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Influence of Posttraumatic Growth on Posttraumatic Stress Disorder among Refugees in Nairobi County, Kenya

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Abstract: *Most refugees have frequently been subjected to a variety of potentially traumatic events, which have a wide range of negative consequences for their mental health and quality of life. However, some have also reported positive personal changes, and post-traumatic growth related to these potentially distressing events. This study was restricted only to Nairobi County, which accommodates most of the urban refugees in Kenya (UNHCR, 2020). The study used a simple random sampling technique for the quantitative strand and purposive/convenient sampling technique for the qualitative strand to select respondents. A sample of 133 respondents, which was determined using Yamane's formula, was selected. Quantitative data were collected using standardized questionnaires; the 21-item posttraumatic growth inventory (PTGI) and 20-item Posttraumatic stress disorder checklist (PCL-5). This study adopted the embedded mixed method research design by combining correlational and phenomenological research design. The study revealed a weak negative relationship between Posttraumatic stress disorder and posttraumatic growth ($p< 0.01$, $r = -.319$).This implies, as individual who had gone through traumatizing experience progress in posttraumatic growth, the level of post-traumatic stress disorder decreases with time. This indicates that continuous psychological and psychosocial assistance are considered as coping skills that facilitate posttraumatic growth.*

Keywords: *Coping skills, Influence, Posttraumatic Stress disorder, Post traumatic growth, Refugees, Nairobi County, Kenya*

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1. Introduction

The influx of refugees in the 21st century is on the rise due to overwhelming experiences brought by political, social, economic and environmental factors, which have left those affected psychologically distressed and traumatized. According to the global report of the United Nations Refugee Agency, the number of people displaced from their home countries due to war, armed conflict, political violence, and related threats is growing. Indeed, if current trends continue, one in every 100 persons will soon be a refugee (UN Refugee Agency, 2016). Kenya's refugees and asylum seekers come from a diverse range of

countries, including the following: Somalia, Rwanda, South Sudan, Ethiopia, Burundi, DRC, Sudan, Eritrea, Uganda, and other nationalities (UNHCR, 2015).

The experience of individuals who have been forced out of their countries, and their subsequent exposure to events before, during and after migration is recorded as an indicator of psychological distresses (depression, anxiety, and PTSD), that influences their mental health to a great extent (Zimmerman, Kiss, & Hossain, 2011).
Studies on Posttraumatic Stress Disorder (PTSD) and Posttraumatic growth (PTG) have indicated that those who experience traumatic events are capable of positive transformation resulting in growth (Tedeschi & Calhoun, 1996).

The main objective of this study was to assess the influence of psychological distress on posttraumatic growth among refugees in Nairobi County, Kenya. This study's specific objectives are as follows: to determine the relationship between depression and PTG among refugees in Nairobi County, Kenya: to establish the association between anxiety and PTG among refugees in Nairobi County, Kenya; to examine the influence of PTSD on PTG among refugees in Nairobi County, Kenya; and to identify the interventions used in addressing psychological distress among refugees in Nairobi County, Kenya. While the research questions are as follows: What is the relationship between depression and PTG among refugees in Nairobi County, Kenya?; What is the association between anxiety and PTG among refugees in Nairobi County, Kenya?; What is the influence of PTSD on PTG among refugees in Nairobi County, Kenya?; What are the existing interventions used to address psychological distress among refugees in Nairobi County, Kenya?

2. Literature Review

Post-traumatic growth (PTG) is a phrase used to describe beneficial reactions to stressful circumstances (Tedeschi & Calhoun, 1996). After a traumatic event, the phrase is described as beneficial social, psychological, or spiritual progress. The PTG tenets include a greater appreciation for life, deeper interpersonal relationships with others, new life possibilities, a greater sense of personal strength, and spiritual change (Tedeschi and Calhoun, 2004). PTG has been documented as a side effect of cancer treatment (Soo & Sherman, 2015), natural disasters; (Holgersen, Boe & Holen, 2010), abuse, (Vloet et al., 2014) and military deployment, (Wooten, 2012). As discussed above, PTG is possible among different samples. Therefore, there is need to examine the influence of PTSD on PTG among refugees.

A recent study examining the prevalence of youth trauma using a representative sample in England and Wales (United Kingdom) showed that 31% of the general population experienced trauma by the age of 18 and almost 8% experienced post-traumatic stress disorder (Lewis et al., 2019). In Germany, about 40% of refugee adults and 20% of refugee children suffered from PTSD (BPTK, 2017). In the Netherlands, between 13% and 25% of refugees and asylum seekers suffer from post-traumatic stress disorder and/or depression (BPTK, 2017). Over 40% of children who resettled in Europe after experiencing the war in former Yugoslavia had mood and anxiety disorders, while one-third suffered from post-traumatic stress disorder. Stressful experiences after resettlement also contributed to these effects (Bogic et al., 2015). These statistics showed the global relevance of this study which sought to explore the influence of PSTD and PTG among refugees.

In the United Kingdom, Mark, Stevelink, Choi, and Fear (2018) conducted a review of studies on PTG among military and ex-military personnel from 2001 to 2017. The intent of the study was to establish evidence of PTG and possible factors promoting PTG among the sample. Secondary data from electronic data base such as PsycInfo, OVID medline and Embase were searched for studies published between 2001 and 2017. The study's suitability criteria and participant documents were kept if they involve military or former military personnel, some of whom had been deployed to Iraq or Afghanistan. A quality assessment was performed on all the study. Results indicated moderate growth among the sample. Higher levels of social support, spirituality, and rumination, as well as minority ethnicity, were all linked to increased post-traumatic growth. The finding of this study was supported by the PTG theory that positive outcome is possible from negative experiences such as PTSD among military and ex-military personnel. This was related to this study which sought to explore the influence of PSTD and PTG among refugees. However, the reviewed study is different from this study based on the sample, design, data source, and the location of study.

In Australia, a meta-analysis study was piloted by Shakespeare-Finch and Lurie-Beck (2014), examining the strength and balance between the symptoms of post-traumatic stress disorder (PTSD) and post-traumatic stress disorder (PTG) as well as identifying roles that can control trauma and age. Literature research in all languages was conducted using Pro-Quest, Wiley Inter-science, Science-Direct, Informa-world and Web Database. Linear and quadratic (curvilinear) rs as well as s were analysed. Forty-two studies (N = 11,469) examining PTG and PTSD symptoms were included in the meta-analysis calculations. The combined studies showed a significant association between PTG and PTSD symptoms (r = 0.315, CI = 0.299, 0.331), but also a stronger (as tested by Fisher mutation) curly ratio (r = 0.372, CI = 0.353, 0.391). The strength and balance of this relationship varied according to the type of trauma and age. The results remind those working with the distressed that positive and negative post-traumatic outcome can co-occur. Just focusing on the symptoms of PTSD can slow recovery and hide the possibility of growth. This was related to this study that

sought to investigate the impact of PSTD on PTG among refugees. However, the study differed from this study based on the sample, the research design, the data source and the location of the study.

In Norway, Siqveland et al., (2015) conducted a longitudinal research on Post-traumatic growth, depression and post-traumatic stress in relation to quality of life among tsunami survivors. This study found how post-traumatic stress disorder (PTG), depression and post-traumatic stress disorder interact and freely predict Quality of Life (QoL) in a long-term study of disaster survivors. A total of 58 Norwegian adults who were present in Khao Lak, Thailand during the 2004 South-East Asian Tsunami completed private report questionnaire 2 and 6 years after the tragedy. Participants reported depressive and post-traumatic stress disorder symptoms as well as PTG and QoL. The independent effects of PTG, depression and post-traumatic stress on QoL measurement 2 and 6 years after the epidemic were determined by analysing the multiple effects of the combination used. The results revealed that post-traumatic stress and depression were negatively correlated with QoL. PTG was not significantly associated with QoL in the bivariate analysis. However, significant interaction effects were obtained. Six years after the tsunami, high levels of PTSD were associated with lower quality of life in those participants with lower levels of PTG, while lower levels of depression were associated with higher quality of life in those participants with higher levels of PTG. PTG, Post-traumatic stress disorder and depression are negatively associated with quality of life after a natural disaster. PTG can be used as a reason to manage this relationship. This was related to this study which sought to investigate the influence of PTSD on PTG among refugees. However the research review is different from this study in terms of sample, structure, theory, data source, and research area.

In Uganda, Bapolisi et al., (2020) conducted a study on post-traumatic stress disorder, mental illness and related causes among refugees in the Nakivale camp in southwestern Uganda. The purpose of the study was to determine the prevalence of post-traumatic stress disorder, its main psychological problems and psychological needs among refugees in the Nakivale refugee camp. A cross-sectional study of refugee camp residents (n = 387) from nine different countries of origin was conducted. Mental disorders were assessed using the MINI international Neuropsychiatric Interview (MINI) and the needs identified by the Humanitarian Emerging Settings Perceived Needs Scale (HESPER). The results show that the prevalence of dementia was as high among refugees as it was at the level of perceived demand. The most common mental disorders were generalized anxiety disorders (73%), post-traumatic stress disorder (PTSD) (67%), severe depression (58%) and substance use disorder (30%). There was a high level of comorbidity between PTSD and substance abuse (OR = 5.13), major depression (OR = 4.04) and generalized anxiety disorder (OR = 3.27). In multivariate analysis, PTSD was positively associated with stress perceptions such as high stress (OR = 6.52; P-value = 0.003), safety and protection for women in society (OR = 2.35; P-value = 0.011), family care OR = 2.00; P-value = 0.035) and Location (OR = 1.83; P-value = 0.04). After applying the Bonferroni revision, depression perceptions remained strongly associated with PTSD. The results showed a strong association between PTSD, its main comorbidities and basic needs in the Nakivale refugee camps. This is related to this study, which sought to explore the influence of PTSD on PTG among refugees. However, the reviewed study is different from this study based on the sample, design, data source, and the location.

In another study conducted by Ainamani, et al (2020), in south-western Uganda among Congolese refugees in Nakivale refugee settlement, to investigate gender differences in response to war- related trauma and posttraumatic stress disorder. The study sampled 325 Congolese refugees who lived in Nakivale camp. The findings showed that refugees were highly exposed to war-related traumatic events; the overall high prevalence of PTSD differed among women (94%) and men (84%). The reviewed literature is related to this study, which seeks to determine the influence of PTSD on PTG among refugees. However, the instrument used is different from the instrument used in this current study. The literature under review used the PTSD symptom scale-interview, while the current study used PCL-5, and PTGI to assess participants.

In Kenya, Asatsa (2018) examined strategies for processing trauma and post-traumatic growth among survivors of a terrorist attack at Garissa University. The study was based on the organismic theory, and it adopted the explanatory sequential design of the mixed method. The target audience was 650 survivors of the Garissa University terrorist attack, who were transferred to the main campus of Moi University, where a sample of 257 participants was selected using simple random sampling, extreme case sampling and automatic integration techniques. The Posttraumatic Growth Inventory, the Cognitive Processing Trauma Scale, and the Primary Traumatic Processing Scale, as validated by the PTSD checklist, were used to collect quantitative data. Qualitative data was collected using two interview guidelines for victims and their parents. The findings established a positive relationship between post-traumatic growth and early trauma processing strategies, severity of traumatic events, traumatic recovery strategies and the number of counselling sessions attended after the terrorist attack. The study again elicited higher post-traumatic growth in the victims of the Garissa University terrorist attack compared to other global studies. The results further showed that there was no significant population difference in post-traumatic growth. This is related to this study which sought to investigate the influence of PTSD on PTG among refugees. However, this reviewed study examined terrorist attack survivors using a research method and theories different from this present study. As this concurs

with Tedeschi and Calhoun (2004) and Calhoun et al., (2010) who opined that when people experience life threatening or traumatic events they are capable of positive transformation resulting in growth.

3. Methodology

The study used a simple random sampling technique for the quantitative strand while for the qualitative sample; the researcher used purposive sampling to select refugee's participants and convenient sampling technique to select staff of the refugees. A sample of 133 respondents which was determined using Yamane's formula was selected. Quantitative data were collected using standardized questionnaires; the 21-item posttraumatic growth inventory (PTGI) and 20-item Posttraumatic stress disorder checklist (PCL-5).The study adopted the embedded mixed methods research design by combining correlational and phenomenological research design. Correlational design is used in quantitative study to determine whether there is a relationship between two variables, while a phenomenological design is mostly used in qualitative enquiry whereby there is an in-depth interview with open ended questions in order to understand the phenomenon under study.

Creswell and Creswell (2017) argued that mixed method research offers more detailed evidence to study research issues than either qualitative or quantitative research alone. The two models allow the researcher to obtain both numeric and non-numeric data from the different respondent categories. Each methodology has its limitations that help to compensate and complement each other and achieve more satisfactory outcomes than using one form of research design. In this study, the researcher embedded qualitative design into quantitative design which was the primary design. The goal of this mixed method approach was to promote understanding of both the overall research problem and the relationship between variables. Hence, the two designs complemented one another in this study. Through this design, quantitative and qualitative data were collected separately, analysed separately and the results mixed during interpretation to answer the research questions.

This study was restricted only to Nairobi County which accommodates most of the urban refugees in Kenya (UNHCR, 2020). The choice was influenced by the available statistics which indicated that Nairobi County had 80,760 registered urban refugees (UNHCR, June 2020). According to the UNHCR, June 2020 demographic records of refugees and asylum seekers in Nairobi County, the total population group stands at 80,760. Out of which 6,205 were between the ages of 0 – 4 years (3,002 females and 3,203 males); 12,466 were between the ages of 5 - 11years (5,977 females and 6,489 males); 11,878 were between the ages of 12 – 17 years (5,930 females and 5,948 males); 48,016 were between the ages of 18 – 59 years, (25,219 males and 22,797 females); while 2,195 were between the ages of 60 years and above (1,244 females and 951 males). In this study, the focus was on urban refugees in Jesuit refugee service facilities (JRS) with the age bracket of 18-59 years (male and female). These categories of the population were of interest to the researcher because this age bracket was the highest among the population and also the researcher reduced the study to a manageable and also accessible population. This helped the study to focus on urban refugees within the time frame of this study. Moreover, it was not every centre that was accessible.

The study population comprised of only adult male and female refugees between the ages of 18 to 59 years to help establish if there are age and gender differences in psychological distress and PTG among the refugees. The total population of refugees in the Jesuits refugee service in Kenya were about twelve thousand three hundred and forty nine (12,349) living in three areas (Kakuma, Kalobeyi and Nairobi) and in Nairobi, there were 200 refugees within the county(18-59) age bracket. The researcher used Yamane (1973) sample size formula. Yamane formula was used because it provides a simplified formula in calculating sample size. The calculation formula was presented as follows.

$$n = \frac{N}{1 + (e)^2 N}$$

Where:

n = sample size required

N = number of people in the population

e = allowable error (%) or the level of precision.

$$n = \frac{200}{1 + 0.05^2 (200)}$$

n = 133

This gave a sample size of 133 respondents. In this study for the quantitative strand, from the population, people between the ages of 18-59 years had an equal chance of inclusion in the sample (Kothari & Garg, 2014); while for the qualitative sample, the researcher used purposive sampling to select refugee's participants and convenient sampling technique to select staff of the refugees.

4. Results and Discussion

Demographic Mean Differences in Relation to Trauma Reaction

The study sought to establish the various demographic characteristics of the participants and their distribution of means differences across the different measures. The factors comprise participant's age, gender, religion and their mean differences in response to trauma reaction.

Trauma Reflection and Age

The study examined the age of the participants to find out whether age has influence on the level of trauma reaction of the participants. The finding was presented in table 1.

Table 1: Age differences in relations to Trauma Reaction

Age of Participants	Re-experiencing		Avoidance		Negative alteration in cognition and mood		Hyper-arousal	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
18 – 23	1.82	1.02	1.67	0.94	1.67	0.94	1.75	1.01
24-29	2.49	0.92	2.48	0.79	2.48	0.79	2.32	0.84
30-35	2.50	0.88	2.39	0.87	2.39	0.87	2.06	1.02
36-41	2.50	0.73	2.30	0.79	2.30	0.79	2.06	0.85
42-47	3.16	0.69	2.77	0.71	2.77	0.71	2.66	1.00
48-53	2.67	0.89	2.21	0.82	2.21	0.82	1.89	0.98
54-59	2.24	0.91	2.10	0.57	2.10	0.57	2.10	0.88

Finding in Table 1 showed the mean score was higher between the ages 42-47 in response to re-experiencing traumatic event. There was a consistent pattern of trauma reactions across the different age brackets of the participant with mean score between (Mean 2.06- 2.48). Surprisingly, all the trauma reactions experienced by the participants was reported to be the lowest at the lower ages 18-23 (Mean = 1.67-1.82). The findings showed that trauma reactions as experienced by the participants increases as individual transits from adolescence to adulthood and higher at mid-40s as seen from the sample in the present study. The findings showed that age has influence on the trauma reaction of the participants.

Trauma Reaction and Gender

The study-targeted the gender of participants in order to ascertain whether there were gender differences in how they react to trauma. The finding is revealed in table 2.

Table 2: Gender Difference in relations to Trauma Reaction

Gender of the Participants	**Re-experiencing**		**Avoidance**		**Negative alteration in cognitive and mood**		**Hyper-arousal**	
	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
Male	2.18	0.99	2.12	0.84	2.12	0.84	1.87	0.95
Female	0.60	0.84	2.32	0.88	2.32	0.88	2.22	0.91

Source: Field data, 2021

Finding in Table 2 demonstrated the mean score was consistent among male participants in the tenant of re-experiencing (Mean = 2.18), avoidance and negative alteration in cognition and mood (Mean = 2.12) and lower in response to hyper-arousal (Mean= 1.87). There is a consistent mean score pattern of trauma reactions experienced by female participants in response to avoidance and negative alteration in cognition and mood (Mean = 2.32), hyper-arousal (Mean= 2.22) and lower in response to re-experiencing traumatic event. The findings showed that re-experiencing trauma reactions is high among male participants and lower among female participants. This implied that female participants recovered from re-experiencing traumatic event faster than male participants re-experience. However, the finding reported that hyperactive arousal is higher among

female than male participants. This implied that male have more shock absorber or coping skills than female participants in dealing with trauma reactions. The findings reaffirmed the study of Ainamani et.al (2020) among Congolese refugees in Uganda, the results showed that the overall high prevalence of PTSD differed among women (94%) and men (84%).

Trauma Reaction and Religion

The study sought to find out whether religion has influence on the level of trauma reactions of the participants. The findings were presented in table 3.

Table 3: Religion Differences in relations to Trauma Reaction

Religion of Participants	Re-experiencing		Avoidance		Negative alteration in cognition and mood		Hyper-arousal	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Christian	2.39	0 .96	2.21	0.92	2.21	0 .92	2.02	0.96
Muslim	2.46	0.87	2.47	0.51	2.47	0.51	2.52	0.65
Hindu	3.00	.	1.42	.	1.42	.	2.83	.
ATR	3.60	.	2.71	.	2.71	.	3.50	.
Others	1.88	0 .66	2.00	0.52	2.00	0.52	1.42	0 .85

Finding in Table 3 indicated the mean score was higher in response to re-experiencing trauma reactions among the Hindu and African traditional religion with mean score (Mean = 3.00) and (Mean= 3.60) respectively. Among Muslim (Mean =2.46), Christian (Mean = 2.39) and lower among other religion (Mean= 1.88). There was a higher mean score pattern of trauma reactions experienced by participants regardless of religion across all trauma reactions.in response to hyper-arousal , there is higher mean score among Africa traditional religion (Mean = 3.50). The findings showed that all participants, regardless of religion, experience trauma reactions but at different levels. This portrayed that belief and understanding people attached to traumatic experience forms a contributing factor to trauma reaction. Various Studies have shown that religion or spiritual beliefs indeed have a positive effect on dealing with trauma (Bryant-Davis & Wong, 2013; Dueck & Byron, 2011; Brewer-Smyth & Koenig, 2014).

Demographic Mean Differences in Posttraumatic Growth

The study sought to establish the various demographic characteristics of the participants and their distribution of mean differences across the different measures. The factors comprise participant's age, gender, religion and their mean differences in response to posttraumatic growth.

Posttraumatic Growth and Age

The study sought to find out whether age has influence on posttraumatic growth of the participants. The finding was presented in table 5.

Table 4: Age differences in relation to PTG

Age of Participants	Relationship with others		New possibilities in life		Personal strength		Spiritual change		Appreciation of life	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
18-23	2.99	0.95	3.32	0.88	3.12	0.85	3.26	1.12	3.26	1.12
24-29	3.11	0.75	3.20	1.03	3.18	0.97	3.57	1.05	3.57	1.05
30-35	2.89	0.99	2.85	0.98	2.86	0.76	2.94	0.82	2.94	0.82
36-41	2.78	0.62	2.83	0.87	2.92	0.86	2.93	1.10	2.93	1.10
42-47	2.34	1.33	3.28	0.59	3.55	0.69	3.66	0 .57	3.66	0.57
48-53	3.00	0.67	3.44	0.50	3.16	0.81	3.66	0.84	3.66	0.84
54-59	2.84	0.74	2.88	0.68	3.02	0.90	3.36	0.80	3.36	0.80

Finding in Table 4 showed the mean score between the ages 18-23 in relation to relationship with others (Mean= 2.99), new possibilities in life (mean = 3.32), personal growth (mean= 3.12), spiritual change (mean =3.26) and appreciation of life (mean=3.26). The mean score between the ages 24-29 in relation to relationship with others (Mean= 3.11), new possibilities in life (mean = 3.20), personal growth (mean= 3.18), spiritual change (mean=3.57) and appreciation of life (mean=3.57). The mean score between the ages 30-35 in relation to relationship with others (Mean= 2.89), new possibilities in life (mean = 2.85), personal growth (mean= 2.86), spiritual change (mean=2.94) and appreciation of life (mean= 2.94). The mean score between the ages 36-41 in relation to relationship with others (Mean= 2.78), new possibilities in life (mean = 2.83), personal growth (mean= 2.92), spiritual change (Mean =2.93) and appreciation of life (mean =2.93). The mean score between the ages 42-47 in relation to relationship with others (Mean= 2.34), new possibilities in life (mean = 3.28), personal growth (mean= 3.55), spiritual change (mean=3.66) and appreciation of life (mean=3.66). The mean score between the ages 48-53 in relation to relationship with others (Mean= 3.00), new possibilities in life (mean = 3.44), personal growth (mean= 3.16), spiritual change (mean=3.66) and appreciation of life (mean=3.66). The mean score between the ages 54-59 in relation to relationship with others (Mean= 2.84), new possibilities in life (mean = 2.88), personal growth (mean= 3.02), spiritual change (mean=3.36) and appreciation of life (mean=3.36)

The mean score was consistent and higher between the ages 24-29 and 48-53 ranging between (Mean = 3.11 to Mean = 3. 57) and (Mean = 3.00 to Mean = 3. 66) respectively in response to all the PTG indicators. However, there is a consistent similar pattern of PTG across the different age brackets of the participants. The findings showed that age has influence on the Posttraumatic growth of the participants.

Posttraumatic Growth and Gender

The study sought to establish whether gender has influence on posttraumatic growth of the participants. The findings is presented in table 5

Table 5: Gender Difference in relations to Posttraumatic Growth

Gender of Participants	Relationship with others		New possibilities in life		Personal strength		Spiritual change		Appreciation of life	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Male	3.00	0.91	3.20	0.82	3.18	0.84	3.35	0.94	3.35	0.94
Female	2.85	0.79	3.01	0.96	2.96	0.86	3.24	1.06	3.24	1.06
Others	2.92	0.30	2.90	0.98	2.62	0.17	2.83	0.23	2.83	0.23

Findings in Table 5 illustrated that mean score was higher among male participants across all the PTG indicators between (Mean = 3.00 and Mean= 3.35). The mean score of PTG was equally found to be high among female between (Mean= 2.85 and Mean = 3.24). There is a high mean score pattern of PTG by others participants in response to all the indicators of PTG between (Mean = 2.62 and Mean = 2.92. The findings indicated that all the participants regardless of gender experienced posttraumatic growth. However, the finding reported that spiritual change and appreciation life was higher among male participants. This implied that male bounce back

easily after traumatic experience than female and other gender. The findings concur with the argument of Tedeschi and Calhoun (2004) that PTG is not stereotyped, various personality types would respond to posttraumatic growth differently in the same way gender differences and religious belief influence how people respond to PTG differently.

Posttraumatic Growth and Religion

The study sought to establish whether the religion of the participants has influence on posttraumatic growth. The findings are presented in Table 6

Table 6: Religion Differences in relations to Posttraumatic Growth

Religion of Participants	Relationship with others		New possibilities in life		Personal strength		Spiritual change		Appreciation of life	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Christian	2.99	0.81	3.18	0.88	3.14	0.86	3.33	1.00	3.33	1.00
Muslim	2.76	0.92	2.90	0.96	2.69	0.69	2.94	1.00	2.94	1.00
Hindu	2.57	.	2.20	.	2.50	.	3.00	.	3.00	.
ATR	3.28	.	3.40	.	2.75	.	4.66	.	4.66	.
Others	2.38	1.17	2.48	0.65	2.85	0.98	3.19	0.81	3.19	0.81

Finding in Table 6 shows the mean score was higher in appreciation to life, spiritual change, new possibility in life, relationship with others and personal growth among African traditional religion with mean score (Mean = 4.66) and (Mean= 4.66), (Mean= 3.40), (Mean=3.28) and (Mean= 2.75) respectively. Interestingly, PTG was equally found to be high among Christians between (Mean =2.99 to Mean =3.33). Among Muslim was between (Mean = 2.69 to Mean=2.94). Among Hindu was between (Mean= 2.20 to Mean = 3.00) and among other religion (Mean= 2.38 to Mean = 3.19). There was a similar pattern in mean score in response to PTG of the participants regardless of religion. However, in response to spiritual change and appreciation life, there was higher mean score among Africa traditional religion (Mean = 4.66). The findings demonstrated that all participants regardless of religion experience posttraumatic growth. This showed that belief and psychosocial support, teaching and understanding people attached to traumatic experience form a contributing factor to posttraumatic growth. This conclusion supported the findings of various studies that spiritual beliefs indeed have a positive effect on people who have experience any kind of trauma (Bryant-Davis & Wong, 2013; Dueck & Byron, 2011; Brewer-Smyth & Koenig, 2014).

Influence of PTG on PTSD among refugees in Nairobi County, Kenya

The study examined the influence of PTG on PTSD among refugees in Nairobi County, Kenya. The researcher adopted standardized tools to obtain the data. The questionnaires were given on a 20-items and 5-point Likert Scale (Not at all - 0, A little bit -1, Moderate - 2, Quite a bit – (3), Extremely – (4) and on a 21- items and 6-point Likert Scale: I did not (0), To a very small degree (1), To a small degree (2), moderate degree (3), Great degree (4), Very great degree (5). The results were summarized below.

Correlation between Posttraumatic stress Disorder and Posttraumatic Growth

The study sought to investigate the impact of PTG on PTSD. The findings were presented in table 7.

Table 7: Correlation between Posttraumatic Stress Disorder and Posttraumatic Growth

		Post-Traumatic Stress Disorder	Post Traumatic Growth
Trauma	Pearson Correlation	1	-.319**
	Sig. (2-tailed)		.000
PTG	Pearson Correlation	-.319**	1
	Sig. (2-tailed)	.000	

**. Correlation is significant at the 0.01 level (2-tailed).

As shown in Table 7 the study revealed a weak negative relationship between Posttraumatic stress disorder and posttraumatic growth ($p < 0.01$, $r = -.319$).This implied, as individuals who had gone through traumatizing experience progress in posttraumatic growth, the level of post-traumatic stress disorder decreases with time. This portrayed that continuous psychological and psychosocial assistance are considered as coping skills that facilitate posttraumatic growth. The findings corroborate with the study done by (Soo & Sherman, 2015; Vloet et al., 2014; Holgerson, Boe & Holen, 2010 & Lewis et al., 2019) regardless of difference in research methodology and objectives but the findings were in conformity with the current study. The findings concurred with the work of Shakespeare-Finch and Lurie-Beck 2014 & Bapolisi et al., 2020) which investigated the strength and the link between post-traumatic stress disorder (PTSD) symptoms and post-traumatic growth (PTG) perceptions. After applying the Bonferroni correction, the perception of stress remained significantly associated with PTSD. Siqveland et al., (2015) conducted a longitudinal research on Post-traumatic growth, depression and post-traumatic stress in relation to quality of life among tsunami survivors. The findings were in agreement with the current study despite it being a longitudinal study.

Discussion

The finding indicated that participants had experienced trauma and that they also had experienced posttraumatic growth at different PTG degree. This was in agreement with other global studies. For instance, in New York, Schneider et al. (2019), conducted a study on post-traumatic growth and mental health difficulties in the aftermath of Hurricane Sandy. The study included 1,356 participants recruited from the New York metropolitan area, who completed questionnaires regarding their experiences of the hurricane, demographics, MHD, and PTG. The findings indicated that all MHD were crudely associated with greater PTG.

Teodorescu et al. (2012) conducted a study in Norway that looked at post-traumatic growth, post-traumatic stress symptoms, depressive symptoms, post-migration stressors, and their association with quality of life in a refugee outpatient psychiatry population. Fifty five psychiatric outpatients with a refugee background participated in this cross-sectional study using structured clinical interviews for DSM (SCID-PTSD) and Mini-international Neuropsychiatric interview (MINI) to measure psychopathology and four self-report instruments measuring posttraumatic growth, posttraumatic stress symptoms, depressive symptoms, and quality of life (Post-traumatic growth inventory- short form (PTGI-SF), Impact of events scale-revised (IES-R), Hopkins symptom checklist -25-depression scale (HSCL), and World Health Organization quality of life scale (WHOQOL-Bref) as well as measures of social integration, social network and employment status. The findings revealed that all patients reported some level of post-traumatic growth, with only 31% reporting greater levels of growth.

Furthermore, In the United Kingdom, Mark, Stevelink, Choi, and Fear (2018) conducted a review of studies on PTG among military and ex-military personnel from 2001 to 2017. The intent of the study was to establish evidence of PTG and possible factors promoting PTG among the sample. Secondary data from electronic data base such as PsycInfo, OVID medline and Embase were searched for studies published between 2001 and 2017. The study's suitability criteria and participant documents were kept if they involved military or former military personnel, some of whom had been deployed to Iraq or Afghanistan. A quality assessment was performed on all the study. Results indicated moderate growth among the sample. Higher levels of social support, spirituality, and rumination, as well as minority ethnicity, were all linked to increased post-traumatic growth.

In Kenya, Asatsa (2018) examined strategies for processing trauma and post-traumatic growth among survivors of a terrorist attack at Garissa University. The findings established a positive relationship between post-traumatic growth and early trauma processing strategies,

severity of traumatic events, traumatic recovery strategies and the number of counselling sessions attended after the terrorist attack. The study again elicited higher post-traumatic growth in the victims of the Garissa University terrorist attack compared to other global studies. Consequently, findings of the present study were consistent with the theoretical framework of Tedeschi and Calhoun (2004) and Calhoun et al., (2010) who opined that when people are faced with an overwhelming or life threatening events, they start to value what they were not valuing before the experience.

5. Conclusion and Recommendations

The study examined the Influence of PTG on PTSD among refugees in Nairobi County, Kenya. The study found that trauma reactions are inevitable among participants who had gone through traumatizing experience in life. The report of the findings showed that participant experienced trauma reactions at different degree depending on the circumstances that led to traumatic event. However, the trauma reactions were at lower degree across all the indicators of trauma reactions. The finding also demonstrated that even though participants had experienced trauma that they also had experienced posttraumatic growth at different PTG degree with high similar pattern of mean score.

Additionally, the study also revealed that participant experienced an increase in posttraumatic growth especially in the area of their religious faith. This also suggested that the religion and belief of participants of this study influenced their posttraumatic growth. The study concluded that there is a weak negative relationship between Posttraumatic stress disorder and posttraumatic growth. This implied, as individual who had gone through traumatizing experience progresses in posttraumatic growth, the level of post-traumatic stress disorder will decrease with time. This also indicated that continuous psychological and psychosocial assistance are considered as coping skills that facilitate posttraumatic growth. Based on the findings of this study, the following recommendations were made:

Family: The researcher recommends that family members should be supportive of each other as this brings about wellness. The study established that as a traumatic individual improves in relationship with others, seeing new possibilities in life and personal strength, the level of depression, anxiety and PTSD will decrease. This means that the more individual improve in human relationship, the less symptoms of anxiety, depression and PTSD is reported.

JRS Center: from the findings of the current study a host of factors contribute to the posttraumatic growth of refugees in urban area, who have experienced distressing situation over time. It was established during the study that the efforts of JRS in responding to their distress has also gone a long way in reducing the psychological distress brought by their distressing situation and thereby bringing about a stable mental health and posttraumatic growth experience. The researcher recommends that JRS should continue rending these services to refugees.

Refugees: from the findings of the study which reveals that refugees moved from their distressing situation to growth due to their exposure to different programmes and services. Therefore, this study recommend that refugees should be open to whatever programme is organized for them in order to enhance their wellbeing and livelihood.

NGOs and Government: The study recommended that refugees be empowered by the government and non-governmental organizations to engage in small-scale businesses in order to enhance their livelihood. Alternatively, they can be empowered with a certain amount of loan to start a small business in line with their areas of specialization at the centre. This recommendation stems from the qualitative finding where the participants suggested that JRS provide cheques to students to do shopping and pay for their rent. Lack of support from NGOs and Government leaves some of the refugees vulnerable.

Counslling psychologists – the findings of the current study suggested that refugees are psychologically distressed population (they experience anxiety, depression and PTSD). It also reveals that anxiety, depression and PTSD are natural emotional reactions to distressing events. Therefore, counseling psychologist should collaborate with the government, other NGO's and agencies to offer free counselling services to refugees.

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