

**Coping with Post-Traumatic Stress Disorder Among Victims of Fire Disasters in  
Kampala Capital City Authority, Uganda**

**Sharon Besige**

**16/U/13344/GMCP/PE**

**A Dissertation Submitted to the Directorate of Research and Graduate Training in  
Partial Fulfilment of the Requirements for the Award of the Degree of Master of  
Counselling Psychology of Kyambogo University**

**November, 2022**

### **Declaration**

I, Sharon Besige declare that this research dissertation titled “Coping with PTSD among victims of fire disasters in Kampala Capital City Authority” is my original work which has never been submitted to any institution for any award. I am now submitting it to the Graduate School of Kyambogo University with the approval of my supervisors.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Sharon Besige**

16/U/13344/GMCP/PE

(Student)

### Approval

This dissertation titled “Coping with PTSD among victims of fire disasters in Kampala Capital City Authority” by Sharon Besige has been done under our supervision and has been submitted for examination with our consent.

Signature..... Date.....

**Dr Ali Baguwemu**

Supervisor

Signature..... Date.....

**Dr Henry Kibedi**

Supervisor

## **Dedication**

I thank my heavenly father for the gift of life. This dissertation is dedicated to my father for the financial support and my dear husband for the psychological, social, and financial support. He has stood by me, cheered me on, and lightened me up when weighed down. May the Almighty Lord bless you abundantly.

## **Acknowledgement**

Special thanks go to the almighty God for the protection, provision and for the wisdom, knowledge and the strength he gave me when I needed it most.

I wish to deeply convey my special and sincere gratitude to Dr. Ali Baguwemu, Dr. Henry Kibedi, and Professor. James Kagaari my supervisors who have tirelessly and patiently guided me in research work by critically reading through every bit of the dissertation giving constructive pieces of advice and recommended it for submission.

I also thank all my respondents for the information they provided me which was very useful in compiling this report. I am also indebted to convey my heartfelt thanks to my constructive friends, Jane, Yusta, and my beloved husband Andrew for their contribution, advice as well as support through the encouragement during the discussions, which has tremendously contributed to the completion of this course.

May the almighty God bless you all.

## Table of contents

Declaration .....	i
Approval .....	ii
Dedication .....	iii
Acknowledgement .....	iv
Abbreviations and Acronyms .....	ix
List of Tables .....	x
List of Figures .....	xi
Abstract .....	xii
Chapter One: Introduction .....	1
Introduction .....	1
Background .....	1
The Problem .....	6
Purpose .....	8
Objectives .....	8
Research hypotheses .....	8
Scope .....	8
Significance of the study .....	9
Chapter Summary .....	12
Chapter Two: Literature Review .....	13
Introduction .....	13

Theoretical basis of the study.....	13
Post-Traumatic Stress Disorder Among Victims of Fire Disasters.....	15
Coping Among Victims of Fire Disasters .....	18
Coping and post-traumatic stress disorder among victims of fire disasters.....	20
Summary and gaps .....	22
Chapter Three: Research Methodology .....	23
Introduction .....	23
Research design.....	23
Population.....	23
Sample and sample selection .....	24
Data collection Techniques .....	25
Instruments .....	25
Post-traumatic Stress Disorder .....	25
Coping strategies scale .....	26
Validity and Reliability of the Instrument.....	26
Validity.....	26
Reliability.....	27
Data Collection Procedure .....	28
Data Management .....	29
Data Analysis .....	29
Linearity .....	30

Ethical Considerations.....	31
Chapter Four .....	32
Data Presentation, Analysis, and Interpretation of the Findings .....	32
Introduction .....	32
Findings on Demographic Characteristics of Respondents.....	32
Gender of respondents.....	34
Age of respondents.....	34
Marital Status of respondents .....	34
Education level of respondents .....	34
Objective One: Level of PTSD among victims of fire disasters in KCCA.....	35
Objective three: Relationship between Coping and PTSD among victims of fire disasters in KCCA.....	41
Chapter Five.....	44
Discussion, Conclusions and Recommendations.....	44
Introduction .....	44
Discussion .....	44
Objective One: Level of PTSD among victims of fire disasters in KCCA.....	44
Objective Two: Coping Strategies of Victims of Fire Disasters in KCCA.....	46
Objective three: Relationship between Coping and PTSD among victims of fire disasters in KCCA.....	47
Objective Four: Coping strategies mainly used by victims of fire disasters in KCCA.....	47
Study Limitations .....	48



Conclusion.....	48
Recommendations for Action.....	49
Contribution of the study.....	50
Recommendations for further research .....	52
References.....	53
Appendices.....	58
Appendix I: Questionnaire for Participants.....	58
Appendix III: Krejcie and Morgan (1970) sampling table.....	63

## **Abbreviations and Acronyms**

DPFPRS: Directorate of Police Fire Prevention and Rescue Services

KCCA: Kampala Capital City Authority

MoRDPF: Ministry of Relief Disaster Preparedness and Refuge

PTSD: Post-Traumatic Stress Disorder

UPF: Uganda Police Force

## List of Tables

Table 1: Content Validity Index (CVI) of instruments .....	27
Table 2: Reliability Coefficients (Cronbach's alphas).....	28
Table 3: Demographic Characteristics of Respondents (n=160) .....	33
Table 4: Mean response, SD and ratings on PTSD.....	36
Table 5: Mean response, SD and ratings on Adaptive coping.....	38
Table 6: Mean response, SD and ratings on Mal-Adaptive coping .....	40
Table 7: Correlation between Coping and PTSD among victims of fire disasters in KCCA ..	42
Table 8: Results of Regression analysis of predictors on PTSD .....	43

## List of Figures

Figure 1: Conceptual Framework .....	11
Figure 2: Model of effective fire disaster man conceptual framework agement in Uganda....	51

## Abstract

The study examined the relationship between Coping and the occurrence of PTSD among victims of fire disasters in Kampala Capital City Authority, to provide a basis for psychological programs to address the needs of victims. Using a correlational design, data was collected by the help of structured questionnaires from a purposive sample of 160 respondents from Kiseka, Owino markets and Crest foam mattresses, who had been victims of fire disasters in KCCA. Data was analysed using descriptive statistics, Pearson correlation test and regression analysis. Significant findings included; a substantial occurrence of PTSD symptoms was found among victims of Fire disasters. The victims reported high levels of anxiety, restless and fear on reliving the traumatic fire disaster experience. Adaptive coping had a negative and non-significant influence on PTSD ( $\beta = -17, p > 0.05$ ), Maladaptive coping had a significant influence on PTSD ( $\beta = .51, p < 0.05$ ) and coping explained 9% ( $r^2 = 0.09$ ) of the variation in PTSD. Thus, maladaptive coping in form of denial, withdrawal and emotional numbing was used mostly, which negatively affected the wellbeing of victims. Therefore, the government needs to develop a comprehensive model for timely management of Traumatic stress from disasters and a fully-fledged professional fire disaster trauma counselling department in all disaster management public institutions. The police firefighting department needs to have trained police officers in trauma counselling to provide immediate professional counselling to fire disaster victims, since they are usually the first contact and responders in cases of fires. Further research is recommended in public institutions to further bridge the knowledge gap on negative psychological effects of fire disasters.

## **Chapter One: Introduction**

### ***Introduction***

This study analysed the relationship between Coping and posttraumatic stress disorder (PTSD) amongst victims of fire disasters in Kampala Capital City Authority (KCCA). A number of Ugandans, especially from KCCA have been victims of fire disasters, many sustaining physical and psychological injuries (Kusiima, 2019). To many victims, the consequences of these fire disasters have been severe, sometimes resulting into disability. Subsequently, victims of fire disasters have acquired significant pain that may interfere with their daily functioning. The nature of reactions to a fire disaster have been linked to the wellbeing of victims (Hesam et al, 2020). As it is the case in any life –threatening disaster victims of fire disasters in Uganda are supposed to benefit from disasters support resources that address their wellbeing. This introductory chapter introduces the context of the research. It gives a background and rationale to place the significance of the study and the problem statement within its proper context. The chapter also presents the study objectives and research questions of the study objectives.

### ***Background***

This section explains the historical, conceptual, theoretical and contextual background of the study. It gives a detailed account of the role of coping in minimising the onset and negative effects of Post-Traumatic Stress Disorder (PTSD) that may result from the traumatic experience such as fire disasters.

### ***Historical Perspective***

Natural and human-caused disasters have been part of human history since bible times. The first recorded traumatic disaster is the flood of Noah found in the book of Genesis

(genesis, chapter 6-9). Since then, human history has been marred with many disasters. However, from the 1970s, human-caused disasters such as fires, transportation accidents, terrorism have hit a record high, and fire disasters still top this list (Barillo & Wolf, 2018). The London Fire Safety Journal (2007), states that in this 21<sup>st</sup> century, massive fires that result from; smoking, alcohol abuse, disability, and social deprivation, have increased globally and are affecting the wellbeing of many people. The problem of fire disasters is more pronounced in cities around the world (Tang, 2018).

The mental health consequences of disasters can be traced from the times of Herodotus (Ancient Greece) and later in Shakespearean works (Maes et al, 2018). But, the United Nations International Strategy for Disaster Reduction (2008) says that it is not until recently that countries and psychosocial professionals have realised the negative effects of disaster traumatic experiences in people's lives. There is now increasing evidence that psychological problems and dysfunctional behaviour are prevalent among people who experience traumatic events such as fire disasters. The National Centre for Post-Traumatic Stress Disorder (2018) has confirmed that the loss, physical damages and changes in lives from fire disasters may exceed the ability of the affected group to cope using its resources exclusively, hence needing professional support. Many countries in the world today have well established fire response and support programs for victims of fire disasters and first -responders, to enable them cope with the physical and emotional pain that may result from this traumatic experience (Jia, et al, 2018).

### ***Theoretical Perspective***

The study was guided by the coping theory of Lazarus and Folkman (1984). This is transactional theory based on problem and emotion-focused coping classification of stressful events (Carver et al, 1989). In this theory, Coping is perceived as constantly changing

cognitive and behavioral efforts to manage specific external and internal demands that are appraised as challenging or exceeding the resources of the person (Lazarus & Folkman (1984). In order to cope, a person must perform two major activities of 1) appraising a stress event whether it's a threat or not ('am I in trouble?') and 2) evaluating the resources available to help one cope with the event ('what can I do about it?') [ Garcia, 2010].

This theory was relevant in explaining coping in situations where stressful events are conceptually clear and comprehensive, such as in fire disasters (Chowdhury,2020). The theory was applicable to this study because fire disaster experiences are clear and exclusive stress causing events that could result into PTSD, a comprehensive psychological consequence.

### *Conceptual Perspective*

The key concepts of this study were; Fire disasters, Coping and PTSD (Post Traumatic Stress Disorder). A fire disaster is a natural or human made occurrence that involves uncontrollable fires that disrupt the normal condition of existence and causes suffering that exceeds the capacity of adjustment of the affected community (Valentiner, et al, 2019). Fire disasters usually impose short and long-term impacts on ecological, economic, developmental, social, physical and psychological dimensions of life, resulting into serious trauma to the victims (Udomratn ,2018).

PTSD is one of the commonest mental health consequences of fire disasters. The American Psychiatric Association (APA) [2013], defines PTSD (Post Traumatic Stress Disorder) as a psychological reaction to a traumatic event with symptoms of intrusion, avoidance and hyper arousal. These symptoms often range from minor, mild to eventually severe among fire disaster victims. The symptoms may be persistent enough to have a



significant impact on a person's wellbeing (Keane & Barlow,2019). PTSD is a major concern among victims of fire disasters, due the likelihood of leading to immense emotional and physical suffering (Hesam et al, 2020). PTSD exists when reliving a traumatic event affects a persons' general activity, normal work, relations with other people and enjoyment of life in a specific period of time (Pineles, et al, 2018). Hence PTSD is mental and physical health consequence that may interfere with a persons' general activity and functioning after recalling a traumatic fire disaster experience (Keane & Wolf, 2019).

Coping is the conscious and unconscious efforts we put in to solve problems and reduce discomfort (Chowdhury,2020). It is the mind's built-in troubleshooting mechanism that aims to restore its optimum functioning state (Garcia, 2010). In relation to fire disasters, coping is a way an individual manages the stressful experience of the disaster and the emotions it generates (Lazarus & Folkman, 1984). Coping is exhibited through coping strategies. Coping strategies is adaptive behaviour that we proactively apply to avoid stress. Coping tools can be our thoughts, emotions, and actions and are dependent on our personality patterns (Carver et al, 1989). According to Valentiner et al (2019), adaptive mechanisms that are commonly used in case of fire disasters include use of religious, family and social support, exerting self-distraction and helping others. Studies (Garcia, 2010, National Centre for Post-Traumatic Stress Disorder, 2018, Hesam et al, 2020), reveal higher burden of PTSD after a fire disaster among persons with inadequate coping strategies. In this study, coping was perceived in relation to reaction to experiences of a fire disaster as; efforts by a victim to reduce stress that arose from problems that were created by a fire disaster, with the aim of maintaining normal functioning.

This scenario created a need for the study to examine the extent of coping among fire disaster victims in KCCA and its relationship with PTSD.

### *Contextual Perspective*

Fire incidents in Uganda are a public concern because of the injuries and deaths involved as well as the enormous quantities of property that get destroyed. Fire disasters are on the increase in Uganda and a significant proportion are occurring in valuable institutions such as markets, factories and schools, thus affecting lives of many people (Nabunya, 2018). The Uganda Police force (UPF), a central government department that provides first response in case of a fire, reports that, a total of 1,435 fires were handled in 2018 and 1,230 in 2019 (UPF, 2019). Reports further indicate that most (60%) fire outbreaks occur within KCCA, a metropolitan area, compared to other regions within Uganda (UPF, 2022). The UPF (2019) further reported that most of the fires were registered in the KCCA divisions, with Makindye leading by 111 cases; Wakiso (93), Kampala Central (82), Rubaga and Kawempe with 43 incidences each and Nakawa ,39. The Kampala metropolitan areas, reported less fires with Mpigi reporting 26 incidences, Mukono 20 and Entebbe 18. In KCCA, Massive fires have gutted markets such as Kisekka and Owino market where most low-income earners are employed. Fires have also devastated Important historical sites such as Kasubi tombs, factories like Crest foam mattress factory in Ntinda, business entities like Salabed forwarders and schools with large student populations such as Kisubi, Namirembe Hill side secondary school, Buddo primary, Nalya secondary etc (UPF, 2017).

The fires that have happened in Kampala have caused financial loss, bereavement, regret, fear, uncertainty in the victims (Nabunya, 2018). This state of affairs could have resulted into serious financial costs and life changing situations, due to large people populations and existence of private businesses in the city (Draku, 2018). As it is for all victims of disasters across the world, victims of Fire disasters in Uganda are supposed to benefit from professional counselling and comfort to address pain and psychopathology that

may develop (UPF, 2018). However, The Ministry of Relief Disaster Preparedness and Refuge (MoRDPF) does not have any contingency plan to assist to provide professional and counselling services to victims of Fire disasters (UPF, 2018). Draku (2018) noted that while the fire disasters that have occurred in KCCA have been a threat to the victims' wellbeing, the existence of multi-professionals from public and private institutions to address the mental health challenges of these victims in Uganda is also not fully established.

Ayarkwa et al (2018) also observe that there is no evidence of disaster trauma mental health psychologists in the government ministries responsible for disasters. This implies that Ugandans who have experienced fire disasters may not receive adequate psychological interventions to enhance their resilience. Most of these fires have raged to their full potential uninterrupted, pointing to gaps in readiness and capacity to prevent or manage them. This has also deterred initiatives to create a sustainable business environment, hence affecting the quality of life of victims (Kusiima, 2019). Despite studies (Ayarkwa et al, 2018; Dardas & Ahmad, 2019) addressing the issues of Coping Strategies and Posttraumatic Stress Disorder amongst Victims of Fire Disasters in other parts of the world, empirical information on these issues from a Ugandan perspective were very scanty. In addition, fires have continued to occur in KCCA area and there is strong evidence that they were a threat to the wellbeing of citizens.

### ***The Problem***

Victims of fire disasters usually have severe PTSD symptoms that are persistent enough to have a significant impact on their wellbeing (Hesam et al, 2020). Experts concur that persons who have faced a traumatic event, heavily rely on an effective and efficient response to be able to recover (Valentiner, et al, 2019). It has been affirmed that effective disaster Responses for victims of fires can enable victims adapt and use personalised strategies

reduce stress so as to achieve and maintain ideal wellbeing (Dardas & Ahmad, 2019). Recognising the importance of effectively coping with fire disasters, the government of Uganda, put mechanisms within the ministry of disaster preparedness, and the police fire department to provide support to victims of fire disasters so that they are able to adaptively face this life changing experience (DRDPR, 2010; Ministry of Relief, Disaster Preparedness and Refugees, 2015).

Despite the above measures, the number of victims who have failed to get through the tough time and have overtime time fallen into psychopathology is on the increase. A large proportion of fire disaster victims in the Kampala area, who lost their property, health and businesses are still struggling to live normal lives ,some 10 years after the incidents ( Nabunya, 2018). Some of the victims have been said to be unwilling to make any social connections and are indifferent to efforts to help them control their distress (Kusiima, 2019).

If the problem of inability to adjust to normal lives after the fire disaster, is not effectively addressed, there would be a decline in the quality of lives of a significant labour force in the private sector, who make the majority of victims of fires that have occurred in KCCA. Few studies have been done in Uganda to examine the association between coping and PTSD (Draku, 2018). Lack of empirical evidence on coping and how it may contribute to PTSD in among victims of fire disasters made it difficult to make decisions that effectively address the problem hence increased risk of increased physical, social, family, psychological and occupational functioning among victims. Also, the subject of coping and its effects among fire disaster victims in Uganda was unexplored, despite increased incidence of fire disasters (Nabunya, 2018; Kusiima, 2019). It's upon this background that the researcher gained interest to examine the relationship between coping strategies and post-traumatic stress disorder symptoms amongst victims of fire disasters in KCCA.

### ***Purpose***

The study examined the relationship between coping skills and the occurrence of post-traumatic stress disorder among fire disaster victims in KCCA.

### ***Objectives***

The study was guided by the following objectives.

1. To assess the level of PTSD among victims of fire disasters in KCCA
2. To assess the coping strategies of victims of fire disasters in KCCA
3. To examine the relationship between coping strategies and PTSD among victims of fire disasters in KCCA
4. To assess whether victims of fire disasters in KCCA use adaptive or maladaptive coping strategies.

### ***Research hypotheses***

The study tested four hypotheses;

1. Victims of fire disasters in KCCA may not develop PTSD.
2. Victims of fire disaster in KCCA do not have effective coping strategies.
3. Coping strategies for fire disasters victims in KCCA are not significantly related to post-traumatic stress disorder.

### ***Scope***

#### ***Geographical Scope***

The study was carried in Kampala Capital city authority, in the central and Nakawa divisions. This geographical scope was selected because while it had many incidents of fire

disasters, there was lack of empirical evidence on how victims were coping and the extent to which they had developed psychopathology. Victims of fire disasters who were working in Markets and factories that had fire disasters were the unit of analysis. Thus the study targeted managers and employees of the enterprises which had been affected by the fires.

### *Content Scope*

The content scope of the study was on coping strategies as the independent variable and symptoms of post-traumatic stress disorder as the dependent variable. Coping strategies were studied as adaptive or Maladaptive Coping. Adaptive coping involved using the available Support system, seeking relaxation and Physical wellness. Maladaptive Coping on the other hand included, one using escape and avoidance, Unhealthy comfort zone and Emotional numbing as coping strategies. The dependent variable of symptoms of PTSD was studied in terms of Sleep problems, Irritability, Concentration problems and Self-destructive tendencies on reliving the fire incident.

### *Time scope*

The study covered fire incidents that had occurred in clearly addressed and located places in Nakawa and Kampala central divisions of KCCA, from 2010 to 2019. This helped to examine issues about coping strategies and symptoms of post-traumatic stress disorder as they were happening during the time.

### *Significance of the study*

The study may help various stakeholders make and solidify policies and intervention strategies aimed at addressing effective coping and the mental wellbeing of fire disasters victims.

The findings will be useful to professionals in the ministry of disaster preparedness in improving coping resources and the management of psychological problems among fire disaster victims, thus reducing predisposition and onset of psychopathology resulting from disasters. The government ministry in charge of disaster preparedness will use the findings to improve her programs for the management of mental health problems of fire disaster victims.

Universities which train counsellors will use findings to set specialty training courses in fire disaster coping and management. They may also be able to organise counselling training for paramedics, police officers, fire rescue teams, in Disaster Psychological First Aid, so that counselling services from first responders are readily available to aid the victims from shock come to their mental homeostasis.

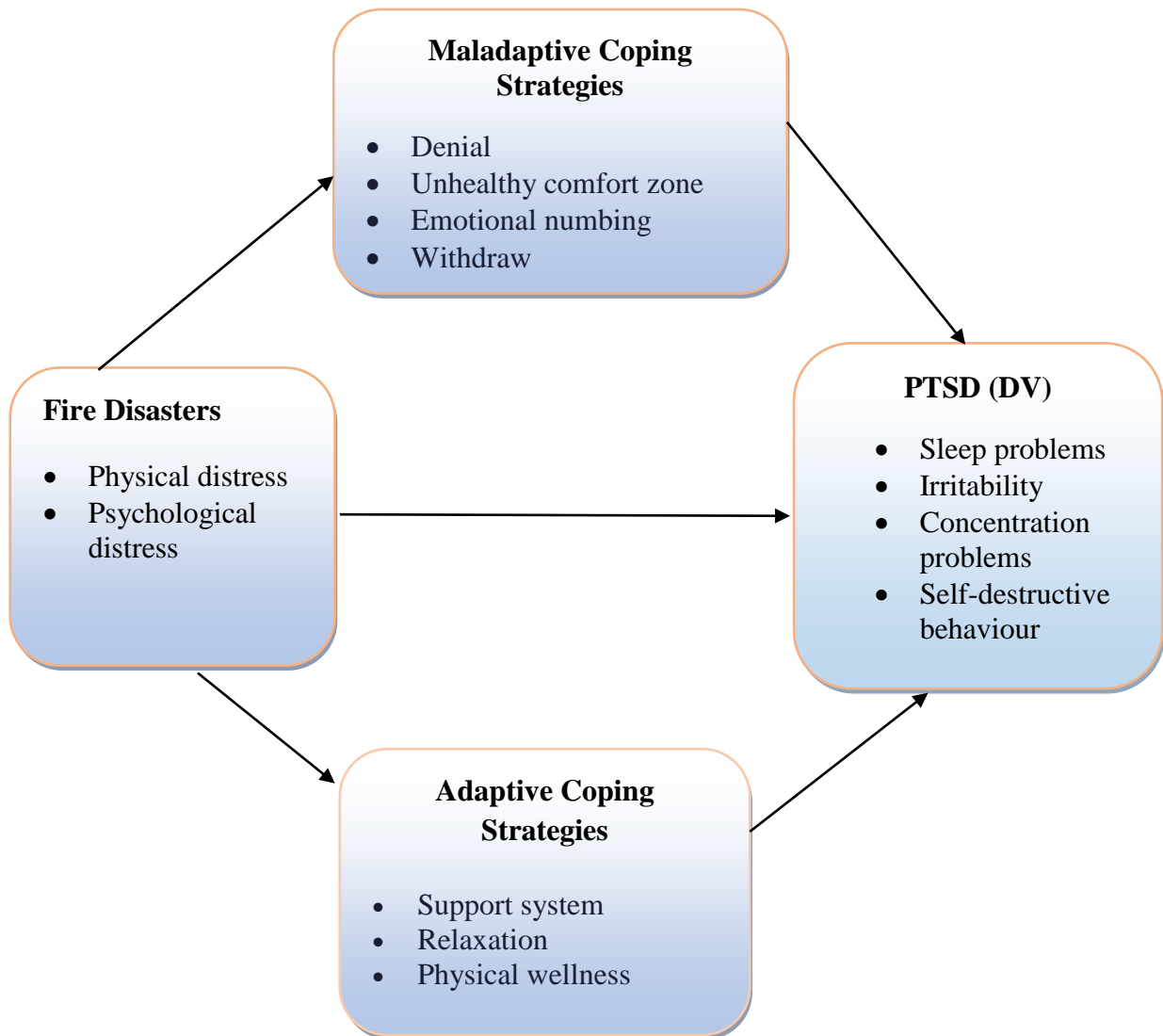
The findings will broaden Media discussions on effective media coverage of Trauma-informed legal advocacy and the Mental health aspects of emergencies and Disasters, issues that are given less attention after a disaster. This research will also be a basis for more research in a similar field, which will expand on the education archives or information bank of the universities offering counsellor training and the country at large.

### ***Conceptual framework***

Figure 1.1 below gives a graphical conceptual representation of the variables of the study and how they relate to one another. It highlights the relationship between the variables the study.

**Figure 1: Conceptual Framework**

*The relationship between, Coping strategies and PTSD among victims of Fire disasters*



The conceptual framework above illustrates the relationship between Coping strategies and PTSD among Survivors of Fire disasters. Victims of fire disasters may experience physical distress such as injury and loss and or psychological distress such as fear, anxiety and grief. In such situations, coping mechanism are initiated to enable the person endure or overcome the distress. Coping is said to be effective when it is adaptive. Adaptive



coping should enable the victim to solve any apparent problem caused by the disaster so as to reduce stress and restore normal life functioning. Seeking for support, Relaxation and Physical wellness are good adaptive coping strategies. On the other hand, coping can also be ineffective. Ineffective coping is maladaptive when it involves Avoidance, Unhealthy comfort zone and Emotional numbing. Maladaptive coping strategies can lead to PTSD.

The study had PTSD symptoms as the Dependent Variable (DV) linking with Coping strategies as the independent variable (IV). In the framework above, Post-traumatic stress disorder was perceived as psychological pain from a life-threatening fire disaster, lasting for 6 months and leading to immense suffering due to re-living traumatic events through nightmares and flashbacks that lead to sleep and concentration problems, irritability and Self-destructive behaviour. This state of affairs can adversely affect the health, behaviour, family or community of fire disaster victims if the individual does not apply effective coping strategies.

### *Chapter Summary*

This chapter has discussed the background and rationale for the study, provided the statement of the research problem, as well as the general and specific research objectives. The chapter has also presented the research questions that guided the researcher and the justification for undertaking the research.

## **Chapter Two: Literature Review**

### ***Introduction***

This chapter reviewed related literature on Coping theory, Coping Strategies and their effect on the development of Post-Traumatic Stress Disorder symptoms amongst Victims of Fire Disasters. It shows how this research relates to the existing body of knowledge and identifies the gaps existing in the current body of knowledge. The sources included, research journals, books, research reports and organisational publications. The theory that guided the study is reviewed first followed by the empirical review and finally by the summary of literature and gaps.

### ***Theoretical basis of the study***

Theories describe and forecast, situations and, in a number of occasions, challenge and provide crucial presumptions and limits in the current knowledge (Zabala, 2020). This study was based on Lazarus and Folkman (1984) theory of coping with stressors. The key tenets of this theory and how they relate to the study are explained next.

According to Lazarus and Folkman (1984), for a person to be coping, he /she should constantly appraise and change his cognitive and behavioural efforts to manage a distressing situation that is perceived as exceeding the resources of the person. Therefore, effective coping among persons who have experienced painful fire disaster experiences, involves applying relevant cognitive and behavioural coping strategies to counter the negative consequences of the event (Malik, 2019).

This theory assumes that every person has the necessary mental energy and will use it to reduce stress. It is also assumed that the ultimate goal of all coping mechanisms is to solve

a problem and return normality. Lazarus and Folkman (1984), also assumed that coping can be positive or negative, depending on whether it increases or reduce mental wellbeing. Coping is an individualized attribute such that no two people use the same strategies.

Therefore, based on the above assumptions Coping may be successful or not. Successful coping involves the individual applying relevant coping skills. Ehrenreich (2019), explains that to cope effectively, the individual is supposed to have Self-Control, the ability to control emotions in response to stress. The CDC (2018) explains that the person should also be Confrontation, having ability to face the pressure and retaliate to change the situation and bring it back to our favor. Cofini et al (2018) also say that having Social support, where one can talk to others and look for social connections to help him survive a difficult time is important in coping effectively. Chowdhury (2020) affirms that Positive re-appraisal of the situation, where a person seeks to find the answer in the struggle and grow from it, as well as Strategic problem-solving, implementing specific solution-focused strategies to get through the tough time and redirect actions accordingly can help a person cope effectively.

Coping strategies can either be problem or emotion-focused. This implies that fire disaster victims can choose between applying problem-solving or emotion-focused coping. Problem-focused coping is the management or elimination of the problem that is causing the distress (Chowdhury, 2020). Problem-focused coping is notable for the elimination of a stressor through problem solving and/or direct physical action (Garcia, 2010). The effectiveness of problem-solving coping is based on the ability of the person to accurately identify problem causing events and make changes in the person's environment and relationships to avoid the events (Cofini et al, 2018). In shifting processes in the relationship between a person and the environment, an individual re-appraise the event with a different

evaluation of the importance of the event and a different view about what can be done. This re-appraisal in turn influences coping efforts.

Emotion-focused coping on the other hand involves control of emotions or distress (Theron, 2019). Emotion-focused coping is characterised by the re-interpretation of the stressor and/or attempting to consciously block the perception of the stressor (Valentiner, et al, 2019). Folkman and Lazarus (1984) argue that in most stressful situations, both forms of coping are used; and the rate of using each type varies depending on how the encounter is appraised. Therefore, effective coping represents managing situations in a way such as to mitigate stress when it occurs. Coping among fire disaster victims buffers the impact of stress that results from the event, by affecting a person's correct assessment of available coping resources, and using special coping efforts that lessen the intensity of stress. The individual changes the meaning of the stressor, thus lessening the impact of the stress on the emotional, physical or psychological well-being of the individual.

While Folkman and Lazarus (1984) theory of coping can be useful in assessing the ability to effectively cope with a fire disaster among victims, it is a general theory. There was need to ascertain specific aspects of the theory that apply to fire disaster victims in Uganda and KCCA in particular. There was need to examine how and the aspects of the theory are relevant in explaining predisposition and occurrence of PTSD symptoms among victims in KCCA.

### ***Post-Traumatic Stress Disorder Among Victims of Fire Disasters***

Traumatic experiences of fire disasters are increasingly being related to psychological health problems. Attention on the effects of traumatic experiences, on a person's wellbeing can be traced from Sigmund Freud, where he described a trauma as an overwhelming flood of stimuli to the mind that cannot be processed normally, resulting in distress during and after

exposure to a life threatening event (Barillo & Wolf, 2016). Since then, trauma has been understood as experiences that cause a person to perceive the experience as a life-threatening or overpowering, which would be classified outside the range of normal human experience (Olf, et al, 2018). The DSM-V (2013) describes trauma as stress resulting from involvement in, witnessing, or learning about actual or threatened death, injury, or threat to physical integrity of a family member or close associate. The stress also is also characterised by a response of intense fear, horror or helplessness (Pineles et al, 2018).

Post-traumatic stress disorder (PTSD) is the deadliest psychological reaction occurring after experiencing a trauma-related stressing event and remains the most enduring symptom of traumatic fire disasters (Ayarkw et al , 2018). According to DSM-V (2013), PTSD that develops among fire disasters victims is usually characterized by anxiety, Sleep and Concentration problems, Irritability and Self-destructive behaviour, due to recurrent nightmares and avoidance of reminders of the event. These symptoms can seriously interfere with normal life functioning.

Studies (CDC, 2012 ;Broberg et al , 2015) are continuing to show that PTSD related complications such as upsetting thoughts, nightmares, flashbacks or having very strong mental and physical reactions are common in persons who have experienced fire disasters. In a correctional study done by Centers for Disease Control and Prevention (CDC) [2012] among students who had been victims of a school fire, it was discovered that respondents still reported high levels of on and off grief for at least 6 months and anger as well as self-blame. Malik (2010) also affirms that Some victims of disaster look at what their lives were like prior to a traumatic event and make comparisons and others are concerned about their own and their family's safety which heightens the effects of trauma on their lives.

A study by Pineles et al (2018), discovered that respondents who had experienced a life-threatening fire incident were also more likely to report avoiding activities, thoughts, feelings or conversations that reminded them of the event. The study further confirmed that significant feelings of threatened death and injury after the traumatic event resulted into victims not being unable to remember details of the event, loss of interest in important activities, feeling all alone, being unable to have normal emotions or feeling that there is nothing to look forward to in the future. Another study by La Paz (2018) also confirmed that people who were involved in a life-threatening fire disaster experience were always on guard all the time to protect oneself, had trouble sleeping and were overreacting when startled, which lowered the quality of their lives. Physical symptoms such as headaches, gastrointestinal distress, immune system problems, dizziness, chest pain, or discomfort in other parts of the body were also reported among victims of fire disasters who were suspected to have developed PTSD( Neria ,et al, 2018).

However, Tang (2018) reports that the development of PTSD, and its effects on the quality of life of victims of fire disasters after a fire disaster, is in most cases unclear because of relatively short follow-ups which do not allow for the examination of long-term outcomes and delayed-onset. In spite of evidence that PTSD is highly related to post-disaster adjustment (Tang, 2018) in the western world, it was unclear whether its relationship to coping would be the same in African settings. Further, little was known regarding the development of posttraumatic stress symptoms especially following fire disasters in Uganda. Therefore, it was imperative to know how coping among victims of fire disasters would affect risk factor estimates such as PTSD in Uganda. Although in most parts of the world, exposure to fire disasters may result into dysfunctional living, only a minority of incidents may be experienced as stressful or traumatic and reactions vary from high to low (Cofini et al, 2015). It had not been ascertained, in a Ugandan setting whether if a person has gone

through a fire disaster incidence will be traumatized to the extent of developing PTSD. Pineles (2018), notes that each individual is different and life experience, particularly support mechanisms do determine a person's response to such an event, making people act differently than they usually do. Therefore, there was need to examine these issues among victims of fire disasters in KCCA.

### ***Coping Among Victims of Fire Disasters***

Coping Strategies can be adaptive (effective) maladaptive (ineffective) with the outcome seemingly dependent on a number of personal and situational factors (Chowdhury, 2020). Freud was the first to identify escape, denial, and restraint (*Escape and avoidance*) as a maladaptive coping strategy (Cofini et al, 2018) . With this strategy, the person uses neurotic defenses and ignores the presence of a problem. However, Malik (2019) showed that this coping strategy is ineffective because it only gives temporary relief. Studies Cofini et al, 2018; Ehrenreich, 2019) have shown that it is a good idea to accept the existence of disturbing emotions and plan accordingly to manage them. Resorting to comforting habits referred to as Unhealthy comfort zone, is another maladaptive coping strategy that people who have experienced a traumatic experience normally use. Behaviors such as excessively eating a favorite food, watching television for hours at a stretch are typical examples of unhealthy coping (Broberg et al, 2015). The comfort that one seeks in such activities is a perceptual error and leads to nothing more than distress. Numbing is also a common, but maladaptive way of coping with traumatic experiences. Numbing is an extreme form of emotional distancing where we separate ourselves from interpersonal relationships and communication fearing to get hurt again (Chowdhury, 2020). Numbing has been discovered to be harmful to a person's wellbeing since, it reinforces risky behaviors such as substance abuse and causes social isolation (Pineles, 2018).

Ehrenreich (2019) showed that the process of coping is varied and multidimensional, based on the nature of the stressor. Coping can also be a function of personality traits or as a process specific to the stressors encountered (CDC, 2018). Cofini et al (2018) suggest that as it is not possible to prejudge coping strategies as being universally adaptive or maladaptive, the concern should be for whom and under what circumstances a particular coping strategy has adaptive consequences. The study of Coping among fire disaster victims has ranged from cross-sectional explorations of the relationship between coping strategies, PTSD and health to exploring the influence of coping strategies on long-term versus short-term stresses (Chowdhury,2020).

Research on the type of coping strategies relevant to fire disasters is rather mixed. Valentiner et al (2019) study found Emotion focused strategies being beneficial for short-term effects. Conversely, problem-focused strategies were found superior in deliberating long-term pain. Xu J (2018) shows that that for chronic pain, the optimum coping strategy was to avoid the stressor (emotion-focused) until it could be properly confronted (problem-focused). Alternatively, some researchers propose that when a situation is perceived as unalterable using problem-focused coping, then emotion-focused coping strategies are adopted (Theron, et al, 2019). Moreover, problem-focused coping has been found to result in increased stress (Frissa et al ,2019). Thus Problem-focused strategies have been recommending it is perceived that the problem is amendable to change. In contrast, emotion-focused strategies are more likely to work when it has been perceived that nothing can be done to modify a stressful situation that is perceived as harmful, threatening, or challenging. Given the conflicting opinions on what coping strategies may be relevant to fire disaster victims and how and when they are supposed to apply them, a study was need to clarify these issues among victims in KCCA.



### *Coping and post-traumatic stress disorder among victims of fire disasters*

Coping strategies can help a person effectively use cognitive and behavioural efforts to interpret and correct a stressful situation and reduce its resulting suffering. Therefore, coping can play an important role in a victims' post disaster adjustment (Frissa et al ,2019). Subsequently, studies are now giving more attention to the role of people's coping efforts in post disaster functioning and many have shown that people's coping efforts are positively associated with their PTSD symptoms (Pineles et al, 2018). Negative coping strategies (e.g., blame and anger) have been found to have unique contributions to initial PTSD symptoms (Barillo & Wolf, 2018).

Coping strategies can be adaptive or maladaptive. Maladaptive coping skills are ways of dealing with trauma that usually make things worse (Xu & He ,2018). The less adaptive coping mechanisms that have been found in victims of fire disasters include; expression of stress in somatic form, denial, avoidance, blaming, helplessness, dependency and substance use (Cofini et al, 2018). These coping strategies may cause temporary relief from trauma, but continue to nurture the negative effect the traumatic event has on the victim. It can hurt one's social relationships, make pre-existing problems worse, and even result in new symptoms of a stress-related injury. Maladaptive coping strategies put pressure on relationships with friends, family, comrades, and co-workers. They can damage your body or create more emotional pain in the long term, even when they seem helpful in the short term. In extreme cases, maladaptive coping skills can ruin lives through death or severe irreversible medical conditions like diabetes, schizophrenia, and post-traumatic stress disorders (Tang, 2018). Similarly, other community-based studies have found that individuals with more negative coping strategies for dealing with stress show higher levels of PTSD symptoms in response to natural disasters (Udomratn ,2018).

Theron et al, (2019) indicated that coping strategies impact mental health and well-being is complex. Coping strategies interact with different types of stressors in varying ways over the life course and have bidirectional and reciprocal reinforcing relationships with other socio-cultural variables. Others (Malik, 2019; Cofini et al, 2018) have found that coping flexibility may help explain the impact of emotion or problem-focused strategies on outcomes and suggest that coping flexibility or use of multiple strategies (i.e., problem and emotion-focused strategies) may lead to better outcomes. In the immediate aftermath of a traumatic event, many individuals experience physiological reactivity in response to reminders of the traumatic event that typically lessens overtime. However, an overreliance on avoidant coping strategies may interfere with the natural recovery process, particularly for those who are highly reactive to trauma reminders (WHO,2017). Thus mobility (i.e., simple abilities) seems a crucial variable for overall quality of life. An early identification and treatment of patients with high levels of depression and PTSD-related avoidance may contribute to individual wellbeing (Ehrenreich ,2019. However, the mediating role of avoidance coping in the relationships between trauma and PTSD aims at regulating distress and minimizing threat (Galea, et al, 2019). The moderating effect may include efforts to block distressing memories, rationalize one's distressing experiences, or denial by fantasy. Existing research clearly identifies negative long-term effects of utilizing avoidance coping strategies in response to negative life events such as fire (Xu & He, 2019). It can also function as a normative and self-reinforcing method of reducing distress associated with disaster (Kessler, 2015). That is, avoidance coping strategies serve an immediate purpose by reducing distress and perception of threat but may negatively influence one's daily functioning and treatment response. It was therefore critical to ascertain whether and the extent to which coping strategies affect PTSD among victims of fire disasters in Uganda.

Therefore, understanding the coping strategies that help or delay adjustment is important in direct intervention for victims of fire disasters is important. Individuals who used ineffective coping preferences such as social withdrawal, self-criticism and blaming others showed significant levels of PTSD. Many research findings have shown that in the absence of effective coping, the meaning and impact of traumatic events may continue to play a role in the psychological well-being of victims (Ehrenreich,2001). Maladaptive coping strategies further increase survivors' vulnerability to PTSD. The victims of fire disasters may undergo tremendous psychological consequences which largely depend upon their coping abilities. There was need for a study to confirm in developing countries like Uganda.

### ***Summary and gaps***

Literature review has indicated that coping strategies are significant in determining whether a person develops PTSD after experiencing fire disasters. However, empirical research on these issues in Uganda is not enough. Little research exists on how coping may affect the level of PTSD among fire disaster victims in a resource constrained country like Uganda. This information was needed to inform a more efficient management of these conditions among fire victims in Uganda. Hence there was need to establish a clearer picture of the role coping strategies play in determining the level of PTSD among victims of fire disasters, particularly in the context of Uganda.

## **Chapter Three: Research Methodology**

### ***Introduction***

This chapter presents, describes, and justifies the appropriateness of the procedures and processes that will be followed in conducting this research. The research paradigm, design, sampling techniques, data collection instruments and procedures are described. This section also explains data management and analysis techniques as well as limitations and delimitations ethical issues.

### ***Research design***

A research design is important in helping the researcher, determine relevant data to be collected and how to analyse the results so as to add meaning to the research findings (Curtis, 2008). This study was a correlational survey. This design was adopted because of the relational nature of the study hypotheses and the need to measure and analyse the magnitude and direction of relationships among the study variables (Pandey & Pandey, 2015). Quantitative approaches were used to measure and analyse the magnitude and direction of causal relationships among the study variables (Pandey & Pandey, 2015). Statistical techniques were used to organize, analyze and interpret data (Zikmund, 2010). Descriptive and inferential statistics were used to identify and present statistical relationship among the specific variables that were studied.

### ***Population***

In research, a population is the total of all the individuals who have certain characteristics and are of interest to a researcher (Creswell, 2013). The population for this study comprised of all victims of fire disasters in KCCA. The accessible population study

included victims of recent fire disasters from markets and factories located in KCCA. The records of the Directorate of Police Fire Prevention and Rescue Services (2018), for Kampala Metropolitan had a total of 280 registered victims from Kiseka Market, Owino market and Crest foam industry and these made the actual study population. The targeted respondents were business enterprise owners or employees in from the selected business areas who witnessed the actual fires or had lost property or close associates as a result of these fires from the period 2008 to 2018.

### ***Sample and sample selection***

According to Zikmund (2010) a sample is a subset containing the characteristics of a larger population. Samples are used in statistical testing when population sizes are too large for the test to include all possible members or observations. Multi-stage sampling was used to select the study sample. The sample included persons who were literate in English, aged 18 years and above and owned a business enterprise or were employees in the enterprise and were victims or had witnessed a fire disaster in one of the three business areas in the period 2008 to 2018. Krejcie and Morgan (1970) sample determination guide (*see appendix III*) was used to determine the sample size. According to Krejcie and Morgan (1970) from a population of 280, a sample of 162 is representative enough. A total of 162 respondents from Owino and Kisekka Markets and Crest foam factory were given questionnaires and 160 returned fully completed questionnaires, making the actual sample to be 160. This resulted into a 98.8% response rate which was acceptable for making credible generalisations (Curtis ,2008).

### ***Data collection Techniques***

A Survey method was used to collect data. A survey was adopted because it enables one to collect information from a large number of respondents, who were targeted as individuals (Creswell, 2013). Data was collected from primary sources and Structured, self-administered questionnaires (SAQs) were used. The SAQ was written in English as the official language of the country in order to target a cross sectional of respondents. The questionnaire was used to ensure greater assurance of anonymity, encourage on the spot collection of data and produce large amount of information. Structured questions were used because they enable the researcher to gather specific data and also to avoid hasty responses which will increase on the level of correctness in collected data. The Self-administered questionnaires were distributed by the researcher herself to victims. The researcher remained available to provide any needed guidance to respondents as they completed the instruments.

### ***Instruments***

Standardised and adapted instruments were used in order to conform to the socio-economic environments of Uganda. This was important because the available standard instruments had been developed and used in western countries, where environments were slightly different from the research area. Standardised instruments were needed, since the study variables (Coping strategies, PTSD) are standard variables in the world. A five-point Likert scale was used to measure the variables. The instrument had 2 sections, PTSD and Coping strategies.

### **Post-traumatic Stress Disorder**

PTSD was measured using a self – administered scale adapted from the PCL-5 (*see appendix I*). The PCL-5 is a self-report measure of past-month PTSD symptoms based on the

diagnostic criteria outlined in the DSM-5. The items in the PCL-5 were rated on a 5-point Likert-type scale ranging from-point Likert-type scale ranging from (1) strongly disagree and (5) strongly agree. The PCL-5 has been shown to have good validity and a fairly stable factorial structure even when adapted in various populations in the world (National Centre for PTSD, 2018). The self-report pilot study results on a sample of 10 fire disaster victims gave a Cronbach's alpha coefficient of 0.819.

### ***Coping strategies scale***

Coping strategies (*see appendix I*) were measured using a self-administered scale adapted from Folkman and Lazarus Ways of Coping Questionnaire (1988). This scale consists of a series of predicates, each of which portrays a coping thought or action that people sometimes engage in when under stress. Respondents indicated whether they used each of these responses after experiencing a fire disaster by making a rating on a 5-point Likert-type scale ranging from (1) strongly disagree and (5) strongly agree. The scale had 7 items on adaptive coping and 7 items on maladaptive coping. The self-report pilot study results on a sample of 10 fire disaster victims gave a Cronbach's alpha coefficient of 0.914.

### ***Validity and Reliability of the Instrument***

#### ***Validity***

The content validity of the instruments was tested by face validity and content validity index. With face validity, the words that were used in the instruments were simple, clear and related to the research problem. The questions found vague were eliminated or rephrased. Any ambiguities, misunderstanding and inadequacies were eliminated (Pandey & Pandey, 2015). With content validity, the researcher ensured that the items on the main variables (independent and dependent variables) conformed to the study's conceptual framework. A

content validity test was used to establish the validity of the instruments. The opinion of the supervisors on the relevance, wording, and clarity of the items in the instruments was sought and there was validation of the instruments. The supervisors evaluated the instruments using the scale for which 1 = relevant, 2 = quite relevant, 3 = somehow relevant, and 4 = not relevant. The ratings of the supervisors were used to by the researcher to calculate the content validity index using the formula: Content validity index (CVI) = Number of items declared valid/Total number of items. As recommended by Curtis (2008), the CVIs for all the instruments must be above 0.7, a value recommended for research instruments. The results are presented in the table 1.

**Table 1:** Content Validity Index (CVI) of instruments

<b>Evaluator</b>	<b>Questionnaire for Fire disaster victims</b>
Supervisor 1	0.84
Supervisor 2	0.87
<b>Average</b>	<b>0.86</b>

*Source: supervisors' ratings (2019)*

According to table 1, the average content validity index for the questionnaire was 0.86. As recommended by Curtis (2008) and Pandey, and Pandey (2015), the CVIs for all the instruments were above 0.7, a value recommended for research instruments.

### **Reliability**

Curtis (2008) defines reliability as the extent to which results are consistent over time and an accurate representation of the total population under study. In the current study, Pre-test data was collected on the questionnaires and the procedure of data collection. This



ensured that the questionnaire was reliable and that the participants would respond in accordance with the instructions. The pre-test phase also examined the best way to handle unanticipated problems and gauged how long the respondents would take to fill in the questionnaire. The pre-test sample included 10 victims of fire disasters from Owino Market Kampala. Data was entered in the Statistical Package for Social Sciences (SPSS) and Cronbach's alpha coefficient test of reliability was calculated using the formula below:

$$\alpha = \frac{K}{K - 1} \left( 1 - \frac{\sum_{i=1}^K \sigma_{Y_i}^2}{\sigma_X^2} \right)$$

Where  $\sigma_X^2$  is the variance of the observed total item scores, and  $\sigma_{Y_i}^2$  is the variance of component  $i$  for the pilot sample. Cronbach's alpha coefficient results were analysed for study variables. The values for PTSD ( $\alpha = 0.819$ ), adaptive coping strategies ( $\alpha = 0.914$ ), and maladaptive coping ( $\alpha = 0.765$ ), were found to be above Cronbach's alpha value 0.70 as recommended by Creswell (2013) and Pandey and Pandey (2015). Were therefore, considered satisfactory (*see Table 2*).

**Table 2:** Reliability Coefficients (Cronbach's alphas)

Variable	No. of items	Alphas ( $\alpha$ )
PTSD	8	0.819
Adaptive Coping strategies	7	0.914
Mal-Adaptive Coping strategies	7	0.765

*Source: Pre-test data (2019)*

### **Data Collection Procedure**

After the approval, the researcher went to the field. Using the authority letter from the university (*see appendix IV*), the researcher introduced herself to the officers in charge of the

places where the targeted respondents worked. She first explained the purpose of the research and its potential benefits and then requested for permission to sample respondents. On meeting the target respondents, the researcher assured them of confidentiality in relation to the information they provided. Respondents who completed questionnaires were requested to provide written consent by signing the consent form. The researcher then collected data. Data collection took a period of three weeks.

### ***Data Management***

Data management was done to ensure that useful information that could be used to propose conclusions and support decision-making is assembled (Amin, 2005). In this study, the researcher cleaned data by ensuring that only full completed questionnaires were included in data analysis. The volume of raw information was then reduced, data processed, analysed and synthesised by identifying significant patterns and constructing a framework for communicating the essence of what the data revealed (Kvale & Brinkmann, 2009).

### ***Data Analysis***

Returned questionnaires were coded and thereafter data entered into the computer, edited, cleaned and analyzed using SPSS version 22 statistical software. Socio-demographic characteristics were analyzed using descriptive statistics and summarized through the use of frequencies and percentages.

The association between coping and PTSD were analyzed using Pearson correlation coefficient and Regression analysis was used to show the effect of the Independent variable on the dependent variable. The effect was estimated using simple regression line of;  $Y = b_0 + b_1X_1 + b_2X_2 + \dots$ ; Where; Y=Dependent Variable (PTSD), X=Explanatory Variables

(Coping strategies),  $b_1$  = Slope of gradient (regression Coefficient),  $b_0$  = intercept (value of Y when X is Zero) (constant).

To establish the effect of coping on PTSD, regression analysis was done. Adaptive coping and maladaptive coping were entered as predictors of PTSD to establish how much of the variability they caused in PTSD indicated by the adjusted  $R^2$ . A negative change ( $R^2$  change) meant that coping would decrease PTSD among victims of fire disasters.

Descriptive statistics, Pearson correlation and simple multiple regression analyses were run. Before running of relevant analyses, the linearity and normality of data was first confirmed. This was important because correlation and regression analysis is done when data has linearity and normality.

### ***Linearity***

The assumption of linearity was satisfied on all the variables because their correlations were significant at p-values  $< 0.05$ . The correlation coefficients showed positive linear relationships between the independent and dependent variables (*O'Hagan & McCabe, 1975,*). The p-values  $< 0.05$  for the correlation and this implies that the correlation coefficients were significant and a linear relationship existed among variables.

### ***Normality***

Data normality was tested using the Shapiro-Wilk test. The results for all the variables had p-values  $< 0.10$  (Fox, 1997). This implied that data was normally distributed and, hence, did not require normalisation.

Thereafter, descriptive statistics were run to determine frequencies and percentage of occurrence of the variables. In order to determine the relationship between coping and post-

traumatic stress disorder, Pearson correlation was used. Simple and multiple regression analysis was done to establish the contribution of coping strategies on PTSD.

### *Ethical Considerations*

The issue of ethics is an important consideration in research that involves human subjects (Creswell, 2013). This research considered ethical factors in several ways. Participation in the research was voluntary, and research participants had the right to decline participation. Therefore, before distributing the study questionnaires to respondents, the researcher sought for consent, explained the purpose of the study and assured them of confidentiality. In addition, the researcher discussed the intended data collection period with subjects before giving them questionnaires to complete. Unauthorised disclosure of study findings may damage esteem and reputation of respondents. However, the researcher addressed this by restricting its accessibility to only authorised persons with need to know.

Further, the respondents were adequately informed before the research commenced regarding how they would be treated throughout the research, how risks would be managed and the benefits of participating in this study. Additionally, in case any participant experienced emotional or any problems relating to the conduct of the study, he/ she would be referred to a mental health professional identified by the researcher to render appropriate help. The researcher allowed respondents adequate time to reflect on the information provided and minimise coercion and undue effect. All interested Participants were debriefed after data collection.

## Chapter Four

### Data Presentation, Analysis, and Interpretation of the Findings

#### *Introduction*

This chapter presents the analysis and interpretation of the findings of the study that examined the relationship between coping skills and the occurrence of post-traumatic stress disorder among fire disaster victims in KCCA, Kampala. The study specifically assessed the level of PTSD among victims of fire disasters, coping strategies of victims of fire disasters in KCCA, examined the relationship between coping strategies and PTSD among victims of fire disasters in KCCA and assessed whether victims of fire disasters in KCCA use adaptive or maladaptive coping strategies. The findings in this chapter are based on the questionnaire responses from 160 victims of fire disasters. The results on the demographic characteristics of the respondents are presented first, followed by descriptive results on PTSD and coping strategies. Finally, inferential analyses on the study objectives are presented.

#### *Findings on Demographic Characteristics of Respondents*

Data was collected on gender, age, marital status and education level. This was done to get background information of respondents that could be used to ascertain the validity and reliability of the data they provided. This was important because Tang (2006) and Neria, Nandi and Galea (2008) show that the relationship between PTSD and coping strategies vary according to life experiences due to gender, marital roles, and education. Data collected is presented in table 3 below.

**Table 3: Demographic Characteristics of Respondents (n=160)**

Variable	category	Frequency(f)	Percentages (%)
Gender	Male	96	60
	Female	64	40
Age	20-30	72	45
	31-40	24	15
	41-50	40	25
	51 and above	24	15
Marital status	Married	64	40
	Single	96	60
Education	Master's degree	8	5
	Bachelor's degree	48	30
	Diploma	60	37.5
	Certificate	44	27.5

---

Source: Primary data from the field (2019)

### ***Gender of respondents***

In the questionnaire, respondents indicated their gender. The findings in table 3, show that most respondents 60% were male whereas 40% were female. Therefore, the views of both male and female respondents were adequately represented in the study.

### ***Age of respondents***

Respondents were also asked to indicate their age. Table 3 shows that the largest proportion (45%) were between the ages of 20-30, followed by 25% who were between the ages of 41-50, 15% were between the age of 30-40 and 15% were above the age of 51 and above. Hence most respondents were mature enough to understand the issues that were being investigated and so gave reliable responses.

### ***Marital Status of respondents***

Regarding marital status, table 3, shows that 60% were single and 40% were married. A fairly large proportion of respondents were married, implying they had enough life experiences and responsibilities to enable them to understand the significance of the issues that were being investigated.

### ***Education level of respondents***

In the questionnaire, respondents also indicated their level of education. The findings in table 3, showed that the largest proportion of respondents (37.5%) had diplomas, followed by 30% who had bachelor's degrees, 27.5% had certificates and 5% had master's degrees. Majority of the participants have attained good education, to enable provide valid information on the issues that were being investigated.

***Objective One: Level of PTSD among victims of fire disasters in KCCA***

The first objective of the study was to assess the level of PTSD among victims of fire disasters in KCCA. The level of PTSD among victims of fire disasters in KCCA was measured as victims having interference with their general activity and functioning after recalling the fire disaster. The researcher had hypothesised that Victims of fire disasters in KCCA may not develop PTSD. The level of PTSD was explored using descriptive statistics, the findings are presented in the tables below.



**Table 4: Mean response, SD and ratings on PTSD**

Aspects	Mean	SD	Rating
Repeated, disturbing and unwanted memories of the fire disaster	4.93	.27	Strongly agree
Repeated, disturbing dreams of the fire disaster	4.87	.40	Strongly Agree
Suddenly feeling or acting as if the fire disaster were happening again	4.68	.69	Strongly agree
Feeling very upset when something reminds me of the fire disaster	4.13	.55	agree
Strong physical reactions when something reminds me of the fire disaster	4.42	.45	agree
Avoiding memories, thoughts, or feelings related to the fire disaster	3.58	1.01	agree
Loss of interest in activities that you used to enjoy	3.14	.78	Not sure
Trouble falling asleep or staying asleep	4.1	1.2	Agree
Overall score	4.44	0.77	Agree

Key: 1=strongly disagree, 2=disagree, 3= not sure, 4= agree, 5=strongly agree

The results in table 4 show that generally respondents agreed to (mean=4.44, SD=.77) having strong feelings of PTSD. They strongly agreed that they experience repeated, disturbing and unwanted memories of the fire disaster, (mean=4.93, SD=.27) they have

repeated, disturbing dreams of fire disaster (mean=4.87, SD=.40) and have sudden feeling or acting as if the fire disaster were actually happening again (mean=4.68, SD=.69).

Respondents further agreed to feeling very upset when something reminds them of the fire disaster (mean=4.42, SD=.45), experience strong physical reactions when something reminds them of the fire disaster (mean=3.58, SD=1.01) and have trouble falling asleep or staying asleep when they think of the fire disaster (mean=4.1, SD=1.2).

Respondents were not sure (mean=4.1, SD=1.2), whether they had lost interest in activities that they used to enjoy due to the fire disaster. Hence respondents had significant negative mental and physical health feelings that would interfere with their general activity and functioning, indicating significant symptoms of PTSD.

### ***Objective Two: Coping Strategies of Victims of Fire Disasters in KCCA***

The second objective of the study was to assess coping strategies of victims of fire disasters in KCCA. The researcher had hypothesised that Victims of fire disaster in KCCA have effective coping strategies. In this study, coping with a fire disaster experience was conceptualised as efforts by a victim to reduce stress that arose from problems that were created by a fire disaster. Coping was measured as being adaptive or maladaptive.

#### *Adaptive coping strategies among victims of fire disasters in KCCA*

The level of adaptive coping among victims of fire disasters in KCCA was measured as the extent to which victims sought for support, relaxation and physical wellness so as to reduce stress they got after the fire disaster, and restore normal life functioning. The findings are presented in the table 5.

**Table 5: Mean response, SD and ratings on Adaptive coping**

Aspects	Mean	SD	Rating
I avoiding distractions and adjust my attitude whenever I get memories of the fire disaster	2.13	1.38	disagree
I establish priorities and actively use my time to avoid dwelling on memories of the fire disaster	3.60	1.42	agree
I talk to a person with whom I feel close to calm down after memories of the fire disaster	3.84	1.23	agree
I have got a counselor I talk to whenever I feel down after memories of the fire disaster	1.72	1.31	disagree
I listen to soothing music in order to calm down when I get memories of the fire disaster	2.78	1.30	Not sure
I do yoga whenever I feel bad after thinking of my situation when I get memories of the fire disaster	1.89	1.28	disagree
I do brisk walking to calm down my nerves when I get memories of the fire disaster	1.74	1.23	disagree
Overall score	2.53	1.36	Not sure

Key: 1=strongly disagree, 2=disagree, 3= not sure, 4= agree, 5=strongly agree

The results in table 5 show that generally respondents were not sure (mean=2.53, SD=1.36) whether they were maintaining normal functioning after being a victim of a fire

disaster . respondents disagreed that they were avoiding distractions and adjusting their attitude (mean=2 .13, SD=1.38), have got a counselor they talk to whenever they feel down (mean=1 .72, SD=1.31), do yoga whenever they feel bad after thinking of their situation (mean=1 .89, SD=1.28) or do brisk walking to calm down my nerves (mean=1 .74, SD=1.23). They were also not sure (mean=2 .78, SD=1.30) whether they listen to soothing music in order to calm down.

However, respondents agreed to establishing priorities and actively using their time (mean=3 .60, SD=1.42) and talking to a person with whom they feel close to calm down (mean=3 .84, SD=1.23).

#### *Mal-Adaptive coping strategies among victims of fire disasters in KCCA*

The level of Mal-adaptive coping among victims of fire disasters in KCCA was measured as the extent to which victims avoided thinking and talking about the fire disaster because they would be disorganized emotionally. The findings are presented in table 6.

**Table 6: Mean response, SD and ratings on Mal-Adaptive coping**

Aspects	Mean	SD	Rating
I feel like hurting self as a way of coping with memories of the fire disaster	3.84	.95	agree
I use substances such as alcohol, drugs in order to forget the fire disaster	2.53	.81	Not sure
I learnt to behave as if the fire disaster did not affect me	3.72	.64	agree
Resorting to eating my favorite food whenever I get disturbing memories of the fire disaster	4.1	.81	agree
Resorting to watching television whenever I get memories of the fire disaster	3.92	.88	agree
I have intentionally cut off all my friends who were reminding me of the fire disaster	4.3	.74	agree
I resort to being alone whenever I get memories of the fire disaster	4.2	.92	agree
Overall score	3.8	.82	Agree

Key: 1=strongly disagree, 2=disagree, 3= not sure, 4= agree, 5=strongly agree

The results in table 6 show that generally respondents agreed to (mean=3.8, SD=.82) avoiding memories of the fire disaster because it makes them uncomfortable. Respondents agreed to feeling like hurting self as a way of coping with memories of the fire disaster (mean=3.84, SD=.95), having learnt to behave as if the fire disaster did not affect them

(mean=3.72, SD=.64) and Resorting to eating my favorite food whenever I get disturbing memories of the fire disaster (mean=4.1, SD=.81).

Respondents also agreed to resorting to watching television whenever I get memories of the fire disaster (mean=3.92, SD=.88), I have intentionally cut off all my friends who were reminding me of the fire disaster (mean=4.3, SD=.74) and resorting to being alone whenever they get memories of the fire disaster (mean=4.2, SD=.92). But respondents were not sure of use substances such as alcohol, drugs in order forget the fire disaster (mean=2.53, SD=.81).

Given that the overall score (mean=3.8, SD=.82) for maladaptive coping was higher than that of adaptive coping (mean=2.53, SD=1.36), respondents mainly used maladaptive coping. Therefore, it can be argued that respondents were not coping effectively with their experience of a fire disaster.

***Objective three: Relationship between Coping and PTSD among victims of fire disasters in KCCA***

The third objective of the study was to examine the relationship between coping strategies and PTSD among victims of fire disasters in KCCA. The researcher had hypothesized that Coping strategies for fire disasters victims in KCCA are not significantly related to post-traumatic stress disorder. The relationship Coping and PTSD among victims of fire disasters in KCCA was examined using Pearson correlation. The findings are summarized in table 7.

**Table 7: Correlation between Coping and PTSD among victims of fire disasters in KCCA**

Variables	1	2	3
1-PTSD	1		
2-Adaptive coping	-.170**	1	
3-Maladaptive coping	.512**	.346**	1

Key;  $p < .01^{**}$ ,  $p < .05^{*}$

The results in table 7 show that, the relationship between adaptive coping and PTSD was ( $r = -.17$ ,  $p < 0.01$ ), that between maladaptive coping and PTSD was ( $r = -.51$ ,  $p < 0.01$ ) and one between adaptive and mal adaptive coping was ( $r = .35$ ,  $p < 0.01$ ). Generally, coping strategies were related to post-traumatic stress disorder among victims of fire disasters in KCCA. The relationship between PTSD and maladaptive coping was higher meaning that maladaptive coping actually increased PTSD among victims of fire disasters in KCCA

**Objective Four: Coping strategies mainly used by victims of fire disasters in KCCA**

The last objective of the study was to assess whether victims of fire disasters in KCCA use adaptive or maladaptive coping strategies. Regression analysis was done to ascertain the contribution of the predictor variables (adaptive coping and maladaptive coping) on the dependent variable, PTSD. The findings are presented in table 8.

**Table 8: Results of Regression analysis of predictors on PTSD**

<b>Model</b>	<b>Effects</b>	<b>R<sup>2</sup></b>	<b>ΔR<sup>2</sup></b>	<b>β</b>	<b>P-value</b>
<b>Model I</b>	Adaptive coping	.03	.03	-.17	.548*
<b>Model II</b>	Maladaptive coping	.26	.26	.51	.000*
<b>Model III</b>	Adaptive coping	.17	.09	.42	.004*

Maladaptive coping

Coping \*PTSD

Dependent Variable: Premarital sexual behavior

The findings in table 8 show that adaptive coping had a negative and non-significant influence ( $\beta = -0.17$ ,  $p > 0.05$ ) on PTSD, and maladaptive coping had a significant influence ( $\beta = 0.51$ ,  $p < 0.05$ ) on PTSD. When maladaptive coping was entered as a moderator in the relationship between adaptive coping and PTSD, it was revealed that the interaction effect was about 9% ( $\Delta R^2 = 0.09$ ) and was significant ( $\beta = 0.42$ ,  $p < 0.05$ ). Therefore, coping explained 9 % of the variation in PTSD ( $R^2 = 0.09$ ). This means that 91. % of the variation in PTSD was accounted for by other factors not considered under this model. Given the fact that it is maladaptive coping that had a positive and significant influence on PTSD, victims of fire disasters in KCCA mainly used maladaptive coping.



## Chapter Five

### Discussion, Conclusions and Recommendations

#### *Introduction*

This chapter presents a discussion, conclusions and recommendations of the study that examined the relationship between coping skills and the occurrence of post-traumatic stress disorder among fire disaster victims in KCCA, Kampala. The study specifically assessed the level of PTSD among victims of fire disasters, coping strategies of victims of fire disasters in KCCA, examined the relationship between coping strategies and PTSD among victims of fire disasters in KCCA and assessed whether victims of fire disasters in KCCA use adaptive or maladaptive coping strategies. In the first section, a detailed discussion of results based on the study objectives and hypotheses is given. In the second section the limitations of the study are presented and in the last sections study conclusions, recommendations for action and further study are deliberated.

#### *Discussion*

##### *Objective One: Level of PTSD among victims of fire disasters in KCCA*

The first objective of the study was to assess the level of PTSD among victims of fire disasters in KCCA. It was revealed that victims of fire disasters in KCCA experienced significant interference with their general activity and functioning due to the fire disaster they experienced. Hence respondents had significant negative mental and physical health feelings that would interfere with their general activity and functioning, indicating significant symptoms of PTSD.

The findings confirmed Neria et al (2018) who had showed that while victims of a fire disaster can have physical trauma symptoms it is usually the psychological symptoms that are more damaging to the wellbeing of victims of fire disasters. The findings also agreed with CDC (2012) that experiences fire disasters can lead to high levels of on and off grief, anger as well as self-blame. This because most victims looked at what their lives were like prior to and made comparisons and others are concerned about their own and their family's safety which heightens the effects of trauma on their lives.

Therefore, the PTSD among fire victims was high and affected their life functioning. They had Psychological distress, were frustrated, and self-doubt and feelings of hopelessness. As affirmed by Xu and He (2019), these victims needed more than personal resources to cope. This implies that experiencing a fire disaster is a serious traumatic event that should be overlooked. If the person is not given help, it could result into negative life changing consequences.

Respondents reported experiences of fear, emotional shock, irritability, obsessive and compulsive behaviours, and anger attacks when they remember the fire disaster and experiencing irritability because of fire disasters. These findings are in line with Barillo, (2019) who indicated that usually, fire disasters have a negative psychological impact on the lives of victims which is usually given little attention. It confirms findings from other countries that show that posttraumatic stress disorder (PTSD), is a central form of psychopathology that results from fire disasters.

The findings also agree with Pineles eta al (2020) who indicted that since a fire disaster is a life-threatening experience, victims are more likely to report avoiding activities, thoughts, feelings or conversations that reminded them of the event. Also, La Paz (2018) also affirmed that people who go through a life-threatening experience and loss are likely to

have trouble sleeping, are always startled, which lowers the quality of their lives. Given the fact respondents also reported some Physical symptoms such as headaches, dizziness, chest pain, and discomfort in other parts of the body , it was evident that the fire disasters they experienced was very stressing and had led to symptoms of Post-Traumatic Stress Disorder ( Neria et al ,2018).

### ***Objective Two: Coping Strategies of Victims of Fire Disasters in KCCA***

The second objective of the study was to assess coping strategies of victims of fire disasters in KCCA. It was revealed that respondents mainly use mal- adaptive(mean=3.8, SD=.82) rather than adaptive(mean=2 .53, SD=1.36), coping strategies. Respondents behaved as if the fire disaster did not affect them, resorting to eating their favorite food whenever they got disturbing memories of the fire or watched television They had intentionally cut off all my friends who were reminding them of the fire disaster and resorted to being alone whenever they get memories of the fire disaster.

The findings showed that respondents also used mainly maladaptive avoidant coping strategies that may have put more pressure on their lives. It is not surprising that some reported increasing emotional pain even after trying to cope personally for several months. This finding agreed with Chowdhury (2020) who said that maladaptive coping skills can ruin lives and lead to post-traumatic stress disorders. It was also evident that the limited use of social coming strategies reduced the effectiveness of personal coping. This confirmed Udomratn (2018) who had earlier said that dealing with stress personally may be infective and can increase PTSD symptoms in response to natural disasters. It was therefore likely that overreliance on avoidant coping strategies do interfere with the natural recovery process in case of fire disaster as indicated by WHO (2020). Victims did not use problem focused coping strategies, which are more effective in cases of Traumatic experiences.

***Objective three: Relationship between Coping and PTSD among victims of fire disasters in KCCA***

The third objective of the study was to examine the relationship between coping strategies and PTSD among victims of fire disasters in KCCA. It was found out that the relationship between PTSD and maladaptive coping was quite high, meaning that maladaptive coping actually increased PTSD among victims of fire disasters in KCCA.

Victims used maladaptive coping which was in most cases counterproductive due lacking a clear way out. This finding is in line with Chowdhury (2020) who discovered that victims have limited knowledge on effective coping they resort to ineffective coping strategies. Also Galea, et al (2019) had discovered that in effective coping will be applied even when their knowledge is so theoretical that they do not have the motivation to use it .

***Objective Four: Coping strategies mainly used by victims of fire disasters in KCCA***

The last objective of the study was to assess whether victims of fire disasters in KCCA use adaptive or maladaptive coping strategies. Results of regression analysis showed that that adaptive coping had a negative and non-significant ( $\beta = -0.15$ ,  $p > 0.05$ ) influence on PTSD, and maladaptive coping had a significant influence ( $\beta = 0.51$ ,  $p < 0.05$ ) on PTSD. Maladaptive coping increased PTSD among victims of fire disasters in KCCA by about 9 %.

Thus, coping strategies seem to be crucial in destemming the overall quality of life of fire disasters victims. Effective coping may reduce or completely eliminate symptoms of PTSD-related contributing to better individual wellbeing (Ehrenreich ,2001). The mediating role of coping in the relationships between PTSD aims at regulating distress and minimizing threat in line with Kessler (2015). Coping functions as a normative and self-reinforcing

method of reducing distress associated with disasters. coping strategies serve an immediate purpose by reducing distress and perception of threat improving daily functioning of victims.

### ***Study Limitations***

There may be cross-cultural factors that limit the validity of instruments applied in different countries when these instruments were primarily designed to assess psychopathology in developed countries, or majority populations. Though the instruments were validated in Uganda, they were adapted from the western world, thus suggesting caution in interpreting data across countries.

Second, the researcher did not provide information about PTSD across the entire universe of disasters that do happen worldwide. There is likely a substantial imbalance between studies that are carried out and where disasters do occur. Cross-cultural differences between rich and poor countries may mean that the epidemiology of PTSD in less rich countries may be different than that documented here, arising from the available literature.

Third, given the complexity of defining PTSD resulting from exposure to fires, this research was not able to measure actual levels of PTSD, but only its symptoms.

### ***Conclusion***

The findings show that recent fire disasters in KCCA had serious effects on the mental health of victims due to PTSD. Victims experienced psychological disturbance such as fear, distress, bad dreams and irritability on hearing about the fire incident. This state of affairs destabilised their feelings, actions and thinking and thus were not able to effectively do work, socialise or study.

It was therefore asserted that the fire disasters that were faced by victims had affected their life functioning and slowed their life development. Victims had lost self-belief, these negative feelings severely reduced the likelihood of victims succeeding in their life development endeavours.

While victims used some adaptive coping strategies such as meditation and avoiding distraction, overall, they resorted to mal-adaptive coping such as Denial, withdrawal and emotional numbing. Coping explained only 9 % of the variation in PTSD. The low use of adaptive coping could have resulted from lack of access to professional psychosocial services and helpful social support.

### ***Recommendations for Action***

In order to reduce negative psychological effects of fire disasters and all other disasters that may occur in the country, the government of Uganda needs to develop a comprehensive model for timely management of Traumatic stress from disasters. This model (see *figure 2*) will provide guidance on what is supposed to be done by both government and non-government actors in providing immediate help and further professional mental health support to preventing and manage psychopathology from developing among victims. This will ensure coordinated mental health services for victims of disasters in Uganda.

The government of Uganda also needs to initiate fully fledged professional fire disaster trauma counselling departments in all disaster management public institutions, such as the firefighting police, ministry of disasters preparedness and the office of the prime minister. This will ensure that victims get quick and organised help as they prepare to receive counselling services.

The Ministry of disaster management and preparedness needs to recruit professional trauma counsellors to be on hand to provide specialised and appropriate mental health support to fire victims. This will help in preventing psychological problems from developing or escalating among victims of disasters.

The police firefighting department needs to have trained police officers in trauma counselling to provide immediate professional counselling to fire disaster victims, since they are usually the first contact. This action will provide first aid mental health support services for victims which will accelerate their rate of life adjustment.

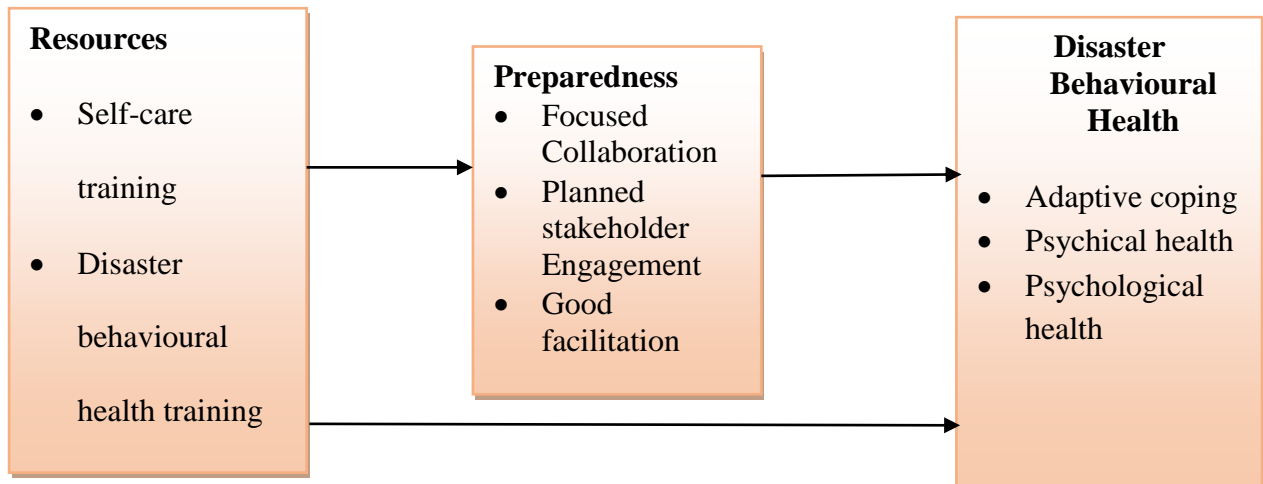
Country wide efforts to creating safe and nurturing community environments and relationships are needed. They should be spearheaded by government, local leaders and the church. Spiritual counselling is needed to comfort victims of disasters and help restore their self- image.

There is need to enhance the positive coping mechanism that can be applied and empower the good community sympathisers that was still prevalent.

### ***Contribution of the study***

The first significant contribution of the study is a model for effective coping with disasters Uganda. The model is based on having relevant resources and preparedness to promote after disaster behavioural health of disaster victims. The model explained as follows.

*Figure 2: Model of effective fire disaster management in Uganda*



*Source: Suggested by the researcher*

According to the figure above, sharing information and resources on how victims can be trained to have self-care and effective after disaster behaviours among disaster behavioural health professionals, such as the Police, first responders, government departments and psychosocial professional can enhance their preparedness and response through focused, planned and well facilitated disaster support that enhances the coping skills and wellbeing of fire disaster victims.

The second significant contribution of the study is bringing to the attention of leaders and psychotherapy professionals in Uganda those victims of fire disaster in Uganda need more than personal coping to be able to have normal lives.



***Recommendations for further research***

A study is needed to establish what strategies can effectively empower victims of disasters and community members to fight PTSD.

Further research should be done on the appropriate model of coping with disasters in Uganda.

## References

- Adler,A.(1943). Neuropsychiatric complications in victims of Boston’s Coconut Grove Disaster. *JAMA 123*: 1098–101.
- American Psychiatric Association. (APA). [2013]. The Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-V), Washington DC.
- Andrew, K. (2018). *Handbook of fire and explosion protection engineering principles*. Thousand Oaks: Sage Publications.
- Ayarkwa, A.K., Danso, E.,Adinyira.(2018). Incidence of domestic fire outbreaks in Ghana: causes and prevention. *Ghana Surveyor, 4*, 1-13.
- Barillo,D.J, Wolf.S.(2016). Planning for burn disasters: lessons learned from one hundred years of history. *Burn Care Res, 27*, 622–34.
- Broberg,A.G, Dyregrov,A, Lilled, L.(2015). The Goteborg discotheque fire: Posttraumatic stress and school adjustment as reported by the primary victims 18 months later. *Child Psychology Psychiatry, 46*, 1279–86.
- Centers for Disease Control and Prevention. (2018). The Adverse Childhood Experiences (ACE) study. Retrieved from <http://www.cdc.gov/ace/findings.htm>.
- Chowdhury, M. R. (2020). What is coping theory? *PositivePsychology.com*. Retrieved from <https://positivepsychology.com/coping-theory/> on 29<sup>th</sup> may , 2022.
- Cofini V, Carbonelli A, Cecilia MR, Binkin N, di Orio F. (2018). Post-traumatic stress disorder and coping in a sample of adult survivors of the Italian earthquake. *Psychiatry Res.;229(1):353–8*. <https://doi.org/10.1016/j.psychres.2015.06.041>.

- Creswell, J. W. (2013). *Research Design Qualitative, Quantitative, and Mixed Methods Approaches*. London, Sage.
- Curtis, K. (2008). *Conducting Market Research Using Primary Data*. United States of America: Western Centre for Risk Management Education.
- Draku,F.(2018).How prepared are we in case of fire-outbreaks. Retrieved on [29<sup>th</sup>,05,2019],from <https://www.monitor.co.ug/News/National/>.
- Ehrenreich, J.H(2019). *Coping with disasters. A guide book to psychosocial intervention*. New York: Centre for psychology and society. Retrieved from <https://www.medbox.org/mental-health-neurology/coping-withdisasters->
- Folkman,S., Lazarus,R.S.(1988). *Manual for the Ways of Coping Questionnaire*. Consulting Psychologists Press; Palo Alto, CA, USA.
- Following accidental man-made traumatic events: incidence and risk factors. *Psychiatry Clin Neurosis* ,250, 156–62.
- Frissa,S., Hatch,S.L., Fear, N.T., Dorrington,S., Goodwin,L., Hotopf, M.(2019 ) .Challenges in the retrospective assessment of trauma: Comparing a checklist approach to a single item trauma experience screening question. *BMC Psychiatry*, 28, 489-498.
- Gakpe, P.Y. Mahama, G. (2018). Reportage of stories on fire outbreaks in Ghana: an analysis of the Daily Graphic and the Chronicle. *New Media Mass Commune*, 24, 1-11.
- Galea S, Vlahov D, Resnick H. (2019). Trends of probable post-traumatic stress disorder in New York City after the September 11 terrorist attacks. *Am J Epidemiol* .158:514–24.

- Garcia, C. (2010). Conceptualization and Measurement of Coping During Adolescence: A Review of the Literature. *J Nurs Scholash*; Jun1:42(2) 166-185.
- Holborn, P. G., Nolan, P. F., & Golt, J. (2003). An analysis of fatal unintentional dwelling fire investigated by London Fire Brigade between 1996 and 2000. *Fire Safety*, 38(1) 45-60.
- Keane T. M & Wolf, J. (2019). *Comorbidity in post-traumatic stress disorder: An analysis of community and clinical studies*. *J Appl Soc Psychol* 1990, 20, 1776–88.
- Keane, T. M, & Barlow, D. H. (2012). *Posttraumatic stress disorder*. In: Barlow DH, editor. *Anxiety and its disorders*. New York: Guilford, p. 418–53.
- Kessler, R. C. (2015). Posttraumatic stress disorder in the National Comorbidity Survey. *Arch Gen Psychiatry* 1995,52,1048–60.
- Krejcie, R & Morgan, D. (1970). Determination of sample size. *Educational and Psychological Measurement*, 3(30), 607-610.
- Kumar, R. (2011). *Research Methodology: A Step-by-Step Guide for Beginners*. 3rd ed. London: Sage Publications
- Maes,M, Mylle,J, Delmeire,L & Altamura ,C. (20018). Psychiatric morbidity and comorbidity
- Malik, S. (2019). Wellbeing after natural disasters; resources, coping strategies and resilience. (PhD thesis, University of Punjab, Lahore, Pakistan). Retrieved from <http://pr.hec.gov.pk/jspui/bitstream/123456789/1107/2/1134S.pdf>.
- Nabunya,C.(2018). Fire Accidents on the Increase in Kampala. [Retrieved on 29<sup>th</sup>,08,2019], from <https://ugandaradionetwork.com/story/>.

- National Centre for PTSD. (2017). <https://www.ptsd.va.gov/professional/assessment/adultsr/ptsd-checklist.asp>. [retrieved on 23<sup>rd</sup>, May, 2019].
- Neria Y, Nandi A, Galea, S. (2018). Post-traumatic stress disorder following disasters: a
- Olf, M., Langeland, W., & Gersons, B. P. (2018). The psychobiology of PTSD: *Psychoneuroendocrinology*, 30(10), 974-982.
- Pandey, P. & Pandey, M.M. (2015). *Research Methodology: Tools and Techniques*. Romania: Bridge Center.
- Pineles, S. L., Mostoufi, S. M., Ready, C. B., Street, A. E., Griffin, M. G., & Resick, P. A. (2018). Trauma reactivity, avoidant coping, and PTSD symptoms: A moderating relationship. *Journal of abnormal psychology*, 120(1), 240.
- Shoaa kazemi M. (2018). Relation between family social support & coping strategies in recovery breast cancer. *Breast Diseases*, 6(4), 35–40.
- Systematic review. *Psychol Med*, 38, 467–80.
- Tang, C.S. (2018). Positive and negative post disaster psychological adjustment among adult survivors of the southeast Asian earthquake–tsunami. *J Psychosom Res.*; 61(5):699–705 Retrieved from <https://doi.org/10.1016/j.jpsychores.2006.07.014>.
- The Directorate of Police Fire Prevention and Rescue Services (2018). Fire incidents report for Kampala Metropolitan area. Retrieved from <https://www.softpower.ug/police-report> [25th, feb , 2019 ].
- Theron, L. C., Theron, A. M. C., & Malindi, M. J. (2019). Toward an African Definition of Resilience: A Rural South African Community’s View of Resilient Basotho Youth. *Journal of Black Psychology*, 39(1), 63-87.

- Udomratn P. (2018). Mental health and the psychosocial consequences of natural disasters in Asia. *Int Rev Psychiatry*.20(5):441–4. <https://doi.org/10.1080/09540260802397487>.
- Valentiner, D. P., Foa, E. B., Riggs, D. S., & Gershuny, B. S. (2019). Coping strategies and posttraumatic stress disorder in female victims of sexual and nonsexual assault. *abnormal psychology*, 105(3), 455.
- World Health Organization (2012). *Disasters and emergencies definitions: Training package: Pan African Emergency Training Centre*. Retrieved from <http://apps.who.int/disasters/repo/7656.pdf> 4.
- Xu J, He Y(2012 ). Psychological health and coping strategy among survivors in the year following the 2008 Wenchuan earthquake. *Psychiatry Clin Neurosci*. 66(3):210–9. <https://doi.org/10.1111/j.1440-1819.2012.02331>.
- Zikmund, W.G., (2010). *Business research methods* (6<sup>th</sup>edn), the Dryden Press, FL, USA.

## Appendices

### *Appendix I: Questionnaire for Participants*

Dear Respondent,

I am Sharon Besige Reg No. 16/U/13344/GMCP/PE pursuing a master's degree in of Counselling Psychology of Kyambogo University. I am carrying out a research entitled; Coping Strategies and Post-Traumatic Stress Disorder Amongst the Victims of Fire Disasters in KCCA". You have been humbly selected as one of the participants for the study and the information you will give will be treated with utmost confidentiality and used purely for academic purposes.

<b>Section A: Demographic Characteristics</b>	
What is your Sex	Male <input type="checkbox"/>
	Female <input type="checkbox"/>
Marital status	Married <input type="checkbox"/>
	Single <input type="checkbox"/>
What is your age?	21-30 years <input type="checkbox"/>
	31-40 years <input type="checkbox"/>
	41 -50 years <input type="checkbox"/>
	51 and above years <input type="checkbox"/>

What is your highest level of education?	Certificate <input type="checkbox"/>
	Diploma <input type="checkbox"/>
	Bachelor's degree <input type="checkbox"/>
	Master's degree <input type="checkbox"/>
	Other specify; .....

<b>Section B: Post-traumatic stress disorder</b>	<i>Read each problem below and circle one of the numbers to indicate how much you have been bothered by that problem in the past month.</i>					
	<i>1=strongly disagree, 2=disagree, 3=not sure, 4=agree and 5=strongly agree</i>					
	Have had Repeated, disturbing and unwanted memories of the fire disaster	1	2	3	4	5
	I have had Repeated, disturbing dreams of fire disaster	1	2	3	4	5
	I suddenly feeling or acting as if the fire disaster were happening again	1	2	3	4	5
	I Feel very upset when something reminds me of the fire disaster	1	2	3	4	5
	I have strong physical reactions when something reminds me the fire disaster	1	2	3	4	5
I avoid memories, thoughts, or feelings related to fire disaster	1	2	3	4	5	



<b>Section C: Adaptive Coping Strategies</b>	<i>Read each statement below and circle one of the numbers to indicate how much you have used the mentioned strategy to cope. 1=strongly disagree, 2=disagree, 3=not sure, 4=agree and 5=strongly agree</i>				
I avoiding distractions and adjust my attitude whenever I get memories of the fire disaster	1	2	3	4	5
I establish priorities and actively use my time to avoid dwelling on memories of the fire disaster	1	2	3	4	5
I talk to a person with whom I feel close to calm down after memories of the fire disaster	1	2	3	4	5
I have got a counselor I talk to whenever I feel down after memories of the fire disaster	1	2	3	4	5
I listen to soothing music in order to calm down when I get memories of the fire disaster	1	2	3	4	5
I do yoga whenever I feel bad after thinking of my situation when I get memories of the fire disaster	1	2	3	4	5
I do brisk walking to calm down my nerves when I get memories of the fire disaster	1	2	3	4	5

<b>Section D: Mal-Adaptive Coping Strategies</b>	<i>Read each statement below and circle one of the numbers to indicate how much you have used the mentioned strategy to cope. 1=strongly disagree, 2=disagree, 3=not sure, 4=agree and 5=strongly agree</i>				
I feel like hurting self as a way of coping with memories of the fire disaster	1	2	3	4	5
I use substances such as alcohol, drugs in order forget the fire disaster	1	2	3	4	5
I learnt to behave as if the fire disaster did not affect me	1	2	3	4	5
Resorting to eating my favorite food whenever I get disturbing memories of the fire disaster	1	2	3	4	5
Resorting to watching television whenever I get memories of the fire disaster	1	2	3	4	5
I have intentionally cut off all my friends who were reminding me of the fire disaster	1	2	3	4	5
I resort to being alone whenever get memories of the fire disaster	1	2	3	4	5

## Appendix II: Plagiarism test report

### Coping with PTSD Among Victims of Fire Disasters in Kampala Capital City Authority, Uganda

*by Sharon Besige*

---

**ORIGINALITY REPORT**

---

<b>18%</b>	<b>03%</b>	<b>14%</b>	<b>01%</b>
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

---

**PRIMARY SOURCES**

---

<b>1</b>	<a href="http://www.science.gov">www.science.gov</a> PUBLICATIONS	14%
<b>2</b>	<a href="http://www.ncbi.nlm.nih.gov">www.ncbi.nlm.nih.gov</a> Internet Source	3%
<b>3</b>	<a href="http://epdf.pub">epdf.pub</a> STUDENT PAPERS	1%

---

**Submission date:** 22-nov-2022 12:04PM (UTC+0100)  
**Submission ID:** 1899557759  
**File name:** Besige\_Sharon\_dissertationfinal\_current\_1.docx  
 (197.82K) **Word count:** 14980  
**Character count:** 86720

*Appendix III: Krejcie and Morgan (1970) sampling table*

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970