. The regression equation was of the form:

$$Y = B_0 + B_1X_1 + \varepsilon_1$$

Where Y is suicidal behavior, B_0 is the coefficient of the constant term relating suicidal behavior and extraversion personality, B_1 is coefficient of neurotic personality, X_1 is extraversion personality and ε_1 is error term for the equation. For data collection, 10 item 5 point Likert scale designed to measure extraversion personality and another 10 item

5-point Likert scale for suicidal behavior was designed. The responses were positively coded on a scale of 1 to 5 where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree. Consequently, to obtain continuous data for regression from the ordinal likert scale data, summated scores on each of the scales was obtained for each respondent. In total, there were 70 complete responses used in the analysis. Data was analyzed through simple linear regression using SPSS version 22 with suicidal behavior as the dependent variable and extraversion personality as the independent (predictor) variable. The regression output is presented in Table 2.

Table 2. Regression Output for Extraversion Personality Subtype and Suicidal Behaviour

Model Summary						
Model	R	R Square	Adjusted R Square		Std. Error of the Estimate	
1	.494 ^a	.244	-.230		7.099	
ANOVA ^a						
	Model	Sum of Squares	Df	Mean Square	F	Sig.
	Regression	30.496	1	30.496	.605	.039 ^b
1	Residual	3426.647	68	50.392		
	Total	3457.143	69			
Coefficients ^a						
	Model	Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	11.464	5.257		2.181	.033
	Extraversion	-.152	.195	-.094	-.778	.029

a. Dependent Variable: Suicidal Behaviour

b. Predictors: (Constant), Extraversion

The result demonstrated that the coefficient of extraversion was significant ($p < 0.05$). The model summary gave $R^2 = 0.244$, which means that extraversion explains 24.4% of the variation in suicidal behaviour. The ANOVA table $F(1, 68) = 0.605$ with $p < 0.05$ indicates that regression is a good fit for analysis of the data. The coefficients table shows that the coefficient of the constant term and the coefficient of extraversion are statistically significant ($p < 0.05$). The negative coefficient shows that there is a negative relationship between extraversion personality and suicidal behaviour, ($R = 0.494$; $P < 0.05$). Thus, the model equation becomes;

where; $Y = 11.464 - 0.152X$

\hat{Y} is Suicidal Behavior and
X is Extraversion

The regression coefficient was statistically significant ($t = -0.778$, $p < 0.05$). Thus, a unit increase in suicidal behavior is associated with a decrease of 0.152 extraversion. This finding concurs with Agwaya, Aloka and Raburu (2015) who indicated that there was a statistically significant difference (at $P < 0.05$ level) in students indulgence in behavior problems scores for the extroversion personality subtype. Similarly, Blum, Kaputsa, Doering, Brahler, Wagner and Kersting (2013) study result showed that extraversion was found to be protective.

4. Conclusions & Recommendations

The result demonstrated that the coefficient of extraversion was significant. The model summary gave $R^2 = 0.244$, which means that extraversion explains 24.4% of the variation in suicidal behaviour. The finding shows that the coefficient of the constant term and the coefficient of extraversion are statistically significant. The negative coefficient shows that there is a negative relationship between extraversion personality and suicidal behaviour, ($R = 0.494$; $P < 0.05$). It is recommended that the Heads of guidance & Counselling in secondary schools should adopt structured counselling programmes to assist vulnerable students to suicide.

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