THE RELATIONSHIP BETWEEN SAFETY AWARENESS, PREPAREDNESS AND MANIFESTATION OF SYMPTOMATOLOGY OF THE SURVIVORS OF ARSON ATTACKS IN HIGH SCHOOLS IN NAIROBI COUNTY

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ABSTRACT

Arson attacks in high schools occur throughout the world. They are traumatic events and leave survivors with trails of psychological trauma, which impair their mental health wellness and functioning. In order for the survivors to return to normalcy, they will need psychological adjustment. The primary objective of the research was to determine the relationship between safety awareness, preparedness and manifestation of symptomatology. This research adopted a descriptive survey design to execute it. Snowball sampling technique was applied. The study population will comprise of high schools including students. The study used self-administered questionnaires for students to collect data. Quantitative data was analyzed by descriptive statistics and inferential statistics then statistical package for social sciences. Hypothesis was analyzed by Pearson product moment, Correlations (r) and step wise regression technique.

Qualitative data from open ended questions were read, paying attention to ideas, documents and concepts from respondents. Field notes was edited and written based on content and theme and analyzed accordingly. The study adopted social support theory. The theory states that the support an individual survivor receives from the social networks boosts the individual survivors' resilience and promotes health wellness and psychological adjustment. There is a relationship between social support and individual health. The outcome of the study will have implications on policy and theory. On policy the study helped to identify gaps in the current understanding of arson survivors in schools and will assist education planners, administrators and those responsible for education in formulation of adequate policy framework.

Key Words: *safety awareness, preparedness, manifestation of symptomatology, arson attacks*

INTRODUCTION

Seaton (2009) on psychological adjustment agrees with Sippel et al, (2015) that social assistance enhances healing in deeply distressed persons since it eliminates manifestation of symptomatology, promotes resilience, which leads to psychological adjustment. The studies also identify social support among other measures, as being associated with individual health wellness. Social support as the social networks' provisions of emotional and welfare sources calculated to boost a person's capacity to coper with the stressors. Among social support sources are community support, family support, religious fraternity and the school. It is also worth noting that an individual survivor has inherent characteristics through internal locus of evaluation which control symptomatology and help him/her to achieve resilience. Safety awareness and preparedness facilities in schools will help in stopping disastrous events, among them, fires or mitigate the devastating effects of the fire and also contribute to individual resilience, and enhance healing. This leads to psychological adjustment (Seaton, 2009).

STATEMENT OF THE PROBLEM

High schools in Kenya have continued to experience arson attacks which began at Maseno School in 1908.More than 100 years ago to date, a solution to this scourge is yet to be found. Moreover, nothing is known about several survivors who tried to make their lives sufferable. Arson attacks are traumatic events which leave survivors, most of them youths, to experience manifestation of symptomatology, which is debilitating to an individual survivor. However, this, may go away or linger for a long time and It impairs mental health wellness and functioning. Those survivors needed psychological adjustment in order to regain their normal mental health wellbeing and functioning (Seaton, 2009). This study targets the survivors and the uniqueness of the months of June and July, 2016 when arson attacks were sporadic and unprecedented in the history of Kenya. In two months alone, more than 130 high schools were set on fire. The stakeholders were overwhelmed and shaken. The severity and the frequency of the fires attracted national debates, with local communities and other stakeholders searching for causes of the fires and solution to the menace that left thousands of survivors with psychological trauma. This problem has stained the image and integrity of the entire education sector, by and large, the whole country. Arson attacks cost the economy millions of shillings on repairs, relocation of survivors to other facilities, replacement of destroyed items, insurance costs and reconstruction. During the disturbances, no learning in schools takes place and the schools suffer loss of goodwill. However, the psychological consequences on survivors may not be apparent immediately (Natural Crime Research Center, 2016).

OBJECTIVE OF THE STUDY

The purpose of the study is to determine the relationship between safety awareness, preparedness and manifestation of symptomatology of the survivors of arson attacks in high schools in Nairobi County.

LITERATURE REVIEW

Manifestation of Symptomatology

Traumatic events, among survivors will elicit psychological trauma: Physiological experiences will make survivors of traumatic events susceptible to bacterial diseases since the survivors are very vulnerable. Vulnerability will also lead to other ailments, such as, heartaches, migraines, prone to accidents, hypertension and ulcers since the immune system in the body gives way (De wolf, 2004). Psychological consequences include anger shock anxiety, disbelief and guilt. In chronic situations, can lead to post traumatic stress disorder. The study on secondary schools in England established that arson attacks are traumatic events and resulted in students and teachers experiencing fear, anxiety, depressive disorders, behavioural disorders and personality disorders (Wade et al, 2007). Studies conducted in Canada on psychological preparedness for disaster agree with Wade et al (2007). However, studies by Welsh government from 2012-2015 on welsh communities established that fires can be reduced through education awareness, good practices and attitude change. The researcher recommended good practices and attitude in predicting risk factors and development of assessment procedures at community level and

community level (Cameron, 2015). Behavioural experiences of stress are typically, obesity, increased alcoholism, smoking or substance abuse, absenteeism and sleep disorders among others. Some behaviours for example drug abuse, may land the culprit on the wrong side of the law. The survivor endangers his life and may develop suicidal ideation and is easily a social misfit. These experiences may go away or last for a long time (Seaton, 2019).

Management of Symptomatology

Sippel et al, (2015) in their studies on how social support enhances resilience in the trauma exposed individual, identified measures to neutralise trauma effects, such as social support (Family, community church, government, school peers and neighbours). An individual survivor has responsibility to regulate adversity due to inherent internal locus of evaluation. The researchers at APA (2018) see social support as the, comfort, assistance or information survivors of a traumatic event, such as, arson attacks receive through formal or informal contacts in order to boost their resilience. The researchers thus, confirm that there is an association between social support and individual health, findings which agree with Sippel et al (2015). It can be argued that security arrangements and programs employed in high schools in Kenya offer not only an assurance of security, but also provide some kind of buffer between the school fraternity and the trauma caused by arson attacks. This important development of effective intervention can among other support measures, enhance resilience and psychological adjustment (Kipgeno and Kyalo, 2009).

THEORETICAL FRAMEWORK

This study used Stress and Coping Social Support Theory posts that welfare protects individuals from harmful consequences of emotional stress. This will influence the manner the survivors think about the event and how they cope (Cohen et al 1985). The researchers move that psychosocial resources reduce the impact of stress on psychological well-being. This resource will invariably help survivors of arson attacks to adjust due to manifestation of symptomatology. When the schools install safety awareness and preparedness measures and observe dictates of the standard safety manual for schools' requirements, are considered as a social support. This in turn offers a buffer or shield to an individual to remain resilient. Resilience yields psychological adjustment. Studies have documented many benefits of stress coping and social support, such as, improved immune system, reduction of heart diseases, positive adjustment to chronic illnesses, decreased depression and anxiety and the negative effects of stress. However, the stress coping and social support theory will not comprehensively cover the challenges. This is because the higher the buffering, the better the resilience, subsequently psychological adjustment. Conversely, the lower the buffering, the lower the psychological adjustment. The buffering is subject to an individual whose resilience level is not known, therefore, the adequate measure for an individual is in doubt, this is its weakness (Cohen et al, 1985).

RESEARCH HYPOTHESES

H_1: These is a relationship between safety awareness, preparedness and manifestation of symptomatology of the survivors of arson attacks in high schools in Nairobi County

RESEARCH METHODOLOGY

Research Design

This research is a case study and applied a descriptive survey design to execute it. The survey design helped the researcher to meet the study objectives by collecting, measuring and analyzing data. The design used the description to organize data into patterns that emerge during analysis. This analysis is the form of the structure of the research and availability of diverse information (Orodho, 2013). The researcher will conduct a survey to establish the relationship between safety awareness, preparedness and psychological adjustment of the survivors of arson attacks in high schools in Kenya and also determine the influence that manifestation of symptomatology management of symptomatology and psychological adjustment will have on the relationships. The researcher will prepare instruments or tools for collecting, analyzing and interpreting observed information. This process will conform to the exact systematic nature of the work (Mugenda and Mugenda, 2003). Since the survey will ensure impartial representation of the population of interests, the researcher will not have any control and will not interfere with the result. The researcher will therefore, post only the results of the study.

Population of the Study

The population of interest was the form four students who completed their studies towards the end of 2019 in the high schools that experienced arson attacks during the months of June and July, 2016 within Nairobi County. They are a total of 853 students. They were four schools, 2 public boys boarding, 1 private boys boarding and 01 mixed boys and girls public with girls boarding while boys as day students. They were among over 130 secondary schools which experienced arson attacks in Kenya in June and July, 2016. They are accessible and can easily be reached. They are in close proximity to each other for easy monitoring and they were the only schools in Nairobi that suffered arson attacks. It is generally accepted that what is approved in Nairobi will be adopted by other counties. Nairobi hosts the headquarters, relevant departments which give authorisation to conduct the study and relevant organisations from which secondary data can be collected. Nairobi is also a host to fire engines from herself and armed forces and the only city in the country mostly affected by fires (Huang, et al, 2009; National Crime Research Centre, 2016).

Sample Design

The sample design shows selection of a sample of representative value from the entire population of interest. This aspect will suffice the need for efficiency, representativeness, reliability and flexibility. The criteria was based on the type of school, whether it's boys, girls

or mixed schools. The schools were drawn from this category however there was no category from girls' school (Gay 1902) With this type of population the recommended sample size range is 10-30% (Mugenda and Mugenda, 2003). The form four students in the four schools completed their studies towards the end of 2019. This is the target population, consequently, their respective sampling venues and their social networks have changed. Their locations, too, remain unknown and they are hard to reach people. Studies refer to them as "hidden populations" or hidden respondents". In this regard, the researcher will enlist teachers as informants from the respective schools who will help by purposively identifying one or two subjects from each school. The subjects will in turn identify respondents sequentially or in a snowballing fashion. Thus, snowballing sampling method was employed for the study. Snowball sampling technique was developed in 1958 (Coleman, 1958-1959). However, the model is non-randomized and non-probabilistic. It contravenes many of the assumptions that support conventional, methods of selections. Respondent Driven Sampling technique was developed in 1997 by Heckathorn. The method offers better mathematical model when combined with snowball sampling. This helps to convert chain referral methods with results which can be randomized by keeping track of who referred who in the sample. This creates a model of subjects and respondents, social networks as one component. Resistant respondents are replaced in order to achieve representativeness and reports accurately the number. Subjects recruit respondents as a single source (Heckathorn, 1997). Respondent Driven Sampling also combines with network analyses and creates uniform source. This helps the researcher to achieve high statistical value with samples that are gathered using randomized procedures (Heckathorn, 1997; and Mugenda and Mugenda, 2003). The matrix gives a sample size of 256. One Public Boys Boarding High School (sample size 68) will pre-test the research instruments, leaving the sample population for the study to be 188. In order to avoid fractions when distributed among schools, the sample population was 189.

Data Collection

Data both primary and secondary was used in the study. Primary data was collected on self-administered questionnaires. A questionnaire will help the respondents to answer questions on safety awareness and preparedness, manifestation of symptomatology management of symptomatology and psychological adjustment which are the variables of the study. In order to explore more unknown thoughts from respondents, the researcher will employ both structured and unstructured questionnaire. For the success of this operation, the researcher will adopt a field study procedure (Mugenda & Mugenda, 2003). Questionnaires for data collection are preferred in this type of research due to time saving are easily dispensed to respondents spread across a large area and are easy to handle. This helps the respondents to attempt to answer every question (Spasford, 2006; Phellas, 2011).

Data Analysis and Presentation

Analysis of gathered information began with editing the questionnaire for accuracy, cleaning and coding. The information will then be entered on the spread sheet and analysed by using Statistical Package for Social Sciences (SPSS). Quantitative data was analysed by applying

descriptive statistics, such as frequencies, percentages and measures of central tendency as a technique for closed ended questions. Meanwhile, qualitative data was cleaned and organized into specific codes according to research questions and directives and grouped into various themes from which conclusions was drawn (Yadutta and Ngao, 2006). The researcher applied inference rules to draw out conclusion. For example, the objective was investigated using Pearson product moment correlation(r).

RESULTS AND DISCUSSION

The research endeavoured to find participants' response regarding statements on manifestation of symptomatology. Participants came about with request requiring to evaluate views regarding different and various concerns associated with symptomatology.

Physiological Experience

The outcome following testing of results are demonstrated in the table 3 labelled physiological experiences. The respondents were asked to rate their perception on various statement on physiological experience. From the analysis of findings, it was established that study participants indicated (M= 2.57 SD = 1.283) sometimes felt frequent tiredness, and observed that most participants agreed they rarely suffered from pains in the body. Thus, result confirmed the determined central value, the arithmetic average 1.782.

Also noted from the respondents was that majority conceded that they rarely suffered from pains in their body. This was seen true by the mean calculated of 1.7826. Normal deviation that is how far spread the numbers dispersed the mean, measured 1.02284 proved consistency replies originating from participants. In addition, observation, agreed with the findings of the of the grading revealed numerous participants understated they had frequent headaches. This confirmed the result of the mean value 1.9627.

The normal deviation computed 1.234 proved consistency with replies originating from participants. In addition, observations coming out of the findings revealed numerous participants indicated they had frequent headaches. This confirmed the result of the mean value 1.9627. Dispersion spread of the members from the mean 1.23, that is, normal deviation measured and this shared negligible deviation out of the central point. Besides it was observed from the result majority of the study participants rarely (M=1.5127 SD=1.8771) developed ulcers.

Confirmation out of the results was, most participants expressed they rarely experienced heart burns. In addition, the outcome from majority participants indicated they did not have high blood pressure. This was understood from the average, arithmetic mean indicating 1.1118 with normal deviation 0.460881 that demonstrated there was consistency with replies coming out of participants. The study also established that they did not suffer from constipation. This was seen true from arithmetic mean 1.2919 normal deviation, that is dispersion of numbers from

the mean centre value 0.773858 which proved minimal variance out of the arithmetic mean value.

Psychological Experience

The respondents were asked to rate their perception on various statement on psychological experience. From the descriptive statistics it was established that majority of the study participant indicated (M= 1.6076 SD = .9698) they rarely had worries that fire may occur in the school.

Also recorded from respondents reports most of them agreed they rarely had difficulty in concentrating. It was established verifiable at observed arithmetic average 1.6522. Normal deviation assessment 1.1416 proved there was consistency of replies originating from the participants. Moreover, the findings showed most participants indicated they did not have sleeping disorders. The athematic average expressed 1.4472 agreed to the outcome.

Normal deviation measure 0.84336 indicated minimal deviation outside the arithmentic average central point. Furthermore, emerging from the outcome of the study findings most participants conceded they were rarely anxious as established by the mean 1.8963 and normal deviation 1.0746 respectively.

It emerged out of the results most participants did not avoid talking about fire when they were asked to comment on it. The assertion confirmed the arithmetic average measure 1.2174. Meanwhile, normal variation .50862 showed there was consistency originating from participants responses. It was demonstrated accurate when the arithmetic average recorded 1.2919 and normal deviation calibrated 0.5882 showed there was uniformity in responses from participants.

Behavioral Experience

The respondents were asked to rate their perception on various statement on behavioural experience. Out of the results calculated most participants In the study indicated (M 1.86896; SD=1.12434) they rarely felt like giving up in life due to the loss of their belonging.

Moreover, as observed most respondent returned that they rarely completed their assignments. The arithmetic average measuring 2.2981 lead credence in the findings. Normal dispersion established 1.2592 demonstrated consistency in the answers given by participants. In addition, what was established in the findings most participants indicated their rare inability keeping time. The arithmetic average measure 1.8198 established confirmation.

Normal deviation 1.1005 showed minimal variances off arithmetic average point and established most participants conceded that they rarely (M=1.7563 SD=1.217) resorted to smoking. The assertion out of the results indicated most participants expressed they rarely lacked respect for others. This was seen from the arithmetic average calibrated 1.7925. The normal deviation 1.341 showed that there was consistency with replies originating out from

participants. Accuracy was discerned by mean expressed 1.7702. Normal deviation 0.26614 showed consistency of replies coming out from participants.

INFERENTIAL STATISTICS

Bi-variate linear correlation analysis the aligning variables was indicated by applying straight-line relationship investigation. The findings are displayed in Table 1.

Table 1: Bivariate Correlation

		Psychological Adjustment	Safety Awareness & Preparedness
Psychological Adjustment	Pearson Correlation	1	
	Sig. (2-tailed)		
Manifestation of Symptomatology	Pearson Correlation	.558	1
	Sig. (2-tailed)	.005	
	N	161	161

Table 1 shows that every independent variable displayed has an effective connection linking both at level of significance 0.01 consequently was incorporated in the investigation. Two variable relationship investigation utilities were presented thus: Manifestation of Symptomatology $\times_1$=0.558.

Manifestation of Symptomatology $X_1 = 0.558$

There exists a sound notable association linking safely awareness and preparedness with manifestation of symptomatology (relationship quantum 0.558). The research desired to establish the relationship between safety awareness, preparedness and psychological adjustment of the survivors of arson attacks in high schools in Nairobi County. The factors under investigation was: The regression model was: Manifestation of Symptomatology

$$Y = \alpha + \beta_1 X_1$$

Where: α = Constant; Y = Psychological Adjustment; X_1 = Manifestation of Symptomatology

The research tried to find analysis of variance employed to provide relevant regression model. The findings are presented in Table 2.

Table 2: Model Validity

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	1.576	1	1.576	38.801	.000[b]
1	Residual	6.519	159	.041		
	Total	8.095	160			

a. Dependent Variable: Psychological Adjustment
b. Predictors: (Constant), Manifestation of Symptomatology

The study endeavoured to assess relevant model if the model was considered logical or not at all. The F statistics was used to determine the model validity. The study found out that the model was valid $F_{(3, 160)}$ = 38.801, P<0.001. Therefore, this implies that Manifestation of Symptomatology is good in explaining variation in psychological adjustment of the survivors of arson attacks in Kenya. Similar to the study findings, Wade et al, (2007) opined that survivors of traumatic events including arson attacks will be concerned with control of physiological, psychological and behavioural consequences of the traumatic events. This is because the effects are debilitating, may go away or linger for a long time. In addition, they impair mental health well-being and render the individual survivor dysfunctional, such that, the individual cannot cope with the challenges in the environmental context. Studies conducted in high schools in England established that the survivors, among them, students and teachers experienced psychological disorders. They also experienced psychological disorders; thus underscoring the need for management for these experiences in order to return to normalcy.

The study sought to determine the model's goodness of fit statistics. The finidngs are presented in Table 3.

Table 3: Model's Goodness of Fit Statistics

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.794[a]	.630	.614	.202

The coefficient of determination as measured by the R-square (R^2) (63.0%) shows that all the three predictor variables explain 63.0% of the total variation. This implies that the stochastic disturbance error term (ε) covers 37.0%.

The investigation endeavoured to establish the model virtuousness efficaciousness of how well it fits a set of observations the outcomes one shown in Table 4.

Table 4: Multiple Regression Variable Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.772	.702		3.951	.000
Manifestation of Symptomatology (X_1)	.062	.027	.134	2.305	.023

a. Dependent Variable: Psychological Adjustment (Y)

X_1 was found to be statistically significant and positively related to Y (β_2 =0.062, P=.023).

SUMMARY OF FINDINGS

The objective of the study was to determine the relationship between safety awareness Preparedness and manifestation of symptomatology of the survivors of arson attacks in high schools in Nairobi County. From the correlation analysis, there was a positive but weak correlation between the two variables (r= .136). In line with study findings, Jensen (2010)

opined that when a disaster occurs, there may be deaths but survivors will experience manifestation of symptomatology. While agreeing with the philosopher, the author of emergency theory noted that, how well one is prepared for possible arson attack, will have a bearing on the recovery of survivors. It is also a strategy for resilience and subsequently, psychological adjustment. (De Wolf, (2004) conducted a study in America (USA) on mental health response to mass violence and terrorism while, Guterman (2005) conducted studies in Canada on psychological preparedness for disaster, independent of Dewolf (2004). Each established that survivors of traumatic events will manifest psychological trauma. They will also require psychological adjustment in order to regain normalcy as explained, inter alia. Safety awareness and preparedness measures in high schools can offer, not only an assurance on safety or security, but also provide some kind of buffer between students, staff and the trauma caused by arson attacks (Kipngeno and Kyalo 2009).

CONCLUSIONS

The results of the study revealed that indeed arson attacks in high schools are traumatic events and cause mental health illness. These views affirm what some of the previous researchers (Seaton, 2009, De Wolf 2004 and Vaux 1988) have established. The findings also corroborate the views of other researchers among them (Sipal et al,2015) and (APA, 2018) that social support from social networks enhances individual healing as it builds resilience which leads to psychological adjustment and finally leads to healing (Seaton, 2009).

RECOMMENDATIONS

Principals, teachers, school counsellors and peer counsellors must be on the lookout for students who exhibit symptoms and signs as a result of trauma with the view to addressing them and managing them.at this point. Schools might consider what facilities are available, such as, recreation halls, sports and fields and other extracurricular activities to promote healing. Strict discipline should be observed.

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