UNIVERSITY OF CAPE COAST

EFFICACIES OF COUNSELLING THEORIES IN REDUCING SUICIDE IDEATION AMONG UNDERGRADUATE STUDENTS OF UNIVERSITY OF CAPE COAST, GHANA

BENEDICTA AMA ACKON

2022

UNIVERSITY OF CAPE COAST

EFFICACIES OF COUNSELLING THEORIES IN REDUCING SUICIDE IDEATION AMONG UNDERGRADUATE STUDENTS OF UNIVERSITY OF CAPE COAST, GHANA

BY

BENEDICTA AMA ACKON

Thesis submitted to the Department of Guidance and Counselling of the Faculty of Educational Foundations, College of Education Studies, University of Cape Coast, in partial fulfillment of the requirements for the award of Doctor of Philosophy degree in Guidance and Counselling.

MAY 2022

DECLARATION

Candidate Declaration

I hereby declare that this thesis is the results of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature …… Date ……

Name ……

Supervisors' Declaration

We hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Principal Supervisor's Signature …… Date……

Name ……

Co-Supervisor's Signature …… Date……

Name ……

ABSTRACT

The purpose of this study was to examine the relative efficacies of two counselling theories [Individual Psychology (IP) and Cognitive Behavioural Therapy (CBT)] in reducing suicide ideation among regular undergraduate students of University of Cape Coast. A mixed methods approach was used in which a quasi-experimental research design, specifically, the pre-test, post-test and control group design was combined with a qualitative phase. Thirty (30) undergraduate students from four colleges in the University were non-randomly assigned to two treatment groups and one control group for the quantitative data using Beck Scale for Suicide Ideation, while eight were interviewed for the qualitative data. Descriptive statistics (frequency and percentage) and inferential statistics (dependent samples *t*-test, independent samples *t*-test and MANOVA) were used to analyse the quantitative data at the alpha level of .05. The qualitative data were analysed thematically. The results revealed that undergraduate students of the University of Cape Coast only rarely and intermittently experience suicide ideation. Also, gender, age, level of study and college of students influenced suicide ideation among undergraduate students of the University. Furthermore, the results revealed that both IP and CBT are effective in reducing suicide ideation among undergraduate students, with CBT being slightly more effective than IP. The study recommended that regular screening exercises in suicide ideation be made part of the University's programme to be organised by the Counselling Center in order to create awareness and help students who are suicidally ideated to reduce or eliminate this problem. The findings of the study can also be shared with the appropriate authorities (the University, counsellors and other stakeholders) to alert and assure them of the availability of therapies that can be used to reduce suicide ideation.

ACKNOWLEDGEMENTS

With a heart full of gratitude, I want to thank God for His Grace and Mercies that have brought me thus far. May He be glorified forever. To my Principal Supervisor, Prof. Joshua A. Omotosho, I am very grateful for his guidance, support and encouragement. He spent a lot of time to read every single sentence of the work, effecting corrections with his red pen to bring the work this far. May God richly bless him. I am also grateful to my Co-supervisor, Rev Dr. Kwasi Otopa Antiri, for the support and encouragement and his comments that have helped the work to get this far. May God bless him.

I also acknowledge the support of my husband and backbone, Dr. Ekow Adom Mensah, whom I thank for his prayers, motivation and encouragement and plenty of calls. I thank him for believing in me. I would have been unable to do this study without him. To my children, Yooku, Kofi, Yookow, Yoofi and Ewurafua, I express appreciation for their prayers, and for their noise that almost always wakes me up and keeps me alert in front of my laptop. Also, I owe infinite thanks to Daddy W.K. and Mummy Grace, for their unconditional support, prayers, encouragement and calls. May God bless them. I thank my Mum, Auntie Ceci and siblings, family and great friends, for being there for me at all times. Finally, to my course mates, who have been a source of support and encouragement to me, I am internally grateful.

DEDICATION

To my husband, children, mother, in-laws, siblings and great friends.

Also, to my girls, Yoni and Yona.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

AT	Adlerian Therapy
CBT	Cognitive Behavioural Therapy
IP	Individual Psychology
SI	Suicide Ideation
UCC	University of Cape Coast

CHAPTER ONE

INTRODUCTION

Suicide ideation is a critical part of the suicide process; it precedes suicide attempts and completed suicides (Harris & Barraclough, 1997). It is therefore essential to identify this early step, so as to stop its progression into suicide plan or attempt (Arria, O'Grady, Caldeira, & Vincent, 2009). Some researchers on suicidality focused on; The Rising Cases of Suicide in Ghana; Adolescent Suicide in Ghana; and Prevalence of Suicide Ideation on University Students in Ghana (Osafo, Hjelmeland, Knizek, & Akotia, 2012; Pupulampu, 2015). According to Oppong Asante, Kugbey, Osafo, Quarshie and Sarfo (2016), Ghana has recorded few data where information on suicide ideation and suicidality among university students could be obtained. This study focused on the efficacy of counselling theories in reducing suicide ideation among undergraduate students of University of Cape Coast. It is hoped that the theoretical and practical implications of the results of the study will enable Counsellors and other helping professionals to be in a better position to help reduce suicide ideation among those who are suicide ideated.

Background to the Study

A few years back in 2000 we saw suicide dominating newspaper headlines, television stations and the media in general. This caused fear and panic with some calling for national prayers to exorcise Ghana from any evil that might have accounted for that. Some years down the line, 2018 the situation has not become any better but rather it has grown worse.

The suicide of a loved one is an enormously stressful and challenging life event that affects a significant proportion of the Ghanaian population. Ghana records about 1,500 suicide cases annually. In the 2010 census, Ghana Statistics Service reported 3,705 suicides, and given that suicidal deaths are commonly underreported (Goldney, Clary & Snyder, 2010), the actual annual figure is likely to be higher. However, Dzorgbo (2014) indicated that scientific statistics of suicide in Ghana is hard to come by but agreed that the trend is increasing at a fast rate in the country. It is estimated that between 5 and 10 people are intimately affected by each suicide (e.g., Jordan & McIntosh, 2011c; Wertheimer, 1991). According to this estimate, between 20,000 and 40,000 people are impacted by suicide annually in Canada, thereby becoming suicide survivors (Rawlinson, Schiff, Leith, Hides, Chugh & Barlow, 2009).

The term suicide survivor describes a person who has lost a significant other to suicide (e.g., Cain, 1972; Wertheimer, 1991). In contrast to the term victim, the concept of survivor encompasses the notion of persevering despite the pain of the loss. While the present study will use the term suicide survivor to refer to an individual bereaved through suicide, a clear definition of this term has not been formulated within suicidology (Jordan, 2008).

Suicide is a worldwide public health concern and a leading cause of preventable deaths. The Center for Disease Control and Prevention (CDC, 2012) in the United States of American estimates that young adults between the ages of 15 and 24 years attempted suicide approximately 100 to 200 times for every completed suicide. Understanding the origins of suicide ideation and identifying high risk populations is critical in the pursuit of suicide prevention. Awareness of risk factors that decrease suicidal behaviour and protective factors

that increase resilience and coping skills are essential components of suicide prevention. Suicidality or suicidal behaviour exists along a continuum that extends from suicide ideation or thoughts, through suicide related communications, suicide attempts and finally suicide (CDC, 2012).

Research highlights the urgency of developing and implementing effective assessment, prevention and treatment strategies. Theoretical frameworks form a basis for empirical study from which effective strategies evolve. The Interpersonal Theory of Suicide (Joiner, 2005) contains the most up-to-date research in the field of suicide assessment and management of risk.

The Interpersonal Theory of Suicide posits those two painful interpersonal states comprised of low belonging and misperceptions of being a burden are risk factors for suicidal desire (Joiner, 2005). When these two psychological states occur simultaneously in an individual capable of lethal self-injury, the potential for suicide is most elevated. The unique strength of this theory lies in distinguishing between those who desire death by suicide, but do not attempt suicide and those who make a serious attempt to enact lethal self-harm.

Alfred Adler's 1937 essay on suicide underscored the significance of interpersonal characteristics such as social isolation and feelings of inferiority. Adler understood the origins of suicide to be complex and accounted for both distal and proximal factors. The process of Adlerian therapy includes increasing social interest and challenging an individual's private logic and mistaken beliefs. Current research on suicidal behaviour confirms many of the assertions Adler formulated nearly a century ago.

Cognitive Behaviour Therapy (CBT) helps individuals understand the thoughts and feelings that influence behaviour. Individuals learn how to recognize and change self- destructive thought patterns that negatively affect behaviour. CBT aims to teach an individual that although one may not control what happens in his/her environment, one can control how she/he interprets and responds to situations. As a treatment strategy for suicide ideation, CBT assists in recognizing, challenging and changing unhealthy thoughts, as well as observing those suicidal thoughts without believing or acting on them.

Suicidal thoughts also known as suicide ideation are thoughts about how to kill one self which can range from a detailed plan to a quick consideration and does not include the final act of killing oneself. It is understood that the majority of people who experience suicidal ideation do not carry through their plan. However, studies again have shown that some of these ideators attempt suicide. Also, some suicide thoughts can be deliberately planned to fail or to be discovered, while others might be carefully planned to succeed (Oladele, 2016).

The CDC, (2012) defines suicide ideation as thinking about, considering, or planning for suicide. Robinson, Cox and Malone (2013) define suicide ideation as having thoughts of engaging in behaviour intended to end one's life. A survey in research by Logan, Crosby and Hamburger (2011) supported the findings by CDC (2012) that, nearly a fifth of the adolescent population had considered suicide in the previous year. Consequently, identifying adolescents at risk is an important goal of suicide prevention programs.

For students, the college or university is their community for a significant portion of the year. Colleges are a diverse group, including

traditional, commuter, older, international and veterans. Students with a history of suicide ideation have shown an increase in the use of tobacco, alcohol and illegal drugs. Students with a history of suicide ideation are more likely to engage in injury-related risk behaviours, like driving intoxicated, riding with someone who is driving intoxicated, swimming or boarding after drinking alcohol, engaging in a physical fight, carrying a weapon and failing to wear seatbelts regularly, if at all (Suicide Prevention Resource Center, 2004).

Suicide Prevention Resource Center, (2004). outlined some warning signs that indicate a student may be considering suicide include:

1. Sudden decrease in school performance.
2. Fixation with death or violence.
3. Unhealthy peer relationships.
4. Violent mood swings or sudden change in personality.
5. Indications that the student is in an abusive relationship.
6. Signs of an eating disorder.
7. Difficulty in adjusting to gender identity and/or depression

Suicide is one of the leading causes of death worldwide, with a global average rate of 16.7/100,000 persons per year (World Health Organization, 2007). Suicide is the second leading cause of death among young people aged 15-29 in Europe, following unintentional injuries (Blum & Nelson-Mmari, 2004). There is wide cross-national variation in suicide rates, and some indications of a global increase in rates of death by suicide, particularly for males, although rates in the U.S. and Canada have decreased in recent years (Nock et al., 2008b).

Suicide is a leading cause of death among college-aged students in the United States. It is estimated a campus of 10,000 students will see a student suicide every 2-3 years. Data from five years of suicide deaths on 645 campuses as reported by the National Survey of Counseling Center Directors indicates a rate of seven deaths by suicide per 100,000 students in the population (Nock et al., 2008b). However, the American College Health Association (2012) indicates in 2011 more than 6 percent of students admit to seriously thinking about suicide with 1.1 percent having made an attempt. This implied that, suicide ideation is a prerequisite for attempting suicide (WHO, 2007, 2014; Husky et al. 2012).

In addition to suicide being one of the leading causes of death, the "suicide problem" was evidenced by the widely prevalent suicidal thoughts and feelings experienced by American college students (Walack, 2007). Many of the students in college who contemplated suicide neither attempted nor committed suicide. However, these thoughts and feelings are problematic in themselves, as they impact quality of life (Beautrais, 2003), academic performance, retention rates and graduation rates (Kitzrow, 2003). Furthermore, college students who report having been depressed or who have thought about suicide are more likely to report consuming alcoholic beverages and more likely to report drinking to get intoxicated (Weitzman, 2004). Given this evidence indicates that suicide thoughts, feelings, and behaviours are wide spread among college students, and that suicide thoughts and feelings impact both quality of life and academic work.

Suicide rates vary markedly by age, gender and ethnicity. In the North American general population, rates of suicide increase in mid-adolescence (ages

15-19 years), especially for males (Nock et al., 2008a). Nock et al., (2008b) further state that, adolescence and early adulthood are the times of greatest risk for the onset of suicide ideation and behaviour. For adolescents aged 12 to 17 years, lifetime prevalence of suicide ideation ranges from 19.8 to 24.0%, and for suicide attempts from 3.1 to 8.8%. The 12-month rates are similar, ranging from 15.0 to 29.0% for ideation, 12.6 to 19.0% for plans, and 7.3 to 10.6% for suicide attempts.

Research by Husky et al. (2012) found that most young people with suicide ideation and half of those with a suicide plan or who had made a suicide attempt did not receive mental health treatment. Husky et al. also reported male adolescents were significantly less likely to receive mental health services, even though the risk of suicide for boys is four times greater than for girls. At the same time, female students are nearly twice as likely to consider or plan suicide as their male counterparts. As Logan et al. (2011) emphasized, suicide ideation is a mental health issue that is a burden of particular significance to the young adult female population.

Statement of the Problem

Some alarming information stumbled upon by *The Globe* newspaper (2015) revealed that suicide (the action of killing oneself intentionally) in Ghana is increasing at an alarming rate. According to the CDC (2012), suicide is the third leading cause of death among youth aged 15 to 24 years in USA. A youth risk behaviour study of students in grades 9-12 undertaken by the CDC found that in a 12-month period, 15.8% of students had seriously considered attempting suicide, 12.8% reported having a specific plan, 7.8% reported

making one or more suicide attempts, and 2.4% reported trying that required medical attention.

According to Arria et al. (2011), one in ten college students contemplated suicide and 1% to 2% of the college population attempted suicide. In a study conducted by Bauer, Chesin and Jeglic (2013), it was found that almost two-thirds of the college students who reported a past suicide attempt had attempted suicide more than once. A longitudinal study assessing college students with suicide ideation found that 59% of the participants who experienced having suicide ideation in college had reported having at least one earlier episode during adolescence (Arria et al., 2011).

One implication from the study by Arria et al. (2011) is the importance of assessing young people for risk at the earliest age possible to avoid incorrectly attributing problems in college to immediate environmental or social situations. Previous behaviour needs to be taken into consideration due to the elevated number of students who had contemplated suicide prior to attending college.

Participants in this study reported seeking treatment more often if they had received mental health services before attending college, especially if the treatment experience had been positive (Arria et al., 2011). This research also found that nearly half of college students reporting suicidal ideation did not receive mental health services and 44% of those who obtained treatment felt they needed more treatment than they received, presumably indicating a lack of mental health services for college students (Arria et al., 2011).

The World Health Organization (WHO) stated that by the year 2023, 1.5 million people will kill themselves annually worldwide and this actually starts

with suicide ideation. The sheer numbers make suicide and suicidal behaviour a top health issue. The WHO has, in fact, made suicide prevention, along with public prevention of malaria and tobacco related diseases, the top priorities for the first decade of this millennium.

Risk factors for suicide consist of characteristics or conditions that contribute to the risk that a person may take his or her life (American Foundation for Suicide Prevention [AFSP], 2014). Lamis, Malone and Ellis (2010) point out that oftentimes mental health facilities and suicide prevention centers are unable to detect college students most at risk for suicide and that only a small percentage of those individuals experiencing suicidal behaviour have contact with mental health services. Therefore, recent emphasis has been on assessing suicide proneness by focusing on risk factors (Lamis et al., 2010). AFSP emphasizes that potential for suicide is greater when multiple risks are present. Risk factors can be based on individual, relational or environmental characteristics.

Unlike the developing countries, the developed world has carried out lots of researches on suicide ideation (Arria et al. 2011; Husky et al. 2012; Logan et al. 2011; Jordan, 2008). Such researches have provided the developed world with information that can be used to provide assistance to those who are prone to suicidality. Nigerian students have one of the highest rates of suicide ideation and attempts (Oladele, 2016). These rates and attempts in developing countries are higher than developed countries (Omigbodun et al. 2008). Ghana, a developing country is known to have few in terms of a data bank where information on suicide ideation and suicidality among university students may be obtained (Oppong Asante, Kugbey, Osafo, Quarshie & Sarfo, 2016). It was

therefore imperative to conduct researches on suicide ideation especially among university students. Some researchers on suicidality focused on; The Rising Cases of Suicide in Ghana; Adolescent Suicide in Ghana; Suicide and Culture; and Developing Suicide Prevention and Research in Ghana (Osafo ,2010; 2011; 2013; Osafo, Hjelmeland, Knizek, & Akotia 2012; Osafo & Akotia, 2013; Oti, 2014; Pupulampu, 2015; Ghana Psychological Association, 2017). Again, most of these researchers made use of the descriptive survey design (Oti, 2014; Pupulampu, 2015; Nsamenang, 2014). A recent study by Owusu-Ansah, Addae, Peasah, Oppong Asante and Osafo, (2019) was on prevalence of suicide ideation on university students in Ghana and was conducted at Kwame Nkrumah University of Science and Technology using a cross-sectional design. However, there are foreign studies using the quasi experiment (Adeeb, 1994; Niu, 2014; Rivera, 2015; Bahorski, 2009) and one using the Cognitive Behavioural Therapy but was conducted in prison (Pratt, 2016). But in all the above, none of them used and tested these psychological theories – Individual Psychology (IP) and Cognitive Behavioural Therapy (CBT) to ascertain their efficacy in reducing suicide ideation among undergraduate university students. It was based on these research gabs that the researcher decided to test the efficacy of IP and CBT in reducing suicide ideation among undergraduate students of the University of Cape Coast by using the embedded mixed method design. Suicide ideation, according to Oladele (2016), should be nipped in the bud in students as the rate among students' population was becoming alarmingly high and their quality of life was being impacted, which would in turn be detrimental to national well-being.

Purpose of the Study

The purpose of the study was to test whether using Individual Psychology (IP) and Cognitive Behavioural Therapy (CBT) as intervention strategies would help in reducing suicide ideation among undergraduate students of the University of Cape Coast, Ghana.

Objectives of the Study

The objectives of the study were to:

1. ascertain the prevalence of suicide ideation among regular undergraduate students of the University of Cape Coast who are suicidal.
2. ascertain the gender distribution of regular undergraduate students of the University of Cape Coast with suicide ideation.
3. determine the individual characteristics which aid suicide ideation among UCC regular undergraduate students who are suicidal.
4. determine the environmental characteristics which aid suicide ideation among UCC regular undergraduate students who are suicidal.
5. determine the relative efficacies of Individual Psychology and Cognitive Behavioural Therapy in reducing suicide ideation among regular undergraduate students of the University of Cape Coast who are suicidal.

Research Questions

The study was guided by the following research questions:

1. How prevalent is suicide ideation among regular undergraduate students in the University of Cape Coast?

2. What is the gender distribution of suicide ideation among regular undergraduate students of University of Cape Coast?
3. What are the individual characteristics among regular undergraduate students which predispose them to suicide ideation?
4. What are the environmental characteristics among regular undergraduate students which predispose them to suicide ideation?
5. What are the relative efficacies of Individual Psychology (IP) and Cognitive Behavioural Therapy (CBT) in helping to reduce suicide ideation among regular undergraduate students in the University of Cape Coast?

Research Hypotheses

The study sought to test the following research hypotheses:

H_0 1: There is no significant difference in the reduction of suicide ideation between regular undergraduate students in pre-test and post-test groups with respect to Cognitive Behavioural Therapy (CBT).

H_A 1: There is a significant difference in the reduction of suicide ideation between regular undergraduate students in pre-test and post-test groups with respect to Cognitive Behavioural Therapy (CBT).

H_0 2: There is no significant difference in the reduction of suicide ideation between regular undergraduate students in pre-test and post-test groups with respect to Individual Psychology (IP)

H_A 2: There is a significant difference in the reduction of suicide ideation between regular undergraduate students in pre-test and post-test groups with respect to Individual Psychology (IP)

H_0 3: There is no significant difference in the efficacies of IP and CBT in reducing regular undergraduate students' suicide ideation.

H_A 3: There is a significant difference in the efficacies of IP and CBT in reducing regular undergraduate students' suicide ideation.

H_0 4: There is no significant difference in the reduction of suicide ideation among regular undergraduate students exposed to IP group and control group.

H_A 4: There is a significant difference in the reduction of suicide ideation among regular undergraduate students exposed to IP group and control group.

H_0 5: There is no significant difference in the reduction of suicide ideation among regular undergraduate students exposed to CBT group and control group.

H_A 5: There is a significant difference in the reduction of suicide ideation among regular undergraduate students exposed to CBT group and control group.

H_0 6: There is no significant difference in the reduction of suicide ideation among students exposed to IP and CBT treatments based on gender.

H_A 6: There is a significant difference in the reduction of suicide ideation among students exposed to IP and CBT treatments based on gender.

H_0 7: There is no significant difference in the reduction of suicide ideation among students exposed to IP and CBT treatments based on age.

H_A 7: There is a significant difference in the reduction of suicide ideation among students exposed to IP and CBT treatments based on age.

H_0 8: There is no significant difference in the reduction of suicide ideation among students exposed to IP and CBT treatments based on level of study.

H_A 8: There is a significant difference in the reduction of suicide ideation among students exposed to IP and CBT treatments based on level of study.

H_0 9: There is no significant difference in the reduction of suicide ideation among students exposed to IP and CBT treatments based on their colleges.

H_A 9: There is a significant difference in the reduction of suicide ideation among students exposed to IP and CBT treatments based on their colleges.

H_0 10: There is no statistically significant difference between the pre-test and post-test measures of suicide ideation of the control group.

H_A 10: There is a statistically significant difference between the pre-test and post-test measures of suicide ideation of the control group.

The purpose of the research hypotheses was to:

1. find the difference in pretest and posttest results of CBT.
2. find the deffernce in pretest and posttest results of IP.
3. determine the pretest and posttest results of both IP and CBT.
4. determine the pretest and posttest results of IP and control group.
5. determine the pretest and posttest results of CBT and control group.
6. indicate the reduction of suicide ideation among those exposed to both therapy sessions based on gender.
7. indicate the reduction of suicide ideation among those exposed to both therapy sessions based on age.
8. indicate the reduction of suicide ideation among those exposed to both therapy sessions based on level of study.
9. indicate the reduction of suicide ideation among those exposed to both therapy sessions based on programme of study.
10. find the pretest and posttest measures of the control group.

Assumptions of the Study

1. Individual Psychology and Cognitive Behavioural Therapy are effective in helping reduce suicide ideation among students.
2. Students with suicide ideation can be helped out of the situation.
3. Individual characteristics and environmental characteristics can help students develop suicide ideation.

Significance of the Study

1. The findings of the study may redound to the University's research data base on suicide ideation considering that suicide has become a canker in our nation as a whole. Thus, the findings may be of help in the effort to curb the situation in our institution.
2. It is hoped that the findings may help the Counselling Center of the University and other counsellors to ascertain which of the two therapies will be more efficacious in helping students with suicide ideation challenges.
3. The study may serve as a source of reference material for other related studies.
4. The use of the therapies for intervention purposes may help reduce suicide ideation among regular undergraduate students of the University of Cape Coast who are suicidal.
5. The findings may add to the existing literature on suicide ideation and thereby contribute to knowledge in the area of suicide ideation especially by the use of the two psychological therapies- IP and CBT.

Delimitations

1. The study was theoretically delimited in scope to age and gender distribution of suicide ideation, level and programme of study in relation to suicide ideation among regular undergraduate students of the University of Cape Coast; individual characteristics and environmental characteristics of suicide ideation and the efficacy of psychotherapeutic techniques of Individual Psychology and Cognitive Behavioural therapies in reducing suicide ideation.

2. The study was restricted to testing of two psychological therapies, Individual Psychology and Cognitive Behavioural Therapy, in reducing suicide ideation.
3. The study was geographically delimited to regular undergraduate students who are suicidal in the University of Cape Coast in the Cape Coast Metropolis in the Central Region of Ghana.
4. The study was delimited to the following environmental characteristics- exposure to suicide cases in one's community, exposure to media reportage on suicide and access to a lethal means of suicide.

Limitations

1. Some participants initially failed to open up and share during the intervention. This was reduced by the researcher establishing an effective rapport to create an atmosphere to encourage sharing and also assuring them of confidentiality and anonymity.
2. Methodologically, the study was underpinned by the pragmatists' paradigm and quasi-experimental (pre-test, post-test and control group) research design and a qualitative phase were employed for the study. To achieve the intended purpose of finding out the efficacy of the counselling theories, a greater focus on the qualitative aspect would have given the best result.
3. A follow-up was not conducted after the post-test to find out how participants were faring after the treatment sessions.

Definitions of Terms

College Student: a student studying at the University and it is synonymous to university student. Therefore, the study employed the use of both words.

Environmental Characteristics of Suicide: these are conditions in an individual's environment that may increase the possibility of suicide, e.g., exposure to a suicide or several suicides in one's community, access to a lethal method of suicide, etc.

Individual Characteristics of Suicide: these are conditions in the individual's life that increase the likelihood of suicide. These include previous suicide attempt(s), a history of mental disorders, alcohol and substance abuse, feelings of hopelessness, physical illness, isolation, and impulsive or aggressive tendencies. Again, age, gender, level of study and the college that the suicidal undergraduate student finds himself, were also considered in this study as individual characteristics that predisposed suicidal undergraduate University of Cape Coast students to suicide ideation.

Protective Factors: these are conditions in a young adult's life that may protect him or her from suicidal thoughts and behaviour. They include access to mental health facilities for assessment and treatment; feeling connected through family, friends, and community; and availability of programmes focusing on problem solving, conflict resolution, and nonviolent intervention.

Relational Characteristics of Suicide: these are characteristics of a relational nature that elevate the risk of suicide; they include a family history of attempted or completed suicide, family history of child mistreatment, and cultural and religious beliefs.

Resilience: this is an adaptive process that the individual willingly makes use of internal and external resources to overcome adversity or threats to development.

Risk Factors: these factors consist of characteristics or conditions that contribute to the situation that a person may take his or her life. These include depression, physical illness and family history of attempted or completed suicide.

Suicide Ideation: suicide ideation, also known as suicidal thought, is the thought about killing oneself. This thought can range from a detailed plan to a quick consideration and does not include the final act of killing oneself. It involves the thought of ending one's life.

Undergraduate Student: a university student studying for a first degree

Organisation of the Study

The study was organized into five chapters. The first chapter dealt with the introduction which gives an insight into the background of the study, the statement of the problem, the purpose of the study and the research questions and hypotheses which served as a guide to the study. It also dealt with the significance of the study, the scope of the study and the limitations of the study.

Chapter two focused on the review of related literature on the topic. It comprises the theoretical framework, the conceptual framework and the empirical review.

Chapter three comprised the research methods used in the study. It highlighted the study area, population and sampling procedure used in the study. It again described the research design as well as the data collection instruments, data collection procedures and the data processing and analysis that were used for the study.

Chapter four started with the results and discussion of the data collected for the study. It also contained the analysis of the questionnaires in relation to

the research questions and the research hypotheses. It also focused on the discussion of the findings of the study with support from empirical literature reviewed for the study.

Chapter five dealt with the summary, conclusions, recommendations and suggestions made on the topic for future research based on the findings of the study.

CHAPTER TWO

LITERATURE REVIEW

Overview

Relevant literature was reviewed to serve as the foundation for the study. Literature was reviewed under the following subheadings;

Conceptual Review

- Concept of suicide
- Explanation of suicide – biological, psychological, sociological, lay
- Views of suicide –sociocultural, philosophical, religious, cultural, legal
- Suicide ideation
- Epidemiology of suicide ideation
- Suicidal behaviour

Concept of Suicide

Suicide is the act of killing oneself. Suicide, according to the *Oxford Learners Dictionary* is 'the action of killing oneself intentionally'. It is a course of action which is disastrously damaging to oneself. Suicide can also be said to be an act of taking one's own life on purpose. This means there may be a situation that seems unbearable and impossible to deal with so the person decides to end it all. Many who attempt suicide are one way or the other seeking relief from situations like stressful life issues, such as serious financial or relationship problems, the feeling of shame, guilt, loss, loneliness, rejection or being a burden to others.

Explanations of Suicide (Biological, Psychological, Sociological and Lay)

Suicide has been explained through several approaches such as psychological, biological and sociological. The following are some explanations of various approaches:

Biological explanations of suicide: Building on an observed increased susceptibility of familial suicide amongst separated twins (Statham et al., 1998), it has been suggested that some genes are strongly associated with suicide (Roy et al., 1995). This does not mean that a single gene is 'responsible' for suicide, but rather that having particular genes may increase a disposure towards suicide. Roy et al., (2010) stress that while links can be found between genes and suicide, genes are greatly affected by environmental factors. They suggest that traumatic life events (especially in early childhood) affect the stress functions which in turn affect whether genes become 'active'. Genes are therefore linked to suicide, but they do not determine behaviour: they are themselves affected by wider psychological and biological factors.

While great advances are being made in the field of genetics, other biological factors such as the effect of serotonin (Baldessarini & Hennen, 2004) are also associated with suicide. Post-mortem studies of those who have killed themselves have highlighted changes in the prefrontal cortex which result in lower serotonin levels. Lower levels of serotonin can result in impaired decision making and behaviours (Mann & Currier, 2010).

Psychological explanations of suicide: Early psychodynamic approaches within psychology drew heavily on Freud's work on the 'death instinct' (1920), which frames suicide as a form of internal aggression. Suicide is seen as a result of melancholy where we are unable to satisfy the super ego, the moral

component of our psyche. Suicide is therefore an expression of moral anguish; in essence it becomes an expression of our internal moral conflict and aggression.

Williams and Pollock (2000) indicated that there are six factors for understanding suicide: impulsivity, dichotomous thinking, cognitive rigidity, problem- solving, autobiographical memory, and hopelessness. The feeling of hopelessness in particular has been found to affect problem-solving: those experiencing such feelings often struggle to identify and engage with problem-solving tasks (Schotte, et al., 1990). Williams and Pollock (2000: 89) suggest that we would do better to conceptualise suicide as a 'cry of pain' because such a model would bridge the divide between suicide and non-fatal suicide attempts. Using the construct of 'escape potential', Williams and Pollock (2000) suggest that less "serious" suicidal behaviours (i.e., "attempted suicide") are an attempt to create escape routes (i.e., when people believe that there is little chance of escape). Conversely "more serious" suicides (i.e., "completed suicides") are undertaken when someone feels defeated. Escape routes can take many forms depending upon the individual's situation: social workers might have some role to play as escape routes.

Thus, the study has divided suicide into two groups: sociological and psychological. This crude division does not represent how interconnected the various explanations for suicide could be. Giddens (1966) attempted to marry the work of Durkheim and Freud. In what is arguably a forerunner of what was to become his Theory of Structuration (1984), Giddens emphasised the interdependency of agency and social structure. He suggested that Durkheim is correct to assert the importance of social structure, but argued social actors are

autonomous reflexive beings (i.e., they are more than just a reflection of social structure). This autonomy takes the form of Freud's ego and super-ego, that is to say the 'rational' parts of the mind that manage the instincts or drives of the id, and the cultural rules that help to govern our behaviour. In making this link between sociological and psychological explanations, Giddens emphasised the need for dialogue amongst different fields of inquiry, a point that those researching suicide from a biological perspective have also come to recognise.

Sociological explanations of suicide: The sociology of suicide has a long history often seen as having an enduring legacy (Stack, 2000a). His work was characterised by a desire to 'extend scientifically rationalism to human conduct' (Thompson, 1982:35) in line with the objectivist tradition of sociology. Viewing social actors as largely passive to external social institutions and social norms, the focus was on two tenets: (i) social integration and (ii) moral regulation (Thompson 1982). Suicides, he reasoned, could be categorised into four distinct typologies: (i) Anomic suicide: a lack, or sudden loss, of social norms (moral confusion); (ii) Egoistic suicide: an estrangement from social networks; (iii) Fatalistic suicide: an act of an individual who feels confined by the social norms and unable to effect change; and, (iv) Altruistic suicide: a suicide compelled out of a sense of duty towards a group or society.

Durkheim's work relied on official statistics that can be problematic (Douglas, 1967). Rather than focusing on social 'rules', as Durkheim did, Douglas (1967) and those following (Atkinson, 1978; Baechler, 1979) have examined the process of how suicide is given meaning whether by coroners or anyone else. By examining rich text data (such as diaries and suicide notes), Douglas examined the complexity of suicides. Suicide, he argued, can only be

understood through the subjective sense- making of those undertaking the act. External factors, while very real, are interpreted and negotiated by the individual who then responds to these events. Douglas (1967) provides examples of how some suicides can become an expression of atonement, whilst others are characterised by a desire for revenge. Suicides therefore are not just external labels ascribed to the act, but also have subjective meaning to those undertaking the act.

Atkinson (1978) provided an alternative approach to understanding the meaning of suicide. Through the use of conversation analysis, Atkinson examined how coroners had pre-existing ideas about what they felt constituted a typical suicide. This affected the factors that they considered and how they interpreted the information available in making a verdict. Essentially, Atkinson established that coroners (and all those party to the process) would construct a narrative of what they believe had happened and contrast this with their own ideas about what they believed constituted a suicide. For example, a coroner (or a social worker) might look for factors that they think are associated with suicide, such as depression. If these factors are present, then they may come to believe that a death is a suicide: if they are not present then they are less likely to reach a suicide verdict.

Douglas (1967) and Atkinson (1978) interpreted suicide to be interactional in nature; it is a meaningful act that is subjectively interpreted both by those seeking to end their lives, and those left behind. The meanings given to the act of suicide are influenced by wider social phenomena, such as pre-existing beliefs about the morality and nature of suicide, but ultimately, they are uniquely personal narratives.

Within the sociology of suicide, there is a clear distinction in approaches of the positivist and interpretivist traditions; the former being concerned with a causal explanation of suicide and the latter concerned with understanding the nature of suicide. The divide between causally explaining suicide and understanding the nature of suicide has proven particularly divisive amongst sociologists, but other perspectives of suicide also jostle with the sociological accounts.

Lay explanations of suicide: The focus so far has been on academic accounts of suicide, but we must also consider what wider public perceptions and understandings of suicide exist. We cannot be sure, at this stage, if, or by how much, social workers are engaging with the wider academic debates and so gaining an insight into discourses in the public might be of great importance. Giddens (1994) discussed how lay and expert knowledge can become interconnected. Lay understandings can come to influence professional practice, as such it is important that public attitudes towards suicide are considered. Essentially these could help inform how social workers understand suicide.

Droogas et al., (1982) noted that suicides are often 'justified' by referring to the nature of the crisis the deceased was facing. The personal characteristics of the individual were not found to be important in their own right. This assertion that suicides can be 'justified' indicates that there appears to be a need for a death by suicide to be validated by our peers and society at large.

Several different attitudes to suicide seem to exist. Hill (1995) has argued that suicide evokes both pity and outrage in contemporary Western culture, suggesting diversity in understandings of suicide. However, Pompili et

al., (2003) suggested that there remains a stigma attached to suicide that it is in some way abhorrent. These negative views of suicide have previously been linked with religious beliefs (Bill-Brahe, 2000), that is to say suicide is characterised as a 'sinful' act. Other discourses view those completing or making an attempt to end their lives as engaging in a selfish act (Joiner, 2010). Those completing the act of suicide are felt to be 'weak' or unconcerned for the plight of the bereaved.

Negative attitudes to suicide can extend to the survivors (i.e., the relatives and friends of the deceased). Cvinar (2005) discussed how relatives and friends also need to contend with a sense of stigma associated with deaths by suicide. Further to this survivor have to contend with others questioning how they 'did not notice' or failed to act to prevent the death. For social workers, anxieties about service user deaths and the potential repercussions can be very real.

One final interpretation of suicide is seeing suicide as a 'cry for help' (Nock & Kessler, 2006). This discourse views those who make an attempt on their lives not because they wish to die, but as a way of getting attention or assistance. Here the intentionality of the act as well as its meaning is called into question.

In summary, suicide is a contested issue with multiple, interconnected and at times competing explanations. Sociological, psychological, biological and lay explanations all offer different understandings of suicide. Suicide ideation forms the basis of sucide. It is the first stage in the suicidal process. In most cases, people are familiar with suicide than suicide ideation, therefore, the

researcher, started from the known to the unknown to ensure proper understanding of the concept

Views of Suicide

Suicide in Sociocultural Context

To provide a foundation for the subsequent exploration of clinical issues in suicide bereavement research, I will first consider the sociocultural context of suicide, including the philosophical, religious, cultural, and legal views on suicide. Since these views affect people's reactions and attitudes toward survivors, a comprehensive portrayal of survivors' experiences necessitates the consideration of such sociocultural factors. This discussion will thus form one part of the conceptual framework for understanding the suicide.

A research study conducted in Canada, a place characterized by ethnic and religious diversity. The different communities (i.e., First Nations, Inuit, Métis, and numerous immigrant groups) that make up Canadian society differ in their conceptualization of and attitudes toward suicide (e.g., Kirmayer, 1994; Kirmayer & Young, 1998; Trovato, 1998; White, 2007). In discussing the sociocultural context of suicide and the research on reactions to suicide survivors, while the aim of this discussion is not to provide a comprehensive review of the full range of reactions to suicide, this section will highlight some of the commonly held beliefs and assumptions that likely influence experiences.

Philosophical views of suicide: The Western philosophical conceptualization of suicide has undergone a major transformation throughout the years. In his seminal writings on suicide, Émile Durkheim (1897/1951) drew attention to the critical role of sociocultural forces such as a general state of societal

fragmentation and people's experience of social isolation in the genesis of suicide.

Durkheim did not regard suicidal behaviour as a highly personal act stemming from the individual's idiosyncratic mental state but viewed it in its broad sociocultural context. Yet this perspective on suicide shifted when 20th century scholars took a greater interest in the effects of mental illness and individual factors (such as personality traits) on suicidal behaviour (Health Canada, 1994). It is important to consider the likely impact of this shift on thinking about suicide. At a time when suicidal behaviour was indicative of a problematic social milieu, individuals bereaved through suicide were likely met with some degree of understanding and support. The problem would not be located within the family dynamics or the psyche of the suicidal individual, but instead would be conceptualized as a broader societal issue (e.g., Durkheim, 1897). Therefore, the family of the suicidal individual would likely not receive the entire blame for the suicidal act. On the contrary, when suicide is seen as a manifestation of mental illness, or as some other individual problem, survivors of suicide may encounter a stigmatizing attitude (e.g., Cain, 1972; Van Dongen, 1993). They may be pathologized for creating a harmful family environment and blamed for failing to prevent the suicidal act (e.g., Barnes, 2006). As an example, Cain's (1972) seminal compilation, Survivors of Suicide, reflects just such blaming attitudes toward survivors. Case vignettes describing experiences of suicide survivors focus on identifying underlying family psychopathology and draw attention to highly problematic family environments.

Religious views of suicide: Religion is another element of the sociocultural environment that affects suicidal behaviour and survivors' experiences in the

aftermath of their loss. Most religious traditions condemn suicide and ascribe detrimental consequences to suicidal behaviour (Gearing & Lizardi, 2009; Kaslow, Samples, Rhodes, & Gantt, 2001). For example, Christianity conceptualizes suicide as a sin, rendered particularly serious by the fact that one is unable to confess to the act and to repent (Gearing & Lizardi, 2009). Historically, this view of suicide resulted in sanctions, such as the refusal to bury individuals who had taken their own lives in Catholic cemeteries (Gearing & Lizardi, 2009). Other religious traditions that denounce suicide include Islam and Judaism (Gearing & Lizardi, 2009; Sarfraz & Castle, 2002). In Islam, the Holy Quran forbids suicide (Sarfraz & Castle, 2002), and Islamic states that have incorporated the Sharia (Islamic law) into their legal system consider suicidal behaviour a criminal offense (Gearing & Lizardi, 2009; Sarfraz & Castle, 2002).

Considering such religious outlooks on suicide, some scholars have suggested that religion can act as a deterrent against suicidal behaviour (e.g., Kirmayer, 1994; Leong, Leach, & Gupta, 2008; Sisask et al., 2010). While it remains unclear whether the lower suicide rates reported in religious communities reflect the deterring force of religion or whether these statistics reflect the underreporting of suicidal deaths (Sarfraz & Castle, 2002), there is some empirical support for the protective function of religion against suicidal behaviour (e.g., Sisask et al., 2010). For example, in a large survey study inquiring about religious practices and suicidal ideation, Robins and Fiske (2009) found that involvement in public religious practices appeared to safeguard participants from suicidal ideation and attempts. These authors

concluded that social support provided by religious communities act as a significant protective factor (Robins & Fiske, 2009).

While a religious community may protect against suicidal behaviour, once a suicide has taken place, those left behind will likely experience severe social stigma (Gearing & Lizardi, 2009; Leenaars et al., 2010). For example, in their case report of a suicide in a Muslim family, Sarfraz and Castle (2002) described that the bereaved family experienced the withdrawal of social support and was ostracized by the Muslim community. In another study with African American suicide survivors, Barnes (2006) found that most participants reported African American churches to have been unhelpful during their bereavement process because of the strong negative views of suicide.

In sum, while religion may provide protection from suicidal behaviour through mechanisms such as the social support inherent in religious communities (Kirmayer, 1994), religion may also have a profound negative impact on the experiences of survivors in the aftermath of a suicide (Sarfraz & Castle, 2002). A comprehensive understanding of survivors' lived experiences necessitates a careful consideration of the religious context, since factors such as membership in a religious community may play a significant role in the bereavement process.

Cultural views of suicide: Given the diverse ethnic makeup of our society, another important factor to consider in thinking about suicide is that of culture and ethnicity. Although the cultural context plays an important role in suicide and suicide bereavement, little research has focused on this, resulting in a death of existing theories in suicidology that take culture and ethnicity into account (Osafo et al., 2011; Leong & Leach, 2008). As a result, most knowledge about

suicide in the North American context is derived from research with the dominant cultural group (Leong & Leach, 2008). Yet a number of scholars (e.g., Osafo et al. 2011; Osafo, 2010; Chandler & Proulx, 2006; Cutcliffe, 2005; Farrelly & Francis, 2009; Leenaars et al., 2010) argue that it is necessary to consider suicide from multiple worldviews and cultural perspectives because cultural factors, in ways similar to religious beliefs, affect suicidal behaviour. Moreover, given the focus of the present study, the way that suicide is conceptualized in a particular cultural context likely impacts on attitudes toward survivors and the types of support offered to them. This in turn shapes the overall suicide bereavement experience. Although the following discussion is not intended as a comprehensive overview of cultural influences on suicide and suicide bereavement, its relevance to the present research lies in introducing an additional lens for understanding survivors' experiences.

The suicide rates in many Aboriginal communities in Canada and the USA are significantly higher than those in the average population, and they are particularly elevated among youth (Chandler & Proulx, 2006; Cutcliffe, 2005; Kirmayer et al., 2007; Leenaars, 2006; MacNeil, 2008). In his comprehensive overview of suicide among Canadian Aboriginal peoples, Kirmayer (1994) states that this group suffers from one of the highest rates of suicide of any group in the world. Many scholars (e.g., Alcántara & Gone, 2007; Chandler & Proulx, 2006; Kirmayer, 1994; White, 2007) suggest that these alarming statistics need to be considered considering the negative effects of colonization and intergenerational trauma on Aboriginal well-being.

This view understands suicidal behaviour to reflect larger social and historical processes, such as the breakdown in the transmission of cultural

traditions in Aboriginal communities (e.g., Chandler & Proulx, 2006; Kirmayer, 1994; Kirmayer et al., 2007). For example, Chandler and Proulx (2006) suggest that the loss of ties to one's cultural past is a central risk factor for suicide. In the North American context, such an understanding of suicide stands in stark contrast to the dominant cultural view on the phenomenon. White (2007) notes a significant disparity between the Western biomedical conceptualization of suicide and an indigenous understanding of suicide as "a sign of overall imbalance, disconnection, or lack of harmony" (p. 221). The latter view considers the history of colonization and its associated trauma, while the Western view attempts to make sense of suicide "in isolation from other concerns" (White, 2007, p. 220). In Ghana for example, a community with a population of about 140,000 residents, recorded 35 confirmed cases of suicide over a 10-year period (2005-2015). Though this number of cases is low compared to other countries, an increasing trend has been observed in recent years. It is likely that these cases were under reported because of cultural practices that prevents discussions on suicides (Asante & Ae-Ngibise, 2017.)

White (2007) further suggests that an indigenous understanding of suicide calls for suicide prevention and for healing from suicide through spiritual practices, ceremonies, and community connectedness. Overall, the indigenous conceptualization of suicide has clear implications for the experiences of survivors. Drawing on this conceptualization, the loss of a community member to suicide would be regarded as a communal problem, reflective of a problematic socio-historical environment. In turn, healing from this loss would also need to take place at a communal level. Appropriate post intervention efforts would need to be culturally meaningful, necessitating the

community's involvement and a holistic approach to healing (EchoHawk, 2006; Middlebrook, LeMaster, Beals, Novins, & Manson, 2001; White, 2007). In the Western understanding of suicide, survivors may feel alone in dealing with their loss, whereas the indigenous perspective on suicide would likely mobilize communal healing efforts (Akotia et al., 2011; Osafo, 2010). Indeed, a cultural view of suicide may shape the experiences of survivors in significant ways.

As the above example suggests, a cultural lens proves an important tool in understanding suicidal behaviour and the suicide bereavement experiences (Farrelly & Francis, 2009; Leenaars et al., 2010). Furthermore, the need for a cultural lens is not limited to understanding suicide in the indigenous context. Notably, Trovato (1998) suggests that since suicide rates of immigrants do not significantly differ from those in their home countries, "immigrants transport to the new land the cultural baggage of their home societies, and their home culture serves as a lasting source of either protection or susceptibility to committing suicide in the host country" (p. 105). At the same time as it affects suicidal behaviour, the "home culture" also shapes the experiences of survivors in the aftermath of a suicide (e.g., Kuramoto, Brent, & Wilcox, 2009). Therefore, it is essential to consider the influences of the cultural context on the suicide bereavement experience when thinking about suicide in a place as culturally and ethnically diverse as our society.

Legal views of suicide: In addition to the philosophical, religious, and cultural influences, another societal factor that has undergone a significant transformation throughout the years, and one that likely influences people's reactions to survivors, is the legal stance toward suicide. It was not until 1972 that attempted suicide became decriminalized in Canada (Health Canada, 1994).

Prior to this date, attempted suicide was considered a punishable offense. This conceptualization of suicide as a criminal act implied that in the aftermath of a suicide, the bereaved family suddenly became involved with criminal law and likely suffered associated stigma (Health Canada, 1994). The legal view of suicide thus affects survivors' experiences in important ways. Indeed, it is not surprising then that given this history of a blaming sociocultural climate and the historical criminalization of suicide, studies with survivors have reported that these individuals experience stigma, shame, social isolation, and blame for the suicide (Cain, 1972; Cvinar, 2005; Dunn & Morrish-Vidners, 1987–; Fielden, 2003; Gibson et al., 2010; Van Dongen, 1990; Wrobleski, 1984).

In response to suicide being decriminalized many countries, mostly in the West, have formulated national suicide prevention policies to guide action and practice. Decriminalisation of suicide has been one of the key outcomes of such policies. Currently, suicide is no longer a punishable offence in the Nordic countries, Western part of Europe, and some states in the United States of America (Khan & Lester, 2013). However, in most countries in Africa, of which Ghana is not exception, suicide attempt remains a punishable offence (Adinkrah, 2012; Hjelmeland, Osafo, Akotia & Knizek, 2014; Kahn & Lester, 2013). For instance, section 57 of Ghana's Criminal Code (Act 29, 1960), states that "Whoever attempts to commit suicide shall be guilty of a misdemeanour." People who faulter in relation to this law are apprehended, prosecuted in the criminal courts and charged with penalties ranging from monetary fines to imprisonment for up to three years (Adinkrah, 2012).

It is argued that, the criminal code against attempted suicide in Ghana appears to be consistent with the utilitarian justifications for punishment (Osafo,

Akotia, Andoh-Arthur, Boakye & Quarshie 2017). In the same study by Osafo et al., on police officers view on the law and suicide attempters, it was reported that, some officers are of the view that, it is a crime to kill, whether you attempt to kill someone or you attempt to kill yourself. You do not have the right to kill. So, per the laws of the land, suicide attempters are punished by the law, probably to serve as a deterrent to the many who are thinking suicidal and planning to attempt. However, others hold a psychological health view and its implication of suicide and, thus, perceive that a suicide attempter is someone in need of help and deserves empathy and care instead of the law and punishment.

Suicide Ideation

The CDC defines suicidal ideation as thinking about, considering, or planning for suicide (2012). Robinson et al. (2013) defines suicidal ideation as having thoughts of engaging in behaviour intended to end one's life. A survey in research by Logan, Crosby and Hamburger (2011) supported the findings by the CDC that nearly a fifth of the adolescent population had considered suicide in the previous year. Consequently, identifying adolescents at risk is an important goal of suicide prevention programs.

Suicide ideation is considered to be an important precursor to later attempted and completed suicide (Brent, Johnson, Bartle et al., 1993; Gilli, Roca, Ferrer-Perez et al., 2001; Lewinsohn, Rohde, & Seeley, 1996; Reinherz, Giaconia, Silverman et al., 1995) and is of major public health significance. National surveys estimate that 11.4% of college students seriously considered attempting suicide in the past year, 7.9% made a suicide plan, and 1.7% attempted suicide (Barrios, Everett, Simon et al., 2000).

Suicidal ideation presents itself as one of the main predictors of suicidal risk, being used in many researches to estimate the presence of a suicidal process. Depressive symptoms, low social support, father-child conflict and affective dysregulation among other factors are each independently associated with suicide ideation.

Research by Husky et al. (2012) found that most young people with suicidal ideation and half of those with a suicide plan or who had made a suicide attempt did not receive mental health treatment. Husky et al. also reported that male adolescents were significantly less likely to receive mental health services, even though the risk of suicide for boys is four times greater than for girls. At the same time, female students are nearly twice as likely to consider or plan suicide as their male counterparts. As Logan et al. (2011) emphasized, suicidal ideation is a mental health issue that is a burden of particular significance to the young adult female population.

Epidemiology of suicide ideation: Suicide ideation, which comprises suicidal thoughts or threats devoid of action, is more common than suicide attempts and completed suicides and its prevalence varies widely. Lifetime prevalence of suicidal ideation has been reported to range from 2% to 18% (Kessler et al., 1999; Weissman et al., 1999). In epidemiological studies the prevalence of suicidal ideation has been reported since the 1970s. Depending on the setting of each particular study, the 12-month prevalence has varied from 2.3% to 8.7% (Schwab et al., 1972; Paykel et al., 1974; Vandivort & Locke, 1979; Crosby et al., 1999, Goldney et al., 2000). In the well-known large epidemiological studies National Comorbidity Survey (NCS) and National Comorbidity Survey-Replication (NCS-R), the 12-month prevalence of suicide ideation was found to

be 2.8% and 3.3%, respectively (Kessler et al., 1991; 2005). Kessler et al. (2005) estimated that there are approximately 3000/100 000 suicide ideators in the United States each year with 14/100 000 suicide completers. In other words, about 3,000 out of every 100,000 persons in the United States of America exhibit suicide ideation. Of this number, 14 of them actually commit suicide. In a Greek study, Madianos et al. (1993) reported the prevalence of suicide ideation by gender for two waves, 1978 and in 1984. In the first wave, 2.8% of males and 6.8% of females reported suicide ideation during the last 12 months and in the second, 5.9% and 14.9%, respectively.

Suicide ideation can vary significantly in different age groups. Suicide ideation among young adults has been suggested to be around 10-12% (Goldney et al., 1989) while it is 4% among the elderly (Skoog et al., 1996). In the Finnish study Hintikka et al. (2001) investigated with questionnaires (BDI) in a nationwide sample the incidence of suicide ideation both at the baseline and at 12-month follow-up. The incidence of overall suicide ideation was reported as 3.8%, and 3.1% for females and 4.6% for males, respectively. Usually, suicide ideation is equally common among males and females, or slightly more common among females, but in Finland this does not seem to be the case.

Suicidal behaviour

Classification of suicidal behaviour: Suicidal behaviour as a concept includes the tendency, thoughts or acts of self-harming behaviour or life-threatening risks. Currently suicidal behaviour is characterized with a broad variety of terminology in the literature of suicide research. We have the American Psychiatric Association (APA) definitions of terms in use (American Psychiatric Association, 2003), but there is no generally accepted classification

of suicidal behaviour, and this can also be a source of some confusion (for example: attempted suicide self-harm parasuicide). Suicidal behaviour can vary with respect to manifestation, permanence, seriousness and lethality.

During the past decades there has been debate whether those attempting suicide and those completing, present a single or two separate populations (Linehan, 1986; Beautrais, 2001). It seems that they are overlapping populations. The three types of suicidal behaviour-suicidal ideation, suicide attempt and completed suicide, can be seen as a continuum of self-harming behaviour (Beck et al. 1973).

The multifactorial etiology of suicidal behaviour: Several arguments suggest that suicidal behaviour is an independent disorder, although psychiatric disturbances are major contributing factors. More than 90% of suicide victims and most of the attempters, as well ideators have a psychiatric disorder (Robins et al., 1959; Dorpat & Ripley, 1960; Barraclough et al., 1974; Rich et al., 1986; Henriksson et al., 1993; Zimmerman et al., 1995; Beautrais et al., 1996; Mann, 2003; 2005).

However, although the presence of a psychopathology is a strong predictor for suicide, even in the psychiatric groups at the highest risk, only a minority of people with these diagnoses attempt or commit suicide, indicating the importance of a diathesis or predisposition to suicidal behaviour that is independent of the main psychiatric disorders (Mann, 2003; Turecki, 2005).

Traditionally, risk factors for suicidal behaviour have been divided into medical (e.g., mental disorders), psychosocial (e.g., divorce), cultural (e.g., lack of religious commitment) and socio economic (e.g., unemployment). Recently, the risk factors behind suicidal behaviour were also categorized into three main

groups: genetic and environmental factors and interaction between these two (Marusic & Farmer, 2001).

Familial and genetic factors in suicidal behaviour: Studies analyzing family, twins and adoption have been concordant in suggesting the implication of genetic factors in suicidal behaviour. Persons who attempt or commit suicide, have a significantly increased rate of suicidal acts in their families (Linkowski et al., 1985; Pfeffer et al., 1994). Twin studies as well as adoption studies have also shown a high concordance in the rates for completed suicides and suicide attempts (Schulsinger et al., 1994; Roy et al., 1991; 1995; Statham et al., 1998; Brent & Mann, 2005). For example, the concordance of suicide for identical twins is 11.5% and for fraternal twins 2% (Roy et al., 1991). The heritability of suicidal behaviour, especially suicide, is comparable to the heritability of other major psychiatric disorders, such as bipolar disorder and schizophrenia. It is estimated that 43% of the variability in suicidal behaviour may be explained by genetics, while the remaining 57% may be explained by environmental factors (Roy et al., 1995; McGuffin et al., 2001; Mann, 2003).

Neurobiology of suicidal behaviour: Different neurotransmitter systems have been the most researched area in the field of neurobiology of suicidal behaviour. Post-mortem brain analyses have provided us a lot of valuable data on the serotonergic, noradrenergic, and dopaminergic neurotransmitter systems and the cellular morphology of suicide victims. Studies have shown that altered serotonergic function is associated with the diathesis for suicidal behaviour (Mann et al., 2000). Serotonergic abnormalities are related to many psychopathological dimensions such as anxiety, depressed mood, impulsivity, and aggression. Post-mortem brain receptor mapping studies suggest that

reduced serotonergic input to the orbital prefrontal cortex, hypothalamus, occipital cortex, and brainstem may be deficient in persons who are at risk of suicidal behaviour and may underlie a general propensity for aggressive and impulsive behaviour (Arango et al., 1995; Mann et al., 1996; 2000). Serotonergic hypo function appears to be associated with more lethal suicidal behaviour (Mann et al., 1992; Malone et al., 1996). This abnormality could be localized to the ventromedial prefrontal cortex (Arango et al., 1995). Alterations were observed on the receptor level, as postsynaptic 5-HT1A and 5-HT2A receptors were found to be upregulated in prefrontal cortex and this increase was suggested as being a compensatory mechanism to the low activity of the serontonergic neurons (Mann, 2003). 5-HT1A upregulation seems to be localized to the ventral prefrontal cortex, a region that is involved in behavioural and cognitive inhibition, and low serotonergic input may contribute to impaired inhibition, creating a greater propensity to act upon suicidal or aggressive feelings (Arango et al., 1995; Mann, 2003).

These findings are underlined by investigation with fenfluramine. Malone et al. (1996) found that fenfluramine induced an increase in prolactin secretion in healthy people, but in suicide attempters with more lethality, the increase was more blunted. Only few post-mortem studies covered alterations of the noradrenergic or dopaminergic systems. The main findings were decreased noradrenalin (NA) levels in the brainstem and increased alpha-adrenergic receptor densities, suggested as being upregulated due to the NA deficit (Ordway et al., 1994). The results with tyrosine hydroxylase (TH) were divergent, as both increased (Ordway et al., 1994) and decreased immunoreactivity were observed (Biegon & Fieldus, 1992). For dopaminergic

system, no alterations were found (Hurd et al., 1997). In a recent study, the cerebrospinal fluid (CSF) of depressed suicide attempters demonstrated reduced homovanillinic acid (HVA) levels, but not in depressed non-attempters, thus suggesting a relation of dopamine (DA) to suicide but not to depression (Sher et al., 2006).

The specific genes that contribute to suicide risk independently of associated psychiatric disorders are unknown. On the basis of the neurobiological findings, genetic studies have been carried out in order to elucidate the genetic contribution to the vulnerability of suicidal behaviour. As there is convincing evidence that a serotonergic dysfunction is involved in the biological susceptibility to suicide, the majority of studies are focusing with genes of the serotonin pathway as possible candidates (Bondy et al., 2006).

As it is believed that the variability of serotonergic neurotransmitters plays a pivotal role in individual differences on mood, impulsiveness and aggression, it is no surprise that molecular genetic studies of suicide and suicidal behaviour focus on serotonergic genes. Genes related to the serotonergic system are candidate genes worthy of study as part of the genetic diathesis for suicidal behaviour. These candidate genes can be classified into three subgroups:

i. Gene involved in synthesis of serotonin (tryptophan hydroxylase-TPH).
ii. Genes involved in serotonergic neurotransmission (serotonin transporter-5HTT). 5HTT regulates re-uptake of serotonin into pre-synaptic neuron and different serotonin receptors that also regulate neurotransmission.
iii. Genes involved in serotonin catabolism (monoamine oxidase-MAO).

TPH is the rate-limiting enzyme in serotonin (5-HT) biosynthesis, converting the amino-acid tryptophan to 5-hydroxy-tryptophan (5HTP), which is further decarboxylated into 5-HT. TPH gene was among the first candidate genes for association studies of suicidality. Two different TPH isoforms (TPH1 and TPH2) have been identified.

There are several studies focusing on TPH1 polymorphism in the frame of depressed, bipolar, schizophrenic or alcoholic patients. Although the numbers of patients within the diagnostic categories seemed to be sufficient, the number of those with suicidal attempts was small in most studies. Three recent meta-analyses pooled results from individual studies in order to test whether TPH1 polymorphisms affect the vulnerability for suicidal behaviour (Lalovic & Turecki, 2002; Rujescu et al., 2003; Belliver et al., 2004). In their combined results Lalovic and Turecki (2002) found no association between suicidal behaviour and TPH1 polymorphism. Rujescu et al. (2003) found a weak, but yet highly significant association, which Belliver et al. (2004) could replicate by a further, more refined meta-analysis. However, the positive results found in some studies (Mann et al., 1996a; Souery et al., 2001; Abbar et al., 2001; Turecki et al., 2001), could not be replicated in all studies and the list of negative findings is long. The impact of the TPH1 gene on suicidal behaviour remains still ambiguous because of discrepancy of the results together with the small number of patients, the diagnostic heterogeneity with either committed suicide or a history of suicidal attempts, and finally because of the use of different markers.

The identification of the brain-specific, second isoform TPH2 gene, promised to be a step forward in investigating the genetic contribution to

suicidality, as this isoform apparently plays a more important role in the synthesis of brain serotonin and thus may be a better candidate gene. However, the number of studies using the TPH2 as the candidate gene is small (Zill et al., 2004; Kennedy et al., 2003; De Luca et al., 2005; Zhou et al., 2005). The results so far are promising, although the functional consequences of these polymorphisms are unknown and the data on TPH2 gene are somewhat limited.

The serotonin transporter (5-HTT) has two allelic variants: long and short. The short form was hypothesized to be associated with impulsive aggression and suicidal behaviour (Mann et al., 2000). Some studies found an association between the short form and violent suicidal behaviour but, also in contrast to these positive findings, a variety of studies did not observe any association to suicidal behaviour. Despite the many discrepant results there is still an ongoing interest on genetic variants of 5-HTT as the possible indicator of suicidality (Bondy et al., 2006).

Studies focusing on serotonin receptors (5-HT2A, 5-HT1A) or on genes involved in serotonin catabolism (tyrosine hydroxylase, monoamine oxidase A) have been interesting, but the results so far have mostly not been convincing (Bondy et al., 2006).

The association of low concentrations of 5-hydroxyindoleatic acid (5-HIAA) in the CSF and suicidal behaviour was first reported by Asberg et al. (1986) and since that replicated in several studies (Mann, 2003; Samuelsson et al., 2006). Also, electrodermal activity (EDA) (Wolfersdorf et al., 1999) and adrenergic receptor binding (Little et al., 1993) have been investigated, but the findings have been not consistent. Non-suppression on the dexamethasone suppression test (DST) in depression has been found to be associated with

suicidal behaviour, especially completed suicide. The relationship between attempted suicide and DST has been less consistent (Yerevanian et al., 2004).

Theoretical Framework

The following theories were reviewed in relation to the study;

1. Individual Psychology (IP)
2. Cognitive Behavioural Therapy (CBT)
3. Cognitive Model of Suicidal Behaviour
4. Cry of Pain Model
5. Interpersonal Theory
6. IMV Model (Integrated Motivational- Volitional)
7. Schematic Appraisals Model of Suicide
8. Three - Step Theory (3ST)

Individual Psychology (IP): Adler developed the theory of Individual Psychology emphasizing the importance of viewing the individual holistically. His view is succinctly expressed in Carlson and Maniacci (2012): "to us Individual Psychologists, the whole tells much more than the analysis of the parts" (p. 48). Adler's influence permeates the field of social psychology through his impact on parent education, early intervention by teachers, psychotherapy, group therapy, coaching, and self-help. The following are a number of Adler's Individual Psychology concepts.

Lifestyle: From its genesis, Adlerian psychology emphasized that human beings are indivisible and function holistically. Adler stressed that people needed to be perceived in the context of their social and physical environment and that a single part is never completely understood independent of the whole. Adler believed that each person develops a unique style of living in early

childhood, which determines how one responds and behaves within her/his environment. Carlson and Maniacci (2012) quoted Adler's description of lifestyle as "this unity in each individual in his thinking, feeling, acting: in his so-called conscious and unconscious in every expression of his personality" (p. 16). Lifestyle is the overall psychological movement toward one's goal. Negative experiences from early childhood, such as abuse and trauma, greatly impact lifestyle, which may lead to a decrease in resilience, a risk factor for suicidal behaviour.

Teleology: From the perspective of Adlerian psychology, all behaviour is goal-directed and purposeful. Teleology is the concept of moving toward unique conscious and unconscious goals created by the individual. Adler believed that people were not driven by things that happened in the past, but, rather, pulled by future goals, purposes, and ideals. Because one may not be conscious of a goal, Adlerians assist in recognizing what is motivating a particular behaviour and making changes if the goal appears to be self-defeating. As Brett (1997) points out, all behaviour is considered purposeful and when one understands the motivation behind behaviour, one can change the behaviour when necessary.

Social interest: Social interest or "gemeinschaftsgefühl" is an Adlerian construct based on social rather than biological behaviour. In Carlson and Maniacci (2012), gemeinschaftsgefühl is described as "true community feeling (e.g., sense of belonging, empathy, caring, compassion, acceptance of others) which results in social interest (thoughts and behaviours that contribute to the common good, the good of the whole at both micro- and macro- systemic levels); true social interest is motivated by community feeling" (p. 43).

Individuals embracing social interest have an attitude of contributing and cooperating with others to reach mutual goals.

As Brett (1997) explained, Adlerians believe that "social interest begins with the ability to empathize with a fellow human being and leads to the striving for an ideal community based on co-operation and personal equality" (p. 163). Adler believed an individual's mental health could be determined by his/her measure of social interest. Conversely, Adler considered all psychological problems and maladaptive behaviours to be the result of insufficient social interest.

Private logic: Each individual view reality and interprets situations relative to one's own perspective, unconsciously justifying motivations for moving toward the desired outcome. Private logic includes goals, attitudes, expectations, and decisions. How one perceives and deciphers his/her personal view of the world comprises private logic. To put it quite simply, what happens to an individual is not as important as how one feels about it. Carlson and Maniacci (2012) point out "the person's private logic hides the purpose for the self-defeating behaviours" (p. 142).

Feelings of inferiority: Feelings of inferiority are universal; however, problems emerge when an individual becomes overwhelmed with a sense of inadequacy (Ansbacher & Ansbacher, 1956). Adler believed social interest organically develops when an individual feels competent and capable in his/her life. Conversely, when confronted with overwhelming feelings of inferiority, an individual is more apt to focus inwardly. Individuals may respond to feelings of inferiority in either of two ways: compensation (making up for one's deficiencies by some means) or striving for superiority (covering up one's

feelings of inferiority by feigning superiority). These feelings may result in low self-esteem and a preoccupation with one's self, thereby quelling social interest.

Tasks of life: Adler proposed that individuals face challenges in life, which he divided into the following three areas: work (establishing a socially useful occupation or profession), friendship (creating relationships with others), and love (realizing one's role in love, marriage, and family). Current theories indicate an increase in suicidal behaviour when individuals experience a negative change in the three tasks of life. In relation to the interpersonal theory of suicide, perceived burdensomeness may result from retirement, chronic illness, and failing health. Low belongingness may be exacerbated by the death of a loved one, social isolation, and loneliness (Carlson & Maniacci, 2012).

Psychological types: Adler distinguished between four psychological types; each defined by the amount of social interest one has and the level of energy one manifests. He believed very strongly in the uniqueness of each individual and considered these types to be a heuristic device, a useful fiction helpful for learning. Three out of the four types are not prepared to solve life's problems because all problems are social, and they lack social interest. Individuals demonstrate their lack of social interest by their inability to cooperate, collaborate, and contribute in solving social problems, hence, the issue of feeling socially alienated, leading to those individuals engaging in suicidal thoughts.

The ruling type: The ruling type is characterized by a preponderance of aggression but lacking in social interest. While striving for personal power, an individual tends to steamroll anyone or anything that gets in her/his way. Ruling types with higher levels of energy may become tyrants, sadists, and delinquents.

An individual with less energy and lower levels of social interest may be more inclined to hurt him/herself. Ruling types include alcoholics, drug addicts, and those engaged in suicidal behaviour.

The leaning type: A typical behaviour of the leaning, or getting, type would be reliance on others to carry them through when life becomes difficult. They may feel overwhelmed, dependent, and overly sensitive. Leaning types lack both social interest and energy in dealing with life's problems and, depending on individual lifestyle, may display symptoms of phobias, neurosis, and anxiety.

The avoiding type: By sidestepping problems, the avoiding type never has to experience defeat. This type has the lowest level of energy and essentially survives by avoiding life. If life becomes stressful enough, one may retreat into a world of her/his own, resulting in psychosis.

Socially useful type: Adler considered a socially useful type of person to be healthy, benefitting others by cooperation and contribution. This type uses both social interest and energy to help solve the problems of society, from the miniscule to the worldly.

Cognitive Behavioural Therapy: Cognitive Behaviour Therapy (CBT). CBT helps individuals understand the thoughts and feelings that influence behaviours. Individuals learn how to recognize and change self- destructive thought patterns that negatively affect behaviour. CBT aims to teach an individual that although one may not control what happens in his/her environment, one can control how she/he interprets and responds to situations. As a treatment strategy for suicidal behaviour, CBT assists in recognizing,

challenging, and changing unhealthy thoughts, as well as observing those thoughts without believing or acting on them.

In the initial phase of CBT, therapists help individuals identify their mistaken and problematic beliefs. The second phase of CBT focuses on the problem behaviours that result from these faulty beliefs. CBT therapists foster the development and practice of new coping skills, helping individuals be better equipped to either deal with suicide ideation and avoid self-harming and suicidal plan and eventually the attempt. Individuals make gradual progress by taking incremental steps toward more effectively responding to challenging situations.

Research by Alavi, Sharifi, Ghanizadeh, and Dehbozorgi (2013) found that "CBT was effective in decreasing hopelessness and depression" and "that CBT is an effective, appropriate, and acceptable treatment modality for the adolescents with recent suicidal attempts and current suicidal ideas" (p. 471). Alavi et al. pointed out that hopelessness predicts suicidal ideation, suicidal attempts and suicide. The hopelessness theory of suicide proposed by Beck in 1986 characterized hopelessness as an inclination to attribute a negative scenario to future events (Ribeiro, Bodell, Hames, Hagan, & Joiner, 2013).

Based on a cognitive-behavioural approach, both CBT utilize cognitive restructuring techniques by attempting to identify negative thought patterns, suicide ideation, and replace them with more adaptive cognitions useful in reducing suicidal behaviours. The Hope Box embraces both treatment strategies by redirecting an individual's attention from thinking about reasons to die, and instead, challenges them to unearth reasons to live. As Neece et al. (2013) explained "The Hope Box consists of a box that contains objects that remind the patient of positive life experiences, current reasons for living, personal

values, and available sources of social support and interpersonal connections" (p. 214). For suicidal individuals who feel hopeless, lonely or in a time of crisis, reflecting on the objects in The Hope Box may increase feelings of belongingness and optimism.

Based on this negative thinking pattern of suicide thoughts or ideation which may result in suicide attempt, suicide and other self- injurious behaviours, CBT encourages individuals to recognize inaccurate, unpleasant, unhealthy and negative thinking and to view challenging situations more clearly. Hence, CBT can help individuals with suicide thoughts or suicide ideation to get rid of those suicide thoughts and replace with a more positive and pleasant thoughts.

Cognitive model of suicidal behaviour: Wenzel and Beck (2008) suggested the cognitive model of suicidal behaviour. They posit that dispositional vulnerability factors, coupled with cognitive processes associated with psychiatric disturbance, as well as cognitive processes specific to suicidal acts lead to suicidal behaviour. The dispositional factors are traits that are increase risk for psychiatric symptoms and, as such, increase the likelihood that a life stressor will lead to a suicidal crisis. The vulnerability factors include impulsivity, problem solving deficits, over general memory style, maladaptive cognitive style, and certain personality features. These vulnerabilities can generate life stressors, exacerbate the psychiatric disturbance when faced with stressors and reduce coping abilities during a suicidal crisis. One of these trait vulnerabilities, impulsivity, is proposed to "affect the speed at which a person decides to attempt suicide" (p.193; Wenzel & Beck, 2008), and thus it should relate to time-based criteria of attempt impulsivity.

Cry of Pain model: One of the most influential, contemporary psychological models of suicide is the Cry of Pain model developed by Mark Williams and colleagues (Williams, 1997). The Cry of Pain model is a bio-psychosocial model and has six identifiable components. The first two describe the presence of stressors, which may be external (e.g., financial debt, divorce) or internal (e.g., command hallucinations), and the perception that these stressors are negative. These negative stressors therefore trigger the individual to think suicidal. The third factor relates to a body of evidence linking psychological disorders to negative processing biases (Joormann & D'Avanzato, 2010; Klewchuk, McCusker, Mulholland, & Shannon, 2007; Morrison & O'Connor, 2008). For example, anxiety disorders have been linked to directing attention to fearful stimuli, people who experience depression judge neutral stimuli as being negative, and reasoning biases are often observed in those with psychosis, for example jumping to conclusions. The fourth factor rests on findings that feelings and perceptions of hopelessness are highly correlated with suicidality, more so than depression (e.g., Young et al., 1996). There are two key characteristics of hopelessness. The first is that perceptions of the future are negative, and the second is more that the future is seen as promising nothing that is positive (MacLeod, Rose, & Williams, 1993; O'Connor & Cassidy, 2007). The fifth factor is that an individual perceives himself or herself to have poor social support, and that there is no possibility of being rescued. The sixth factor is that people who are suicidal need to have a knowledge of the means to kill themselves if they are to enact suicide. It is postulated that all six factors feed into perceptions of defeat and entrapment and

predisposes the individual to indulge in suicide ideation (O'Connor & Cassidy, 2007).

Interpersonal Theory: Thomas Joiner and colleagues (Joiner, Van Orden, Witte, & Rudd, 2009) proposed the Interpersonal Theory of suicide comprising three components: a feeling of being a burden upon significant others, a perception of thwarted belongingness and habituation to pain (Christensen, Batter- ham, Soubelet, & Mackinnon, 2013; Selby & Joiner, 2013; Van Orden et al., 2010). Evidence for this model grew from work with suicidal war veterans who were in the situation of experiencing and witnessing extreme physical pain and dealing with the emotional consequences of existing in a highly threatening war context. The argument is that experiencing physical pain leads to a degree of habituation to that pain, which aids, suicide ideation and eventually suicide attempts. Further support for this theory has come from diverse populations, including samples with psychiatric diagnoses and community dwelling individuals of differing ages (Joiner, et al., 2009; Sachs-Ericsson et al., 2014; Van Orden et al., 2010).

Joiner's (2005) interpersonal theory of suicide outlines three conditions that if simultaneously present will drastically increase an individual's likelihood to attempt suicide. The first two constructs, thwarted belongingness, and perceived burdensomeness result from deficiencies or breakdown in one's interpersonal world (Joiner, 2005). According to Van Orden et al. (2010), thwarted belongingness results when an individual experiences loneliness in conjunction with an absence of reciprocally caring relationships. Not only do individuals feel alone in the world but they also are at a loss of social support that could help to mitigate this overwhelming emotion. The model posits that

perceived burdensomeness results from feelings of self-hate merged with thoughts of being a liability to others, which leaves an individual unlikely to seek necessary support.

Joiner (2005) believes that in addition to thwarted belongingness and perceived burdensomeness, an individual must also have the capability for suicide, the third necessary condition of the interpersonal theory of suicide. The capability for suicide is not something individuals are born with but rather a condition that gradually develops over time. "Through repeated practice and exposure, an individual can habituate to the physically painful and fearful aspects of self-harm, making it possible for him or her to engage in increasingly painful, physically damaging, and lethal forms of self-harm (Van Orden et al., 2010, p. 585)". This explains why those individuals who have attempted suicide in the past or even gone through the process of planning and/or thinking about (but not following through with) an attempt is at a greater risk for future suicide attempts (Van Orden et al., 2010). Van Orden, Witte, Gordon, Bender and Joiner (2008) found that even the presence of risky behaviours like playing contact sports and engaging in promiscuous sex (that are seemingly unrelated to suicide) increase an individual's acquired capability to attempt suicide.

The interpersonal theory of suicide seems especially pertinent to understanding suicide within the college student population because of its heavy emphasis on the construct of personal and social support. College is a time when social networks become increasingly important and complex as students are oftentimes moving away from home and living on their own for the first time. It may be difficult for some students to build new relationships and social support. And for such students, loneliness and depression can set in especially

even with the concept of homesick, this in turn can make them think suicidal. For some students, being of college student status may protect against suicide due to students being more socially connected than they were prior to college (Hazel, Nowlin & Reinecke, 2011). A study by Brenner, Bieganowski, Pace, Huebner et. al. (1999) that looked at data from the 1995 National College Health Risk Behaviour Survey (NCHRBS), for example, found that those students who were affiliated with Greek life were less likely to experience thoughts of suicide.

As much as being a college student may buffer against the threats of suicide for some individuals, it is also possible that it makes some individuals more vulnerable to suicidal ideation (Hazel et al., 2011). Given the heavy emphasis on social relationships and forming peer networks as part of the college experience (Heisel et al., 2003), those students who feel stunted in this area are likely more susceptible to experiencing the loneliness and social isolation described by Joiner's (2005) interpersonal theory of suicide. Among a study of 143 college students, Heisel et.al (2003) found that those who reported high levels of social hopelessness and depression distinguished those students who reported suicidal ideation from those who did not. In this sense, the interpersonal theory of suicide applied to the college student population can help explain why both college students who are socially well-established are less likely to attempt suicide but how for some individuals, being a college student oppositely increases their vulnerability to suicide. This theory outlines some factors, most of which are personal and social. The study talks about some characteristics which predispose the individual to suicide ideation. This theory indicates these characteristics and hence help understand better the study.

Integrated Motivational Volitional Model: The Integrated Motivational Volitional (IMV) model of suicide attempts to integrate and advance key components of previous suicide models, primarily sharing similarities with Williams's Cry of Pain model and Joiner's Interpersonal Theory (O'Connor & Nock, 2014). The IMV is a socio- cognitive model that aims to understand the pathways to suicidal thoughts and behaviours using a grid-like matrix. A pre-motivational phase comprises various background factors and life events that elevate an individual's predisposition to suicide. The initial stage of the motivational phase occurs when appraisals of acute or chronic stressors focus upon defeat or humiliation, which is then followed by feelings of entrapment, which in turn precedes suicidal ideation and intent. An individual may transition from feeling defeated to trap or from trapped to suicidal if stage-specific moderators are present, including problem-solving deficits, rumination, burdensomeness, and lack of social support. Importantly, the IMV model proposes that individuals move from suicidal ideation to suicidal behaviour only when volitional moderators are present, which include impulsivity, planning and access to means. A potential, although perhaps fundamental, issue with the IMV model relates to the emphasis that is placed upon the motivation for suicide coming from a progression from suicidal thoughts and plans to actual attempts. We argue that preceding 'stages' of completed suicide should not be linear, because the occurrence of suicidal behaviour may not be entirely determinable from a prior sequence of appraisals of defeat, entrapment, hopelessness and a final intent to act (Tarrier et al., 2013).

Integrated Motivational-Volitional (IMV) Model of Suicidal Behaviour: This model by O'Connor, 2011 is helpful in exploring the risk factors related to

impulsivity of suicide attempts, because it directly integrates the risk factors within the current understanding of the suicidal process. The IMV model specifies that separate risk factors can be identified in relation to different stages of suicidality. O'Connor (2011) argued that different groups of moderators facilitate the progression through stages of the suicide process. Four stages are identified: (a) feelings of defeat and humiliation, (b) entrapment, (c) suicidal ideation and intent and lastly (d) suicidal behaviour. Threat to self-moderators, such as social problem solving, coping, rumination, facilitate the shift from defeat to entrapment. Motivational moderators, for example, future thoughts, subjective norms, are necessary for the change from entrapment to suicide ideation to the final occurrence. Finally, the shift from thoughts to suicidal behaviours occurs if volitional moderators are present, such as access to means and imitation. This model integrates previous major theories of suicidal behaviour, such as the Psychache Theory (Shneidman, 1993), Escape Theory (Baumeister, 1990), 'Cry of pain' model (Williams, 2001), Stress- Diathesis Model, otherwise called the Clinical Model (Mann, Waternaux, Haas, & Malone, 1999) and the already mentioned IPTS (Joiner, 2005). Thus, it is an overarching explanation of the relationships between risk factors appearing in different theories.

The theory has not yet been applied to understanding attempt impulsivity. Several options are possible. First, in cases of so-called impulsive attempts the shifts between stages could occur rapidly, from emergence of defeat to suicidal behaviour, which would indicate all stages are passed rapidly. Alternatively, it is possible to view attempts as impulsive where the stage of suicidal ideation is short and the shift from thoughts to behaviours is rapid.

Given that the majority of criteria describe impulsive suicide attempts as occurring with little suicide-related thoughts (either after a brief period of suicidal ideation or planning or without any thoughts related to planning), the second option is more likely. Thus, the specific risk factors related to impulsive suicide attempts are likely to correspond to what are called in the theory the 'volitional moderators' (O'Connor, 2011) that facilitate the transition from suicidal ideation and intent to suicidal behaviour. These moderators increase the likelihood of the person acting on his or her intentions and determine whether and when such action is probable. At least five potential volitional moderators are suggested in the original IMV model: capability, impulsivity, intentions (planning), accesses to means and imitation, and therefore could be hypothesised as factors relevant to attempt impulsivity. Capability, impulsivity, and access to means have already been discussed as potential factors in relation to other theories in the preceding paragraphs, and therefore are not repeated here. However, implementation intentions and imitation are noteworthy as potential factors related to attempt impulsivity

Instead of referring to planning as a process occurring prior to an act, as in most of the literature on suicide attempt impulsivity (e.g., Bagge, Littlefield, & Lee, 2013), the IMV model describes planning in terms of implementation intentions, which can be established at an earlier time and subsequently activated when relevant environmental cues are present. Implementation intentions are defined as any thoughts about when, where, and how the suicidal behaviour could be enacted. Compared to definitions of planning currently researched in relation to attempt impulsivity, which either focus on the period proximal to the attempt or use one question to determine presence/absence of a

plan in a person's lifetime, planning in the IMV model is understood more broadly and captures a wider range of thoughts. Such a description of planning is, indeed, more akin to the notion of episodic planning (MEPOS, Anestis, Pennings, et al., 2014). However, a further extension from the latter is that planning in the IMV model incorporates the when and where of suicide, not only the method, as in MEPOS. It is therefore plausible that current assessment tools do not capture a proportion of planning, which, when present, facilitates the shift from intent to action. In the absence of tools that can systematically assess implementation intentions related to suicide in the broader sense, as defined in the IMV model.

Imitation in the IMV model (O'Connor, 2011) refers to the impact knowledge about the suicidal behaviour of others has on the person's suicidality. In suicidology two separate lines of research explore this issue, both finding significant effects of this factor on suicidal behaviour, but with limited research about impulsivity of attempts. First, research on media effects on suicidal behaviour indicates the possibility of a 'copycat' effect after reports of suicide (Stack, 2005). However, no research about impulsivity of such attempts has been identified. Second, there is evidence that exposure to suicide in interpersonal relationships increases risk of further ideation, planning and attempt (e.g., Crosby & Sacks, 2002). The findings about the impact of exposure on impulsivity of attempts have been scarce and mixed, focusing only on parental suicide. Kattimani, Sarkar, et al. (2015) found no difference in family history of suicide when comparing those who had only a brief period of suicidal ideation (<30 min) prior to their attempts and those who thought about the act for longer. In contrast, two other studies found that those who had a parent die

by suicide or attempt suicide were at a higher risk for suicide attempts with a prior suicide plan in their lifetime (Gureje et al., 2011), and their attempts were more likely planned for more than 30 min before the act (Wojnar et al., 2009).

This is contrary to what would be expected if imitation as a volitional moderator increases the impulsivity of suicide attempts. Overall exposure to parental suicidal behaviour seems to have the largest effects compared to other forms of exposure (Mercy et al., 2001). However, it must be recognised that in the latter case a complex interaction of genetic, environmental, social and psychological mechanisms is likely that extend beyond imitation (Cerel, Jordan, & Duberstein, 2008). Therefore, the exploration of the link between imitation and attempt impulsivity has to extend beyond the family context and an alternative hypothesis is that any exposure to suicide contributes to elaboration of the suicide schema (Johnson et al., 2008), making the option of suicide a more available escape path for the person and therefore heightening the possibility of a more abrupt decision to suicide.

Schematic Appraisal Model of Suicide (SAMS) and Fluid Vulnerability Theory (FVT): The Schematic Appraisal Model of Suicide (SAMS, Johnson, Gooding, Wood, Tarrier, 2008) was designed to explain suicide risk in people with schizophrenia, but parts of the theory have been tested with other groups of suicidal individuals, for example, people suffering from PTSD (Panagioti, Gooding, Dunn, & Tarrier, 2011) or bipolar disorder (Owen, Gooding, Dempsey, & Jones, 2015), which suggests the model may be appropriate in explaining suicidal behaviours more broadly. Similarly, to Baumeister's (1990) theory, SAMS views suicidal behaviour as escape behaviour, which occurs in response to a state which is experienced as intolerable. SAMS suggests that such

a state arises from the interrelationship among information processing biases (e.g., catastrophizing, selective attention), the faulty appraisal system (appraisals of current situation, historical factors and the future), and in particular negative self-appraisal (e.g., self-esteem, personal agency). Such a state activates a suicide schema, which leads to suicidal ideation and then suicide attempts. Schema is understood as a network of interconnected information about stimuli, responses and emotions. Suicide schema can be understood as a plan of action, which can be activated as an escape strategy when any point of the network associated with it is triggered. A strong and elaborate suicide schema is the main component used to explain suicidal behaviour that occurs suddenly and without warning.

SAMS (Johnson et al., 2008) implies that, if a person has an elaborate suicide schema, it can be activated quickly to suicidal ideation and then to suicide attempt, with seemingly trivial triggers. This occurs because a number of events have been incorporated into the cognitive network, and some of these events are far removed from the triggers that are overtly distressing. In addition, a strong suicide schema can inhibit other, alternative schemas, and therefore alternative responses associated with escape, and as a result the potential for suicidal behaviour increases.

The idea of a suicide schema, postulated in SAMS (Johnson et al., 2008), is incorporated into other cognitive theories, but with different labels. The 'suicidal mode' in Rudd's (2006) and Fluid-Vulnerability Theory (FVT) are examples. This theory proposes that suicide risk can be chronic and ongoing, stemming from multiple distal factors, but before the attempt the risk becomes acute as the suicidal mode is activated. The suicidal mode is a combination of

suicidal beliefs and the activation of affective, physiological and behavioural systems. The core cognitive themes during the suicidal mode are those of unlovability, helplessness, poor distress tolerance and perceived burdensomeness. Further, the person experiences acute dysphoria, related physiological arousal and so-called death-related behaviours, which involve planning, preparations for suicide and suicidal acts. Recently, Joiner and colleagues proposed that a state described by these characteristics should be labelled as Acute Affective Suicidal Disturbance (ASAD, Joiner et al.) and could be included as a diagnosis. Although the need for a new suicide-related mental illness diagnosis is questionable (De Leo, 2011), the proposition of a state of acute suicide risk has implications for the understanding of suicide attempt impulsivity. The FVT (Rudd, 2006) proposes that the baseline level of chronic risk determines at what level aggravating factors can raise risk to an acute level and how abruptly this can happen. As with SAMS (Johnson et al.), the FVT suggests that the more pervasive the suicidal belief system, the more rapidly it will be activated with all the other elements of the suicidal mode, and in this way contributes to attempt impulsivity.

Three-Step Theory (3ST): The Three-Step Theory (3ST; Klonsky & May 2015) proposes that different factors relate to initiation of thoughts about suicide, intensity of suicide ideation and progression from suicidal thoughts to behaviours. In the first step, pain and hopelessness, when co-occurring, are proposed to lead to emergence of suicide ideation. Klonsky and May (2015) suggest psychological and emotional pain is the most frequent precursor to suicide ideation, but any pain, irrespective of its source, can play a role in development of suicide ideation. The second step towards suicide attempts

involves a shift from moderate to strong suicide ideation, which depends on the level of connectedness the person has. Connectedness here is understood more broadly than social connectedness alone; it involves anything that keeps the person interested in living. The third step involves a shift from suicide ideation to behaviour, which depends on the person's capability for suicide. All the other suicide risk factors in this theory are suggested to contribute to suicidality through these four key factors.

Although there are no hypotheses about attempt impulsivity in the original 3ST model (Klonsky & May 2015), the theory extends the understanding of acquired capability for suicide present in IPTS (Joiner, 2005) and thus can provide an alternative explanation of how attempts occur in the absence of planning. Capability in this theory is understood more broadly than in IPTS (Joiner, 2005), in that it involves three facets: (a) dispositional, such as pain-sensitivity; (b) acquired, mainly through habituation to pain and the thought of death; and (c) practical, such as access to means. In addition to sources of capability for suicide posited in IPTS (Joiner, 2005), such as genetically influenced pain threshold and acquisition of fearlessness of death through experience, the 3ST posits that practical capability for suicide is important and the access to means is one of its components.

Empirical Review

1. Prevalence of Suicide
2. Gender and Suicide Ideation
3. Age and Suicide Ideation
4. College Students and Suicide Ideation
5. IP and CBT on Client's Individual Characteristics of Suicide

6. IP and CBT on Client's Environmental Characteristics of Suicide
7. IP and CBT on Client's Relational Characteristics of Suicide Risk
8. Client's Individual and Family as Resilience Factors against Suicide Ideation
9. Client's Community and Social Processes as Resilience Factors against Suicide Ideation
10. Client's Emotional and Cognitive Processes as Resilience Factors against Suicide Ideation
11. Efficacy of IP and CBT
12. Suicide Prevention Strategies

The empirical review of the study focused on the stated objectives of the study. The review was structured according to the following sub-headings; Prevalence of suicide, Suicide and Gender; Suicide and age, College students and suicide; Individual Psychology and Cognitive Behavioural Therapy on client's individual characteristics of suicide risk; IP and CBT on client's relational characteristics of suicide risk; IP and CBT on client's environmental characteristics of suicide risk; IP and CBT on client's individual and family resilience factors against suicide ideation; on client's community and social processes as resilience factors against suicide ideation; Adlerian and Cognitive Behavioural therapy on client's emotional and cognitive processes as resilience factors against suicide ideation; Efficacy of psychotherapeutic techniques for treatment of suicide ideation and Suicide Prevention Strategies for IP and CBT clients;

Prevalence of Suicide Ideation

Studies in Asia and the Middle East reveal a high prevalence of suicide ideation and attempt. Studies rate of ideation ranged from 6% in India to 25.28% in Palestine in lifetime. The prevalence of suicide attempt ranged from 0.39% in India to 2.7% in China to 3.8% in Vietnam in lifetime. In sub-Saharan Africa, death from suicide is estimated to be 34,000 per year. Studies have found high rates of suicide ideation in the last 12 months among high school students. The prevalence of suicide ideation was estimated to be 7% in Tanzania, 6.2% in Seychelles, 18.4% in Guyana, 31.3% in Zambia, 23.3% in Benin, and 21.6% in Uganda. In Ethiopia, suicide ideation is not uncommon and that it seems to be more common among men than women.

Some of the factors found to be associated with suicide ideation among young people in Africa were, loneliness, sadness and anxiety. For example, anxiety presents 51.4% of individuals who reported suicide ideation in Benin. Alcohol use has been found to be associated with suicidal ideation in Zambia and substance use with ideation in Tanzania, Seychelles and Benin.

Suicide attempt among youth between the ages 15 and 24 has also been found to be relatively common on the continent, ranging from 12% of respondents in Southwest Nigeria to 28.3% in Benin in the last one year. There is relatively sparse information on the drivers of suicide attempt among adolescents in low-income countries. A study done in China revealed scolding by parents, the experience of punishment and family gambling was associated with suicide attempt. Loneliness, feeling depressed, tobacco use and having no friends was associated with suicide attempt in Tanzania. This begins to address

the gap by determining the magnitude and associated factors of suicide ideation among individuals.

According to World Health Organization (WHO), each year they estimate, approximately one million people die from suicide and 10 or 20 times more people attempt suicide worldwide. This represents one death every 40 seconds and one attempt every 3 seconds. More people are dying from suicide than in all of the several armed conflicts around the world.

In the UK, suicide is the third largest cause of death, accounting for almost 6,000 deaths per year (Office for National Statistics [ONS], 2014). Over the past 60 years, the total number of suicides in the UK has changed little. In 1950, there were 4,660 self-inflicted deaths and in 2012, this figure was 5,981, an increase of less than 30% in 62 years. Despite slight variation each year, the suicide rate over this time period has steadily remained between 7 and 11 persons per 100,000 persons (ONS, 2014).

The rate of suicide varies widely across and within the different continents of the world. Within some regions of the world, all countries seem to maintain similar rates. For example, in the Western Pacific region, which includes Australia, New Zealand, China and Hong Kong, all countries maintain average suicide rates of between 12 and 15 persons per 100,000 per year. In the Americas region, Argentina and Brazil have a similar suicide rate of between 3 and 7 persons per 100,000 per year, and yet Cuba has a rate of over 20 persons per 100,000 per year (http://www.who.int/ healthinfo/mortality_data/en/). In Europe, variation across countries is also quite marked. For instance, Denmark has an average rate of over 18 persons per year, much in line with its Scandinavian neighbours. Even higher rates have been observed since 2000 for

Russia and many of the former Soviet Republics with rates of more than 40 persons per 100,000 per year. Conversely, the southern European countries of Italy and Greece, have observed much lower suicide rates of less than 7 per 100,000 persons per year.

Diekstra and Garnefski (1995) analysed suicide rates from 1881 to 1988 for 16 European nations by rank ordering according to their national rate of suicide. Whilst each country's suicide rate varied over the 100-year time, the rank ordering remained relatively constant. One conclusion made from these findings was that suicide rates are determined by persisting cross-national differences including traditions, customs, religions, social attitudes and climate. Durkheim (1897) suggested that suicide rates may be influenced by, amongst other factors, the extent to which individuals are integrated within society. These theories have been extensively researched for more than a century, such that a body of evidence now exists that stresses the importance of social factors such as unemployment, divorce and religion, in explaining national differences and trends in suicide (Gunnell et al., 1999).

Investigations into the causes of international differences in suicide rates are beleaguered by varying recording, coding and classification systems (Chishti, Stone, Corcoran, Williamson, & Petridou, 2003). This misclassification bias can be attributed, in part, to the artefacts of death registration (Jougla, Pavillon, De Smedt & Bonte, 1998). Some countries can register a death as suicide only when a suicide note is left, whilst others require an assessment of suicidal intent. Also, in those countries where suicide is considered socially and culturally unacceptable, the death is more likely to be recorded as 'undetermined', especially in child fatalities (Chishti et al., 2003).

It is, however, unlikely that one single factor can be clearly implicated as having sole influence over suicide rates, because the causes of suicide are complex and multi-factorial with all such factors more likely to represent fundamental societal changes (Gunnell, Middleton, Whitley, Dorling, & Frankell, 2003).

Gender and Suicide Ideation

There is a need to identify students at risk for suicide. Predictors of suicidality were examined separately for men and women in a college health survey of 630 students. Women reported higher levels of suicide ideation than men in the previous year. Separate regression analyses for men and women accounted for significant amounts of the variance in suicide ideation, 25% for men and 26% for women. Both men and women shared frequency of depression and hopelessness in the previous year as predictors of suicide ideation but gender specific predictors also emerged. Chronic recent alcohol consumption and reports of sexual assault were important predictors of suicide ideation for women, while reports of having been physically assaulted were uniquely reported as predictors of suicide ideation for men. Reports of being in a fight were significantly associated with suicide ideation for the entire sample. Reports of prior suicide attempts were predicted for the whole sample by recent alcohol use and depression in the previous year.

Gender differences in suicide have been extensively reported (e.g., Cutright& Fernquist, 2005; Cleary, 2000; Rudmin, Ferrada-Noli, & Skolbekken, 2003). Cleary (2000), for example, reported higher levels of suicide ideation in adolescent females than males. Though some studies examine suicide ideation in students as a population, few specifically examine the relative contribution of predictor variables separately for male and female

students. One such study, Edwards and Holden (2003), found levels of hopelessness, emotion-based coping and a sense of coherence accounted for a greater amount of the variance in women's suicidality than it did for men. A similar pattern was observed in high school students, where measures of depression, substance abuse, hopelessness and reasons for living, predicted suicide ideation more accurately in women than men (Rich, Kirkpatrick-Smith, Bonner, & Jans, 1992).

Other studies have identified predictors of suicidality that are unique to male or females. In a large adolescent sample, it was found that while substance abuse, depression and disturbed parental relationships were predictors for both sexes, in female subjects alone, depression had a significant interaction with substance abuse in increasing suicidality. In addition, antisocial behaviour predicted suicidality for females but not for males (Wannan & Fombonne, 1998).

In a related study, chronic stress was found to be predictive of male suicidal ideation and low self-esteem and family dysfunction to be predictive of female suicidal ideation (Kelly, Lynch, Donovan, & Clark, 2001). As with the large adolescent sample, Kelly and colleagues, found that females with comorbid alcohol use and conduct disorder were three times more likely to report attempted suicide. There is a need to understand how suicide risk profiles are different for college age male and female students so interventions may be targeted accordingly.

Age and Suicide ideation

In general, the suicide rate increases with age, with a major spike in adolescents and young adults. In recent decades, the number of adolescent

suicides has increased dramatically (Husky et.al.,2012) The 2007 Youth Risk Behaviour Surveillance showed that 6.9% of high school students had attempted suicide in the year before the survey.

In a study of 6483 adolescents aged 13-18 years of age and their parents, Nock et al found lifetime prevalence of suicide ideation, planning and attempts of 12.1%, 4%, and 4.1%, respectively. This led them to conclude that suicidal behaviours are common among US adolescents. The rates are close to those found in adults.

Young and colleagues looked at 452 German school students aged 15 years. They found that teenagers who were in the alternative subgroup self-injured more frequently (45.5% vs 18.8%), repeatedly self-injured and were 4-8 times more likely to attempt suicide (even after adjusting for social background).

Nearly one-third of young people who die of suicide have nonfatal self-harm events during the last 3 months of life. One study found that adolescents and young adults were at markedly elevated risk of suicide after nonfatal self-harm. The 12-month suicide standardized mortality rate ratio after self-harm was significantly higher for adolescents (46.0, 95% confidence interval [CI]: 29.9–67.9) than young adults (19.2, 95% CI: 12.7–28.0). Among these high-risk patients, those who used violent self-harm methods, particularly firearms, were at especially high risk.

With increasing age, a critical relationship emerges with suicide. Geriatric suicide is extremely prevalent. People older than 75 years have the highest rate of suicide. In 2007, the incidence of suicide in persons aged 75 years

and older was 36.1 for every 100,000 people, compared with the national average of 11.26 suicides for every 100,000 people.

Suicide risk in various cities in England has been found to be 67 times higher for older adults (≥60 years) presenting with self-harm than for older adults in the general population. The highest suicide rates were found among men aged 75 years and older. The older age group also maintains an alarming connection with murder-suicides.

Suicide rates by age have historically noted peaks in the adolescent/young adult group and in the elderly. From 1999-2010, a significant increase (28.4%) was noted in the age-adjusted suicide rate for adults aged 35-64 years by 28.4%; the rate rose from 13.7 per 100,000 population to 17.6 ($p< 0.001$) Among men aged 35-64 years, the rate increased 27.3%, from 21.5 per 100,000 population to 27.3; the rate among women increased 31.5%, from 6.2 per 100,000 population to 8.1. The greatest increases among men were found in those aged 50-54 years and 55-59 years. Suicide rates increased with age among women, with the largest percentage increase found in those aged 60-64 years.

College Students and Suicide Ideation

Suicide constitutes a major public health issue. It is among the ten main causes of death on the world's population and also represents the third leading cause of death among 15 to 24 year olds (Anderson & Smith, 2005) and the second leading cause of death among college students (Schwartz, 2006).

Recent scientific evidences show that young people's suicidal behaviours (suicide ideation and suicide attempts) are complex phenomena that seem to be rising, composing an important highlight of attention for social policies. Attending to higher education often brings some psychological

problems, induced by being removed from a social network that was previously established. Students who leave their home might feel less socially and psychologically supported by those they consider close to them, which can have serious negative implications on their well-being and adaptation process. Rewarding contact with family, friends and colleagues strengthens the strategies to cope with the problems that appear on this stage of life (Anderson & Smith, 2005).

Higher education teachers are faced with worrying numbers of students that manifest homesickness, missing their friends and family, contributing to depressive symptoms with prominent suicide ideation. Most times, these suicidal ideation-related situations are only identified on extremely severe cases, resorting to psychiatric hospitalization of students or more dramatic scenarios such as suicide.

Suicide and college student suicide in particular, has been the subject of extensive empirical research (Lester, 1994). Suicide rates for college students are about 7.5 per 100,000 per year but older students and males are at greater risk (Silverman, Meyer, Sloan Raffel, & Pratt, 1997). Suicide prevention programs are an important function of college counselling and health centers. College wide programs for effective suicide screening are in place in many institutions and a current bill provides funding specifically to address this need.

A better understanding of risk factors and predictors of college student suicide will help direct these resources to the greatest effect. In general, while the suicide rates of college student populations are lower than those of their non-college peers, many of the predictors of suicide are the same (Silverman et al., 1997). Furr et. al, (2001) identified depression, helplessness and hopelessness

as common problems cited by students with suicidal ideation. Loneliness was also identified and may be a problem more particular to student populations. In addition, relationship problems, academic problems and money problems have been associated with increased suicidality for students (Meilman, Patis, & Krause-Zeilman, 1994). Substance related habits have also been connected with suicide ideation and increased drug consumption and alcohol use have been found to increase suicidality as they exacerbate depressive states and increase the likelihood of impulsive behaviour (Brener, Hassan, & Barrios 1999). Long term cannabis use, for instance, has been associated with increased suicidality (Bovasso, 2001).

In youth samples, suicidality has also been associated with a variety of related behavioural risk factors such as weapon carrying and aggressive behaviours (Cogshall, & Kingery, 2001). Suicide has also been associated with victimization in physical and sexual domains (Kernic, Wolf, & Holt, 2000). Counter intuitively, it has also been reported that students who reported initiating assault were more likely to experience higher levels of suicide ideation than those who did not, or those who were victims of assault (Evans, Marte, Betts, & Silliman, 2001).

The suicidal downward spiral starts with ideation, which functions as an indicator of vulnerability and might lead to a suicide attempt and suicide. Suicide ideation specifically involves thoughts about ending one's own life, from a range of general thoughts about death to more specific and elaborate ways to commit suicide.

Although depression is clearly an important part of the picture (Brown, Beck, Steer et al., 2000; Kessler, Walters, & Borges, 1999; Petronis, Samuels, Moscicki et al., 1990; Sokero, Melartin, Rytsala et al., 2005), suicide ideation among college students may have a unique etiology because of developmental transitions that occur in college and young adulthood, including changes in family relationships, peer contexts and increased opportunities for alcohol and drug use. Moreover, studies suggest that suicidal behaviour runs in families independent of psychiatric diagnoses, such as mood disorders (Brent, Bridge, Johnson et al., 1996; Brent, Oquendo, Birmaher et al., 2002; Runeson & Asberg, 2003). Other heritable factors such as a tendency toward impulsive aggression appear to influence suicidal behaviours. For example, in one sample of 424 healthy college students, nearly half of the suicide attempters failed to meet lifetime criteria for depression (Levy & Deykin, 1989). This finding was consistent with an earlier study of adults showing that half the men and one-third of the women who admitted having suicidal thoughts did not report depression (Vandivort & Locke, 1994). Therefore, programs that focus solely on depression might be missing other important targets for intervention. Studies are needed that identify risk and protective factors among the subgroup of non-depressed individuals with suicide ideation.

Lack of social support from family and friends is an important correlate of suicide ideation for adolescents, adults and college students (D'Attilio, Campbell, Lubold et al., 1992; Harris & Molock, 2000; Harter, Marold, & Whitesell, 1992; Marion & Range, 2003; Mireault & de Man, 1999; Prinstein, Boergers, Spirito, 2001; Stravynski & Boyer, 2001). In college students, higher levels of social support appear to exert a protective effect against suicidal

behaviours by increasing self-efficacy (Thompson, Eggert, & Herting, 2000) or by reducing stress (Clum & Febbraro, 1994; Schutt, Meschede, & Rierdan, 1994; Yang & Clum, 1994). On the other hand, social disconnection and isolation, or "failed belongingness," might be critical influences on suicide behaviour (Joiner, 2005). Nevertheless, considering the well-known linkages of suicide ideation with both social support and depression, surprisingly few studies have focused on the interrelationships of these three issues (Reifman & Windle, 1995; Stoelb & Chiriboga, 1998). "To our knowledge, no studies have examined the extent to which suicide ideation, in the absence of depression, might be associated with low social support". (Reifman & Windle, 1995; Stoelb & Chiriboga, 1998).

Conflict in parent-child relationships and a number of other family-level constructs are associated with suicide ideation. A study reported that problematic family functioning during childhood predicted suicide ideation in young adulthood. Although it is clear that many aspects of parent-child relations including conflict, play a role in suicide risk, the possible interaction of conflict with parents and depression in college students is poorly understood.

Another potential contributory factor for suicide ideation among college students is affective dysregulation (Plattner, Karnik, Jo et al., 2007). Affective dysregulation is marked by an inability to regulate emotions appropriately and susceptibility to irritability and negative affect (Mezzich, Tarter, Giancola et al., 2001). This construct has been linked to a number of externalizing behaviours in youth, such as drug and alcohol abuse (Tarter, Kirisci, Habeych et al., 2004), delinquency and risky sexual behaviours and violence. (Plattner, Karnik, Jo et al., 2007), According to Plattner, Karmik, Jo et al. (2007), in

stressful situations, affectively dysregulated individuals experience a confluence of negative emotions (i.e., fear, sadness, and anger) in a way that causes them to react in an overly aggressive manner. A few prior studies suggest an association between affective dysregulation and suicide risk (Mezzich, Giancola, Tarter et al., 1997; Tarter, Kirisci, Reynolds, Mezzich, 2004). However, most prior research on affective dysregulation has focused on adolescents, especially delinquent and clinical populations, and therefore little is known about the correlates of affective dysregulation among college students or young adults in general.

IP and CBT on Client's Individual Characteristics of Suicide: Individual risk factors that increase the likelihood of suicide published by the CDC (2012) include: previous suicide attempt(s), a history of mental disorders, alcohol and substance abuse, feelings of hopelessness, physical illness, isolation and impulsive or aggressive tendencies. The CDC (2012) reports that about 20% of the people who die by suicide have attempted suicide in the past. A prior suicide attempt is one of the most reliable predictors of future suicidal behaviour, particularly in the adolescent population (Van Orden, Witte, Braithwaite, Selby, & Joiner, 2010).

According to AFSP (2014), over 90% of the people who die by suicide have a mental disorder at the time of their death. In many cases these disorders have not been acknowledged, diagnosed or professionally treated (AFSP, 2014). After performing "psychological autopsies", which entails interviews with family, friends and associates, investigators found that one-third of those who died by suicide did not tell anyone of their intentions.

In a study focusing on suicide risk factors, Mark et al. (2013) found that school children who smoked or consumed alcohol, particularly by the age of 13 or earlier, reported a higher level of suicidal behaviour which includes suicide ideation, suicide plan and suicide attempt. Participants in the study by Mark et al. also reported increased suicidal behaviour when they were involved in physical fighting and/or bullying, whether they were the one bullying or the one being bullied.

Lamis et al. (2010) studied alcohol use among college students and confirmed that drinking is a significant predictor of suicidal behaviour. The research by Lamis et al. supported the hypothesis that depression may lead to alcohol use, which may make students prone to suicide ideation. However, results of their study also indicated that alcohol may be the trigger for depression, which may result in suicidal behaviour. Finding that both alcohol use and depression are precursors to suicide, Lamis et al. recommend that colleges focus on both increased screening for depression and the development of more specific alcohol prevention programs.

In researching depression and delinquency among college students, Bauer et al. (2013) established that depression is a significant predictor for delinquent behaviour, which, in turn, strongly predicts suicidal behaviour in both adolescents and young adults. As adolescents emerge into adulthood, delinquent behaviour becomes less tolerated by peers. This contributes to an individual's sense of isolation and social withdrawal, which increases the likelihood of suicidal behaviour. Suggestions by the authors of this study include assessing for suicide risk by including questions about delinquency in

the screening process and targeting delinquent behaviour in suicide prevention programs (Bauer et al., 2013).

Lamis et al. (2010) also researched body image dissatisfaction as another individual suicide risk characteristic. Lamis et al. did not find that body image dissatisfaction was a direct predictor of suicidal behaviour but did corroborate a connection between poor body image and depression as well as increased alcohol use. Researchers found that study participants who felt they deviated from the norm with regard to their body image may have felt ostracized and isolated from social peers. This sense of rejection and disconnection may lead to a depressed state for young adults. Furthermore, research showed that individuals who were less likely to protect and care for their bodies were more apt to engage in high-risk behaviours, perhaps causing bodily harm and potentially leading to suicidal behaviour (Lamis et al., 2010).

IP and CBT on Client's Environmental Characteristics of Suicide: In the literature provided by the AFSP (2014), one of the conditions in an individual's life that may increase the possibility of suicide is exposure to a suicide or several suicides in one's community. This exposure is considered a contagion or epidemic. Media coverage has been shown to play a role in increasing suicidal behaviour, especially among young adults (AFSP). Machlin, Pirkis and Spittal (2013), in their research about the media reporting on suicide, found that journalists may consider what is in the public's best interest and forego including details in their coverage to discourage copycat behaviour.

Access to a lethal method of suicide, especially during a period of higher risk, is another environmental factor of suicidal behaviour (AFSP, 2014). In 2010, according to the CDC (2012), almost half of young adults between the

ages of 15 and 24 who died by suicide did so with a firearm. Young men are more apt to use firearms as a method for suicide, whereas young women tend to use poisonous substances, particularly medication overdoses. Likely, due to the lethality of firearms, males completed suicides four times more than females (AFPS, 2014). As Husky et al. (2012) points out, one of the most effective means of suicide prevention would be restricting access to firearms. Additionally, in situations where individuals do not make a suicide plan and the window for intervening is brief, limiting access to firearms may be the most effective strategy for preventing suicide among an at-risk population (Bagge, Glenn, & Lee, 2013).

Additional environmental risk factors in the CDC (2012) and AFPS (2014) literature include stressful events such as a family, social or financial loss and prolonged stress because of unemployment, relationships or harassment.

IP and CBT on Client's Relational Characteristics of Suicide Risk: Characteristics of a relational nature that elevate the risk of suicide include a family history of attempted or completed suicide, family history of child mistreatment and cultural and religious beliefs (CDC, 2012). Recent research has also established a correlation between poor parent-child communication and suicide (Mark et al., 2013) and youth perception of family depression and drug use (Randell et al., 2006).

Participants in the study by Mark et al. (2013) who reported difficulties in communication with their parents also reported increased levels of suicidal ideation. The research by Mark et al., which was undertaken in European countries, found that in some countries, suicidal behaviour was more likely

when the communication problem stemmed from the relationship with the adolescent's mother as opposed to one's father, but this was not supported in every study.

In researching family factors that increase suicide risk, Randell et al. (2006), found elevated risk among teens who perceived a higher level of parent-child conflict, family alcohol and drug use and family depression. In addition, adolescent perception of his/her family's inability to set fair rules, communicate openly, do things together and find value in the youth's capabilities increased the likelihood of suicidal behaviour. In addition, research by Randell et al. found increased suicide risk among young adults confronted with stressors such as; perceived family conflict, parental job loss, family member illness and death in the family.

Furthermore, Randell et al. (2006) emphasized that parents are often unaware their child might be at risk for suicide, therefore, programs are needed to focus on improving family communication and on helping parents identify warning signs. Enhanced parent-child communication would include talking about depression and suicidal thoughts as well as providing stress management and coping techniques (Randell et al., 2006).

According to the AFSP (2014), exposure to attempted and completed suicide by a family member may heighten suicide risk for others in the family. Studies have shown that the risk of suicide is genetically-linked. Research has established that depression is also inherited, but the risk of suicide is a precursor that exists independently of depression (AFSP).

Client's Individual and Family Resilience Factors against Suicide Ideation: Several characteristics of resilience include the ability to focus on problems rather than ignoring them, creatively finding solutions to problems, and asking others for help (Everall et al., 2006). Additional traits of resilience encompass positive self-esteem, future aspirations, the persistence to succeed, the belief that one has control over one's life and a sense that adversity can be overcome with personal effort.

Research has shown that humour, flexibility, empathy and an easy-going nature increase social competence. Subsequently, young adults with strong social skills and the ability to communicate interpersonally exhibit more resilience (Everall et al., 2006). Mark et al. (2013) validated the importance of establishing good communication with at least one parent to decrease the likelihood of suicidal behaviour. Similarly, as reported in the study by Everall et al. (2006), possessing a secure connection to at least one nurturing parent increased resilience. Resilient individuals can seek support from caregivers outside the family when caring and support is not available from a parent. Parents of adolescents who provided encouragement and guidance increased their teen's sense of optimism, motivation, and belief in their ability to be successful (Everall et al., 2006).

Client's Community and Social Processes as Resilience Factors against Suicide Ideation: Possible adult caregivers' adolescents may reach out to in a time of adversity, when a parent is not available, include teachers, coaches, school counsellors, ministers, and neighbours (Everall et al., 2006). As Bauer et al. (2013) and Logan et al. (2011) demonstrated, positive relationships with peers decreased suicidal behaviour, whereas suicide proneness increased when

peer groups included delinquents engaging in antisocial or illegal activities. Everall et al. pointed out that involvement in extracurricular activities also enhanced resilience.

Everall et al. (2006) described the following four areas of resilience that impact suicidal behaviour: social processes, emotional processes, cognitive processes, and purposeful and goal- directed action. The domains were determined by input culled from female participants who reported being suicidal at one point in their life between the ages of 15 and 24 years.

A peer network of close friendships that provided camaraderie, a sense of belonging, emotional support, companionship, and acceptance was instrumental in the process of overcoming suicidal inclinations (Everall et al., 2006). Participants reported peer relationships being most beneficial when friends were understanding, caring, encouraging, patient, and respectful listeners. As many studies have shown, Everall et al. also point out the importance of having a relationship with at least one supportive parent when confronted with suicidal ideation and behaviour. This study found that young adults not only benefited from a parent(s) who responded to their problems and concerns with acceptance and consideration, but who also aided financially and helped in procuring treatment. In the event of a non-involved parent, an adult outside the immediate family, such as a teacher or counsellor, could be a valuable alternate source of support. The influence of a substitute parent has a significant impact when they demonstrate an unwavering belief in the young adult's ability to achieve his or her goals (Everall et al., 2006). This research underscores the role of social interaction and the significance of having the support of at least one caring individual.

Client's Emotional and Cognitive Processes as Resilience Factors against Suicide Ideation: Dealing with the painful feelings of sadness, anger, fear, and depression generally elicited the most trauma when individuals faced their suicidal behaviour (Everall et al., 2006). Confronting these difficult feelings took courage and determination. The participants in this study acknowledged the importance of having others listen to them in a non-judgmental manner without providing hasty reassurances and solutions, allowing them time to sort through their feelings. Expressing their feelings to others who had similar experiences provided normalization regarding their own difficulties. Some of the participants engaged in writing as an emotional outlet; composing poetry to increase self-awareness and journal writing to help identify and explore feelings (Everall et al., 2006).

Participants in the study gained greater perspective when they focused on the positive aspects of their life, especially when they compared their life to others less fortunate (Everall et al., 2006). Learning to be more objective about their thoughts resulted in redirecting those thoughts more positively. Researchers utilized this shift of perspective by encouraging the participants to explore the small things in their life that brought them hope, pride, and optimism and to concentrate on today and the future rather than agonizing over the past. Individuals also reported experiencing a sense of control when they recognized they had the ability to make choices in response to situations in their life (Everall et al., 2006).

Efficacy of IP and CBT

IP: In 1910, Adler led a symposium on suicide in Vienna responding to an elevated number of suicides in the community. Following the symposium,

the presenters published a paper in which Adler outlined his unique view of suicide from a social perspective with interpersonal implications. He fine-tuned his ideas over the years, and in 1937 published an article detailing his concepts of suicide. Prior to describing his ideas, Adler prefaced his remarks by acknowledging that suicide frequently results from mental illness, particularly depression.

Contributing factors influencing suicide proposed by Adler include situational, interpersonal, and predisposing components. Situational factors that Adler considered an impetus for suicide included money losses and indebtedness, disappointment in love, and ongoing unemployment (Adler, 1937). He pointed out an increase in the number of Viennese associations involved in the prevention of suicide, adding that individuals only seek help if they have hope for the future; inferring that hopelessness is ultimately a precursor to suicide. He also noted the possibility of suicide epidemics and the increase of suicide in people over the age of 50.

From an interpersonal standpoint, Adler proposed that suicide evolves as a solution to a problem when an individual is lacking social interest including "all forms of working together, of living together, and of fellowship…" (p. 59). In keeping with the fundamental concept of Individual Psychology as goal-directed, Adler wrote that "every step of an individual is directed toward the successful solution of a presently imminent task" and that "what the individual considers success is always a matter of his subjective opinion" (p. 59). In that description, he deftly points out how private logic and mistaken solutions to goals can lead to suicide.

Adler endeavoured to determine who is most apt to attempt suicide by recognizing predisposing factors. He believed the pampered child to be at most risk as well as alcoholics and drug addicts. He also wrote that those who have a "tendency to collapse under psychological pain when confronted with difficult life situations" (p. 60) are more prone to suicide. In addition, Adler noted that genetics is also considered a predisposition to suicide.

As the 1974 article by Neuringer so deftly encapsulated, "the critical cornerstone of Adler's theory of suicide rests on the inability of the individual to cope with the urgent problems of life" (p. 64). An Adlerian therapist would be supportive, respectful, and encouraging in her/his attempt to determine what is motivating an individual's behaviour when confronted by life's problems. The therapist would confront her/his private logic to assist in ferreting out both the vaguely conscious and unconscious goals.

To enhance belongingness, an Adlerian therapist would encourage social interest by identifying possible avenues for interacting with others. Encouraging involvement would enhance feelings of belongingness. The therapist would also foster self-acceptance and self- esteem by emphasizing her/his strengths and potential for growth. Adlerians believe an individual is ultimately responsible for his/her mental health, however, a sincere relationship between a patient and client provides a basic form of social interest. Because risk factors for suicidal behaviour include a child's sense of not belonging and feelings of inferiority, Carlson and Maniacci (2012) expressed the importance of educating parents and preventing child neglect and abuse as a means of preventing suicide.

CBT: As previously noted, AFSP (2014) pointed out that 90% of the people who died by suicide manifested a mental illness at the time of their death. Medication for the treatment of depression has proven to reduce suicide rates. In addition to medication, psychotherapy has been shown to effectively treat depression. Psychotherapeutic techniques proven most successful for treating individuals with suicidal behaviours who may also be manifesting symptoms of depression include Cognitive Behaviour Therapy.

Suicide is a global public health concern causing several deaths each year (WHO). One of the rising issues is about intervention and efficacy of existing intervention. Some interventions have proven to efficacious according to Comtois and Linehan (2006). However, the application and evidence supporting these guidelines for psychotherapy desire much to improve its outcomes (Rihmer 2007; Rogers et al., 2018).

CBT is based on the assumption that the individual's cognition plays a vital role in the development of mental health and its related issues such as suicide ideation and suicidal behaviours and these cognitive and behavioural issues can be resolved by modifying the dysfunctional thought to a more positive and functional thought (Zalsman, Hawton, Wasserman, 2016). Bruffaerts, Demyttenaere, Hwang et al (2011), accounted for barriers to individuals who wish to seek help and treatment on suicide ideation and suicidal behaviours to include underrating the problem, stigma, financial issues and the feeling that access to treatment opportunities is limited.

According to Buscher, Torok, Terhorst, (2020) CBT has the potential of reducing suicide mortality and has shown to be effective in reducing suicide ideation and suicidal behaviours. A short CBT intervention of six sessions,

recorded a decreased in both suicide ideation and depression (Watts et al., 2012; Mewton & Andrews, 2015). CBT appears to be the most effective psychotherapeutic interventions for patients presenting suicide ideation and suicide attempts even in the short-term intervention sessions (Watts et al., 2012; Mewton & Andrews, 2015) as well as long term (two months), CBT proved to be effective in reducing suicide ideation.

Researchers consider self-injury to be either an attempt to regulate emotions due to the breakdown of more typical tools for emotion regulation or the usual mechanisms for regulating emotions never developed sufficiently (Joiner, 2005). Interpersonal effectiveness involves learning skills to improve the quality of interactions by communicating needs and coping with interpersonal problems that generate strong negative thoughts, emotions and behaviours.

Validation encompasses the ability to communicate that the way another individual is thinking, feeling, or acting makes sense in certain situations. In explaining the difference between validation and agreement, Neece et al. (2013) pointed out "that validation communicates that one understands the other person's perspective, whereas agreement indicates that one approves of the other's thoughts, feelings, or behaviours" (p. 261). As an intervention aimed at reducing suicide ideation, self-harm and suicidal behaviour, CBT has proven to be an effective strategy by focusing on changing irregular, dysfunctional negative and unpleasant thoughts to a more regular, functional, positive and pleasnt thoughts and enhancing skills to cope.

Suicide Prevention Strategies

The goals of suicide prevention strategies aim to heighten awareness and understanding of suicide, reduce factors that increase the risk of suicide, and enhance protective factors such as resilience and other coping techniques. A critical component of suicide prevention for adolescents and young adults focuses on the link between an individual recognizing that he/she has a problem and the youth at-risk obtaining treatment. A key objective for current prevention programs involves encouraging suicidal youths to seek help (Klimes, Klingbeil, & Meller, 2013). Research indicated that adolescents frequently confided in their peers and received vital support during a crisis, however, sharing this information with peers rarely led to professional intervention. Studies have shown that almost 75% of adolescent peers do not share an individual's suicidal intentions with anyone else (Klimes, et al., 2013).

A number of programs designed to prevent suicide, particularly over the past 30 years, have succeeded in increasing knowledge about the gravity of suicide as a public health concern. Recent empirical evidence has shown that the two strategies with the most significant impact on suicide prevention consist of gatekeeper training and suicide screening programs (Klimes, et al., 2013; Robinson et al., 2013).

Gatekeeper Training: Gatekeeper programs, with the goal of securing resources for at- risk youth, have proven to be effective. Staff members including: teachers, counsellors, mental health professionals, and administrative personnel may become gatekeepers in an academic setting. Gatekeeper training consists of building a trusting relationship with students, increasing knowledge about suicide risk factors, and providing the necessary skills to identify

vulnerable adolescents. Robinson et al. (2013) consider gatekeeper intervention to be a selective intervention of identifying individuals displaying risk factors as opposed to seeking intervention for only those who manifest distinct signs of suicidal behaviour.

Klimes et al. (2013) consider gatekeeper programs to be of either a surveillance or a communication nature. The surveillance model consists of increasing a gatekeeper's knowledge and awareness of risk factors allowing her/him to respond effectively by providing appropriate referrals. The latter model emphasizes communication between gatekeepers and students with the goal of encouraging the students themselves to seek help. In underscoring the importance of this type of program, Klimes et al., noted "the most concerning findings regarding the impact of suicide-prevention efforts were for adolescents who reported symptoms of depression or previous suicidality. These at-risk adolescents are often the least likely to engage in help-seeking behaviour" (p. 91). Educating gatekeepers has proven to decrease suicidal behaviour by increasing knowledge of risk factors, enhancing awareness of mental health and suicide, reducing the stigma associated with help-seeking and providing access to referral services.

Suicide Screening Programs: Screening programs identify youth who may be at risk for suicide but have not come forward seeking help. These programs also focus on individuals who have not been identified as vulnerable by a mental health professional. The screening programs administered by Robinson et al. (2013) included the Suicidal Ideation Questionnaire (SIQ), the Reynolds Adolescent Depression Inventory (RADS), the Suicide Risk Screen (SRS), the Columbia Suicide Screen (CSS), the Beck Depression Inventory

(BDI), and the Strengths and Difficulties Questionnaire (SDQ). These programs, administered as the first step in a two-part process, focused on detecting youth most at-risk for suicide. During the second stage of the process, at-risk individuals met in a face-to-face, in-depth interview with professional clinicians. Following the interview phase, mental health providers determined which of those at-risk youth required ongoing support through school- or community-based services.

Researchers noted a lingering perception, even among professionals, that discussing suicide may elevate suicidal behaviour. Current research by both Robinsons et al. (2013) and Eynan et al. (2013) demonstrated that suicide assessments do not cause undue stress, nor do they increase suicidal urges. In fact, Eynan et al. explained that a decline in suicidal behaviour following an assessment "may be due to the therapeutic and cathartic effect of the assessment interviews, including both the content of the research interview and the relationship formed between the interviewer and interviewee" (p. 129).

Robinson et al. (2013) pointed out the necessity of providing effective treatment to the at- risk individuals identified by screening programs. Research findings confirmed the benefit of early treatment in attaining more desirable results. This study by Robinson et al. emphasized that "it is widely acknowledged that mental health services are overstretched, and that identifying people to be in need of support, yet not being able to provide that support, is clearly problematic" (p. 177).

Conceptual Framework

Diagrammatic representation of the various variables

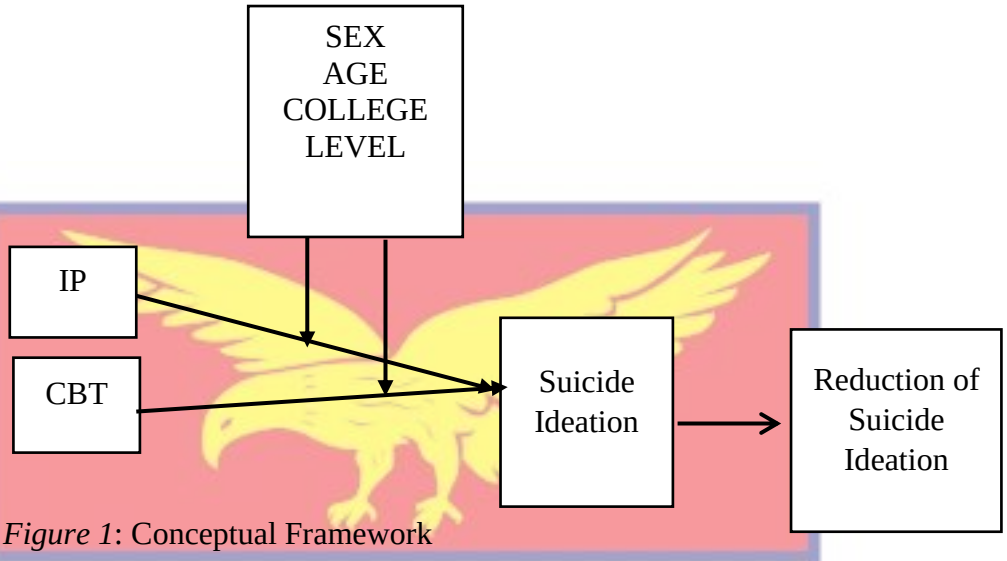

Figure 1: Conceptual Framework

This is a visual representation of the envisaged relationship between the various variables. The dependent variable is Suicide Ideation while the independent variables are IP and CBT. Gender, age, college and level of study are the moderating variables expected to determine the relationship between the dependent and the independent variables. It was anticipated that as regular undergraduate students who are suicidally ideated undergo therapy sessions using some tecniques of IP (such as encouragement and paradoxical intention) and of CBT (such as thought stopping and cognitive rehearsal), there is going to be a reduction in suicide ideation.

Chapter Summary

All people of all age can be at risk of suicide. Male and female experience suicide ideation. Suicide gesture and suicidal desire (a vague wish for death without any actual intent to kill oneself) are potentially self-injurious behaviours that a person may use to attain some other ends, like to seek help, punish others, or to receive attention. This behaviour has the potential to aid an

individual's capability for suicide and can be considered as a suicide warning, when the person shows intent through verbal and behavioural signs.

Suicide is a serious, preventable public health problem that results in social, emotional, and economic consequences in families, friends, and colleagues. Suicide ideation, a prerequisite for suicide, demands our attention and action even though its prevention and control are difficult.

Therefore, preventive methods such as direct talks, screening for risks, lethal means reduction and social intervention as well as individuals' access to proper mental health care, a sense of belonging, good problem-solving skills, and a system of beliefs that discourages suicide should be developed to prevent suicidal thoughts, its attempt and eventually the action itself. I hope that the evidence generated in this study will facilitate these efforts.

CHAPTER THREE

RESEARCH METHODS

Overview

This chapter covers the research methods used in the study. The chapter is structured around the following subheadings: research design, study area, population of the study, sampling procedure, data collection instruments, validity and reliability of the instruments, data collection procedures, data processing and analysis and ethical considerations.

Philosophical underpinning of the study

Specifically, this study rests on the pragmatic philosophy, which places emphasis on the use of all approaches to understand the research problem other than on the methods. A major principle underpinning the pragmatic epistemology is that knowledge is always based on experiences. One's perception of the world influences the individual's social experience (Morgan, 2014). Pragmatism does not consider or view knowledge as reality rather, it is constructed with a purpose to better understand and manage one's existence and take part in the world (Goldkuhl, 2012).

According to Goles and Hirschheim (2000), pragmatists orient themselves towards solving practical problems in the real world. Pragmatists believe that the process of acquiring knowledge is a continuum rather than two opposing and mutually exclusive poles of either objectivity or subjectivity. Pragmatists believe in employing multiple methods, measures, researchers and perspectives in their study. Pragmatists assume an independence of methods in

which researchers do not have to absolutely commit themselves to a particular research method (Teddlie & Tashakkori, 2009).

In view of the above, the current researcher employed a combination of two research approaches (quantitative and qualitative) to address the research hypotheses and the research questions using a quasi-experiment and an interview guide respectively to collect the data required for the study. Despite the numerous benefits of the pragmatic approach, one challenge is that the researcher's world view can influence the way the researcher conducts the study (Kuhn, 1970).

Research Approach

The research approach used for the study, which was founded on the pragmatists' philosophy, is the mixed methods approach. Johnson and Onwuegbuzie (2004) explained mixed methods research "as the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or languages into a single study" (p. 17). Fraenkel, Wallen and Hyun (2015) further stated that the mixed methods design is a combination of the quantitative and qualitative methods in any way suitable to address a particular research question. Specifically, the embedded mixed methods approach was used in this study.

Creswell and Plano Clark (2018) maintain that this design can be useful in certain conditions, such as, when a researcher has limited time; when he or she needs both qualitative and quantitative information from the participants for better understanding and when he (or a team of researchers) has required skills to handle both quantitative and qualitative methods.

There are three approaches to research: qualitative, quantitative and mixed methods (Creswell, 2014). These approaches are not so distinct from each other but they overlap. This implies that qualitative and quantitative approaches are not rigid, distinct categories, polar opposites or dichotomies. Instead, they represent different ends on a continuum (Newman & Benz, 1998). A study may be more quanlitative than quantitative or vice versa. Mixed methods research, however, lies in the middle of this continuum since it incorporates elements of both qualitative and quantitative approaches. It is an approach to inquiry involving collecting both quantitative and qualitative data, integrating the two forms of data and using distinct designs that may involve philosophical assumptions and theoretical frameworks. These research approaches (quantitative, qualitative and mixed methods) have their foundation in the post positivist, constructivist and pragmatist philosophical assumptions, respectively.

In using the mixed methods research approach, one of the aspects is the quantitative. Quantitative research focuses on gathering numerical data and generalizing it across groups of people or to explain a particular phenomenon. Quantitative research deals in numbers, logic and an objective stance. Quantitative research focuses on numeric and unchanging data in detail and on convergent reasoning rather than divergent reasoning (Creswell, 2005). The goal in conducting quantitative research study is to determine the relationship between one thing (an independent variable) and another (a dependent or outcome variable) within a population (Babbie, 2010). The quantitative approach is mainly associated with numerical counts from which statistical inferences can be drawn.

A qualitative approach on the other hand, seeks to make sense of personal narratives and experiences (Mouton, 2001). Crisp (2000) noted that in qualitative approach, the researcher relies on the views of the respondents, ask broad or general questions and also collect data consisting largely of words from respondents and analyse them.

The fundamental assumption underlying the mixed methods approach is that the combination of qualitative and quantitative approaches provides a more complete understanding of a research problem than either approach alone (Tashakkori & Teddlie, 2009). The main reason for the selection of this mixed methods approach for the current study was that the research sought to make stakeholders' understanding better in terms of the relative efficacy of Individual Psychology and Cognitive Behavioural Therapy in reducing suicide ideation among undergraduate students of University of Cape Coast.

Research Design

Research design is the blueprint for conducting the study that maximises control over factors that could interfere with the validity of the findings (Burns & Grove, 2001). Saunders, Lewis and Thornhill (2009) define research design as the general plan which guides a researcher in answering research questions.

Embedded mixed methods design occurs when a second approach (quantitative or qualitative) is added after the study is underway because one method is found to be inadequate (Morse & Niehaus, 2009). The use of embedded mixed method arises due to issues that develop during the process of conducting the research. The researcher planned to conduct a quantitative study from the start, but then had to follow up with a second phase of qualitative. The details of the design of the second phase, which was the qualitative phase,

however, emerged based on the researcher's interpretation of the results from the initial quantitative phase and some research questions which were not answered quantitatively and needed qualitative approach. The qualitative design was merged in the quantitative design. That is to say, the study was primarily founded on the quantitative strand. However, qualitative data were collected in addition and these were emerged in the main quantitative data. In this case, the qualitative data played a secondary role of supporting the quantitative data. This design was deemed appropriate upon realising that different research questions needed to be answered and each type of research question required different type of data set.

The above given reasons informed the researcher's use of the embedded mixed method research approach. Dawadi, Shrestha, & Giri (2021) opined that using two methods might be superior to a single method as it is likely to provide rich insights into the research phenomena that cannot be fully understood by using only qualitative or quantitative methods. Put differently, using the embedded mixed design has some of advantages. First of all, it helped to improve the larger design in depth information and understanding of the results of the addition of the two designs, i.e., the quantitative and the qualitative design. Secondly, embedded mixed method gives room for separate data collection for each of the quantitative and qualitative research questions (Creswell, 2012).

Despite the advantages of the embedded design, it also has a disadvantage of placing much emphasis on one design than the other, that is, more quantitative data than qualitative data. There is difficulty integrating data

from both strands when each set of data was used to answer different research questions (Creswell, 2014).

An essential characteristic of the mixed design is the point of interface. That is the stage where the quantitative and qualitative strands are mixed or merged. According to Morse and Niehaus (2009), merging of the quantitative and the qualitative strands could be done at four possible points during the research process: the design, data collection, data analysis, and interpretation stages. In this study, the quantitative and the qualitative strands were mixed at data analysis and interpretation stage where both data were analysed and interpreted.

Fraenkel & Wallen (2003) explained qualitative research as a study which investigates the quality of relationships, activities, situations or materials. A qualitative research has as its ability to provide complex textual descriptions of people's experience a given research issue. Additionally, it sought to understand a given research problem or topic from the perspectives of the population it involves. Qualitative research is especially effective in obtaining culturally specific information about the values, opinions, behaviours and social contexts of particular populations (Denzin & Lincoln, 2000). Again, the information or the data required was that of narratives, the exploration of their emotions and experiences during the intervention sessions, which will be in words (Kusi, 2012). Data in qualitative study is richer in a language sense. The subjectivity of the researcher and of those being studied is a part of the research process. Researcher reflections on the actions and observations in the field; their impressions, irritations, feelings and so on, become data in their own right, forming part of the interpretation Barron (1999).

For the quantitative phase, the study employed the quasi-experimental design, specifically, pre-test, post-test and control group which helped to establish the most efficacious therapy for reducing to suicide ideation. A quasi-experiment is an empirical interventional study used to estimate the causal impact of an intervention on a target population without random assignment. For many quasi-experimental studies, treatments are not administered to participants, as in true experimental studies. Rather, treatments are broadly construed to be the presence of certain characteristics of participants, such as female gender, adolescence, and low socioeconomic status (SES), or features of their settings, such as private schools or participation in a program of interest. Thus, the control group in quasi-experimental studies is defined to be those lacking these characteristics (e.g., males, respondents who are older or younger than adolescence, those of high and medium SES) or absent from selected settings (e.g., those in public schools, nonparticipants in a programme of interest).

Choosing a research approach among the various research approaches largely depends on a researcher's field and his/her research questions (Gorard, 2004a). No matter what research approach is decided upon, "fitness for purpose is the key" (Gorard, 2004a, p. 354). One characteristic of an experimental design is that researchers "deliberately control and manipulate the conditions which determine the events in which they are interested'' (Cohen et al., 2000, p. 211).

This experimental control allows the researcher to make statements about causality between the independent and dependent variables (Haslam & McGarty, 2004). No other sociological method has this power. While subjects

may not be randomly selected, and often should not be, they can be randomly assigned to experimental conditions (Haslam & McGarty, 2004). Quasi-experimental research shares similarities with the traditional experimental design or lacks the element of random assignment to treatment or control. Instead, quasi-experimental designs typically allow the researcher to control the assignment to the treatment condition, but using some criterion other than random assignment (Dinardo, 2008).

Quasi-experiments are also effective because they use the "pre-post testing". This means that there are tests done before any data are collected to see if there is any person confounds or if any participants have certain tendencies. Then the actual experiment is done with post test results recorded. These data can be compared as part of the study or the pre-test data can be included in an explanation for the actual experimental data (Dinardo, 2008). Quasi-experiments have independent variables that already exist such as age and gender. These variables can either be continuous (age) or they can be categorical (gender). In short, naturally occurring variables are measured within quasi experiments (Morgan, 2000).

One major disadvantage of the quasi-experimental design is that it does not have control for all confounding or extraneous variables. The presence of such variables can make it extremely difficult to draw conclusions about cause-effect relationship. However, the researcher controlled the confounding variables by not collecting data so close to the exam period, so that these variables are ruled out as explanations for any effects observed (Leedy & Ormrod, 2005). The study ensured that internal validity threats or extraneous

variables such as instrumentation, testing and experimental mortality were controlled to a large extent.

This study was interested in finding out the efficacy of the two therapies (Individual Psychology and Cognitive Behavioural Therapy) in reducing suicide ideation. Therefore, the researcher believes that undertaking an experiment is the appropriate way to answer the research questions for the study.

Kolo (2003) posited that the quasi-experimental design involves the manipulation of one or more independent variables, but there is no random assignment of subjects to conditions. Based on this, the researcher categorised students into three groups (two experimental groups and one control group). The first experimental group was exposed to Individual Psychology (IP), while the second group also were exposed Cognitive Behaviour Therapy (CBT). The third group was the control or the no-treatment group which was not subject to any treatment. The design is diagrammatically represented below.

B_1	T_1	A_2
B_3	T_2	A_4
B_5		A_6

Figure 2: Pre-test, Post-test and Control Group Design

Where:

B_1, B_3 and B_5 refer to the observations before implementation of the experiment (i.e., pre-test).

A_2, A_4 and A_6 refer to the observations after the experiment or treatment (i.e., post-test).

T_1 and T_2 represent treatment.

Figure 2 illustrates the three groups that were involved in the study. Two received treatments and one served as the control or no-treatment group. Also, there were observations for all the groups before (pre-test) and after (post-test) the treatment.

Study Area

University of Cape Coast was selected as the study area for the study. The University is in Cape Coast which is the Administrative Capital of the Central Region. The traditional name of Cape Coast, 'Oguaa', originates from the Fante word 'gua' meaning market. It was named Cabo Corso by the Portuguese meaning Short Cape and later changed to Cape Coast by the British. The Cape Coast Metropolitan Area is one of the oldest Districts in Ghana. It was raised to the status of municipality in 1987 by LI 1373 and upgrade to metropolitan status in 2007 by LI 192.

The University of Cape Coast is a prestigious public collegiate research university located in Cape Coast, Ghana. The University was established in 1962 out of a dire need for highly qualified and skilled manpower in education. It was established to train graduate teachers for second cycle institutions such as teacher training colleges and technical institutions, a mission that the two existing public universities at the time were unequipped to fulfill. The University has since added to its functions the training of Doctors and Health Care Professionals, as well as Education Planners, Administrators, and Agriculturalists. University of Cape Coast graduates include Ministers of State, High Commissioners, Chief Executive Officers and Members of Parliament. The University, which is five kilometers west of Cape Coast, is on a hill overlooking the Atlantic Ocean. It operates on two campuses: The Southern

Campus (Old Site) and the Northern Campus (New Site). Two of the most important historical sites in Ghana, Elmina Castle and Cape Coast Castle, are only a few kilometers from the University.

Population

Amadehe (2002) defined population as the entire aggregation of cases that meet a designated set of criteria. Mugenda and Mugenda (2003) described target population as the complete set of individual's cases or objects that are being investigated. In this study, the population was regular undergraduate students of the University of Cape Coast. The total number of regular undergraduate students of the University of Cape Coast was 18699. This includes students in all the colleges such as College of Humanities and Legal Studies, College of Health and Allied Sciences, College of Education Studies and College of Agriculture and Natural Sciences. The target population was all regular undergraduate students of the University of Cape Coast and the accessible population was those who answered the screening inventory.

The researcher used the following criteria to include students in the study:

1. the person should be an undergraduate regular student of the University of Cape Coast
2. the person should be a student of any of the four colleges of the University indicated by the study.
3. the student could be of any level
4. the student could be of either gender
5. the student should undergo screening to obtain a total score ranging from 20-38 to qualify for the intervention.

The researcher used the following criteria to exclude students from the study;

1. students who are doing postgraduate programmes and the college of distance education students.
2. undergraduate students whose faculty and department will not be selected in the sampling process.
3. undergraduate students who undergo screening but score marks ranging from 0 – 19.

Sampling Procedure

The study collected information from a smaller group or subset of the population in such a way that the knowledge gained is representative of the total population. The sample size is however defined as a subgroup or part of a larger population (Saunders, Lewis & Thornhill, 2007). The distribution and proportions of the respondents is presented in Table 1.

Table 1: Sample Distribution

College	Male	Female	Total	Sample
College of Agriculture and Natural Sciences	2,806	835	3,641	**8**
College of Education Studies	2,985	2,196	5,181	**8**
College of Health and Allied Sciences	1,478	1,103	2,581	**8**
College of Humanities and Legal Studies	4,199	3,097	7,296	**6**
Total	11,486	7,231	18,699	**30**

Sampling employs definite procedures in selecting part for the express purpose of obtaining from its description or estimates certain properties and characteristics of the whole (Kumekpor, 2002). The multi-stage sampling technique was employed for the study. In the first stage, the purposive sampling was used to select the University of Cape Coast for the study. It is a sampling technique which allows the researcher to rely on his judgement when choosing members of population to participate in the study. The use of purposive sampling was to allow researcher to obtain adequate information from the respondents. It is a non probability sampling method and occurs when elements selected for the sample are chosen by the researcher. Researchers often believe that they can obtain a representative sample by using a sound judgement which will result in saving time and energy (Black, 2010). From the five colleges of undergraduate students of the University, the researcher purposively selected four colleges of regular undergraduate students since undergraduate students of the College of Distance Education (CoDE), the fifth College, do not stay on campus but are scattered geographically and the researcher may not have access to them. From the colleges, one faculty each, that is, Faculty of Social Sciences, Faculty of Humanities and Social Sciences Education, School of Agriculture and School of Allied Health Sciences was purposively selected. Again, using the same purposive sampling method, four departments were chosen for the study, namely, Department of Geography and Regional Planning, Department of Business and Social Sciences Education, Department of Agriculture Economics and Extension and Department of Biomedical Sciences. The targeted respondents from each of the department were subjected to the screening of the Beck's Scale of Suicide Ideation. A non-random criterion (such

as researcher's judgement and convenience) was then used to select 30 respondents from the various departments in the colleges based on the students' scores (i.e., 20-38) to the items on the Beck's Scale for Suicide Ideation. The total sample size was 30. The total number of respondents selected for the study was divided into three groups using simple random so that each person will have the equal chance of being selected into a group with no preference for gender. Each group had 10 participants, that is, Individual Psychology (IP) treatment group, Cognitive Behavioural Therapy (CBT) treatment group and the control group. The determination of 10 students per group was guided by the suggestion made by Okobiah (1991) that the number for group counselling, normally, ranges from 10 to 20. Two of these groups were subject to the treatments of the study while the other one was used as a control group.

For the qualitative phase of this study, the convenience sampling method was used to select eight (8) participants for the study. This was guided by Creswell (2014) who stated that up to ten (10) participants are enough in a phenomenological study. Also, Morgan (2004) and Langford et al (2009) came up with six-ten (6-10) and six-eight (6-8) participants respectively. Therefore, four (4) participants were conveniently sampled from each treatment group, that is, IP and CBT, adding up to eight (8), to be interview for the qualitative analysis and interpretation.

Convenience sampling is a method of sampling where researchers collect data from a conveniently available pool of respondents. In this case members or participants are readily available and approachable to be part of the study. It involves recruiting participants based on convenience. With the convenience sampling, there is no criteria for sampling selection except that the

people are readily available and willing to participate in the study (Saunders, Lewis & Thornhill (2012). The researcher used this type of non-probability sampling procedure because it speedy, easily available and easy way of collecting data from respondents (Henry Gary, 1990). According to Wright, Sim and Chris (2002), when time is of essence, researchers turn to convenience sampling method for data collection and that informed the researcher to use it.

Data Collection Instruments

Beck Scale for Suicide Ideation was used to measure the suicide ideation of undergraduate students of the University of Cape Coast. The instrument was adopted. It is a 19-item instrument that evaluates the presence and intensity of suicidal thoughts. Self-reporting edition of the scale was introduced by Beck et al., in 1988. The Scale for Suicidal Ideation (SSI) was designed to quantify the intensity of current conscious suicidal intent by scaling various dimensions of self-destructive thoughts or wishes. The items assessed the extent of suicidal thoughts and their characteristics as well as the respondent's attitude towards them; the extent of the wish to die, the desire to make an actual suicide attempt, and details of plans, (if any); internal deterrents to an active attempt, and subjective feeling of control or "courage" regarding a proposed attempt. Per the manual for scoring for Beck's Scale for Suicide Ideation, each item consists of three alternative statements graded in intensity from 0 to 2. The instrument's total score is the sum of the individual item scores and may range from 0 (low ideation) to 38 (high ideation). In other words, a positive rating (>1) on any of the ideation scale's 19 items is considered as a potential indicator of suicide ideation. A score ranging from 0 to 19, indicates a low ideation while a score from 20 to 38 also indicates high ideation.

Suicide ideation was operationalized as the response to item 9 from the revised Beck Depression Inventory [BDI], (Beck et al., 1979). Specifically, the question was "Have you had any thoughts or desire to commit suicide in the past month?" The response options will be "1" (I haven't had any thoughts of suicide); "2" (I had suicidal thoughts, but I am not going to commit suicide); "3" (I want to commit suicide). Students who endorsed any thoughts of suicide (i.e., ratings of 1–3) were classified as (positive) for suicide ideation.

Validity of the Instrument

To establish the validity of the instrument, the following types of validity were considered

Face validity

Construct validity

Content validity

Face Validity: Face Validity can be described with a sense that the interview guide and the questionnaire look like it measures what it was intended to measure. For example, were the questions phrased appropriately (Cohen, Manion & Morrison, 2011). The face validity of the instrument for this study was established by giving the instrument to experts (in psychometrics) and the researcher's supervisors to scrutinise and make constructive criticisms.

Content Validity: Content validity is the extent to which the questions on the instrument and the scores from these questions are representative of all the possible questions that could be asked about the content or skills (Creswell, 2012). The content validity of the instruments was determined by experts in measurement and evaluation and the supervisors of the researcher in the Department.

Construct Validity: Construct validity is a determination of the significance, meaning, purpose, and use of scores from an instrument (Creswell, 2012). Construct validity refers to the degree to which test or questionnaire scores based on specific characteristics correlate well with other measures of the same characteristics and the concept you try to measure (Cohen, Manion, & Morrison, 2007). The construct validity of the instrument for this study was established by comparing the results obtained by other works with the results obtained in the study. This helped to establish that the items measured the same characteristics or tapped the concept under measure.

Reliability of the Instrument

Reliability means that individual scores from an instrument should be nearly the same or stable on repeated administrations of the instrument and that they should be free from sources of measurement error and be consistent (Creswell, 2012). Reliability is concerned with consistency, dependability or stability of a test (Cohen, Manion & Morrison, 2011). With regard to instrumentation, Beck's scale for suicide ideation was adopted for use. It has an internal consistency value of .89. Since this was the inventory used to collect both the pre-test and post-test data, the inherent validity of .89 was adjudged suitable as indicated by Pallant (2005). To establish the reliability of the questionnaire, the Cronbach Alpha co-efficient was adopted for the study.

Interview Guide

For the qualitative data collection, an interview guide was used. It was developed and vetted in consultation with my supervisors. It consists of eight (8) open-ended questions which were derived directly from the research objectives. The development of the interview guide was based on the research

questions and this is in line with what Robson (2003) said, that interview is used as the most preferred means of gathering information or collecting data which has direct link or bearing on the research objectives. According to Cooper and Schindler (2000), personal interview or face to face communication is a two-way conversation initiated by the interviewer to obtain information from a respondent. In this communication the researcher and the interviewee are total strangers and the researcher determines the topics and the pattern of the interview. It was considered a suitable method for data collection as it allowed for the gathering of information of sufficient depth and quality to provide a detailed picture of participants' experiences during the intervention sessions. The interview sessions started with a few defined questions but interesting tangents developed which were pursued with probing questions for clearer and better understanding (Kusi, 2012).

Trustworthiness

Trustworthiness in qualitative study is the validity and reliability of the interview schedule. Qualitative study can be assessed through the fulfillment of several criteria or requirements, according to Pekeberg (2012). Babbie and Mouton (2001) refer to trustworthiness as the need for credible, dependable, transferable and confirmable data.

Credibility is the collection of data that is compatible with the "constructed realities that exists in the minds of the respondents" (Babbie & Mouton, 2001, p 277). To ensure credibility, member checking was used. At relevant points in the interview the researcher summarised the information received to check that the interpretation was correct. The criterion of credibility (internal validity) can be met by two standards; the use of more than one

research method, and the use of respondent validation. The former refers to the use of more than one method to ensure complementarity of findings. The latter refers to the findings of the research being sent to participants for their comments. The researcher has achieved credibility using more than one method to ensure complementarity of findings. This means that comments and conclusions can be supported or rejected by participants and with that readjusted to best represent the nature of the concept being investigated (Bryman, 2008). The researcher also sent the presentation of data, discussion and conclusion to participants and their comments helped to readjust to suit the issue being investigated.

Transferability: In qualitative analysis, transferability is parallel to the external validity criterion. The probability of generalizing results concerns this criterion. However, qualitative research, unlike quantitative research, does not rely on generalizations, but on deeper explanations of a few cases and/or contexts (Bryman, 2008). *Transferability* is the "extent to which the findings can be applied in other contexts or with other respondents" (Babbie & Mouton, 2001, p 277). The use of convenience sampling helped the researcher to ensure transferability as the considered selection of participants helped to ensure that appropriate participants were included in the study so that the findings can be applied in other contexts or with other respondents in same or different institution.

Dependability is data that "if it were to be repeated with the same or similar respondents (or subjects) in the same (or a similar) context, its findings would be similar" (Babbie & Mouton, 2001, p 278). Dependability applies to the level to which a study is consistent or reliable. Full records of research data

and procedures must be kept open to all in order for qualitative research to be reliable. In relation to this study, all the methods used were made mention of. The researcher ensured that the data collected and information gathered were accurate and that all the conclusions were drawn based on the data collected.

Confirmability: This is the last criterion of trustworthiness that a qualitative researcher must establish. It has to do with the level of trust that the research findings are based on the narratives of the participants rather than being researcher bias. This is the analysis criterion of objectivity. In qualitative analysis, objectivity is said to be minimal. It can be argued that when studying social phenomena, absolute objectivity is not feasible. As a researcher using the qualitative method, however, it is crucial that the presentation and interpretation of the data collected is not interfered with by my own beliefs, thoughts and assumptions. It is important that the participants' voices are reflected in the discussions and conclusions (Bryman, 2008). The study results were sent to the participants before final submission, this was done to avoid incorrect interpretations of their words, thoughts and actions.

Data Collection Procedures

Before data collection, three research assistants with background in Guidance and Councelling were trained for three weeks. The focus for the first week was on the theses- the purpose, research design, sampling procedure. The second week focused on the inventory, ie, Beck's Scale for Suicide Ideation, its administering and scoring, as well as ethical issues such as confidentiality and anonymity. The third and the final week had its focus on the intervention sessions for the two treatment groups (IP and CBT) and the Control Group.

To successfully gather data, an introductory letter from the Department of Guidance and Counselling with a copy of the letter from the IRB were presented to the administrators of the various departments which guided the introduction of the researcher to the respondents. The purpose of the study was also made known to the respondents, and copies of the letters (from department and IRB) and the informed consent form were read to the students and were made aware that they can opt out of the study if they so desire. Each student was then presented with a copy of the inventory which had a brief background of the study. Codes were written on each inventory and students were asked to provide their telephone numbers. Having collected the filled inventories which served as a screening instrument, the manual was then used to score each inventory to find out suicide ideated. Per the manual for scoring for Beck's Scale for Suicide Ideation, each item consists of three alternative statements graded in intensity from 0 to 2. The instrument's total score is the sum of the individual item scores and may range from 0 (low ideation) to 38 (high ideation). In other words, a positive rating (>1) on any of the ideation scale's 19 items is considered as a potential indicator of suicide ideation. A score ranging from 0 to 19, indicates a low ideation while a score from 20 to 38 also indicates high ideation.

It was anticipated that one and a half months will be used for qualitatative data collection, but three weeks was used to collect the data, followed by eight weeks intervention.

For the qualitative data, the researcher and the interviewees scheduled some days and time with agreed venue to meet for the interview session. Eight respondents were interviewed, one at a time. This qualitative data was collected after the eight weeks intervention sessions. The researcher sought permission

from the participants to record the interview sessions. The interviews were recorded using a voice recorder. Notes were also taken as the interviews were going on. Each interview lasted for about 30 to 45 minutes. The qualitative data collection lasted for two weeks. The respondents of the study were assured of confidentiality and anonymity of the information they were giving out as well as their identity.

Treatment Plan for Treatment Groups A, B & Control Group C (Details in Appendix)

A Application of Individual Psychology (IP) in Reducing Suicide Ideation

Week 1 - Welcoming, introduction and orientation

Questions and Answers for Clarification and Confirmation

Closing Remarks.

Week 2 - Explanation of terms, suicide, ideation, causes and effects

Questions and Answers

Homework

Closing Remarks

Week 3 - Explanation of concepts; therapy, Individual Psychology

Teaching on the Goals of IP, Key Concepts

Questions and Answers

Homework

Closing Remarks

Week 4 - Using IP Techniques to Help Reduce Suicide Ideation

Teaching on Encouragement

Questions and Answers

Homework

Closing Remarks

Week 5 – Teaching on Push Button

Questions and Answers

Homework

Closing Remarks

Week 6 – Teaching on Paradoxical Intention

Questions and Answers

Homework

Closing Remarks

Week 7 - Summary, Highlights and Key Focus on the Topics Treated so far.

Questions and Answers

Homework

Closing Remarks

Week 8 - Post – test, Evaluation, Termination of Session

B Application of Cognitive Behavioural Therapy (CBT) in Reducing Suicide Ideation

Week 1- Welcoming, introduction and orientation

Questions and Answers for Clarification and Confirmation

Closing Remarks

Week 2 - Explanation of terms, suicide, ideation, causes and effects

Questions and Answers

Homework

Closing Remarks

Week 3 – Explanation of concepts; therapy, Cognitive Behavioural Therapy

Teaching on the Goals of CBT

Questions and Answers

Homework

Closing Remarks

Week 4 – Using CBT Techniques to Help Reduce Suicide Ideation

Teaching on thought Challenging Technique

- Identifying Clients Negative Thought
- Challenging of Automatic thought
- Replacing of Negative thought to Realistic Ones

Questions and Answers

Homework

Closing Remarks

Week 5 – Teaching on how to use Thought Stopping Technique

Questions and Answers

Homework

Closing Remarks

Week 6 – Teaching on Thought Recording Technique

Questions and Answers

Homework

Closing Remarks

Week 7 – Summary, Highlights and Key Focus on the Topics Treated so far.

Questions and Answers

Homework

Closing Remarks

Week 8 – Post – test, Evaluation, Termination of Session.

Control Group C

Week 1- Welcoming, introduction and orientation

Questions and Answers for Clarification and Confirmation

Closing Remarks.

Week 2 – Introduce the concept time management

Explanation of Terms – Time, Management, Time Management

Questions and Answers

Homework

Closing Remarks

Week 3 – Teaching on the Need for Time Management

General and Specific

Questions and Answers

Homework

Closing Remarks

Week 4 – Teaching on Effective Use of Time

Questions and Answers

Homework

Closing Remarks.

Week 5 – Teaching on Time Plan

Factors to Consider

Questions and Answers

Homework

Closing Remarks.

Week 6 – Personal Time Table

Academic / Non-Academic

Questions and Answer

Homework

Closing Remarks.

Week 7 - Summary, Highlights and Key Focus on the Topics Treated so far.

Questions and Answers

Homework

Closing Remarks

Week 8 – Post – test, Evaluation, Termination of Session

Ethical Consideration

Before the commencement of the study, ethical clearance was sought from the University of Cape Coast, Institutional Review Board, an introductory letter obtained from the Institutional Review Board.

An informed consent form as well as participant information sheet detailing the Principal Investigator's background, contact information, purpose of the study, procedures, confidentiality, risks, voluntary participation and benefits of participating in the study were read out to research participants. The contents of these, that is, informed consent form and participant information sheet, were read and interpreted to research participants to establish a coherent comprehension of the study. Research participants were informed that they could seek clarification if they are not clear with a particular question chosen. Also, participants were made to understand participation in the study is

voluntary and can withdraw from the study at any time without attracting any consequence.

The principal investigator at all times respected the privacy of research subjects and ensured their anonymity. Data collected for the study was kept confidential and used solely for the purpose indicated. All paper records collected were securely stored under lock and key in locked file cabinets with access to only the researcher. Electronic records however, were stored in password protected folders. The researcher intends to keep both paper and electronic records for a period of three years after which they will be destroyed.

Possible Risks and Discomforts

Some respondents felt too uncomfortable to answer some of the questions on the questionnaire (inventory). Again, at the intervention level, some techniques used required that respondents share some few issues regarding their reason for having preconceiving that suicide idea. Some respondents felt others would think their reason for developing those suicidal thoughts was trivial and unimportant. The researcher removed any possible discomfort, the researcher made respondents to understand the purpose of being in that group and also encouraged them of how important every single situation they have experienced is to the study.

Confidentiality

To the best of the researcher' s ability, information about participants has been protected. Names, halls of residence, phone numbers were not made mention of in any reports. The only exception was to allow, if need be, the team of research assistants and my supervisors, access to these research records to confirm or disconfirm issues regarding the study.

Data Processing and Analysis

Analysis of data is a process of editing, cleaning, transforming, and modelling data with the goal of highlighting useful information, suggestion, conclusions, and supporting decision making (Pujari, 2001). Data from the field were cleaned, coded appropriately to make meaning out of them. Coding was done to facilitate data entering and a comprehensive analysis. With the aid of Statistical Package for Social Sciences (SPSS 25), descriptive statistics such as frequencies, percentages, means and standard deviations as well as cross tabulations were used to examine objective 1 to 4, thus, to determine the gender distribution of undergraduates students of the University of Cape Coast with suicide ideation; determine the age, level of study and college distribution of undergraduates students of UCC with suicide ideation; determine the individual characteristics of UCC undergraduates students in reducing suicide ideation; and to determine the environmental characteristics of UCC undergraduates students with suicide ideation. However, multiple regression analysis was used to examine the relative efficacies of Individual Psychology and Cognitive Behavioural Therapy in reducing suicide ideation among undergraduate students of the University of Cape Coast.

On the hypotheses, inferential statistics such as independent sample *t*-test, dependent samples *t*-test (paired samples *t*-test), MANOVA (Multivariate Analysis of Variance). Specifically, dependent samples *t*-test was used to test Hypotheses One and Two. For Hypothesis One, there is no significant difference in the reduction of suicide ideation between suicidal undergraduate students in pre-test and post-test groups with respect to CBT; for Hypothesis Two, there is no significant difference in the reduction of suicide ideation

between suicidal undergraduate students in pre-test and post-test groups with respect to IP. Independent samples *t*-test for Hypotheses Three to Five which are as follows: (for Hypothesis 3); there is no significant difference in the efficacies of IP and CBT in reducing suicidal undergraduate students' suicide ideation; (for Hypothesis 4); there is no significant difference in the reduction of suicide ideation among suicidal undergraduate students exposed to IP and those in the control group; (for Hypothesis 5); there is no significant difference in the reduction of suicide ideation among suicidal undergraduate students exposed to CBT and those in the control group.

Moreover, Paired samples *t*-test was used to test Hypothesis 10, that is, there is no statistically significant difference between pre-test and post-test values of suicide ideation of the control group. MANOVA was used to test Hypotheses Six to Nine. For Hypothesis Six, there is no significant difference in the reduction of suicide ideation among suicidal students exposed to IP and CBT treatments based on age; for Hypothesis Seven, there is no significant difference in the reduction of suicide ideation among suicidal students exposed to IP and CBT treatments based on gender; for Hypothesis Eight, there is no significant difference in the reduction of suicide ideation among suicidal students exposed to IP and CBT treatments based on level of study; and for Hypothesis Nine, there is no significant difference in the reduction of suicide ideation among suicidal students exposed to IP and CBT treatments based on their college.

Table 2: Summary of Quantitative Analysis

Hypothesis	Statistical tool
Hypotheses 1 –2	Dependent samples *t*-test
Hypotheses 3-5	Independent samples *t*-test
Hypotheses 6 – 9	MANOVA
Hypothesis 10	Paired samples *t*-test

Merriam and Associates, (2002) define qualitative data analysis as "working with the data, organizing them, breaking them into manageable units, coding them, synthesizing them and searching for patterns". The steps in analysing the data were as follows: (1) transcription of the data (2) coding of the data; (3) thematic analysis of the data; (4) grouping of the themes according to the weight and extent of the problems identified; (5) writing a report about the findings. The aim of analysis of qualitative data is to discover patterns, concepts, themes and meaning.

After interviews sessions were conducted, each recording in its entirety, responses were transcribed by the researcher with the help of other experts in the field. All data within the transcripts were analysed for potential themes and the researcher attempted to locate the essence of the experience and to identify the elements and themes within (Grbich, 2007). Analysis of the data, however, did not commence until the researcher had read through all of the data, taking a holistic approach (Giorgi, 1997). Braun and Clarke, (2006) recommend that the researcher become thoroughly familiar with the data which may involve reading the data multiple times. Once the researcher felt comfortable with the material, coding began. Coding is described as "conceptualizing data by constant

comparison of incident with incident and incident with concept" (Glaser, 1992). It involves the detection of common patterns of themes that the researcher sees in the data. The researcher read through each transcribed document, highlighting and taking notes of all important data that formed patterns around a particular topic or subject of interest. As explained by Gibbs, "codes form a focus for thinking about the text and its interpretation" (2007; p 40).

After identifying the codes, it was realized that many could fit under a common category forming broader themes. With this study, the initial codes were listed and the researcher had to compare and contrast all the information to see which codes fit under a larger heading. Themes were then analysed and reported. Reports were written on each theme that was identified, what each theme means and how it fits into the research questions posed in the study.

Chapter Summary

This chapter discussed the philophical stance, research approaches and design of the study, data collection instruments and data processing and analysis. The chapter also reviewed the trustworthiness of the data and the ethical considerations that were applied to the study. The outline of the treatment plan for the three groups, IP, CBT and Control Group, was also captured in the chapter.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This chapter presents the results of the analysis of the questionnaire and the interview guide data based on the purpose of the study. The main purpose of the study was to examine whether using Individual Psychology (IP) and Cognitive Behavioural Therapy (CBT) as intervention strategies would help in reducing suicide ideation among regular undergraduate students of the University of Cape Coast, Ghana, who are suicide ideated. The analysis and interpretation of data were carried out based on the results of the five research questions and 10 research hypotheses stated for the study. The analysis was based on the data obtained from all the thirty (30) students from the College of Agriculture and Natural Science, College of Education Studies, College of Health and Allied Sciences and College of Humanities and Legal Studies.

The quantitative data were analysed using Descriptive Statistics (means, standard deviations, frequencies and percentages) and Inferential Statistics (dependent samples *t*-test, independent samples *t*-test, one-way between-groups multivariate analysis of variance- MANOVA and Chi-Square statistics). The qualitative data were analysed using themes. The first part of this chapter describes the demographic characteristics of the selected students. In the second part, the research findings are presented based on the research questions and hypotheses formulated for the study.

Description of Participants

This section on the questionnaire, biographical**,** discusses the background information of the participants, students, who took part in the experiment. The results are presented in tables and graphs.

Table 3- Average Age of Respondents

Age range	Frequency	Percent
18 years and below	-	-
19 to 23 years	21	70.0
24 and above	9	30.0
Total	**30**	**100.0**

The results in Table 3 indicate the age range of the participants of the study. Nine participants were between the ages 24 years and above, representing 30% of the total sample size. Between 19 to 23 years, they were 21, representing 70%. None of the participants fell into the category of age range 18 years and below.

Table 4- Distribution of Students by College

Colleges	Frequency	Percent (%)
College of Agriculture and Natural Science	8	26.7
College of Education Studies	8	26.7
College of Health and Allied Science	8	26.7
College of Humanities and Legal Studies	6	19.9
Total	**30**	**100.0**

Source: Field Survey (2020).

The results in Table 4 show that eight participants each were selected from College of Agriculture and Natural Science, College of Education Studies and College of Health and Allied Science while six were selected from College of Humanities and Legal Studies.

Students Level

The results below show that level 300 students were the largest in proportion (n=12, 40.0%). Those in level 200 were the least (n=4, 13.3%).

Graphical presentation of the Students by level

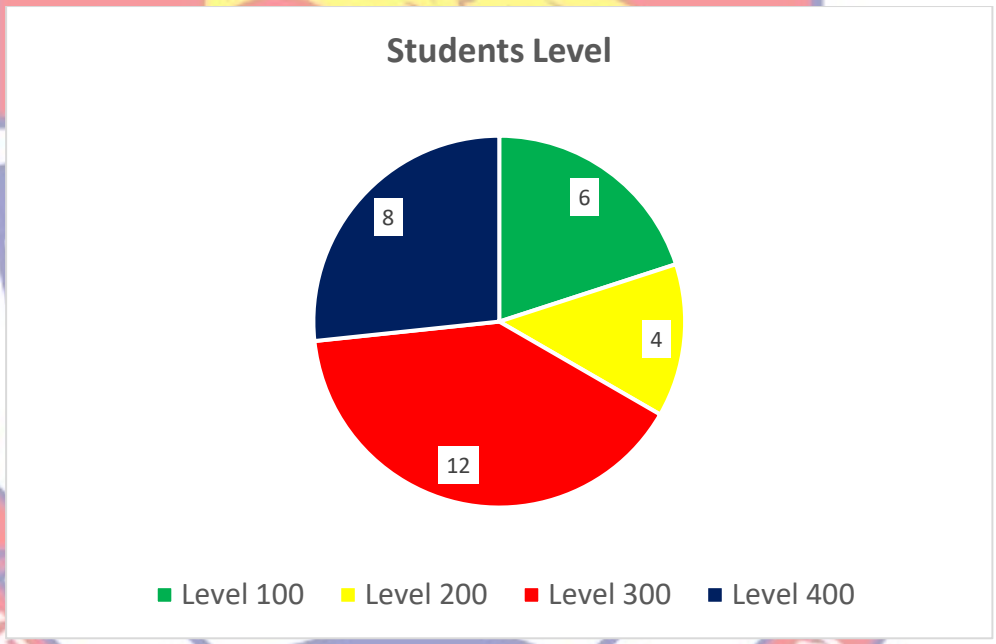

Figure 3: Pie chart showing the distribution of the students' level

Source: Field Survey (2020).

Table 5: Distribution of Participants by Financial Support

Financial Support	Frequency	Percent (%)
Parents	19	63.4
Self	4	13.3
Relatives	7	23.3
Total	**30**	**100.0**

Source: Field Survey (2020).

As depicted in Table 5, the results show that most of the students receive support from their parents (n=19, 63.3%). Very few were depending on their own resources (n=4, 13.3%) with the others, (n= 7, 23.3%) being helped and catered for by relatives.

Research Question One: How frequent does suicide ideation occur among suicidal undergraduate regular students who are suicide ideated in the University of Cape Coast?

The main thrust of this research question was to explore the prevalence rate of suicide ideation among suicidal undergraduate students in the University of Cape Coast. The results are presented in Table 6.

Table 6: Prevalence of Suicide Ideation among Suicidal Undergraduate regular Students

Frequency of Suicide Ideation		
	Frequency (f)	Percent (%)
Occasional	13	43.3
Intermittent	13	43.3
Persistent	4	13.4
Total	**30**	**100.0**

Source: Field Survey (2020).

The prevalence of suicide ideation among suicidal undergraduate students in the University of Cape Coast is presented in Table 6. The results suggest that most of the students occasionally and intermittently experience suicide ideation (n=13, 43.3%). Very few persistently experience suicide ideation (n=4, 13.3%). In other words, one out of every seven or eight UCC regular undergraduate students who are suicidal experiences suicide ideation continuously or persistently.

One respondent from the interview also had this to say about the prevalence of suicide ideation

CBT 1:

There are a lot of students on campus who do not think suicidal or they do but I m sure there is an element of fear in them, so they can't own up.

Another respondent also added

IP 4:

Suicide ideation is prevalent at UCC campus here. Take our case as an example, if you people hadn't come to us with this questionnaire, I m sure we won't have been able to come this far. So, its there, people think suicidal.

IP 2 also agreed:

Yeah, students oftentimes think about suicide but it isn't every time, so I think the prevalence is low, because few people I believe do think suicidal.

Research Question Two: What is the gender distribution of suicide ideation among suicidal undergraduate students of UCC?

The researcher sought to explore the gender distribution of suicide ideation among suicidal undergraduate students of UCC. The results are presented in Table 7.

Table 7: Gender Distribution of Suicide Ideation among Suicidal Undergraduate Regular Students of UCC

Gender	Frequency (f)	Percent (%)
Male	12	40.0
Female	18	60.0
Total	**30**	**100.0**

Source: Field Survey (2020).

The results from Table 7 suggest that the larger proportion of the students with suicide ideation were females (n=18, 60%), while the males were the lesser (n=12, 40%). In other words, six out of every 10 undergraduate students of UCC having suicide ideation were females while the remaining four were males.

IP 2: had this to say on the gender distribution of suicicde ideation

I say females are more suicide ideated than the males. You know ladies are more emotionl and vulnerable.

CBT 4: *It's females; we are more suicde ideated than our male counterparts. In my group for instance, the laides were more than the gentlemen. Besides, it's the girls that are always jilted, they suffer most especially from a broken relationship.*

Form the interview session, 90% of the interviewee agreed that, females are more suicide ideated than the male, the only person representing a different view had this to say;

CBT 1: *For me, I feel both males and femlaes equally experience suicide ideation. Afterall there are no problems labelled for femles to make them more vulnerable to suicide and vice versa. He went further, Both male and females alike experience suicide idestion.*

Research Question Three: What are the individual characteristics among the undergraduate suicidal students which predispose them to suicide ideation?

The researcher sought to determine possible individual characteristics among the undergraduate students which predispose them to suicide ideation. To assess this, Chi square test for association was employed as an appropriate

tool for the analysis. The Chi-Square statistic is most commonly used to evaluate Tests of Independence when using a cross tabulation (also known as a bivariate table). Cross tabulation presents the distributions of two categorical variables simultaneously, with the intersections of the categories of the variables appearing in the cells of the table. The Test of Independence assesses whether an association exists between the two variables by comparing the observed pattern of responses in the cells to the pattern that would be expected if the variables were truly independent of each other. Calculating the Chi-Square statistic and comparing it against a critical value from the Chi-Square distribution allows the researcher to assess whether the observed cell counts are significantly different from the expected cell counts. The results are presented in Table 8.

Table 8: Results of Chi Square Test

Individual characteristics	Chi-square (χ^2)	Degree of Freedom (df)	Likeli-hood Ratio	Linear-by-Linear Association	Asympto-tic Significance (2-sided)	Rks
Gender	2.667[a*]	28	3.452	1.278	.008	Assoc
Age	4.889[a*]	27	5.684	.067	.006	Assoc
College	8.889[a*]	26	11.367	2.773	.017	Assoc
Programme of study	5.000[a*]	27	4.601	.151	.015	Assoc
Level	6.667[a*]	27	7.548	.228	.004	Assoc

Source: Field Data (2020). (n=30)

Rks*= Remarks

Table 8 presents the Chi-square test of association of the individual characteristics among the undergraduate students which predispose them to suicide ideation. The results indicate that all of the demographic characteristics (age, gender, program of study and level of study) of the students have significant association with students who are predisposed to suicide ideation. For instance, gender of the students gave a result to mean that it influences on the suicide ideation of the students χ^2 (df =28) = 2.667, p < .05.

For Age, χ^2 (df =27) = 4.889, p < .05; For College χ^2 (df =26) = 8.889, p < .05; For Program of Study χ^2 (df =27) = 5.000, p < .05; and for Level χ^2 (df =27) = 6.667, p < .05. Hence, it was found that all the individual characteristics (Gender, Age, College, Programme of Study and Level) of undergraduate students of UCC predispose them to suicide ideation.

For research question 3

IP 3 had this to say

The background of the individual (student in this case) is important to me especially when it comes to thinking suicidal- Financial background to be precise.

CBT 1 had this to say

For me, financial and academic issues contribute a lot to predisposing the individual to suicide ideation.

IP 2 also said this:

I think financial issues contribute a great deal and predisposes the individual to think suicidal

Form the interview, financial and academic problems expose students to think suicidal.

Research Question Four: What are the environmental factors among suicidal undergraduate students which predispose them to suicide ideation?

With this research question, the researcher sought to explore any environmental factors among the undergraduate students which predispose them to suicide ideation. The environmental factors were captured under how the environment influences the students to "reject'', to be "indifferent'' or "accept'' suicide ideation. The results are presented in Table 9.

Table 9: Environmental Factors that Predispose Suicidal Undergraduate Students to Suicide Ideation

Factors	Frequency	Percent (%)
Rejecting	17	56.8
Indifferent	11	36.6
Accepting	02	06.6
Total	**30**	**100.0**

Source: Field Survey (2020).

The results in Table 9 indicate that to some extent environmental factors could influence undergraduate students to be predisposed to suicide ideation. Even though on a larger scale, most of the students rejects those factors which predispose them to think suicidal. In other words, two out of 30 undergraduate students of University of Cape Coast accept those factors which predispose them to have suicide thoughts.

During the interview, repondents came up with social media, the academic environment and the issues of related cases of suicide on other public

university campuses as the major environmental factors thst predispose the UCC undergraduate students to suicide ideation.

CBT3:

Eeeeii, the social media issues these days are overwhelming. We hear a lot of suicide cases especially of students of other tertiary institutions. We hear all these and our minds capture them and expose us.

IP 4 also said

Sometimes the campus does not seem friendly at all especially when you come to level 100, students talk about GPA and its related issues and attitude of some lecturers

Research Question Five: What is the level of efficacy of Individual Psychology (IP) and Cognitive Behavioural Therapy (CBT) in helping to reduce suicide ideation among regular undergraduate students in the University of Cape Coast?

Interviewees from both treatment groups attested to the efficacy of the tecniques of the various therapies.

CBT 2 had this to say about the efficacy of the therapy

I happened to be in the CBT group, my rating is 9. This is because the tecniques the moderator took us through were excellent and very practical. I loved that a lot, I don't think I will forget it.

IP 4 also said

I liked the encouragement aspect, the motivational tapes and the messages we listened to filled my mind a lot, so I will rate it like 9. Even now I will say I m suicide ideation free (laughing)

CBT1 opined

For me, it's 10 (laughing). Now, I even apply the thought stopping and the cognitive rehearsal to almost every aspect of unhealthy thoughts and not only suicide ideation.

IP 3 also added;

I will give it the highest mark, because it has been of great help to me. At least now I know I m full of positive things, the few negatives cannot overrule the positives.

Research Hypothesis One

H_0 1: There is no significant difference in the reduction of suicide ideation between undergraduate students in pre-test and post-test groups with respect to Cognitive Behavioural Therapy (CBT).

H_A 1: There is a significant difference in the reduction of suicide ideation between undergraduate students in pre-test and post-test groups with respect to Cognitive Behavioural Therapy (CBT).

Cognitive Behavioural Therapy (CBT) Results

At an alpha level of 0.05 confidence, hypothesis one was tested to find out whether any significant difference exists in the reduction of suicide ideation between undergraduate regular students in pre-test group and those in the post-test group. To assess difference in undergraduate students in pre-test and post-test groups (i.e., Cognitive Behavioural Therapy), dependent samples *t*-test (paired samples *t*-test) was deemed appropriate for the study. To obtain the scores for the analysis, the responses on the undergraduate students in pre-test and post- test were transformed into a single variable using the SPSS Software, Version. 25.

The data on scale or inventory were made up of pre-test and post-test variable which were measured on a continuous scale (interval). The dependent samples *t*-test (paired samples *t*-test) was conducted to determine or assess whether the mean scores from two experimental conditions are statistically different from one another. In using the dependent samples *t*-test, the assumptions are that, the dependent variable (difference scores) is normally distributed in the two conditions. The independent variable is dichotomous and its levels (groups or occasions) are paired, or matched, in some way (e.g., pre-test and post-test.). Before performing the dependent samples *t*-test, the normality assumption was tested.

Normality Test

Table 10: Normality Test Results of the Variables

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Pre-test	.315	10	.069*	.577	10	.000
Post-test	.190	10	.200*	.944	10	.036

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Source: Field Survey (2020). * Normality exists at p≤0.05

In Table 10, Kolmogorov-Smirnov[a] test results are reported based on the assumption that it uses a sample size less than 50 (n<50). Kolmogorov-Smirnov[a] test results are said to be normal if the sig value is greater than 0.05. From the Kolmogorov-Smirnov[a] test results, it is indicated that the dependent variables were normally distributed. For example, pre-test results scored a

Kolmogorov-Smirnov[a] indicating that the data were normal *(KS = .315, df=10, p-value=.069**, p>0.05),* post-test also recorded a Kolmogorov-Smirnov[a] results indicating that it was normal *(KS = .190, df=10, p-value=.200**, p>0.05, n=10)*. Figure 4 also presents the results of the normality assumption.

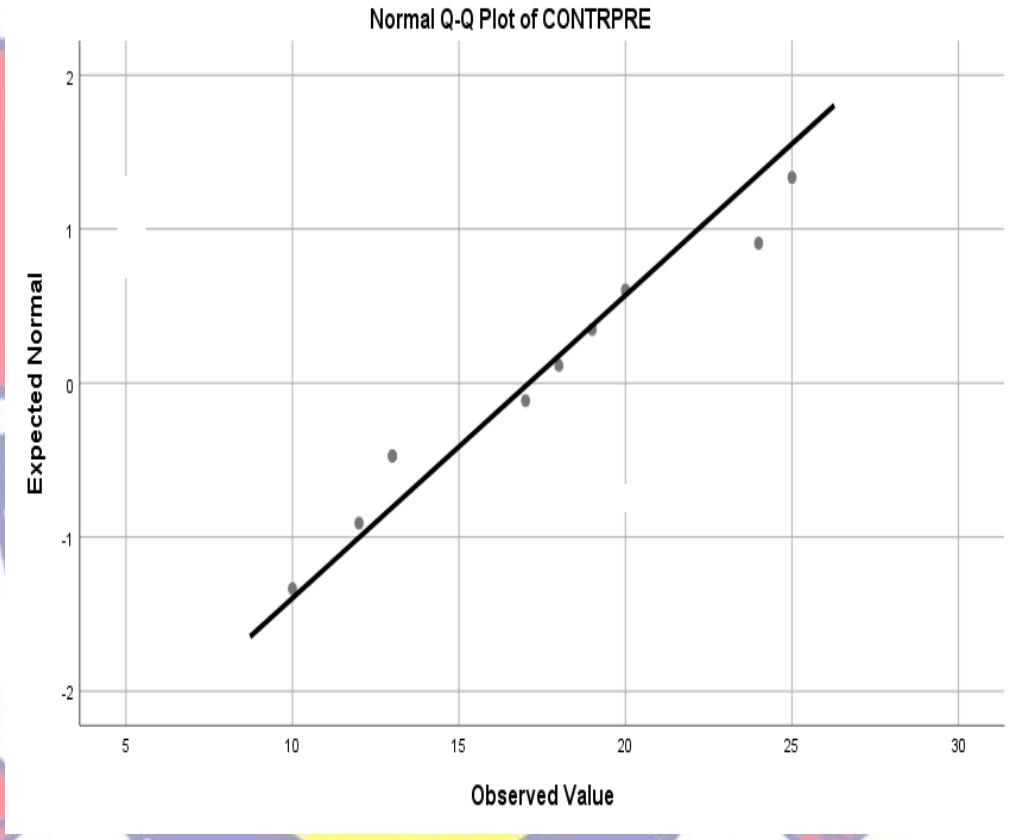

Figure 4: Linear Assumption

Source: Field Data (2020).

Figure 4, which shows that the movement of the variable along the diagonal line indicates that the data were assumed normal and as such dependent samples *t*-test could be performed. Table 10 presents the means, standard deviation and the *t*-test between the variables for hypothesis one. Having tested for the normality of the data, the researcher proceeded to test the difference in the reduction of suicide ideation between undergraduate students in pre-test and post-test groups using Cognitive Behavioural Therapy. This therefore, means

that conducting dependent samples *t*-test was justified and statistically reasonable.

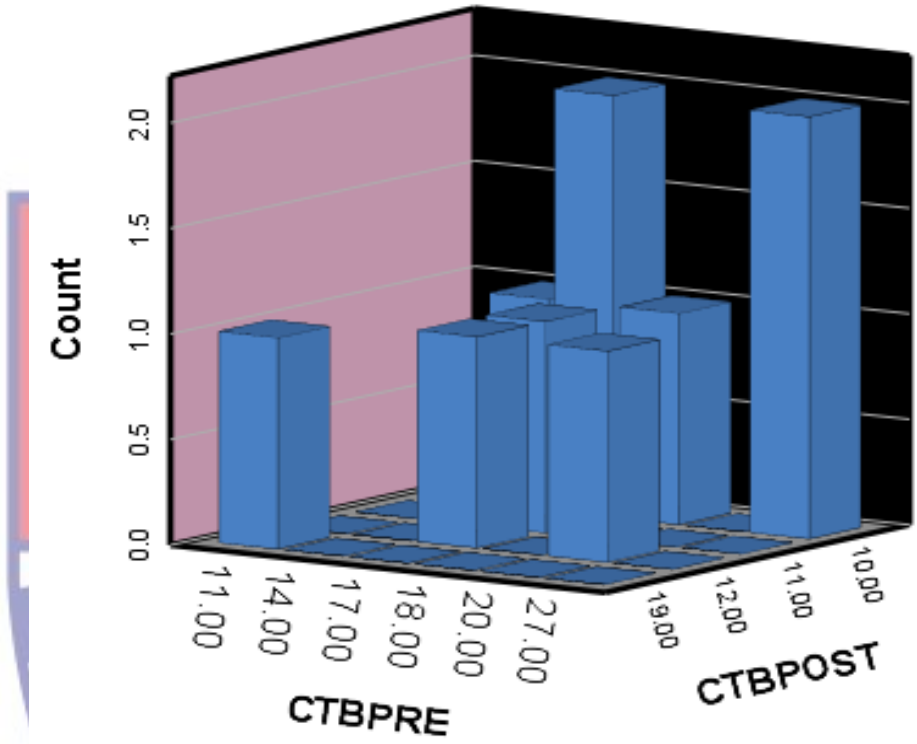

Figure 5: Homoscedasticity Normality Assumption for Cognitive Behavioural Therapy (CBT)

Source: Field Data (2020).

Figure 5 show that the results on Cognitive Behavioural Therapy (CBT) using pre and post-test of undergraduate students' suicide ideation. The results show that the cluttering of the bars show that the data was assumed normal and as such dependent samples *t*-test could be performed. Table 11 presents the dependent samples *t*-test of the variables.

Table 11: Results of Dependent Samples *t*-test

	Status	Mean	SD	Cal. t-value	Df	P-value	Eta^2-value	Decision
CBT	Pre-test	17.10	5.087	-3.081*	09	.013(s)	0.78	Sig.(p<.05)
	Post-test	11.40	2.796					(rejected)

Source: Field data, 2020. *Significant, $p \leq 0.05$

From the analysis results in Table 11, there are significant differences with respect to pre-test and post-test data. The pre-test recorded a result of M = 17.10, SD = 5.087 and post-test as M= 11.40, SD = 2.796 both with a cal. t-value of *t* (df=09) =-3.081; $p < .05$, 2-tailed). The magnitude of the differences in the means was considerable with an Eta^2-value of 0.78. This implies that the use of Cognitive Behavioural Therapy was very effective in reducing suicide ideation among regular undergraduate students with suicide ideation.

Research Hypothesis Two

H_0 2: There is no significant difference in the reduction of suicide ideation between undergraduate students in pre-test and post-test groups with respect to Individual Psychology (IP)

H_A 2: There is a significant difference in the reduction of suicide ideation between undergraduate students in pre-test and post-test groups with respect to Individual Psychology (IP)

Individual Psychology (IP) Results

Again, at an alpha level of .05 confidence, hypothesis two was tested to find out whether any significant difference exists in the reduction of suicide ideation between undergraduate students in pre-test and post-test groups using

Individual Psychology. To assess the differences, dependent samples *t*-test (paired samples *t*-test) was deemed suitable for the study based on its assumptions. The assumptions satisfy that the dependent samples *t*-test (paired samples *t*-test) is conducted to determine or assess whether the mean scores from two experimental conditions are statistically different from one another. In using the dependent samples *t*-test (paired samples *t*-test), the researcher wanted to establish whether, the dependent variable (difference scores) is normally distributed in the two conditions (pre-test and post-test). To attain the scores for the analysis, the responses on the undergraduate students in pre-test and post-tests were transformed into a single variable using the SPSS Software, Version. 25.

The data on scale or inventory were made up of pre-test and post-test variable which were measured on a continuous scale (interval). The independent variable is dichotomous and its levels (groups or occasions) are paired, or matched, in some way (e.g., pre-test and post-test.). Before performing the dependent samples *t*-test, the normality assumption was tested.

Normality Test

Table 12: Normality Test Results of the Variables

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Pre-test	.190	10	.200*	.944	10	.603
Post-test	.358	10	.301	.713	10	.001

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Source: Field Survey (2020). * Normality exist at $p \leq 0.05$

As depicted in Table 11, Kolmogorov-Smirnov[a] test results are stated based on the assumption that it uses a sample size less than 50 (n <50). The sample was less than 50 therefore, the Kolmogorov-Smirnov[a] was reported. From the Kolmogorov-Smirnov[a] test, the results are said to be normal if the sig value is greater than 0.05. From the Kolmogorov-Smirnov[a] test results, it is indicated that the dependent variables were normally distributed. For example, pre-test results scored a Kolmogorov-Smirnov[a] indicating that the data were normal *(KS = .190, df =10, p-value=.200**, p>0.05)*, post-test also recorded a Kolmogorov-Smirnov[a] results indicating that it was normal *(KS = .358, df=10, p-value=.301**, p>0.05, n=10)*. Figure 6 also presents the results of the normality assumption

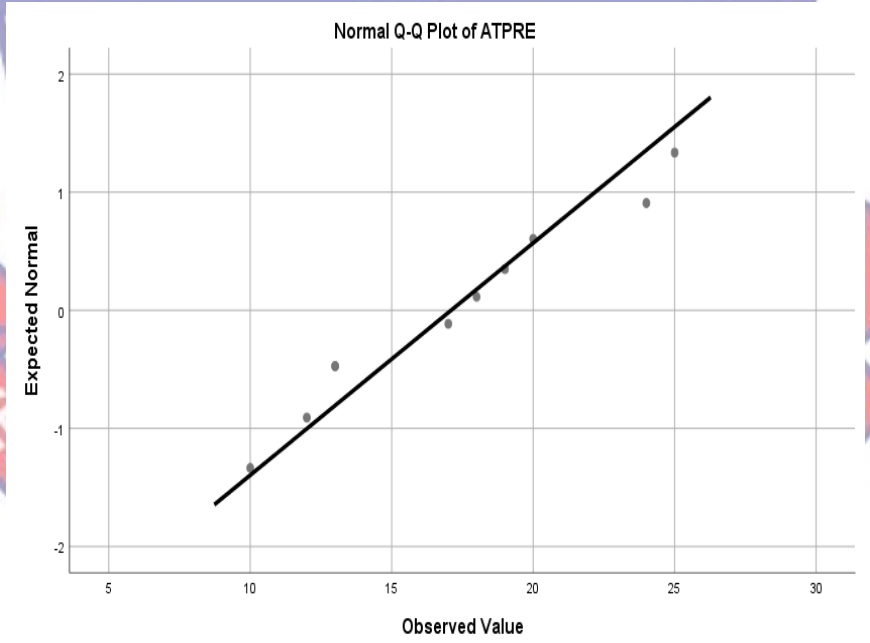

Figure 6: Linear Assumption

Source: Field Data (2020).

Figure 6, which shows that the movement of the variable along the diagonal line indicates that the data were assumed normal and as such dependent

samples *t*-test could be performed. This therefore, means that conducting dependent samples *t*-test was justified and statistically reasonable

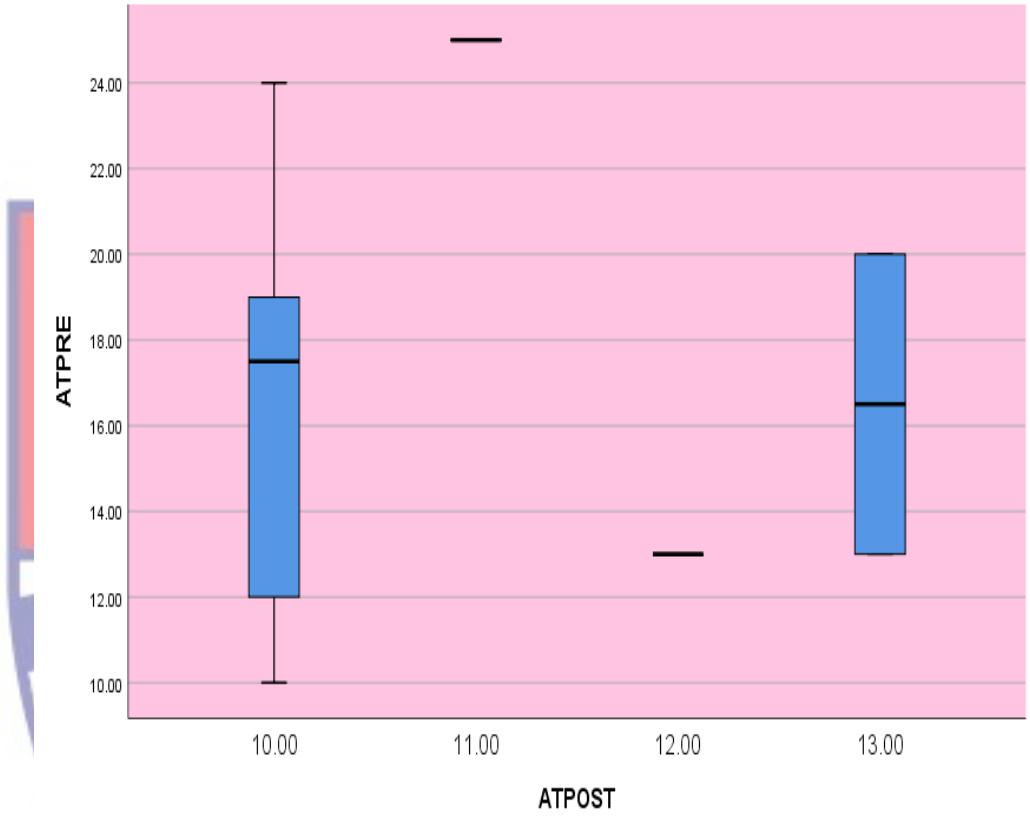

Figure 7: Homoscedasticity Normality Assumption

Source: Field Data (2020).

Figure 7 shows that the mean plot of standardised predicted indicates that the data were assumed normal and as such dependent samples *t*-test could be performed**.** Having tested for the normality of the data, the researcher proceeded to test the difference in the reduction of suicide ideation between undergraduate students in pre-test and post-test groups using Individual Psychology therapy. Table 13 presents the means, standard deviation and the dependent samples *t*-test between the variables for hypothesis two.

Table 13: Results of Dependent Samples *t*-test

Variable	Status	Mean	SD	Cal. t-value	Df	P-value	Eta^2-value	Decision
IP	Pre-test	17.11	5.87	3.679*	09	.0005(s)	0.56	Sig.(p<.05)
	Post-test	10.90	1.28					(rejected)

Source: Field data, 2020. *Significant, $p \leq 0.05$

From the analysis results in Table 13, which show significant differences with respect to pre-test and post-test results in using Individual Psychology (IP). The pre-test recorded a result of M = 17.11, SD = 5.87 and post-test recorded as M= 10.90, SD = 1.28 both with a cal. t-value of *t* (df=09) =3.679; $p < .05$, 2-tailed). From the results, the differences are estimated to have Eta^2-value of 0.56. This implies that the use of Individual Psychology was very effective in reducing suicide ideation among regular undergraduate students with suicide ideation.

Research Hypothesis Three

H_0 3: There is no significant difference in the efficacies of IP and CBT in reducing regular undergraduate students' suicide ideation.

H_A 3: There is a significant difference in the efficacies of IP and CBT in reducing regular undergraduate students' suicide ideation.

At the alpha level of .05 confidence, Hypothesis three was tested to find out whether any significant difference exists in the reduction of suicide ideation between Individual Psychology and Cognitive Behavioural Therapy. To assess the differences, independent samples *t*-test was deemed suitable based on its assumptions. The assumption for an independent samples *t*-test is that the scale

of measurement applied to the data collected follows a continuous or ordinal scale, such as the scores for an independent group. That the data is collected from a representative, randomly selected portion of the total population, when plotted, results in a normal distribution, (bell-shaped) curve.

Also, when a normal distribution is assumed, one can specify a level of probability (level of significance) as a criterion for acceptance. In most cases, a 5% value can be assumed. Final assumption is homogeneity of variance. Homogeneous, or equal, variance exists when the standard deviations of samples are approximately equal. To attain the scores for the analysis, the responses on the Individual Psychology and Cognitive Behavioural Therapy were transformed into a single variable using the SPSS Software, Version. 25. Before running the independent samples *t*-test, the normality assumptions were tested. Figure 8 presents the results of the normality assumption.

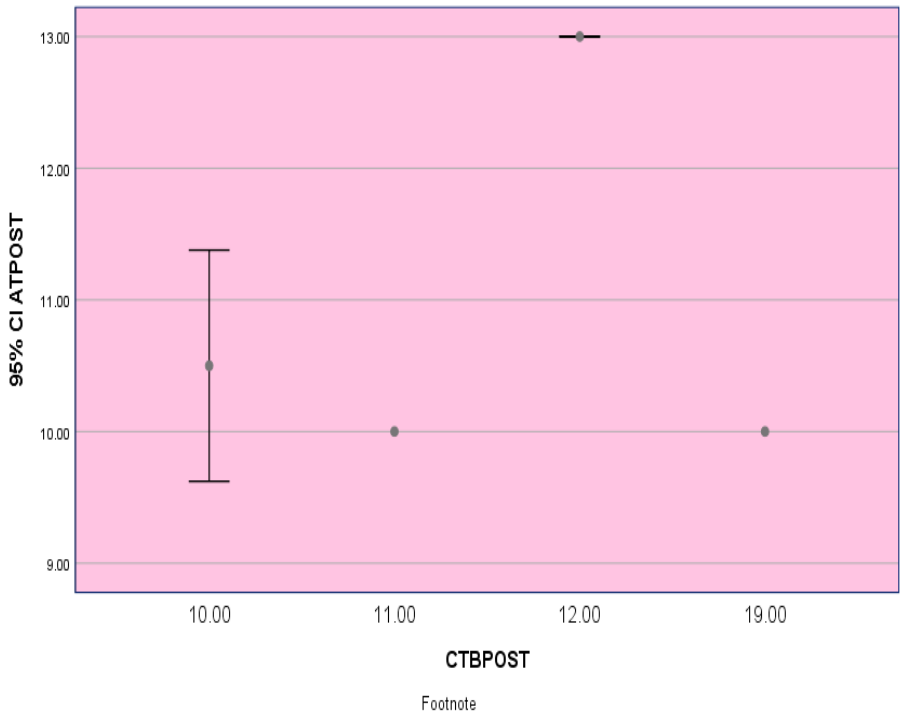

Figure 8: Homoscedasticity Normality Assumption

Source: Field Data (2020).

Figure 8 shows that the mean plot of standardised predicted indicates that the data were assumed normal and as such independent samples *t*-test could be performed.

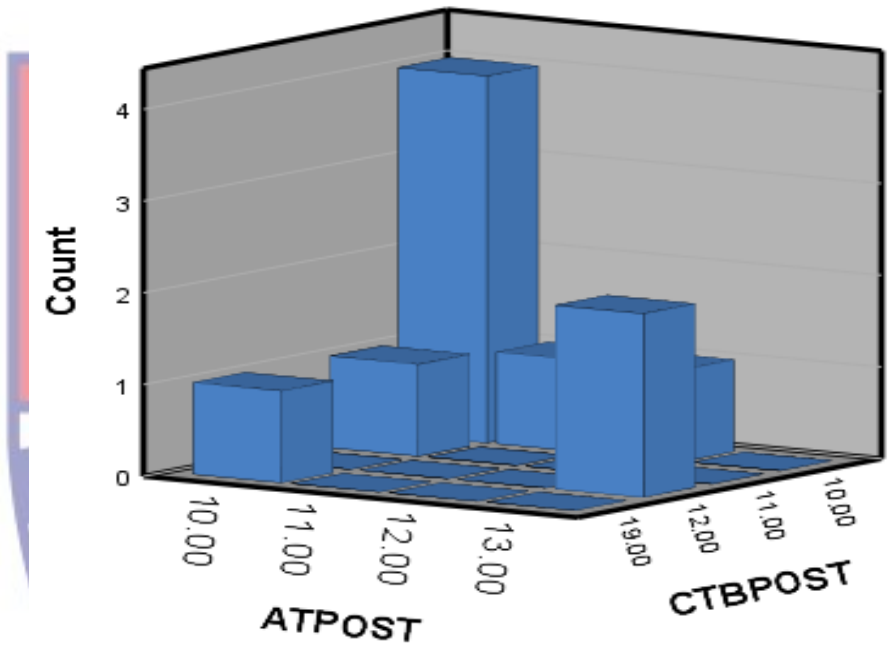

Figure 9: Homoscedasticity Normality Assumption on Efficacies of IP and CBT in Reducing Suicide Ideation

Source: Field Data (2020).

Figure 9 shows that the results on efficacies of IP and CBT in reducing undergraduate students' suicide ideation. The results show that the cluttering of the bars indicate that the data were assumed normal and as such independent samples *t*-test could be performed. Table 14 presents the results of Homogeneity of Variances Test.

Table 14: Results of Homogeneity of Variances Test

Levene Statistic	Df	Cal. t-value	Sig.value	Remarks
3.850	08	.232	. 822 (ns)	Equal Variances Assumed

Source: Field Data (2020).

From Table 14, the Levene's test indicated non-significant results of LS (df=08) =3.850, cal. t=.232, sig. =.822, p>0.05, 2-tailed) for the study variables. This means that the variances are assumed equal (homogeneous) and as such Homogeneity of Variances Test has not been violated.

Table 15 presents the descriptive results comparing the effectiveness of Individual Psychology and Cognitive Behavioural Therapy. The results show that there were significant differences in the descriptive results of the two therapies. The Individual Psychology produced results of (M=10.9000, Var.= 1.656, Std. Deviation=1.28668, Skewness=1.009, Kurtosis=-.812). The Cognitive Behavioural Therapy, the results are projected as (M=11.4000, Var.= 7.822, Std. Deviation=2.79682, Skewness=2.685, Kurtosis=7.644).

Table 15: Descriptive Results Comparing the Effectiveness of IP and CBT

	Descriptives		Statistic	Std. Error
IP	Mean		10.9000	.40689
	95% Confidence Interval for Mean	Lower Bound	9.9796	
		Upper Bound	11.8204	
	5% Trimmed Mean		10.8333	
	Median		10.0000	
	Variance		1.656	
	Std. Deviation		1.28668	
	Minimum		10.00	
	Maximum		13.00	
	Range		3.00	
	Interquartile Range		2.25	
	Skewness		1.009	.687
	Kurtosis		-.812	1.334
CBT	Mean		11.4000	.88443
	95% Confidence Interval for Mean	Lower Bound	9.3993	
		Upper Bound	13.4007	
	5% Trimmed Mean		11.0556	
	Median		10.0000	
	Variance		7.822	
	Std. Deviation		2.79682	
	Minimum		10.00	
	Maximum		19.00	
	Range		9.00	
	Interquartile Range		2.00	
	Skewness		2.685	.687
	Kurtosis		7.644	1.334

Source: Field Data (2020).

Table 16 presents results on independent samples *t*-test of differences in Individual Psychology and Cognitive Behavioural with respect to the reduction of suicide.

Table 16: Results of Independent Samples *t*-test of Differences in Effectiveness of IP and CBT

Variables	Status	Mean	SD	Cal. t-value	Df	p-value (sig-value)	Remarks
Therapies	IP	10.90	1.286	.232	18	.822(s)	Not. Sig.(no difference)
	CBT	11.05	2.796				

Source: Field Data (2020).

From the analysis, Individual Psychology and Cognitive Behavioural Therapy showed no significant differences with respect to their effectiveness. In order words, there is no statistically significant difference in the efficacies of the therapies. For Individual Psychology, M = 10.90, SD = 1.286, and for Cognitive Behavioural Therapy, M= 11.06, SD = 2.796. The results practically imply that both Individual Psychology and Cognitive Behavioural Therapy are equally effective in reducing suicide ideation among regular undergraduate students with suicide ideation but CBT is slightly more effective than IP per the results of the mean and the standard deviations.

Research Hypothesis Four

H_0 *4:* There is no significant difference in the reduction of suicide ideation among undergraduate students exposed to IP group and control group.

H_A *4:* There is a significant difference in the reduction of suicide ideation among undergraduate students exposed to IP group and control group.

At alpha level of .05 confidence, Hypothesis four was tested to find out if there was significant difference in the reduction of suicide ideation among undergraduate students exposed to IP and those in the control group. To assess the differences, independent samples t-test was considered appropriate based on its assumptions. In this hypothesis, the assumption for an independent samples *t*-test requires that the scale of measurement applied to the data collected follows a continuous or ordinal scale. The variables in this hypothesis contain this characteristic of work. Also, assumption for an independent samples *t*-test requires that the data are collected from a representative, randomly selected portion of the total population, when plotted, results in a normal distribution, (bell-shaped) curve or cluttered variables (Figure 10).

Further, when a normal distribution is assumed, one can specify a level of probability (level of significance) as a criterion for acceptance. In most cases, a 5% value can be assumed. Final assumption is homogeneity of variance. Homogeneous or equal variance exists when the standard deviations of samples are approximately equal. To attain the scores for the analysis, the responses on the experimental and control groups were transformed into a single variable using the SPSS Software, Version. 25. Before running the independent samples *t*-test, the normality assumptions were tested. Figure 10 presents the results of the normality assumption.

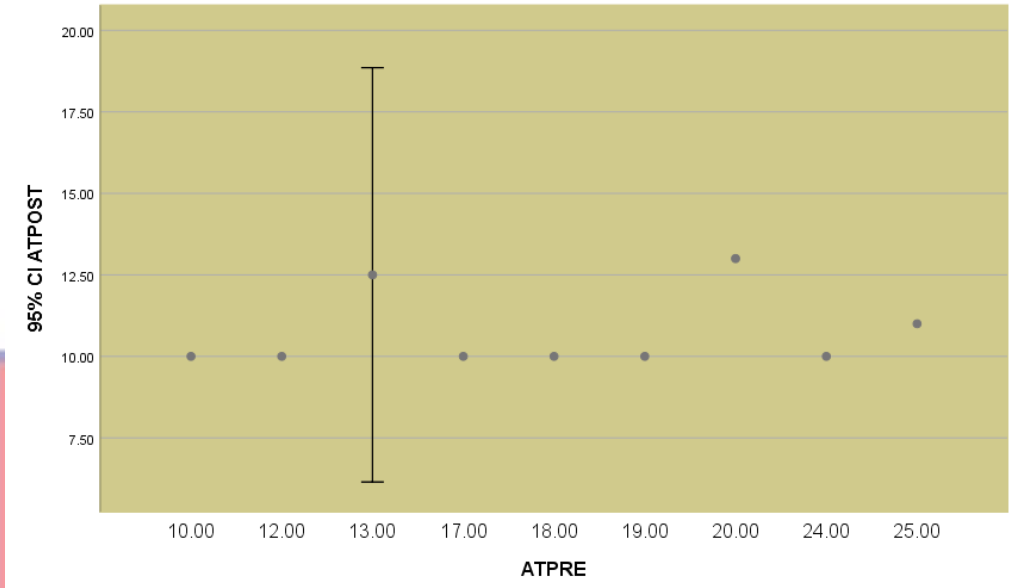

Figure 10: Homoscedasticity Normality Assumption

Source: Field Data (2020).

Figure 10 shows the results on suicide ideation among undergraduate students exposed to IP and those in the control groups. The results show that most of the bars are divided equally which confirms that the data were assumed normal and as such independent samples *t*-test could be performed. Table 17 also presents the Homogeneity of Variances Test of the variables (experimental and control).

Table 17: Results of Homogeneity of Variances Test

Levene Statistic	Df	Cal. t-value	Sig.value	Remarks
3.670	18	.432	. 732(ns)	Equal Variances Assumed

Source: Field Data (2020).

From Table 17, the Levene's test indicated non-significant results of LS (df=18) =3.670, cal. t=.432, ns. =.732, p>0.05, 2-tailed) for the study variables.

This means that the variances are assumed equal (homogeneous) and as such Homogeneity of Variances Test has not been violated.

Table 18 presents results on independent samples *t*-test of differences in experimental group using Individual Psychology and control group with respect to the reduction of suicide.

Table 18: Results of Independent Samples *t*-test of Differences between IP and Control Groups

Variables	Status	Mean	SD	Cal. t-value	Df	P-value (sig-value)	Remarks
IP Therapy	Control	09.13	1.322	3.634*	18	.000 (s)	Sig.difference
	Exp.	15.05	3.340				

Source: Field Data (2020). *Significant, p≤0.05.

From the analysis, IP therapy group and control showed a significant difference with respect to its effectiveness. The results show that there is statistically significant difference with respect to the IP experimental group and the control group. The descriptive results are recorded as M= 15.05, SD = 3.340 for experimental group and M = 09.13, SD = 1.322 for control group and both with a cal. t-value of t (df=18) =3.634; $p < .05$, 2-tailed). The result essentially implies that Individual Psychology was really effective in reducing suicide ideation among regular undergraduate students with suicide ideation.

Research Hypothesis Five

H_0 *5*: There is no significant difference in the reduction of suicide ideation among suicidal undergraduate regular students exposed to CBT group and control group.

H_A 5: There is a significant difference in the reduction of suicide ideation among suicidal undergraduate regular students exposed to CBT group and control group.

At alpha level of .05 confidence, Hypothesis five was tested to find out if there was significant difference in the reduction of suicide ideation among undergraduate students exposed to CBT and those in the control group. To assess the differences, independent samples t-test was considered appropriate based on its assumptions. In this hypothesis, the assumption for an independent samples *t*-test requires that the scale of measurement applied to the data collected follows a continuous or ordinal scale. The variables in this hypothesis contain these characteristics of work. Also, assumption for an independent samples *t*-test requires that the data are collected from a representative, randomly selected portion of the total population, when plotted, results in a normal distribution, (bell-shaped) curve or cluttered variables (Figure 11).

Further, when a normal distribution is assumed, one can specify a level of probability (level of significance) as a criterion for acceptance. In most cases, a 5% value can be assumed. Final assumption is homogeneity of variance. Homogeneous, or equal, variance exists when the standard deviations of samples are approximately equal. To attain the scores for the analysis, the responses on the experimental and control groups were transformed into a single variable using the SPSS Software, Version. 25. Before running the independent samples *t*-test, the normality assumptions were tested. Figure 11 presents the results of the normality assumption.

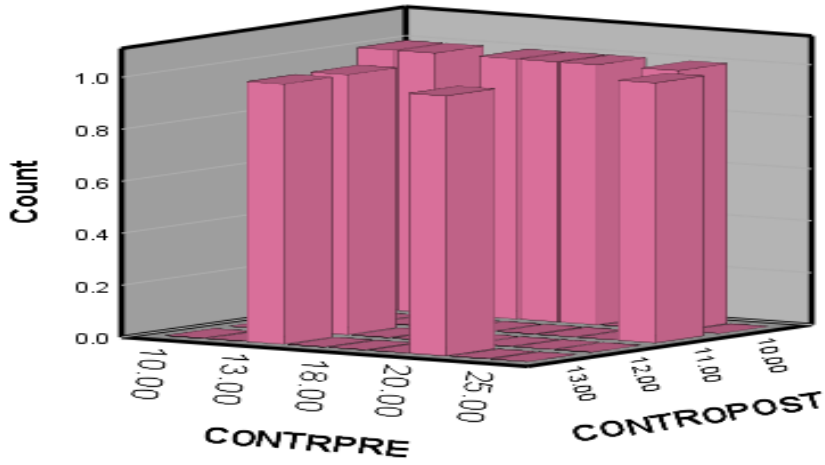

Figure 11: Homoscedasticity Normality Assumption

Source: Field Data (2020).

Figure 11 shows the results on suicide ideation among undergraduate students exposed to CBT and control groups. The results show that the cluttering of the bars confirms that data were assumed normal and as such independent samples *t*-test could be performed. Table 19 presents the results of Homogeneity of Variance Test.

Table 19: Results of Homogeneity of Variances Test

Levene Statistic	Df	Cal. t-value	Sig.value	Remarks
3.157	18	.542	. 981 (ns)	Equal Variances Assumed

Source: Field Data (2020).

From Table 19, the Levene's test indicated non-significant results of *LS (df=18) =3.157, cal. t=.542, ns. =.981, p>0.05, 2-tailed)* for the study variables. This means that the variances are assumed equal (homogeneous) and as such Homogeneity of Variances Test has not been violated.

Table 20 presents results on independent samples *t*-test of differences experimental group using Cognitive Behavioural Therapy and control group with respect to the reduction of suicide.

Table 20: Results of Independent Samples *t*-test of Differences between CBT and Control Groups

Variables	Status	Mean	SD	Cal. t-value	Df	P-value (sig-value)	Remarks
CBT Therapy	Control	11.33	1.423	3.312*	18	.002 (s)	. Sig. difference existed)
	Exp.	16.15	3.240				

Source: Field Data (2020). *Significant, p≤0.05.

From the analysis, experimental group using CBT and control group showed significant differences with respect to its effectiveness. The results show that there is statistically significant difference between the experimental group using CBT and the control group. The descriptive results are recorded as M= 16.15, SD = 3.240 for CBT experimental group and M = 11.33, SD = 1.423 for control group and both with a cal. t-value of *t* (df=18) =3.312; p < .05, 2-tailed). The results practically imply that Cognitive Behavioural Therapy was really effective in reducing suicide ideation among regular undergraduate students with suicide ideations.

Research Hypothesis Six

H_0 6: There is no significant difference in the reduction of suicide ideation among students exposed to IP and CBT therapies based on gender.

H_A 6: There is a significant difference in the reduction of suicide ideation among students exposed to IP and CBT therapies based on gender.

In hypothesis six, gender of the students was tested to find out if there was significant difference in the reduction of suicide ideation among students exposed to IP and CBT therapies. In the analysis, one-way between-groups multivariate analysis of variance (MANOVA) was employed. However, prior to conducting the MANOVA test, certain statistical assumptions were estimated. In conducting MANOVA, it requires that some assumptions are met. One of these assumptions is that if the samples are sufficiently large (say at least 20 elements for each dependent and independent variable combination), then the Multivariate Central Limit Theorem holds and we can assume that the multivariate normality assumption holds. If not, we would need to check that the data (or residuals) for each group is multivariate normally distributed. Fortunately, as for the Hotelling's T-square test, MANOVA is not very sensitive to violations of multivariate normality provided there are not any (or at least many) outliers.

Also, it is asserted that the observations are randomly and independently sampled from the population, each dependent variable has an interval measurement, dependent variables are multivariate and normally distributed within each group of the independent variables (which are categorical), the population covariance matrices of each group are equal (this is an extension of homogeneity of variances required for univariate ANOVA) This includes normality assumption (Kolmogorov-Smirnov[a] and Q-Q Plot), and test for homogeneity of variance. Table 21 presents normality test for the assumptions.

Table 21: Normality Test Results of the Variables

Tests of Normality							
		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Gender	Statistic	Df	Sig.	Statistic	Df	Sig.
Variables	Male	.473	12	.671*	.552	12	.540
	Female	.342	18	.056	.731	18	.109
a. Lilliefors Significance Correction							

Source: Field Data (2020). *Normality exists at p≤0.05.

Table 21 presents results of the normality of the data. The Kolmogorov-Smirnov[a] was reported because it handles data with less sample size (N< 50). The Kolmogorov-Smirnov test is used to decide if a sample comes from a population with a specific distribution. The Kolmogorov-Smirnov[a] produced a statistic of (Kolmogorov-Smirnov[a], t= .473, n=12, p>0.05, Sig. =.473) for the male students and (Kolmogorov-Smirnov[a], t= .342, n=18, p>.05, Sig.=.342) for the female students. Inferring from the Kolmogorov-Smirnov[a] test results, gender produced a sig value greater than the p-value of 0.05 implying that the data were normal. Having tested for the normality, it is appropriate to run the one-way between-groups MANOVA test.

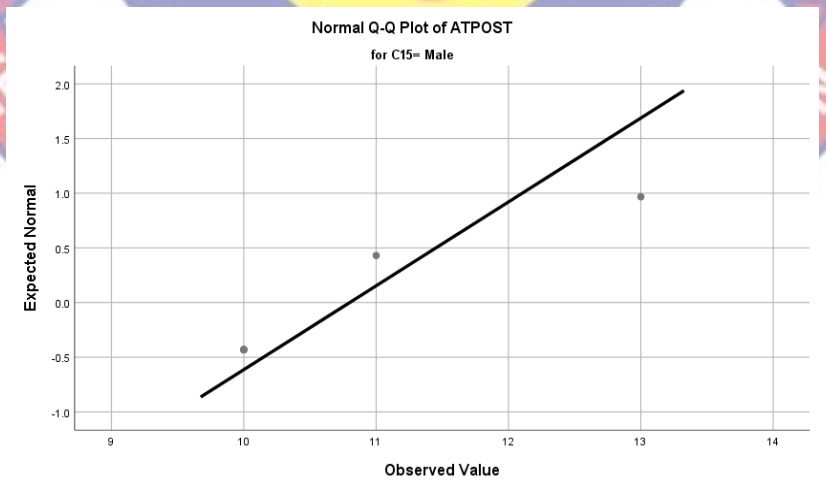

Figure 12: Linearity Assumption for IP therapy

Source: Field Data (2020).

Figure 12 shows that the movement of the variable along the diagonal line indicates that the data were assumed normal and as such Multivariate Tests[a] could be performed.

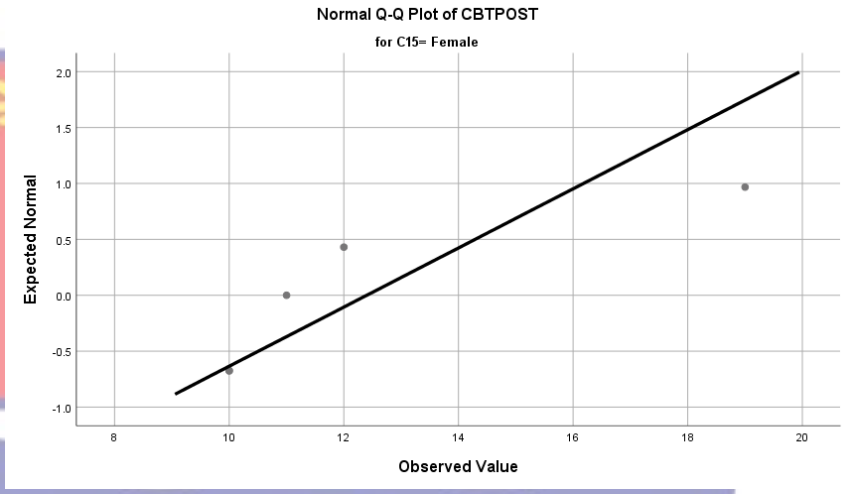

Figure 13: Linearity Assumption for CBT

Source: Field Data (2020).

Figure 13 shows that the movement of the variable along the diagonal line indicates that the data were assumed normal and as such Multivariate Tests[a] could be performed.

Table 21, the results show that a significant multivariate effect, the between-subject effects were analysed to find out which of the gender (male and female) showed significant effect of suicide ideation among students exposed to IP and CBT treatments. The Levene's test of equality of variance (Table 22) indicated an equal variance across the gender of the students. This implies that Levene's Test of Equality of Error Variances[a] have not been violated F (df=1, df2=8) = .385, sig.= .552).

Table 22: Levene's Test of Equality of Error Variance between Male and Female

Levene's Test of Equality of Error Variances[a]

		Levene Statistic	df1	df2	Sig.
IP	Based on Mean	.385	1	8	.552
	Based on Median	.054	1	8	.822
	Based on Median and with adjusted df	.054	1	7.948	.822
	Based on trimmed mean	.360	1	8	.565
CBT	Based on Mean	3.404	1	8	.102
	Based on Median	1.409	1	8	.269
	Based on Median and with adjusted df	1.409	1	4.595	.293
	Based on trimmed mean	2.612	1	8	.145

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Gender

Source: Field Survey (2020).

From the Levene's test of Equality of Error Variance Across Gender in the Levene's test of equality of variance (Table 22) indicated the gender was significant F (df1=2.00, df2=7.00) =372.9 14^{b} , sig.=.000, η^2 = .991).

Table 23: Multivariate Test of Effect of Suicide Ideation among Students Exposed to IP and CBT Therapies Based on Gender

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Inter-Cept	Pillai's Trace	.991	372.914*[b]	2.00	7.00	.000	.991
	Wilks' Lambda	.009	372.914*[b]	2.00	7.00	.000	.991
	Hotelling's Trace	106.547	372.914*[b]	2.00	7.00	.000	.991
	Roy's Largest Root	106.547	372.914*[b]	2.00	7.00	.000	.991
Gender	Pillai's Trace	.150	.617[b]	2.00	7.00	.566	.150
	Wilks' Lambda	.850	.617[b]	2.00	7.00	.566	.150
	Hotelling's Trace	.176	.617[b]	2.00	7.00	.566	.150
	Roy's Largest Root	.176	.617[b]	2.00	7.00	.566	.150

a. Design: Intercept + Gender

b. Exact statistic

Source: Field Survey (2020). *Significant, p≤0.05.

As shown in Table 23, reporting the Pillai's Trace test, it is observed significant multivariate effect, the between-subject effects were analysed to find out which of the gender showed significant effect of the suicide ideation among students exposed to IP and CBT treatments.

Table 24: Test of Between-Subject Effects of Suicide Ideation among Students Exposed to IP and CBT Therapies Based on Gender

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	IP	.100[a]	1	.100	.054	.822	.007
	CBT	10.000[b]	1	10.000	1.325	.283	.142
Intercept	IP	1188.100	1	1188.100	642.216*	.000	.988
	CBT	1299.600	1	1299.600	172.132*	.000	.956
Gender	IP	.100	1	.100	.054	.822	.072
	CBT	10.000	1	10.000	1.325	.283	.142
Error	IP	14.800	8	1.850			
	CBT	60.400	8	7.550			
Total	IP	1203.000	10				
	CBT	1370.000	10				
Corrected Total	IP	14.900	9				
	CBT	70.400	9				

a. R Squared = .007 (Adjusted R Squared = -.117)

b. R Squared = .142 (Adjusted R Squared = .035)

Source: Field Survey (2020). *Significant, p≤0.05.

Table 24 shows results on the suicide ideation among students exposed to IP and CBT treatments based on gender. From Table 24, the results show that there was significant difference between male and female students when they

were exposed to both treatments (Individual Psychology and Cognitive Behavioral Therapy). For example, Individual Psychology produced results of F (1, 8) =.054, p = .822, η^2 = .007; while Cognitive Behavioral Therapy also produced significant results of F (2, 10) = 1.325, p =. 283, η^2 = .142. The results give ample evidence to uphold the hypothesis that "There is no significant difference in the reduction of suicide ideation among students exposed to IP and CBT therapies based on gender" and settle for the alternate hypothesis that "there is a significant difference in the reduction of suicide ideation among students exposed to IP and CBT therapies based on gender". In other words, the null hypothesis was rejected in favour of the alternate hypothesis.

Research Hypothesis Seven

H_0 7: There is no significant difference in the reduction of suicide ideation among students exposed to IP and CBT therapies based on age.

H_A 7: There is a significant difference in the reduction of suicide ideation among students exposed to IP and CBT therapies based on age.

In this hypothesis, the researcher tested to find out if there was significant difference in the reduction of suicide ideation among students exposed to IP and CBT therapies on the basis of age. The one-way between-groups multivariate analysis of variance (MANOVA) was used for the analysis. However, prior to conducting the MANOVA test, certain statistical assumptions were established. Some of the assumptions are that observations are randomly and independently sampled from the population, each dependent variable has an interval measurement, dependent variables are multivariate and normally distributed within each group of the independent variables (which are categorical), the population covariance matrices of each group are equal (this is

an extension of homogeneity of variances required for univariate ANOVA) This includes normality assumption (Kolmogorov-Smirnov[a] and Q-Q Plot), and test for homogeneity of variance. Figure 14 and 15 presents a test for the assumptions.

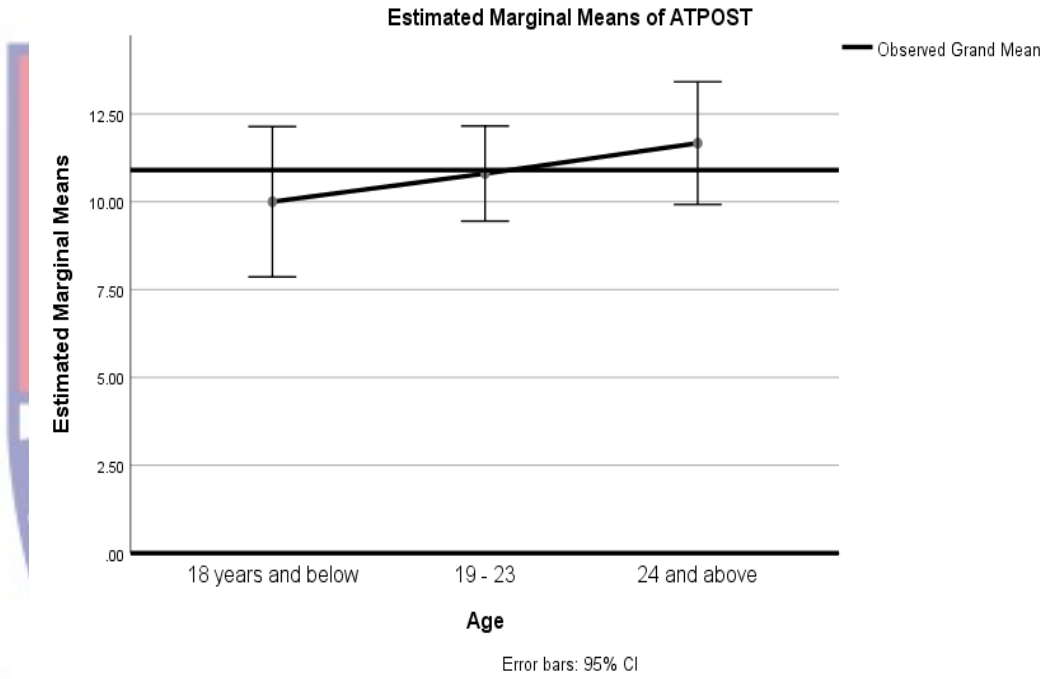

Figure 14: Homoscedasticity Normality Assumption for IP

Source: Field Data (2020).

Figure 14 presents results on estimated marginal means that also explains Homoscedasticity Normality Assumption for IP therapy. The results show that most of the bars are divided equally which confirms that the data were assumed normal and as such one-way between-groups multivariate analysis of variance (MANOVA) could be performed.

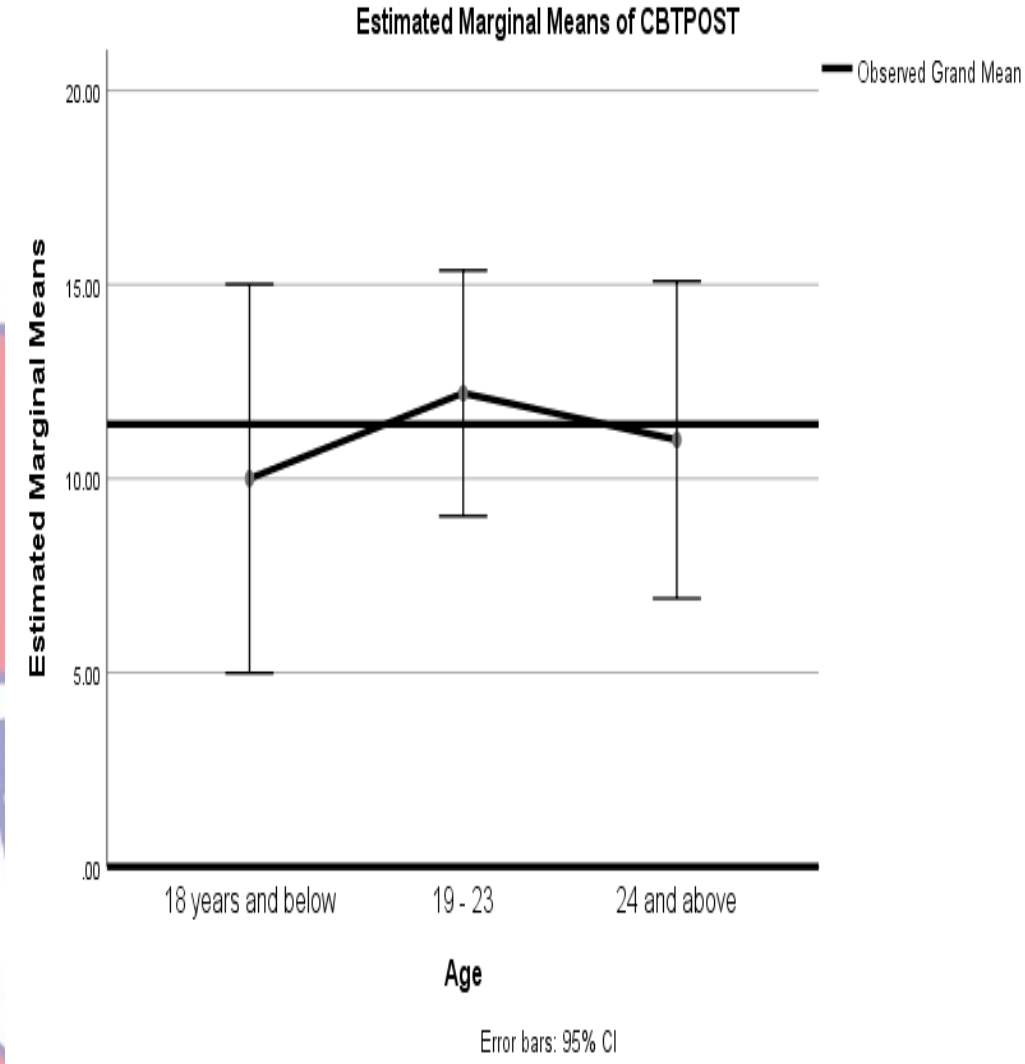

Figure 15: Homoscedasticity Normality Assumption for CBT

Source: Field Data (2020).

Figure 15 presents results on estimated marginal means that also explains Homoscedasticity Normality Assumption for CBT. The results show that most of the bars are divided equally which confirms that the data were assumed normal and as such one-way between-groups multivariate analysis of variance (MANOVA) could be performed.

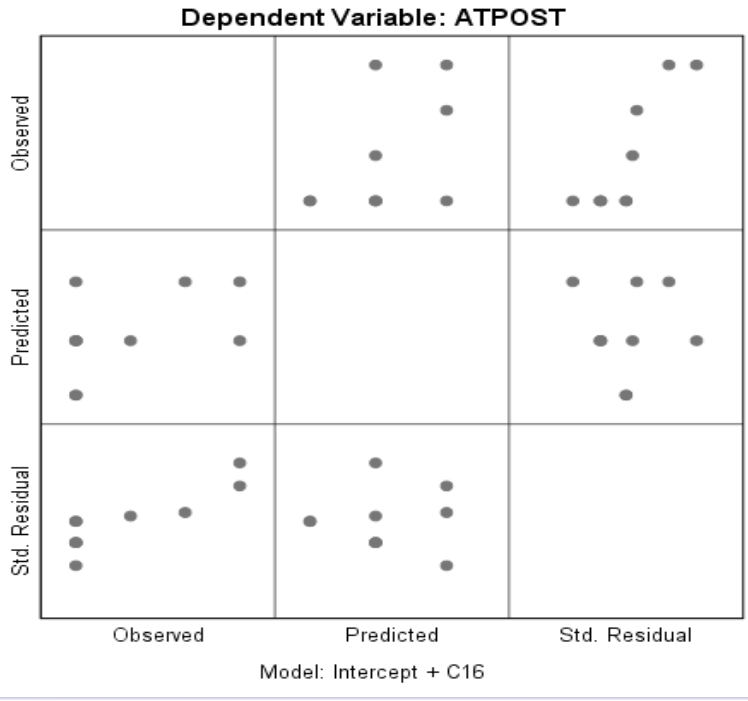

Figure 16: Homoscedasticity Normality Assumption for IP therapy

Source: Field Data (2020).

Figure 16 shows that the clustering of the variables validates that the data were assumed normal and as such Multivariate Tests[a] could be performed.

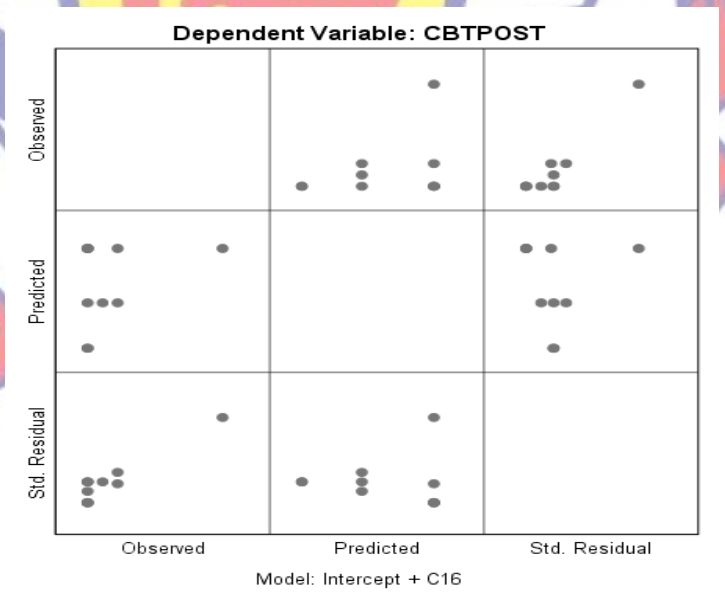

Figure 17: Homoscedasticity Normality Assumption for CBT

Source: Field Data (2020).

Similarly, Figure 17 shows that the clustering of the variables validates that the data were assumed normal and as such Multivariate Tests[a] could be performed

Table 25: Levene's Test of Equality of Error Variance across Ages

Levene's Test of Equality of Error Variances[a]

		Levene Statistic	df1	df2	Sig.
IP	Based on Mean	1.882	2	7	.222
	Based on Median	.517	2	7	.617
	Based on Median and with adjusted df	.517	2	5.711	.622
	Based on trimmed mean	1.725	2	7	.246
CBT	Based on Mean	2.001	2	7	.206
	Based on Median	.492	2	7	.631
	Based on Median and with adjusted df	.492	2	4.087	.644
	Based on trimmed mean	1.548	2	7	.277

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Ages

Source: Field Survey (2020).

From the Levene's Test of Equality of Error Variance across Ages in Table 25, the results showed a significant multivariate effect, the between-subject effects were analysed to find out which of the ages indicates significant effect of suicide ideation among students exposed to IP and CBT therapies. The

Levene's test of equality of variance (Table 25) indicated all the levels showed equality of variance across the ages of the students.

Table 26: Multivariate Test of Effect of Suicide Ideation among Students Exposed to IP and CBT Treatments Based on Age

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.991	334.990*[b]	2.000	6.000	.000	.991
	Wilks' Lambda	.009	334.990*[b]	2.000	6.000	.000	.991
	Hotelling's Trace	111.66	334.990*[b]	2.000	6.000	.000	.991
	Roy's Largest Root	111.66	334.990*[b]	2.000	6.000	.000	.991
Ages	Pillai's Trace	.340	.717	4.000	14.000	.594	.170
	Wilks' Lambda	.684	.628[b]	4.000	12.000	.651	.173
	Hotelling's Trace	.428	.535	4.000	10.000	.713	.176
	Roy's Largest Root	.321	1.125[c]	2.000	7.000	.377	.243

a. Design: Intercept + Ages

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

Source: Field Survey (2020). *Significant, $p \leq 0.05$.

As depicted in Table 26, a significant multivariate effect was observed, the between-subject effects were analysed to find out which of the ages showed significant effect of the suicide ideation among students exposed to IP and CBT therapies.

Table 27: Test of Between-Subjects Effects Suicide Ideation among Students Exposed to IP and CBT Therapies Based on Age

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	IP	3.433[a]	2	1.717	1.048*	.000	.230
	CBT	7.600[b]	2	3.800	.424*	.022	.108
Intercept	IP	1020.082	1	1020.082	622.72*	.000	.989
	CBT	1066.684	1	1066.684	118.89*	.000	.944
Ages	IP	3.433	2	1.717	1.048*	.000	.230
	CBT	7.600	2	3.800	.424*	.022	.108
Error	IP	11.467	7	1.638			
	CBT	62.800	7	8.971			
Total	IP	1203.000	10				
	CBT	1370.000	10				
Corrected Total	IP	14.900	9				
	CBT	70.400	9				

a. R Squared = .230 (Adjusted R Squared = .011)

b. R Squared = .108 (Adjusted R Squared = -.147)

Source: Field Survey (2020). *Significant, $p \leq 0.05$.

Table 27 presents results on the suicide ideation among students exposed to IP and CBT therapies based on age. From Table 27, the results show that

there was significant difference among the ages of the students who were exposed to Individual Psychology and Cognitive Behavioural Therapy treatments. For example, Individual Psychology produced results of F (2, 10) = 1.048, p = .000, η^2 = .230; while Cognitive Behavioral Therapy also produced a significant result of F (2, 10) = .424, p = .022, η^2 = .108. The results give ample evidence to reject the hypothesis that "There is no significant difference in the reduction of suicide ideation among students exposed to IP and CBT therapies based on age" and settle for the "there is a significant difference in the reduction of suicide ideation among students exposed to IP and CBT therapies based on age"

The multiple comparisons for the dependent variables that showed significant effect or differences were done to see which of the ages at which the respondents were introduced were significantly different. The Tukey HSD and Scheffe methods were used for the equal error variance dependent variables. The results are presented in Table 28.

Table 28: Multiple Comparisons Following Significant Effects of Between-Subject Effects of the Ages on Suicide Ideation

Multiple Comparisons

Dependent Variable		(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
IP	Tukey HSD	18 years and below	19 – 23	-.8000	1.070	.745	-3.9536	2.3536
			24 and above	-1.6667	1.168	.379	-5.1076	1.7742
		19 – 23	18 years and below	.8000	1.073	.745	-2.3536	3.9536
			24 and above	-.8667	.9346	.642	-3.6194	1.8861
		24 and above	18 years and below	1.6667	1.168	.379	-1.7742	5.1076
			19 – 23	.8667	.9349	.642	-1.8861	3.6194
	Scheffe	18 years and below	19 – 23	-.8000	1.073	.765	-4.0961	2.4961
			24 and above	-1.6667	1.167	.409	-5.2630	1.9297
		19 – 23	18 years and below	.8000	1.073	.765	-2.4961	4.0961
			24 and above	-.8667	.9349	.667	-3.7438	2.0104
		24 and above	18 years and below	1.6667	1.168	.409	-1.9297	5.2630
			19 – 23	.8667	.9346	.667	-2.0104	3.7438
CBT	Tukey HSD	18 years and below	19 – 23	-2.2000	2.559	.670	-9.5803	5.1803
			24 and above	-1.0000	2.736	.930	-9.0526	7.0526
		19 – 23	18 years and below	2.2000	2.509	.670	-5.1803	9.5803
			24 and above	1.2000	2.187	.850	-5.2420	7.6420
		24 and above	18 years and below	1.0000	2.734	.930	-7.0526	9.0526
			19 – 23	-1.2000	2.187	.850	-7.6420	5.2420

Scheffe	18 years and below	19 – 23	-2.2000	2.505	.694	-9.9137	5.5137
		24 and above	-1.0000	2.734	.936	-9.4164	7.4164
	19 – 23	18 years and below	2.2000	2.509	.694	-5.5137	9.9137
		24 and above	1.2000	2.187	.863	-5.5331	7.9331
	24 and above	18 years and below	1.0000	2.736	.936	-7.4164	9.4164
		19 – 23	-1.2000	2.187	.863	-7.9331	5.5331

Based on observed means.
The error term is Mean Square (Error) = 8.971.

Source: Field Survey (2020). *Significant, $p \leq 0.05$

The results of the post hoc shows a no significant difference between the ages, even though the MANOVA test was significant (p >.05). For example, between 18 years and below and 19 – 23 years was not significant (MD=-.8000, Std. Error= 1.070, sig=.745). The multiple comparisons for the dependent variables that showed insignificant effect between 18 years and below and 19 – 23 years. The results further showed no significant difference in 18 years and below and 24 and above (MD=-1.6667, Std. Error= 1.168, sig=.379). Between 19 – 23 and 24 and above was insignificant (MD=-.8667, Std. Error= .9346, sig=.642).

Research Hypothesis Eight

H_0 8: There is no significant difference in the reduction of suicide ideation among students exposed to IP and CBT therapies based on level of study.

H_A 8: There is a significant difference in the reduction of suicide ideation among students exposed to IP and CBT therapies based on level of study.

To achieve the purpose of the hypothesis, the researcher tested to find if there was significant difference in the reduction of suicide ideation among students exposed to IP and CBT therapies on the basis of class level. The one-way between-groups multivariate analysis of variance (MANOVA) was used for the analysis. However, prior to conducting the MANOVA test, certain statistical assumptions were established. Some of the assumptions are that observations are randomly and independently sampled from the population, each dependent variable has an interval measurement, dependent variables are multivariate and normally distributed within each group of the independent variables (which are categorical), the population covariance matrices of each

group are equal (this is an extension of homogeneity of variances required for univariate ANOVA) This includes normality assumption (Kolmogorov-Smirnov[a] and Q-Q Plot), and test for homogeneity of variance. Figures 18 and 19 also present a test for the assumptions.

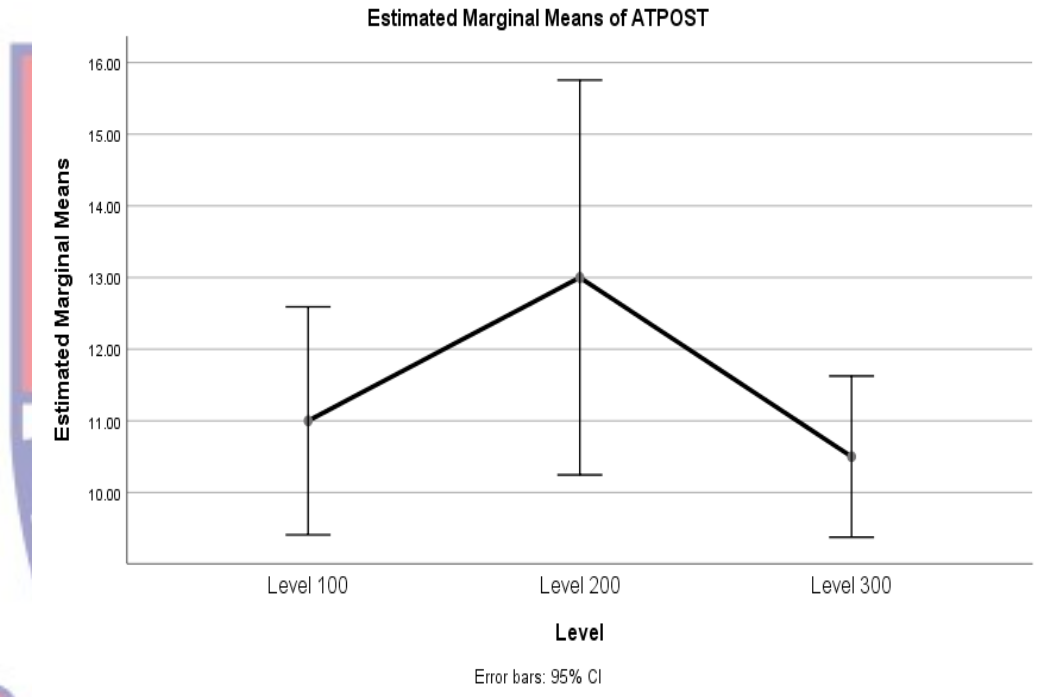

Figure 18: Homoscedasticity Normality Assumption for IP

Source: Field Data (2020).

Figure 18 presents results on estimated marginal means that also explains Homoscedasticity Normality Assumption for IP. The results show that all the bars are divided equally which confirms that the data were assumed normal and as such one-way between-groups multivariate analysis of variance (MANOVA) could be performed.

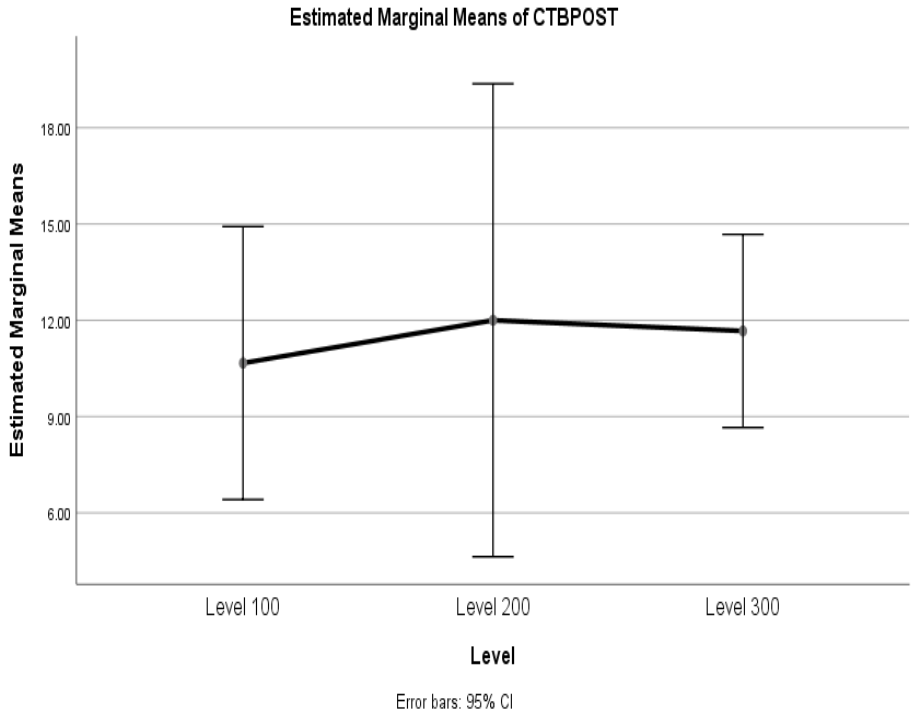

Figure 19: Homoscedasticity Normality Assumption for CBT

Source: Field Data (2020).

Figure 19 offers results on estimated marginal means that also explains Homoscedasticity Normality Assumption for CBT. The results show that all the bars are divided equally which confirms that the data were assumed normal and as such one-way between-groups multivariate analysis of variance (MANOVA) could be performed.

Table 29: Normality Test Results of the Variables

Levels	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Level 100	.163	4	.403*	.915	4	.652
Level 200	.258	12	.232*	.866	12	.062
Level 300	.149	8	.320*	.928	8	.156
Level 400	.232	4	.627*	.728	4	.824

Source: Field Survey (2020). *Normality exist at p≤0.05.

Table 29 presents results of the normality of the data. The Kolmogorov-Smirnov[a] was reported because it handles data with less sample size (N< 50). The Kolmogorov-Smirnov[a] produced a statistic of (Kolmogorov-Smirnov[a], t= .163, n=04, p>0.05, Sig. =.403) for level 100, (Kolmogorov-Smirnov[a], t=. 258, n=12, p>.05, Sig. =.232) for level 200, further, (Kolmogorov-Smirnov[a], t=. 149, n=08, p>.05, Sig. =.320) for level 300 and level 400 produced a statistic of (Kolmogorov-Smirnov[a], t= .232, n=04, p>0.05, Sig=.627). From the Kolmogorov-Smirnov[a] results, all the levels produced a sig value greater than the p-value of 0.05 implying that the data were normal. Having tested for the normality, it is appropriate to run the one-way between-groups MANOVA test.

Table 30: Levene's Test of Equality of Error Variance across Levels

Levene's Test of Equality of Error Variances[a]

		Levene Statistic	df1	df2	Sig.
IP	Based on Mean	4.148	1	7	.081
	Based on Median	.368	1	7	.563
	Based on Median and with adjusted df	.368	1	4.413	.574
	Based on trimmed mean	3.417	1	7	.107
CBT	Based on Mean	1.138	1	7	.322
	Based on Median	.206	1	7	.664
	Based on Median and with adjusted df	.206	1	5.394	.668
	Based on trimmed mean	.711	1	7	.427

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Class Level

Source: Field Survey (2020).

Having observed significant multivariate effect, the between-subject effects were analysed to find out which of the levels (dependent variables) showed significant effect of the suicide ideation among students exposed to IP and CBT treatments. The Levene's test of equality of variance (Table 30) indicated all the levels showed equality of variance across the levels.

Table 31: Multivariate Test of Effects of Suicide Ideation among Students Exposed to IP and CBT Therapies Based on Level

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared (η^2)
Intercept	Pillai's Trace	.990	293.037*[b]	2.000	6.000	.000	.990
	Wilks' Lambda	.010	293.037*[b]	2.000	6.000	.000	.990
	Hotelling's Trace	97.679	293.037*[b]	2.000	6.000	.000	.990
	Roy's Largest Root	97.679	293.037*[b]	2.000	6.000	.000	.990
Class Level	Pillai's Trace	.397	.867	4.000	14.000	.508	.199
	Wilks' Lambda	.615	.825[b]	4.000	12.000	.534	.216
	Hotelling's Trace	.606	.757	4.000	10.000	.576	.233
	Roy's Largest Root	.571	1.999[c]	2.000	7.000	.206	.364

a. Design: Intercept + Class Level

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

Source: Field Survey (2020). *Significant, $p \leq 0.05$.

The Pillai's Trace statistics have been reported because of the non-equality of covariance across groups. The results showed a significant multivariate effect of the suicide ideation among students exposed to IP and CBT therapies based on level [F (4.000, 14.000) = .867, p < .508, η^2 = .199].

Table 32: Test of Between-Subject Effects Suicide Ideation among Students Exposed to IP and CBT Therapies Based on Level

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared η^2
Corrected Model	IP	5.400[a]	2	2.700	1.989	.207	.362
	CBT	2.400[b]	2	1.200	.124	.886	.034
Intercept	IP	793.500	1	793.500	584.68*	.000	.988
	CBT	785.852	1	785.852	80.897*	.000	.920
Class Level	IP	5.400	2	2.700	1.989	.207	.362
	CBT	2.400	2	1.200	.124	.886	.034
Error	IP	9.500	7	1.357			
	CBT	68.000	7	9.714			
Total	IP	1203.000	10				
	CBT	1370.000	10				
Corrected Total	IP	14.900	9				
	CBT	70.400	9				

a. R Squared = .362 (Adjusted R Squared = .180)

b. R Squared = .034 (Adjusted R Squared = -.242)

Source: Field Survey (2020). *Significant, p≤0.05.

The results show that there is no significant difference. In Individual Psychology (IP), F (2, 10) = 1.989, p = .207, η^2 = .362; CBT also produced a result of, F (2, 10) = .124, p = .886, η^2 = .034. Based on the results, the researcher accepts the null hypothesis that, there is no significant difference in the reduction of suicide ideation among students exposed to IP and CBT

therapies based on level of study and reject the alternate hypothesis that "There is a significant difference in the reduction of suicide ideation among students exposed to IP and CBT therapies based on level of study".

Research Hypothesis Nine

H_0 *9:* There is no significant difference in the reduction of suicide ideation among students exposed to IP and CBT therapies based on their colleges.

H_A *9*: There is a significant difference in the reduction of suicide ideation among students exposed to IP and CBT therapies based on their colleges.

In furtherance to the above hypothesis, the researcher further tested to find out if there was significant difference in the reduction of suicide ideation among students exposed to IP and CBT therapies on college. The data set on reduction of suicide ideation among students exposed to IP and CBT therapies on the basis of college fit on the assumption that observations are randomly and independently sampled from the population, each dependent variable has an interval measurement, dependent variables are multivariate normally distributed within each group of the independent variables (which are categorical), the population covariance matrices of each group are equal (this is an extension of homogeneity of variances required for univariate ANOVA). Therefore, the one-way between-groups multivariate analysis of variance (MANOVA) was used for the analysis. Therefore, prior to conducting the MANOVA test, certain statistical assumptions were established. This includes normality assumption (Kolmogorov-Smirnov[a] and Q-Q Plot), and test for homogeneity of variance. Figures 20 and 21 also present test for the assumptions.

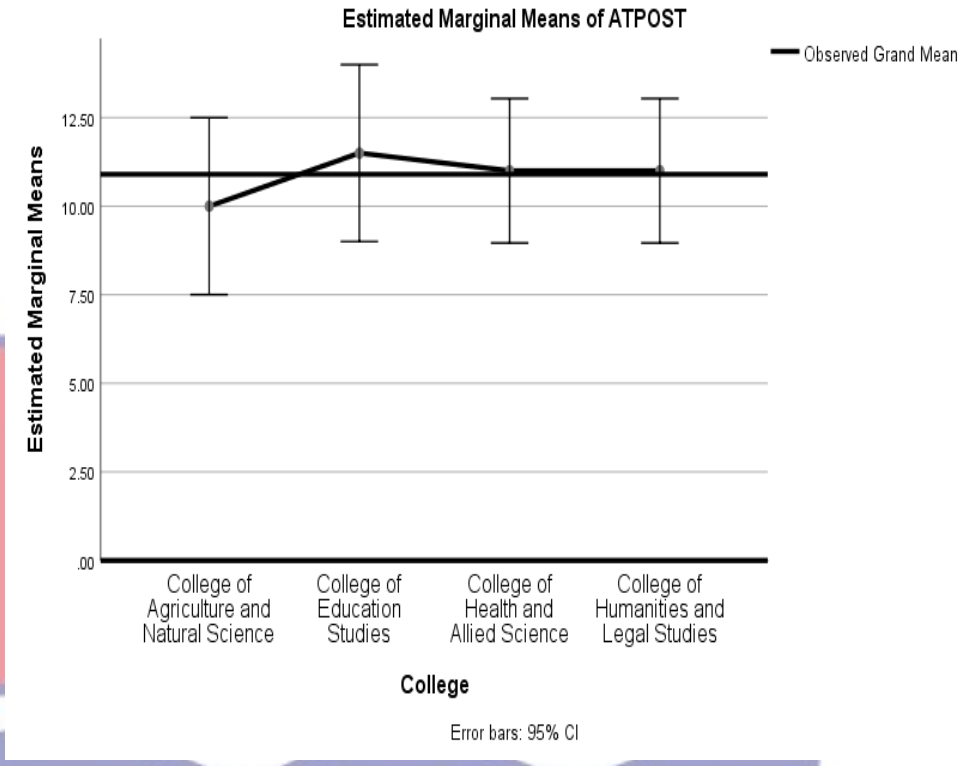

Figure 20: Homoscedasticity Normality Assumption for IP and Colleges

Source: Field Data (2020).

Figure 20 presents results on estimated marginal means that also elucidates Homoscedasticity Normality Assumption for IP. The results show that all the bars are divided equally which confirms that the data were assumed normal and as such one-way between-groups multivariate analysis of variance (MANOVA) could be performed.

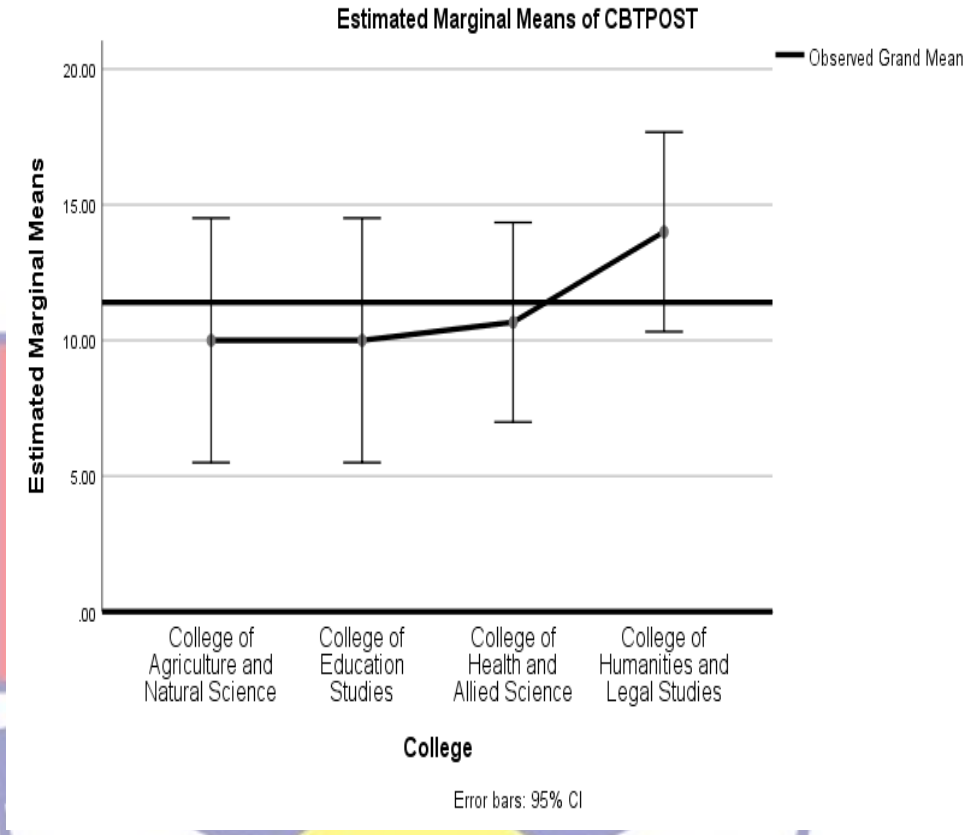

Figure 21: Homoscedasticity Normality Assumption for CBT and Colleges

Source: Field Data (2020).

Figure 21 presents results on estimated marginal means that also shows Homoscedasticity Normality Assumption for IP. The results show that all the bars are divided equally which confirms that the data were assumed normal and as such one-way between-groups multivariate analysis of variance (MANOVA) could be performed.

Table 33: Levene's Test of Equality of Error Variance across the Colleges

Levene's Test of Equality of Error Variances[a]

		Levene Statistic	df1	df2	Sig.
IP	Based on Mean	4.600	3	6	.053
	Based on Median	.267	3	6	.847
	Based on Median and with adjusted df	.267	3	4.000	.847
	Based on trimmed mean	3.610	3	6	.085
CBT	Based on Mean	7.922*	3	6	.017
	Based on Median	.809	3	6	.534
	Based on Median and with adjusted df	.809	3	2.369	.582
	Based on trimmed mean	6.624*	3	6	.025

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept +Colleges

Source: Field Survey (2020). *Significant, $p \leq 0.05$.

As predicted in Table 33, it is observed significant multivariate effect, the between-subject effects were analysed to find out which of the colleges showed significant effect of the suicide ideation among students exposed to IP and CBT therapies. The Levene's test of equality of variance (Table 33) indicated there was equality of variance across the colleges.

Table 34: Multivariate Test of Effect of Suicide Ideation among Students Exposed to IP and CBT Therapies Based on Colleges

Multivariate Tests[a]							
Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared η^2
Intercept	Pillai's Trace	.992	326.160*[b]	2.00	5.00	.000	.992
	Wilks' Lambda	.008	326.160*[b]	2.00	5.00	.000	.992
	Hotelling's Trace	130.464	326.160*[b]	2.00	5.00	.000	.992
	Roy's Largest Root	130.464	26.160*[b]	2.00	5.00	.000	.992
Colleges	Pillai's Trace	.585	.827	6.00	12.00	.571	.293
	Wilks' Lambda	.481	.737[b]	6.00	10.00	.632	.306
	Hotelling's Trace	.942	.628	6.00	8.00	.706	.320
	Roy's Largest Root	.761	1.521[c]	3.00	6.00	.302	.432

a. Design: Intercept + Colleges

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

Source: Field Survey (2020). *Significant, $p \leq 0.05$

The Pillai's Trace statistics in Table 34 have been reported because of the non-equality of covariance across groups. The results showed a significant multivariate effect of the suicide ideation among students exposed to IP and CBT therapies based on colleges [$F(6.00, 12.00) = .827$, $p < .571$, $\eta^2 = .293$].

Table 35: Test of Between-Subject Effects of Suicide Ideation among Students Exposed to IP and CBT Therapies Based on Colleges

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared η^2
Corrected	IP	2.400[a]	3	.800	.384*	.007	.161
Model	CBT	29.733[b]	3	9.911	1.462*	.016	.422
Intercept	IP	1135.350	1	1135.350	544.96*	.000	.989
	CBT	1197.067	1	1197.067	176.61*	.000	.967
Colleges	IP	2.400	3	.800	.384*	.007	.161
	CBT	29.733	3	9.911	1.462*	.016	.422
Error	IP	12.500	6	2.083			
	CBT	40.667	6	6.778			
Total	IP	1203.000	10				
	CBT	1370.000	10				
Corrected	IP	14.900	9				
Total	CBT	70.400	9				

a. R Squared = .161 (Adjusted R Squared = -.258)

b. R Squared = .422 (Adjusted R Squared = .134)

Source: Field Survey (2020). *Significant, $p \leq 0.05$

The results show that there was significant difference in Individual Psychology, F (3, 10) = .384, p = .007, η^2 = .161. CBT also produced a result of, F (3, 10) = 1.989, p = .207, η^2 = .362;

The multiple comparisons for the dependent variables that showed significant effect or differences were done to see which of the colleges at which the respondents were introduced were significantly different. The Games-Howell method was used for the non-equal error variance dependent variables. The results are presented in Table 36.

Table 36: Multiple Comparisons Following Significant Effects of Between-Subject Effects of the College on Suicide Ideation

Multiple Comparisons
Games-Howell

Dependent Variable	(I) College	(J) College	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
IP	College of Agriculture and Natural Science	College of Education Studies	-1.50	1.4433	.339	-5.0318	2.0318
		College of Health and Allied Science	-1.00	1.3176	.477	-4.2241	2.2241
		College of Humanities and Legal Studies	-1.00	1.3176	.477	-4.2241	2.2241
	College of Education Studies	College of Agriculture and Natural Science	1.500	1.4433	.339	-2.0318	5.0318
		College of Health and Allied Science	.500	1.3176	.717	-2.7241	3.724
		College of Humanities and Legal Studies	.5000	1.3176	.717	-2.7241	3.724
	College of Health and Allied Science	College of Agriculture and Natural Science	1.000	1.3176	.477	-2.2241	4.224
		College of Education Studies	-.5000	1.3176	.717	-3.7241	2.724
		College of Humanities and Legal Studies	.0000	1.1785	1.000	-2.8837	2.883
	College of Humanities and Legal Studies	College of Agriculture and Natural Science	1.000	1.3176	.477	-2.2241	4.224
		College of Education Studies	-.5000	1.3176	.717	-3.7241	2.724
		College of Health and Allied Science	.0000	1.1785	1.000	-2.8837	2.883
CBT	College of Agriculture and Natural Science	College of Education Studies	.0000	2.6034	1.000	-6.3703	6.370
		College of Health and Allied Science	-.6667	2.3765	.789	-6.4820	5.148
		College of Humanities and Legal Studies	-4.000	2.3765	.143	-9.8153	1.815
	College of Education Studies	College of Agriculture and Natural Science	.0000	2.6034	1.000	-6.3703	6.370
		College of Health and Allied Science	-.6667	2.3765	.789	-6.4820	5.148
		College of Humanities and Legal Studies	-4.0000	2.3765	.143	-9.8153	1.815

College of Health and Allied Science	College of Agriculture and Natural Science	.6667	2.3765	.789	-5.1486	6.482
	College of Education Studies	.6667	2.3765	.789	-5.1486	6.482
	College of Humanities and Legal Studies	-3.3333	2.1256	.168	-8.5347	1.868
College of Humanities and Legal Studies	College of Agriculture and Natural Science	4.0000	2.3765	.143	-1.8153	9.815
	College of Education Studies	4.0000	2.3765	.143	-1.8153	9.815
	College of Health and Allied Science	3.3333	2.1256	.168	-1.8680	8.534

Based on observed means.

The error term is Mean Square (Error) = 6.778.

Source: Field Survey (2020). *Significant, $p \leq 0.05$

The results of the post hoc shows no significant difference between the colleges, even though the MANOVA test was significant (p >.05). For example, College of Agriculture and Natural Science and College of Education Studies was not significant (MD=-1.50, Std. Error= 1.4433, sig=.339). The multiple comparisons for the dependent variables that showed insignificant effect.

The results further showed no significant difference in College of Agriculture and Natural Science and College of Health and Allied Science (MD=-1.00, Std. Error= 1.3176, sig=.477). Between College of Education Studies and College of Health and Allied Science was insignificant (MD=.500, Std. Error= 1.3176, sig=.717).

Research Hypothesis Ten

H_0 10: There is no statistically significant difference between the pre-test and post-test measures of suicide ideation of the control group.

H_A 10: There is a statistically significant difference between the pre-test and post-test measures of suicide ideation of the control group.

At the alpha level of .05 confidence, hypothesis ten was tested to find out if there was significant difference between pre-test and post-test measures of suicide ideation compared to the control group. To evaluate the differences, dependent samples *t*-test was considered appropriate based on its assumptions. In this hypothesis, the assumption for a dependent samples *t*-test requires that the scale of measurement applied to the data collected follows a continuous or ordinal scale. The variables in hypothesis ten covers this characteristic of work (Figure 22).

Furthermore, when a normal distribution is assumed, one can specify a level of probability (level of significance) as a criterion for acceptance. In most

cases, a 5% value can be assumed. The final assumption is homogeneity of variance. Homogeneous or equal variance exists when the standard deviations of samples are approximately equal. To achieve the scores for the analysis, the responses on the pre-test and post-test measures of suicide ideation were transformed into a single variable using the SPSS Software, Version. 25. Before performing the dependent samples *t*-test, the normality assumptions were tested. Figure 22 presents the results of the normality assumption.

Figure 22 shows that the results on suicide ideation among undergraduate students exposed to control pre-test and control post-test. The results show that the cluttering of the bars indicates that the data were assumed normal and as such dependent samples *t*-test could be performed.

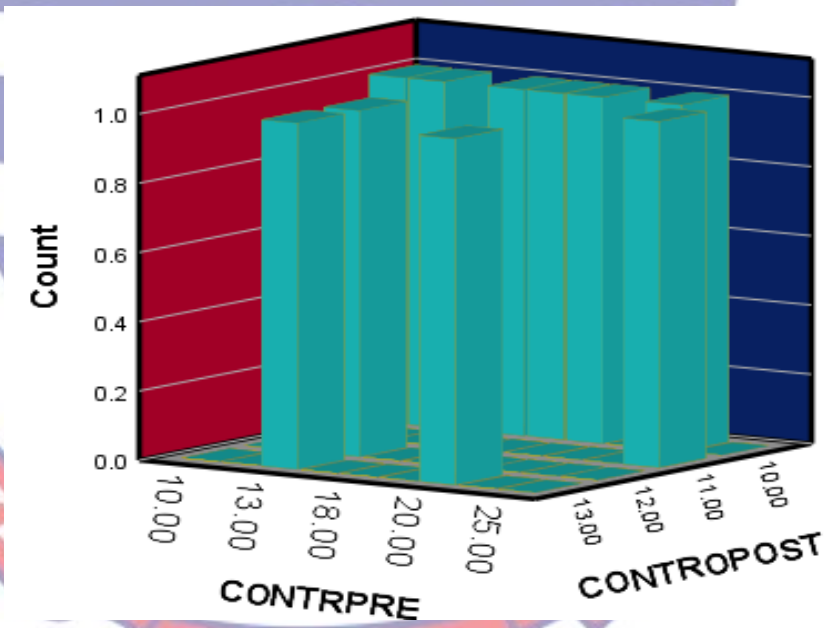

Figure 22: Homoscedasticity Normality Assumption control pre-test and control post-test

Source: Field Data, 2020.

Table 37: Results of Homogeneity of Variances Test

Levene Statistic	Df	Cal. t-value	Sig.value	Remarks
3.443	18	.553	. 381 (ns)	Equal Variances Assumed

Source: Field Data (2020).

From Table 37, the Levene's test specifies no significant results of *LS (df=18) =3.443, cal. t=.553, sig.value =.381(ns), p>0.05, 2-tailed)* for the study variables. This means that the variances are assumed equal (homogeneous) and as such Homogeneity of Variances Test has not been violated.

Table 38: Results of Dependent Samples *t*-test of Control Pre-test and Post-test

Variables	Status	Mean	SD	Cal. t-value	Df	P-value (sig-value)	Remarks
Control	Pre	10.13	1.723	.7120	18	.232 (ns)	. Sig. difference existed)
	Post.	10.02	2.240				

Source: Field Data (2020).

Table 38 presents results on dependent samples *t*-test of differences in control pre-test and post-test with respect to the reduction of suicide.

From the analysis in Table 38, the control pre-test and post-test showed no significant differences with respect to its effectiveness. The results show that there is no statistically significant difference with respect to the control pre-test and post-test. The descriptive results are recorded as M = 10.13, SD = 1.723 for pre-test and M= 10.02, SD = 2.240 for post-test control group both

with a cal. t-value of *t* (df=18) =7120; Sig. =.232, $p < .05$, 2-tailed). The results practically suggest since both groups were controlled, no significant differences existed among the students with suicide ideation.

Discussion of Results

This section of the chapter discusses the findings of the investigation and examination on whether using Individual Psychology (IP) and Cognitive Behavioural Therapy (CBT) as intervention strategies would help in reducing suicide ideation among suicidal undergraduate students of the University of Cape Coast, Ghana. The study was guided by research questions and research hypotheses. The results of the study are discussed in line with the research questions and hypotheses of the study.

With no preference, eight participants each were selected from College of Agriculture and Natural Science, College of Education Studies and College of Health and Allied Science while six were selected from College of Humanities and Legal Studies. In all 30 people participated in the treatment sessions with all the levels adequately represented. It was realised from the study that most of the students receive financial support from their parents (n=19, 63.3%). Very few were depending on their own resources (n=4, 13.3%) with the others, (n= 7, 23.3%) being helped and catered for by relatives.

Prevalence

The results for the prevalence indicated that few students consistently and persistently experience suicide ideation, that is, two out of every 15 undergraduate students of University of Cape Coast experience suicide ideation.

A recent study by Owusu-Ansah, Addae, Peasah, Oppong Asante and Osafo, (2019) on prevalence of suicide ideation on University students in Ghana obtained the following results; ideations 15.2%, attempted 6.3%, death wishes 24.3% and suicidal plan 6.8% and a study of secondary school students in Ghana also came out with the following results, 18.2%, 22.5% and 22.2% for ideation, plan and attempt respectively (Oppong Asante et al., 2017; Baiden et al., 2019). Higher prevalence of suicide ideation has been reported among university students in Africa, reaching 47.5% among Botswana students and 32.3% among South African medical students (Korb, Plattner, 2014; Van, Scribante, Raubenheimer, 2012). Other studies also noted that during university years, 12% of students experienced suicide thoughts, with 2.6% of them expressing persistent suicide ideation (Wilcox et. al., 2010)

The results of the study (both qualitative and quantitative) are consistent with the above within country study and this could be as a result of the cultural revulsion people have against suicide. Most people fear to report of being suicidal or engaging in suicidal thoughts because they see it as an abominable act and people who engage in those acts are considered as weak people. So, most people would prefer to keep to themselves and not report to be offered the needed help. Ghana, like many other countries can register a death as suicide only when the media get to know of the situation or probably the person left a suicide note, whilst others require an assessment of suicidal intent. Also, in those countries where suicide is considered socially and culturally unacceptable, the death is more likely to be recorded as 'undetermined'. However, considering the higher prevalence in the African countries, different setting, environmental issues and the characteristics of the population involved

could attribute to the rise in prevalence of suicide ideation. This gives ample evidence to suggest the idea that the rate of suicide ideation varies widely across and within the different Colleges, Universities and countries around the world.

Gender and Suicide Ideation

According to Eshun (2011), gender is a significant determinant for suicide ideation among Ghanaians. The study came with the findings that six out of every 10 undergraduate students of UCC having suicide ideation were females while the remaining four were males. According to Borges and Werlang, (2006) suicide ideation tends to be more frequent in girls than boys. A study by Liu, (2011) indicated that, 16% of females are more suicide ideated than their male counterpart with 10.7%. Another study by Nowotny, Peterson and Boardman, (2015) also gave its suicide ideation rate range for females to be 1.5% to 26.6% and that of males to be 1.7% to 15.4%. Additionally, Ram, Jagtap and Chandhury, (2018) have also given out their finding on suicide ideation and the prevalence is more in females (5.32%) than in male (1.48%) students. However, Tyssen et al 2001; Eskin et. al. (2011) are of the view that despite it being widely accepted that females express a higher prevalence of suicide thoughts, it is also possible that there may be no differences between boys and girls on the matter of suicide ideation or that boys may express higher suicide thoughts.

One possible explanation for the consistency in higher suicide ideation in female compared to their male counterpart could be that most ladies are more interested in social and material comparison. This is when they compare their clothing, shoes, beauty products, accessories, phones, connections and even

their academic records and results as the study considers students. This comparison most of the time make them feel worse, left out and decrease their sense of belongingness which in turn predispose them to suicide ideation. Again, women are emotional and react to situations.

Individual Characteristics among Undergraduate Students that Predispose them to Suicide Ideation

Suicide does not occur in a social vacuum. Family, gender and school history of suicide increases risk of suicide; this effect is independent of familial history of mental disorder, and is thereby partly suggestive of a social transmission effect. Exposure to suicidal behaviour of family or friends is also associated with these behaviours in adolescents. Maternal suicidal behaviour could be more strongly associated with off spring suicidal behaviour than is paternal suicidal behaviour, and children are more likely to be affected by parental suicidal behaviour than are adolescents or adults.

The results of this study also indicate that all of the demographic characteristics have significant association with students who are predisposed to suicide ideation. The following are the demographics;

i. age,
ii. gender,
iii. college and
iv. level of the students

For instance, gender of the students gave a result to indicate that, it influences on the suicide ideation of the students χ^2 (df =28) = 2.667, p < .05. According to the results of the interview sessions, financial, academic and relationship issues were also outlined as some factors which predispose the

individual to suicide ideation and these factors are consistent with literature. According to Schwartz (2006) University and college students are among the groups of people affected more with suicide ideation and its related issues than the general population. Suicide is the second leading cause of death among college students. This may be as a result of the range of issues and challenges faced by university students, such as academic and social pressures, adaptation to a new social environment, and financial burdens (Sreeramareddy, Shankar, Binu, Mukhopadhyay, Ray, Meneze, 2007; Clinciu, 2013; Dachew, Azale, Berhe, 2015; Goodman, Huang, Wade, Kahn, 2003) and this confirms an aspect of the results. Moreover, common risk factors for suicide such as mental and substance use disorders are very common among university students (Dachew et al.; Clinciu 2013). Suicide thoughts, also known as suicide ideation, are considered to be an important precursor to suicide (Arria et. al 2009).

The above studies have outlined some underlying factors that predispose students to suicide ideation and they confirm results from the interview session. But according to the findings of the study, the age of the students, gender (that is, whether male or female), the program one studies at the University and the level the undergraduate students find themselves are part of individual characteristic that predispose these undergraduate students to suicide ideation. However, in a longitudinal study by Nam, Hilimire, Jahn, Lehmann and DeVylder, (2018) on predictors of suicide ideation among college students, they reported that age, gender, sexual orientation showed no statistically significance association with suicide ideation. A reason that may account for this could be the difference in the setting of the study as well as the characteristics of the participants.

Environmental characteristics among undergraduate students that predispose them to suicide ideation

Several factors in the environment influence students to accept the thought of suicidality, rejects or still other be indifferent about that. The results of the study indicated that most students rejected those environmental pressure which may lead them to think of suicide.

In the literature provided by the AFSP (2014), one of the conditions in an individual's life that may increase the possibility of suicide is exposure to a suicide or several suicides in one's community. This exposure is considered a contagion or epidemic. Media coverage has been shown to play a role in increasing suicidal behaviour, especially among young adults (AFSP). The results of the interview sessions confirm the social media in general as a major contributor to exposing students to suicide ideation. The media reportage of suicide and its related issues is overwhelming. Again, access to a lethal method of suicide, especially during a period of higher risk, is another environmental factor of suicide ideation (AFSP, 2014). There is evidence that exposure to suicide in interpersonal relationships increases risk of further ideation, planning and attempt (Crosby & Sacks, 2002).

The results of the quantitative phase took a different angle. UCC undergraduate students have established that they think of suicide but their thoughts are not influenced by what goes on in the environment. There could probably be others factors and this calls for further study to ascertain those factors. However, I am of the view that most of these factors did not present themselves on the inventory for students to take their stand and decide whether they are predisposed to suicide as a result of them. They are hidden factors and

students were asked of their reaction to these hidden environmental issues and this therefore influenced participants' response. Per the results of the study two out of 30 undergraduate students of University of Cape Coast accept those factors which predispose them to suicide ideation.

Use of Cognitive Behavioural Therapy (CBT)

Form the discussion so far, suicide ideation of undergraduate students of the University of Cape Coast is prevalent and its common in both males and females. Cognitive Behavioural Therapy (CBT) helps individuals understand the thoughts and feelings that influence behaviours. Individuals learn how to recognize and change self-destructive thought patterns that negatively affect behaviour. CBT aims to teach an individual that although one may not control what happens in his/her environment, one can control how she/he interprets and responds to situations. As a treatment strategy for suicide ideation and suicidal behaviour, CBT assists in recognizing, challenging, and changing unhealthy thoughts, as well as observing those thoughts without believing or acting on them.

From the experimental sessions, one of the techniques used was thought stopping, also known as thought blocking. It is technique in CBT which helps people to deal with negative thought cycles and constant worrying. The basis of this technique is that, once a negative thought arises, the clients should consciously issue a command for the thought to stop. The idea is to replace a negative thought with a more balanced and positive one.it acts as interaction to the negative thoughts, interrupting obsessive negative thought (Smith, 2018). Participants were therefore able to follow what they were taught and even practiced for the homework sessions. The feedback they brought helped us to

further explain or buttress a point. Comparing the pre-test and the post- test results; pre-test M = 17.10, SD = 5.087 and post-test M= 11.40, SD = 2.796, it is evidenced that the use of CBT in helping reduce suicide ideation among undergraduate students in the University of Cape Coast was very effective. The interview results also confirmed that the tecniques in CBT used were effective in helping reduce suicide ideation. The results from using CBT are supported by Alavi, Sharifi, Ghanizadeh, and Dehbozorgi (2013), they found that "CBT was effective in decreasing hopelessness and depression" and "that CBT is an effective, appropriate, and acceptable treatment modality for the adolescents with recent suicidal attempts and current suicidal ideas" (p. 471). Pratt (2016) also asserted that CBT helps reduce disorders and improves quality of life.

Use of Individual Psychology (IP)

Form the results so far, CBT has proved very effective in reducing suicide ideation among undergraduate students of the University of Cape Coast. Individual Psychology aims at talking about, examining and gaining insights into difficulties faced by individuals, couples and families. It is a collaborative effort between the therapist and the client where the therapist provides a supportive environment that allows the clients to talk openly and freely with an objective, neutral and non-judgmental person. The focus is on the feelings of inferiority versus superiority, discouragement and sense of belonging to one's community and society at large. In this therapy for example, the feelings of inferiority can result in neurotic behaviour but can also be used as a motivation to strive for greater success in the right setting (Watts & Pietrzak, 2000).

An Individual Psychology therapist would be supportive, respectful, and encouraging in her/his attempt to determine what is motivating an

individual's behaviour when confronted by life's problems. The therapist would confront her/his private logic to assist in ferreting out both the vaguely conscious and unconscious goals. College is a time when social networks become increasingly important and complex as students are oftentimes moving away from home and living on their own for the first time. For some students, being of college student status may protect against suicide ideation and its related issues due to students being more socially connected than they were prior to college (Hazel, Nowlin & Reinecke, 2011).

Some of the techniques used during the experimental session included encouragement, push button and paradoxical intension. According Watts, (2014) encouragement helps clients recognise their worth. This technique seeks to reorient clients by stimulating the clients' courage to change. Students were also assisted in generating perpetual alternatives for discouraging fictional beliefs. In Individual Psychology Therapy, therapist see their clients as discouraged and lack the confidence and the courage to engage successfully in the problems of life. And without encouragement, without having faith restored in oneself, one cannot see the possibility of functioning better (Watts & Pietrzak, 2000).

Students were made to understand their situations, with the help of the homework which included listening to motivational tapes on how people failed in life at a point and they did not end it but were able to rise up to the task and make it in life. The feedback they brought was encouraging and we saw progress in every bit of their movement. It is therefore evidenced in comparing the pre-test and the post-test, results of pre-test M = 17.11, SD = 5.87 and results of post-test M= 10.90, SD = 1.28, that Individual Psychology was very

effective in helping reduce suicide ideation among undergraduate students of the University of Cape Coast.

Comparing IP and CBT

From the analysis, per the mean score and the standard deviation score of the IP and CBT, which are M = 10.90, SD = 1.286 and M= 11.06, SD = 2.796 respectively. This implies that both are effective intervention strategies used to reduce suicide ideation. Tarrier, Taylor and Gooding (2008) opined that treatment is more effective when directly targeting suicide thoughts and behaviour as opposed to when treatment is designed to address mental illness with the assumption that benefits will also impact suicidal behaviour. Hence, the literature underscores the need for specific and effective interventions targeting suicide ideation and suicidal behaviour.

These two therapies have been tried, tested and testified by other research works. Tarrier et. al. (2008), examined 28 randomized controlled trials (RCTs) involving adults and adolescents. The researchers concluded that Cognitive Behavioral Therapy (CBT)-based interventions demonstrated effectiveness in reducing suicidal behavior (suicide ideation, suicide plan, suicide attempt). Again, a systematic review by Mewton and Andrews (2016) limited its focus to RCTs examining the benefits of standard CBT in adults. Their conclusion agreed with the observation of (Tarrier et al 2008).

A second look at the mean score and the standard deviation score of both therapies implicates a slight difference in their effectiveness, that is, CBT is slightly more effective compared to IP. A meta-analysis by Ougrin, Tranah, and Din (2015) supported the effectiveness of therapeutic interventions including CBT, Dialectical Behaviour Therapy (DBT), and mentalization-

based therapy in reducing self-harm in adolescents. I think it may be due to the reason being that CBT is more and widely used in treatment interventions and in more research works than the IP.

IP, CBT and Control Group

The participants of the control group were not left unattended to. They were also taught time management and its related issue. From the results of the analyses, M = 09.13, SD = 1.322 for control group and M= 15.05, SD = 3.340 for experimental group. It implies the therapy worked on the participants because the mean and standard deviation scores for the IP experimental group is higher than that of the control group which did not receive any treatment but were kept under control with teaching not related to the study.

A report by AFSP, (2019) indicated that there are two proven psychotherapies for treating those who attempt suicide: Cognitive Behaviour Therapy for suicide attempters (CBT for suicide attempters) and Dialectical Behavioral Therapy (DBT) for patients with borderline personality disorder and recurrent suicide ideation and behaviours. Clearly these short-term interactive therapies make a difference. However, per the findings of this study, Individual Psychology has also proven its worth in helping reduce suicide ideation among undergraduate students. This may be possible because the IP has not been widely used and there are not enough research works to prove its effectiveness.

CBT, by far, has proved to be an effective treatment strategy in reducing suicide ideation among undergraduate students of UCC according to the results of the analysis. It is no different when compared to the control group. The results recorded, M = 11.33, SD = 1.423 and M= 16.15, SD = 3.240 for control

group and CBT experimental group respectively. This implies that the techniques used which included thought stopping and thought recording in CBT for the experiment sessions worked on the participants in reducing suicide ideation. Meanwhile the control group members were not left unattended to, they were taught on how to manage their time effectively, which is not related to the subject under study.

Chapter Summary

The treatment interventions using IP and CBT have been very effective in helping reduce suicide ideation among undergraduate students in the University of Cape Coast. Notwithstanding, there were few challenges at the beginning of the treatment interventions since most students did not want to associate themselves with any group to feel stigmatised and also, they did not want to open up to share their thoughts, feelings and experiences. However, upon assuring them of confidentiality most of them opened up and it has become evidenced on the data received.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter is in four parts. The first part is the summary of the entire study and the second part highlights and draws conclusions based on the findings. Part three outlines the counselling implications of the study and the implications for policy and the final section provides an outline of recommendations and suggestions for future research and further study.

Summary

The main purpose of the study was to examine whether using Individual Psychology (IP) and Cognitive Behavioural Therapy (CBT) as intervention strategies would help in reducing suicide ideation among the students of the University of Cape Coast, Ghana. With the five research questions and 10 hypotheses, I adopted the mixed methods approach that was supported by quasi-experimental design with the pre-test, post-test and control group and a qualitative phase which helped to establish the efficacy of Individual Psychology and Cognitive Behavioural Therapy in reducing suicide ideation among undergraduate students of the University of Cape Coast. The purposive sampling procedure was used to select four departments out of the four colleges. 30 undergraduate suicide ideated students qualified for the intervention (two treatments groups and one control group). The convenience sampling procedure was also used to select eight participants for an interview session. The Beck's Scale for Suicide Ideation was used in an adopted form for the quatitative data collection while an interview guide was used to collect data for qualitative

phase. Descriptive statistics such as frequencies and percentages were used to analyse the biodata while inferential statistics such as dependent and independent samples *t*-test and MANOVA were used to test the hypotheses. Thematic analysis was used for the qualitative data. The study found out that, Individual Psychology and Cognitive Behavioural Therapy are both effective in helping reduce suicide ideation among students but CBT was slightly more effective. It was also realized that, students with suicide ideation were in one way or the other helped out of the situation.

The following were the main results of the study;

1. With Hypothesis one, that is, testing the significant effect of CBT, using the pre-test and the post-test. The results indicated that CBT had a positive effect on the participants with suicide ideation because the post-test results showed a lower mean and standard deviation compared to the pre-test.
2. With the second hypothesis, IP also showed a positive impact on the participants with suicide ideation.
3. From the two hypotheses testing above, the researcher again wanted to ascertain which of the two is more effective and that was what hypothesis three tested. The results proved that indeed both were effective, however, CBT was more effective than IP.
4. Again, the effectiveness of both therapies, hypotheses one and two, has been confirmed by hypotheses four and five, when the results of IP and CBT were compared to the control group in hypotheses four and five respectively. Besides, the control group did not receive any treatment at the same time they were not left unattended to.

5. From the hypotheses six to nine, there were significant difference between IP and CBT on the basis of gender, age, level of study and college. It was observed from the results that IP and CBT were effective but with regard to the gender of the participants, their age (which ranges from18 years and below, 24 years and above) and the colleges they find themselves in. In other words, gender, age and colleges of students did affect and interfere with the intervention processes. However, it was the level of study that showed no significance difference, that is, IP and CBT were effective and their level of study did not interfere with it.
6. The final hypothesis which is, to find out if there is a significance difference between the pre-test and post-test measures of the control group. The results suggested that no significant difference existed with regards to the pre-test and post-test of the control group.

Conclusions of the study

Based on the findings of the study, the researcher concluded that;

1. Suicide ideation was rarely and intermittently experienced by regular undergraduate students of the University of Cape Coast who are suicidal.
2. Gender, age, level of study and colleges of students influenced suicide ideation among regular undergraduate students of the University of Cape Coast who are suicidal.
3. The prevalence of suicide ideation among regular undergraduate students in the University of Cape Coast who are suicidal was higher in females than in males.

4. The results suggested that the use of Individual Psychology (IP) was very effective in reducing suicide ideation among regular undergraduate students with suicide ideation issues.
5. The use of IP was very effective in reducing suicide ideation among regular undergraduate students with suicide ideation issues, however, CBT was slightly more effective in helping reduce suicide ideation among regular undergraduate students who are suicidal.

Counselling Implications

1. Workshop in Guidance and Counselling should be held occasionally by the Counselling Center and the Department of Guidance and Counselling to educate and create awareness on the efficacy of counselling therapies used in helping reduce suicide ideation.
2. Individuals have the tendency and the tenacity to get rid of irrational thoughts such as suicide ideation as they succumb to treatments.
3. The thoughts of suicide, can be reduced using appropriate techniques in Individual Psychology and Cognitive Behavioural Therapy.
4. Counsellors and Psychologist should make it a habit of following up on their clients to prevent lapses and relapse.
5. The study may help improve the professional practice of counsellors.

Implications for Policy

1. The findings may help improve suicide ideation awareness and prevention program, for eg. Gatekeeping Training.
2. The findings may help in the development and establishment of suicide ideation and suicidality intervention programs in the mental health and public health policies.

3. Suicide Awareness Campaigns can incorporate the findings of the study and educate the public better on suicide ideation and its related issues. Also, stakeholders can better set their goals and achieve them.
4. The study may help generate discussions among major stakeholders in education on the need to introduce mental health services in the universities and other public institutions to help deal with the problem.

Contribution to Knowledge

1. The study has established the use of counselling techniques in CBT and IP in helping to reduce suicide ideation.
2. The level of study and the programme of study predispose undergraduate students of University of Cape Coast to suicide ideation.

Recommendations

1. There is the need for annual or constant screening of suicide ideation as part of the University's program organised by the Counselling Center. This is to help educate and create more awareness on suicide ideation and help those who are suicide ideated to benefit from the therapies.
2. Counsellors and Social workers should be encouraged to use either of the therapies, IP or CBT, to help students reduce suicide ideation since the study has proved its efficacy.
3. The researcher will collaborate with the Counselling Center to organise workshops and clinics on suicide ideation to intensify awareness creation, targeting the female students not neglecting the male students.

4. Counselling Day Out should be organized regularly by the Counselling Center and the Department of Guidance and Counselling in the various halls and hostels, department and faculties, to educate and create awareness on suicide ideation and how students can be helped out using therapies.
5. The findings of the study can be shared with the appropriate authorities such as the University management and Counsellors at the Counselling Center and other Counselling Agencies to make them aware of the situation and also assure them of therapies that can be used to reduce suicide ideation.

Suggestion for Further study

1. A qualitative study on suicide ideation to have more in-depth understanding on the concept.
2. A study should be carried on the risk factors and predictors of suicide ideation among Tertiary students, including Technical Universities, Colleges of Education and Polytechnics.

REFERENCES

Abbar, M., Courtet, P., Bellivier, F., Leboyer, M., Boulenger, J. P., & Castelhau, D. (2001). Suicide attempts and the tryptophan hydroxylase gene. *Mol. Psychiatry*, *63*(6), 268–273.

Adeeb, P. M., (1994). A quasi-experimental design to study the effect of multicultural coursework and culturally diverse field placements on pre-service teachers' attitudes toward diversity. [UNF Graduate theses and dissertations. 175]. https://digitalcommons.unf.edu/etd/175.

Adinkrah, M. (2012). Better dead than dishonored: Masculinity and male suicidal behavior in contemporary Ghana. *Social Science & Medicine, 74*, 474–481.

Adinkrah, M. (2014). Confessions: Suicidal ideation on a Ghanaian radio program. *Journal of Public Health and Epidemiology, 6*(7), 229- 234.

Adler, A. (1937). Suicide. *International Journal of Individual Psychology, 15*, 49-52.

AFSP. (2019). *Annual Report*. https://annual2019.afsp.org/.

Alavi, A., Sharifi, B., Ghanizadeh, A., & Dehbozorgi, G. (2013). Effectiveness of cognitive-behavioral therapy in decreasing suicidal ideation and hopelessness of the adolescents with previous suicidal attempts. *Iranian Journal of Pediatrics, 23*(4), 467-472.

Alavi, A., Sharifi, B., Ghanizadeh, A., & Dehbozorgi, G. (2013). The hopelessness theory of suicidality. In T. Joiner & M. D. Rudd (Eds.), *Suicide science: Expanding the boundaries* (pp. 17-32). Kluver Academic Publishers.

Alcántara, V. H., & Gone, F. (2007). Suicide postvention as suicide prevention: Improvement and expansion in the United States. *Death Studies, 34,* 529-540.

Aleksandrowicz, W. (1975). Reviewing suicide in Native American communities: Situating risk and protective factors within a transactional-ecological framework. *Death Studies, 31*(5), 457-477.

Amadehe, F. K. (2002). *Fundamentals of educational research methods*. Mimeograph, UCC.

American College Health Association. (2012). *National College Health Assessment II: Reference Group Executive Summary.* Author.

American Foundation for Suicide Prevention (AFSP). (2014). *Preventing suicide.* http://www.afsp.org/preventing suicide on May, 2020.

American Psychiatric Association. (2003). *Diagnostic and statistical manual of mental disorders* (4th ed., text revision). Author.

Anderson, R. N., & Smith, B. L. (2005). Deaths: Leading causes for 2002 from the Centers for Disease and Control and Prevention, National Center for Health Statistics. *National Vital Statistics System, 53*(17), 1-89.

Anestis, S., Pennings, D., Cerel, J., Padgett, J. H., & Conwell, Y. (2014). Assessing volunteer motives: A comparison of an open-ended probe and Likert rating scales. *Journal of Community & Applied Social Psychology, 12,* 243-255.

Ansbacher, H. L., & Ansbacher, R. R. (Eds.). (1956). *The individual psychology of Alfred Adler*. Harper & Row.

Arango, V., Underwood, M. D., Gubbi, A. V., & Mann J. J. (1995). Localized alterations in pre- and postsynaptic serotonin binding sites in the ventrolateral prefrontal cortex of suicide victims. *Brain Research, 688,* 121–133.

Ardito, R. B., & Rabellino, D. C. (2011). Therapeutic alliance and outcome of psychotherapy: Historical excursus, measurement and prospects for research. *Frontiers in Psychology, 2*(270).

Arria, A. M., O'Grady, K., Caldeira, K. M., & Vincent, K. B. (2009). Suicide ideation among college students: A multivariate analysis. *Arch. Suicide Res., 13,* 230–246.

Arria, A. M., Winick, E. R., Garnier-Dykstra, L. M., Vincent, K. B., Caldeira, K. M., Wilcox, H. C., & O'Grady, K. E. (2011). Help seeking and mental health service utilization among college students with a history of suicide ideation. *Psychiatric Services, 62*(12), 1510-1513.

Arslan, G., Ayranci, U., Unsal, A., & Arslantas, D. (2009). Prevalence of depression, its correlates among students, and its effect on health-related quality of life in a Turkish university. *Upsala Journal of Medical Sciences, 114,* 170-177.

Arthur. N., & Nazroo, G. (2003). *Qualitative research methods for the social sciences* (3rd ed.). Allyn & Bacon.

Asberg, M. Nordstrom, P., & Traskman-Bendz, L. (1986). Cerebrospinal fluid studies in suicide. An overview. *Ann NY Acad Sci, 487,* 243-255.

Atkinson, E. (1978). The effect of cause of death on responses to the bereaved: Suicide compared to accident and natural causes. *Omega: Journal of Death and Dying, 28*(1), 39-48.

Ayduk, Q., Downey, C., Testa, W., Yen, F., & Shoda, T. (1999). What brings you here? An exploration of the unconscious motivations of those who choose to train and work as psychotherapists and counsellors. *Psychodynamic Practice, 13*(3), 257-274.

Ayduk, R., Gyurak, Z., & Luerssen, D. (2008). The lived experience of adults bereaved by suicide: A phenomenological study. *Crisis: The Journal of Crisis Intervention and Suicide Prevention, 28*(1), 26-34.

Babbie, E. (2010). *The practice of social research.* (3rd ed.). Oxford Press.

Babbie, E., & Mouton, J. (2001). *The practice of social research*. Oxford University Press.

Baechler, J. (1979). *Suicides*. Basic Books.

Bagge, C. L., Glenn, C. R., & Lee, H. J. (2013). Quantifying the impact of recent negative life events on suicide attempts. *Journal of Abnormal Psychology, 122*(2), 359-368.

Bagge, E. M., Glenn, W., & Lee, D. (2013). Survivors of suicide do grieve differently: Empirical support for a common-sense proposition. *Suicide and Life-Threatening Behaviour, 29*(3), 256-271.

Bagge, E. M., Littlefield, X., & Lee, D. (2013). The aftermath of suicide among African Americans. *Journal of Black Psychology, 32*(3), 335-348.

Bagge, R., Glenn, D., & Lee, T. (2012). From chronic pain patient to peer: Benefits and risks of volunteering. *Pain Management Nursing, 3*(3), 94-103.

Bahorski, Z. (2009). *A quasi-experimental study on students' perceptions and intended use of digital recording technology in a college technology classroom.* [Unpublished doctoral dissertation, College of Technology, Eastern Michigan University].

Baiden, P., Kuuire, V. Z., Shrestha, N., Tonui, B. C., Dako-Gyeke, M., & Peters, K. K. (2019). Bullying victimization as a predictor of suicidal ideation and suicide attempt among senior high school students in Ghana: Results from the 2012 Ghana Global School-Based Health Survey. *Journal of School Violence*, *18*(2), 300–317.

Baldessarini, R., & Hennen, J. (2004). Genetics of suicide: An overview. *Harvard Review of Psychiatry*, *12*(1), 1 – 13.

Barnes, D. H. (2006). The aftermath of suicide among African Americans. *Journal of Black Psychology*, *32*(3), 335-348.

Barraclough, B., Bunch, J., Nelson, B., & Sainsbury, P. (1974). A hundred cases of suicide: Clinical aspects. *Br J Psychiatry*, *125*(0), 355-373.

Barrios, L. C., Everett, S. A., Simon, T. R., & Brener, N. D. (2000). Suicide ideation among US college students: Associations with other injury risk behaviors. *Journal of American College Health*, *48*(5), 229-233.

Barron, K. (1999). Ethics in qualitative social research on marginalized groups. *Scandinavian Journal of Disability Research*, *1*(1), 38-49.

Bauer, M., McAuliffe, L., Nay, R., & Chenco, C. (2013). Sexuality in older adults: Effects of an educational intervention on attitudes and beliefs of residential aged care staff. *Educational Gerontology*, *39*(2), 82-91.

Bauer, R. L., Chesin, M. S., & Jeglic, E. L. (2013). Depression, delinquency, and suicidal behaviours among college students. *The Journal of Crisis Intervention and Suicide Prevention, 35*(1), 36-41.

Baumeister, I. D. (1990). *Completing your qualitative dissertation: A roadmap from beginning to end.* Sage.

Beautrais, A. L., Joyce, P. R., & Mulder, R. T. (1996). Risk factors for serious suicide attempts among youths aged 13 through 24. *J AM. Acad. Child Adolesc Psychiatry, 35*(9), 1174-1182.

Beautrais, E. (2001). Beyond resilience and PTSD: Mapping the heterogeneity of responses to potential trauma. *Psychological Trauma, 4*, 74-83.

Beautrais, L. A. (2003). Suicide and serious suicide attempt in youth: a multiple group comparism study. *Am J Psychiatry, 160*(6), 1093-1099.

Beck, A. T. (Ed.). (1979). *Cognitive therapy of depression.* Guilford Press.

Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology, 56*(6), 893- 897.

Beck, A., Begley, M., & Quayle, E. (1973). The incidence and course of depression in bereaved youth 21 months after the loss of a parent to suicide, accident, or sudden natural death. *The American Journal of Psychiatry, 166*(7), 786 -794.

Belliver, J., Bonanno, G.A., & Mancini, A.D. (2004). A critical evaluation of the use of interpretative phenomenological analysis (IPA) in health psychology. *Psychology and Health, 21*, 87- 108.

Belliver, N. L. (2004). Vicarious exposure to trauma and growth in therapists: The moderating effects of sense of coherence, organizational support and empathy. *Journal of Traumatic Stress, 24*(6), 735-742.

Ben-David, Q. (1993). The psychological well-being of renal peer support volunteers. *Journal of Advanced Nursing, 38*(1), 40-49.

Biegon, A., & Fieldus, S. (1992). Reduced tyrosine hydroxylase immunoreactivity in locus coeruleus of suicide victims. *Synapse, 10*, 79-82.

Bill-Brahe, R. (2000). Posttraumatic growth and HIV bereavement: Where does it start and when does it end? *Traumatology, 12*(1), 45-59.

Black, K., (2010). *Business statistics: Contemporary decision making.* (6th ed.). John Wiley & Sons.

Block, J, O. (1995). The rules of bereavement: Are suicidal deaths different? *Journal of Community Psychology, 14,* 213-218.

Blum R. W., & Nelson-Mmari, K., (2004). Suicidal death: Social reactions to bereaved survivors. *The Journal of Psychology, 116,* 255-261.

Bolton, K., Cadell, S., & Sullivan, R. (2007). Reactions to the parents of the child suicide: A study of social impressions. *Journal of Consulting and Clinical Psychology, 48*(4), 535-536.

Bondy, O., Brockhouse, R., Msetfi, R.M., Cohen, K., & Joseph, S (2006). The aftermath of childhood suicide: Influences on the perception of the parent. *Journal of Community Psychology, 10*, 250- 254.

Borges, G., Walters, E. E., & Kessler, R. C. (2000). Associations of substance use, abuse and dependence with subsequent suicidal behavior. *Am. J. Epidemiol., 151*, 781–789.

Borges, V. R., & Werlang, B. S. (2006). A study of suicide ideation in adolescent from 15 to 19 years old. *Estudos de Psicologia. 11*(3), 345-351.

Bovasso, G. B. (2001). Cannabis abuse as a risk factor for depressive symptoms. *Am J Psychiatry, 158*(12), 2033- 2037.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101.

Brazier, J. E., & Roberts, J. (2004). The estimation of a preference-based measure of health from the SF-12. *Med Care, 42*(9), 851-859.

Brener, K., Brockhouse, R., Msetfi, R.M., Cohen, K., & Joseph, S (1999). The psychological aftermath of suicide: An analysis of current evidence. *Clinical Psychology Review, 2*(3), 409-420.

Brener, N. D., Hassan, S. S., & Barrios, L. C. (1999). Suicidal ideation among college students in the United States. *Journal of Consulting and Clinical Psychology, 67,* 1004-1008.

Brenner, C., Biecanowski, P., Pace, H. C., & Huebner, K. (1999). The Histidine Triad Superfamily of Nucleotide-Binding Proteins. *J. Cell. Physiol.*, 181, 179.

Brent, D. A., Bridge, J., Johnson, B. A., & Connolly, J. (1996). Suicidal behavior runs in families: A controlled family study of adolescent suicide victims. *Arch. Gen. Psychiatry, 53,* 1145–1152.

Brent, D. A., Johnson, B., Bartle, S., Bridge, J., Rather, C., Matta, J., Connolly, J., & Constantine, D. (1993). Personality disorder, tendency to impulsive violence, and suicidal behavior in adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry, 32*(1), 69–75.

Brent, D. A., Oquendo, M., Birmaher, B., Greenhill, L., Kolko, D., & Stanley, B. (2002). Familial pathways to early-onset suicide attempt: risk for suicidal behavior in offspring of mood-disordered suicide attempters. *Arch. Gen. Psychiatry, 59*(9), 801–807.

Brent, J., & Mann, D. (2005). A collation of funeral directors' impressions of suicidal deaths. *Omega: Journal of Death and Dying, 19*(4), 365-373.

Brett, C. (1997). *Understanding life: An introduction to the psychology of Alfred Adler*. Oneworld.

Brown, G. K., Beck, A. T., Steer, R. A., & Grisham, J. R. (2000). *Journal of Consulting and Clinical Psychology, 68*(3), 371-377.

Brown, G. K., Beck, A. T., Steer, R. A., & Grisham, J. R. (2000). Risk factors for suicide in psychiatric outpatients: A 20-year prospective study. *J Consult Clin Psychol., 68*(3), 371-7.

Brown, K. W., Ryan, R. M., & Creswell, J. D. (2007). Mindfulness: Theoretical foundations and evidence for its salutary effects. *An International Journal for the Advancement of Psychological Theory, 18(*4) 211–237.

Bryman, A. (2008). *Social research methods* (3rd ed.). Oxford University Press.

Burns, N. G., & Grove, S. S. K (2001). *The practice of nursing research: Conduct, critique and utilization.* WB Saunders company.

Bushman, W., Giancola, E., Parrott, D., & Roth, C. (2011). Reactions to the family of the suicide. *American Journal of Community Psychology, 7*(5), 571-575.

Cain, N. (1972). When a soldier commits suicide in Iraq: Impact on unit and caregivers. *Psychiatry, 74*(2), 95-106.

Carlson, J., & Maniacci, M. P. (Eds.) (2012). *Alfred Adler revisited.* Routledge.

Cate Carter, T. D., Mundo, E., Parikh, S. V., & Kennedy, J. L. (2003). Early age at onset as a risk factor for poor outcome of bipolar disorder. *J. Psychiatr. Res., 37*, 297–303.

Centers for Disease Control and Prevention. (CDC). (2012). *Injury center: Violence prevention. National suicide statistics at a glance.* http://www.cdc.gov/violence prevention/suicide/statistics.

Cerel, S., Jordan, W., & Duberstein, S. (2008). Suicide-bereaved children and adolescents: A controlled longitudinal examination. *Journal of the American Academy of Child and Adolescent Psychiatry, 38*(6), 637-789.

Chandler M., & Proulx, T. (2006). Changing selves in changing worlds: Youth suicide on the fault-lines of colliding cultures. *Arch Suicide Res, 10*(2), 125 – 140.

Chishti, W., Stone, S., Corcoran, D., Williamson, S., & Petridou, D. L. (2003). The impact of suicide on the family. *Crisis: The Journal of Crisis Intervention and Suicide Prevention, 29*(1), 38-44.

Christensen, W., Batterham, S., Soubelet, Z., & Mackinnon, D. (2013). A call for research: The need to better understand the impact of support groups for suicide survivors. *Suicide and Life-Threatening Behaviour, 39*(3), 269-282.

Cleary, S. D. (2000). Adolescent victimization and associated suicidal and violent behaviors. *Adolescence, 35*, 671-682.

Clinciu, A. I. (2013). Adaptation and stress for the first-year university students. *Procedia - Soc. Behav. Sci., 78*, 718–722.

Clum, G. A., & Febbraro, G. A. R. (1994). Stress, social support, and problem-solving appraisal/skills: Prediction of suicide severity within a college sample. *J. Psychopathol. Behav. Assess., 161*(16), 69–83.

Cogshall, M. B., & Kingery P. M. (2001). Cross-survey analysis of school violence and disorder. *Psychology in the Schools, 38*(2), 107 -116.

Cohen, L., Manion, L., & Morrison K. (2000). *Research methods in education* (5th ed.). Routledge Falmer

Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education* (6th ed.). Routledge

Cohen, L., Manion, L., & Morrison, K. (2011). *Planning educational research: Research methods in education* (7th ed.). Routledge Editors.

Cooper, D. R., & Schindler, P. S. (2000). *Business research methods* (7th ed.). McGraw-Hill.

Creswell, J. W. (2005). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Pearson.

Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Sage Publications, Inc.

Creswell, J. W. (2009). *Research design. Qualitative, quantitative and mixed method approaches* (3rd ed.). Sage Publications.

Creswell, J. W. (2012). *Educational research: Planning conducting and evaluating quantitative and qualitative research* (4th ed.). Merrill Prentice Hall.

Creswell, J. W. (2013). *Research design: Qualitative, quantitative and mixed methods approaches.* Sage Publications, Inc.

Creswell, J. W. (2014). *Research design. Qualitative, quantitative and mixed method approaches* (4th ed.). Sage Publications.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative and mixed methods approaches* (4th ed.). Sage.

Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). Sage Publications.

Creswell, J. W., & Plano, C. (2007). *Designing and conducting mixed method research*. Sage.

Creswell, J.W. (2003). *Research design: Qualitative, quantitative and mixed methods approach* (2nd ed.). Sage Publication.

Crisp, A. H. (2000). Changing minds: Every family in the land. An update on the college ‘s campaign. *Psychiatric Bulletin, 24*, 267-268.

Crosby, A. E., Cheltenham, M. P., & Sacks J. J. (1999). Incidence of suicidal ideation and behaviour in the United States, 1994. *Suicide and Life-Threatening Behavior, 29*, 131-140.

Crosby, F. L., & Hamburger, V. (2011). Effectiveness of breast- feeding peer counseling in a low-income, predominantly Latina population. *Obstetrical and Gynecological Survey, 60*(3), 157-158.

Crosby, F. L., & Sacks, D. (2002). Changing selves in changing worlds: Youth suicide on the fault-lines of colliding cultures. *Archives of Suicide Research, 10*(2), 125-140.

Cukrowicz, K. C., Cheavens, J. S., Van Orden K. A., Ragain, R. M., & Cook, R. L. (2011). Perceived burdensomeness and suicide ideation in older adults. *Psychology and Aging, 26*(2), 331-338.

Cutcliff, J.R. (2005). Toward an understanding of suicide in first nation Canadians. *Crisis: The Journal of Crisis Intervention and Suicide Prevention, 26*(3), 141- 145.

Cutright, P., & Fernquist, R. M. (2005). Marital status integration, psychological well-being and suicide acceptability as predictors of marital status differentials in suicide rates. *Social Sciences Research, 34*(3), 570-590.

Cutright, P., & Fernquist, R. M. (2010). The gender gap in suicide rates: An analysis of twenty developed countries. *Archives of Suicide Research, 7*(4), 323–339.

Cvinar, L. (2005). The social and ethical implications of changing medical technologies: The views of people living with genetic conditions. *Journal of Health Psychology, 7,* 195- 206.

D'Attilio, J. P., Campbell, B. M., Lubold, P., Jacobson, T., & Richard, J. A. (1992). Social support and suicide potential: Preliminary findings for adolescent populations. *Psychol. Rep*., 70, 76–78.

Dachew, B. A., Bisetegn, T. A., & Gebremariam, R. B. (2015). Prevalence of mental distress and associated factors among undergraduate students of University of Gondar, Northwest Ethiopia: a cross-sectional institutional based study. *PLoS ONE, 10*(3), 33-37.

Davis, M. T., Witte, T. K., & Weathers, F. W. (2013). Posttraumatic stress disorder and suicidal ideation: The role of specific symptoms within the framework of the interpersonal-psychological theory of suicide. *Psychological Trauma: Theory, Research, Practice, and Policy*, *6*(6), 610-618.

Dawadi, S., Shrestha, S., & Giri, R. A. (2021). Mixed-methods research: A discussion on its types, challenges, and criticisms. *Journal of Practical Studies in Education, 2*(2), 25-36.

De Leo, D. (2011). DSM-V and the future of Suicidology. *Crisis 32*, 233–239.

De Leo, D., Sveticic, J., & Milner, A. (2011). Suicide in indigenous people in Queensland, Australia: Trends and methods. *Aust. N. Z. J. Psychiatry, 45*(7), 532-538.

De-Leo, M., Burgis, D., Bertolote, W., Kerkhof, F., & Bille-Brahe, X. (2006). The motivation to volunteer: Theoretical and practical considerations. *Current Directions in Psychological Science, 8*(5), 156-159.

De-Leo, M., Selby, J. W., & Faulstich, M. E. (2006). Bereavement after suicide - How far have we come and where do we go from here? *Crisis: The Journal of Crisis Intervention and Suicide Prevention, 22*(3), 102-108.

De-Luca, Bertolote, W., Kerkhof, F., & Bille-Brahe, X (2005). Grief reactions and recovery in a support group for people bereaved by suicide. *Crisis, 16*(1), 27-33.

Denscombe, M. (2007). *The good research guide for small-scale social research projects.* Open University Press.

Denzin, N. K., & Lincoln, Y. S. (Eds.) (2000). *Handbook of Qualitative Research*. Sage Publication Inc.

Diamond, G. M., Diamond, G. S., Levy, S., Closs, C., Ladipo, T., & Siqueland, L. (2013). Attachment-based family therapy for suicidal lesbian, gay, and bisexual adolescents: A treatment development study and open trial with preliminary findings. *Psychology of Sexual Orientation and Gender Diversity, 1*(5), 91-100.

Diekstra. J., & Garnefski, G. (1995). Understanding and assessing the he motivations of volunteers: A functional approach. *Journal of Personality and Social Psychology, 74*(6), 1516-1530.

Dinardo, J. (2008). Natural experiments and quasi-natural experiments. *Microeconometrics, 18*, 139-153.

Dinkmeyer, D. Jr., & Sperry, L. (2000). *Counseling and psychotherapy: An integrated, individual psychology approach.* Prentice-Hall.

Dorpat, T. L., & Ripley, H. S. (1960). A study of suicide in the seatle area. *Comprehensive Psychiatry, 1*(2), 349 – 359.

Dougherty, D., Marsh-Richard, A., Hatzis, D., Nouvion, V., & Mathias, G. (2008). Measuring meaning: Searching for and making sense of spousal loss in late-life. *Death Studies, 34*, 804-834.

Dougherty, D., Mathias, G., Marsh, A., & Jagar, C. (2005). Comparison of two group interventions for the bereaved. *Image, 20*(2), 83-87.

Douglas, N. (1967). Grief shortly after suicide and natural death: A comparative study among spouses and first-degree relatives. *Suicide and Life-Threatening Behaviour, 36*(4), 418-431.

Droogas, A., Siiter, R., & O'Connell, A. N. (1982). Effects of personal and situational factors on attitudes toward suicide. *OMEGA: Journal of Death and Dying, 13*, 127-144.

Dunn, R. G., & Morrish-Vidners, D. (1987). The psychological and social experience of suicide survivors. *Omega: Journal of Death and Dying, 18*(3), 175–215.

Durkheim, E. (1951). *Suicide: A study in sociology*. Free Press.

Durkheim, E. (2002). *Suicide: A study in sociology*. Routledge.

Durkheim, G., & Douglas, G. (1967). Hiding and healing: Resolving the suicide of a parent or sibling. *Archives of Psychiatric Nursing*, 5(6), 350-356.

Dzorgbo, D-B.S. (2014). Postcolonial development in Ghana and Korea: The colonial factor. In D-B.S. Dzorgbo & S. Tonah (Eds.), *Sociology and development issues in Ghana: A sociology reader.* (pp. 51-69). Woeli Publishing Services.

EchoHawk, M. (2006). Suicide prevention efforts in one area of Indian health service, USA. *Archives of Suicide Research, 10*(2), 169-179.

Edwards, M. J., & Holden, R. R. (2003). Coping, meaning in life and suicidal manifestations: Examining gender differences. *Journal of Clinical Psychology*, *57*(72), 1517 – 1534.

Eshun, G. (2011). *Ecotourism and social research*. VDM Publishing.

Eshun, S. (2000). Role of gender and rumination in suicide ideation: A comparism of college samples from Ghana and the United States: Cross – cultural research. *The Journal of Comparative Social Science*, *34*(3), 250-263.

Eskin, M. (2017) Suicidal ideation, attempts and attitudes in youth. *Turkish Journal of Psychology*, *32*(80), 112-115.

Eskin, M., Sun, J., Abuidhail, J., Yoshimasu, K., Kujan, O., Flood, C., Tran, U. S., & Hamdan, M. C. (2016). Suicidal behaviour and psychological distress in university students: A 12 nation study. *Archives of Suicide Research, 20*(3), 1-20.

Eskin, M., Voraccek, M., Steiger, S., & Altinyazar, V. (2011). A cross cultural investigation of suicidal behaviour and attitudes in Austrian and Turkish

medical students. *Social Psychiatry and Psychiatric Epidemiology, 46*(9), 813-823.

Evans, W. P., Marte, R. M., Betts, S., & Silliman, B. (2001). Adolescent suicide risk and peer- related violent behaviors and victimization. *Journal of Interpersonal Violence, 16*(12), 1330-1348.

Everall, R. D., Altrows, K. J., & Paulson, B. L. (2006). Creating a future: A study of resilience in suicidal female adolescents. *Journal of Counseling and Development, 84*(4), 461-470.

Eynan, N., Calhoun, L.G., & Tedeschi, R.G. (2013). Suicide bereaved parents: Emotional distress and physical health problems. *Death Studies, 12*(4), 297-307.

Eynan, R., Bergmans, Y., Antony, J., Cutcliffe, J. R., Harder, H. G., Ambreen, M., Balderson, K., & Links, P. S. (2013). The effects of suicide ideation assessments on urges to self-harm and suicide. *The Journal of Crisis Intervention and Suicide Prevention, 35*(2), 123-131.

Farrelly, T., & Francis, K. (2009). Definitions of suicide and self-harm in an Australian Aboriginal community. *Suicide and Life–Threatening Behavior, 39*(2), 182-189.

Fawcett, H. L., Fristad, M. A., Weller, E. B., & Weller, R. A. (1997). The psychological and social experience of suicide survivors. *Omega: Journal of Death and Dying, 18*(3), 175-215.

Fedyszyn, D., Harris, S., Robinson, A., & Paxton, G. (2012). The important role of the school following suicide in Norway. What support do young people wish that school could provide? *Omega: Journal of Death and Dying, 59*(2), 147-161.

Fielden, J. M. (2003). Grief as a transformative experience: Weaving through different life worlds after a loved one has completed suicide. *International Journal of Mental Health and Nursing, 12*(1), 74-85.

Fieldman, D. H. (2003). The antecedents and consequences of early career indecision among young adults. *Human Resource Management Review, 13*(3), 499-531.

Fraenkel, J. R., & Wallen, N. E. (Eds.) (2003). *How to design and evaluate research in education.* The McGraw Hill Company, Inc.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. (2015). *How to design and evaluate research in education* (9th ed.). McGraw- Hill.

Freedenthal, E. (2007). Meaning-making through psychological autopsy interviews: The value of participating in qualitative research for those bereaved by suicide. *Death Studies, 35*, 685-710.

Furr, S. R., McConnell, G. N., Westefeld, J. S., & Jenkins, J. M. (2001). Suicide and depression among college students: A decade later. *Prof. Psychol. Res. Pract., 32*, 97–100.

Gardner, M., & Cowdry, A. (1985). *Suicide in Canada*. University of Toronto Press.

Gearing, J., & Lizardi, W. (2009). Do they suffer more? Reflections on research comparing suicide survivors to other survivors. *Suicide and Life-Threatening Behaviour, 31*(1), 83-90.

Ghana Statistical Service. (2013). *The 2010 population & housing census report: Children, adolescents and young people in Ghana*. Author.

Giancola, P. R., Moss, H. B., Martin, C. S., Kirisci, L., & Tarter, R. E. (1996). Executive cognitive functioning predicts reactive aggression in boys at high risk for substance abuse: A prospective study. *Alcohol, Clin. Exp. Res., 20*, 740–744.

Gibbs, G. R. (2007). *Analysing qualitative data.* Sage Publications Ltd.

Gibson, F. L. Damio, G., Young, S., & Perez-Escamilla, R. (2010) Posttraumatic growth in bereaved parents. *Journal of Traumatic Stress, 21*(3), 344-346.

Giddens, A. (1984). *The constitution of society: Outline of theory of saturation*. Policy Press.

Giddens, G. L. (1994). Changes in grief and mental health of bereaved spouses of older suicides. *Journal of Gerontology, 47*(6), 357-366.

Giddens, N. (1966). The Los Angeles survivors-after-suicide program: An evaluation. *Crisis: The Journal of Crisis Intervention and Suicide Prevention, 13*(1), 23-34.

Gilli, M., Roca, M., Ferrer- Perez, V., & Bernardo-Arroyo, M. (2001). Suicidal ideation, psychiatric disorder and medical illness in a community epidemiology study. *Suicide and Life-Threatening Behavior, 31*(2), 207-13.

Giorgi, A. (1997). The theory, practice and evaluation of the phenomenological method as a qualitative research procedure. *Journal of Phenomenological Psychology, 28*(2), 235-260.

Glaser, B. (1992). *Basics of grounded theory analysis*. Sociology Press.

Goldkuhl, G. (2012). Pragmatism vs. interpretivism in qualitative information systems. *European Journal of Information Systems, 21*(2), 135-146.

Goldney, R. D. (2010). A note on the reliability and validity of suicide statistics. *Psychiatry, Psychology and Law, 17*(1), 52-56.

Goldney, R. D., Clary, E. G., & Snyder, M. (2010), Stigmatization and suicide bereavement. *Death Studies*, *33*(7), 591-609.

Goldney, R. D., Wilson, D. H., Grande, E., & Fisher, L. (2000). Suicidal ideation in a random community sample: Attributable risk due to depression and psychosocial and traumatic events. *Australian and New Zealand Journal of Psychiatry*, *34*(1), 98-106.

Goldney, R. D., Winefield, A. H., Tiggmann, M., Winefield, H. R., & Smith, S. (1989). Suicidal ideation in a young adult population. *Acta Psychiatrica Scandinavica*, *79*,481-489.

Goldston, D. B. (2010). The Garrett Lee Smith Memorial Suicide Prevention Program. *Suicide Life-Threatening Behav., 40,* 245–256.

Goles, T., & Hirschheim, R. (2000). The paradigm is dead, the paradigm, long live the paradigm: The legacy of Burrell and Morgan. *Omega*, *28*(3), 249-268.

Goodman, E., Huang, B., Wade, T. J., & Kahn, R. S. A. (2003). Multilevel analysis of the relation of socioeconomic status to adolescent depressive symptoms: Does school context matter? *J. Pediatr. 143*, 451–456.

Gorard, S. (2002). Political control: A way forward for educational research? *British Journal of Educational Studies, 50*(3), 378- 389.

Gorard, S. (2002). The role of causal models in education as asocial science. *Evaluation and Research in Education.16* (1), 51-65.

Gorard, S. (2004). *Combining methods educational and social research.* Open University Press.

Graham, F., De Keijser, J., & Neeleman, J. (1998). Personal growth after a suicide loss: cross- sectional findings suggest growth after loss may be associated with better mental health among survivors. *Omega: Journal of Death and Dying, 59*(3), 181-203.

Grbich, C. (2007). *Qualitative data analysis: An introduction*. Sage Publications.

Guba, E., & Lincoln, Y. (1995). Competing paradigms in qualitative research. In N. Denzin & Y. Lincoln (Eds.). *The landscape of qualitative research: Theories and issues* (pp.195-222). Sage.

Gunnell, H. Middleton, Whitley, Dorling, & Frankell, (2003). Religion and suicide. *Journal of Religious Health, 48*, 332– 341.

Gunnell, H., Demi, A. S., & Miles, M. S. (1999). Grief as a transformative experience: Weaving through different lifeworlds after a loved one has completed suicide. *International Journal of Mental Health Nursing, 12*, 74-85.

Gureje, N., Dyregrov, K. M., & Dieserud, G., (2011). The experiences of parents readjusting to the workplace following the death of a child by suicide. *Death Studies, 34*, 500-528.

Hamed, T., (2016). Sampling methods in research methodology: How to choose a sampling technique for research. *International Journal of Academic Research in Management (IJARM), 5*(2), 18-27.

Harris, T. L., & Molock, S. D. (2000). Cultural orientation, family cohesion, and family support in suicide ideation and depression among African American college students. *Suicide Life-Threatening Behav., 30*, 341–353.

Harter, S., Marold, D. B., & Whitesell, N. R. (1992). Model of psychosocial risk factors leading to suicidal ideation in young adolescents. *Dev. Psychopathol., 4*, 167–188.

Haslam, S. A., & McGarty, C. (2004). Experimental design and causality in social psychological research. In C. Sanson, C. C. Morf, & A. T. Panter (Eds), *The Sage Handbook of Methods in Social Psychology*, (pp.237-264). Sage.

Hazel, L., Nowlin, B., & Reinecke, S. (2011). Psychotherapists as suicide survivors. *American Journal of Psychotherapy, 38*(3), 392-398.

Health Canada, (1994). Phenomenology of bereavement process after suicide, traffic accident and terminal illness (in spouses). *Archives of Suicide Research, 5*(2), 157-172.

Heisel, N., Ellenbogen, S., & Gratton, F. (2003). The psychiatrist as wounded physician. *The American Journal of Psychoanalysis, 37*(2), 131-139.

Henn, E., Weinstein, G., & Foard, B. (2016). Competing paradigms in qualitative research. In N. Denzin & Y. Lincoln (Eds.). *The landscape of qualitative research: Theories and issues* (pp. 195-222). Sage.

Henriksson, M. M., Aro, H. M., Marttunen, M. J., Heikkinen, M. E., Isometsa, E. T., Kuoppasalmi, K. I., & Lonnqvist, J. K. (1993). Mental disorders and comorbidity in suicide. *Am J Psychiatry, 150*(6), 935-40.

Henry, G. (1990). *Practical sampling*. Sage Publications.

Hill, G. (1995). Mothers continuing bonds and ambivalence to personal mortality after the death of their child an interpretative phenomenological analysis. *Psychology, Health and Medicine, 16*(2), 203-214.

Hintikka, J., Honkalampi, K., Lehtonen, J., & Viinamaki, H. (2001). Are alexithymia and depression distinct or overlapping constructs? A study in a general population. *Compr Psychiatry*, *42*(3), 234-9.

Hirsch, J. K., & Ellis, J. B. (1996). Differences in life stress and reasons for living among college suicide ideators and non-ideators. *College Student Journal*, *30*, 377-386.

Hirsch, J. K., Conner, K. R., & Duberstein, P. R. (2007). Optimism and suicide ideation among young adult college students. *Archives of Suicide Research*, *11*, 177-185.

Hjelmeland, E., Osafo, J. Akotia, C. S., & Knizek, B. L. (2014). The law criminalizing attempted suicide in Ghana. The views of clinical psychologists, emergency ward, nurses and police officers. *Crisis*, 35(2), 132-6.

Hopper, E. (2019). *The stages of Adlerian therapy*. Web.

Hurd, K., Beals, J., Novins, D. K., & Manson, S. M. (1997). Vicarious trauma: The effects on female counselors of working with sexual violence survivors. *Psychology of Women Quarterly*, *19*, 49-64.

Husky, M. M., Olfson, M., He, J., Nock, M. K., Swanson, S. A., & Merikangas, K. R. (2012). Twelve-month suicidal symptoms and use of services among adolescents: Results from the national comorbidity survey. *Psychiatric Services*, *63*(10), 989-996.

John Mann, J. (1998). The neurobiology of suicide. *Nat. Med.*, *41*(4), 25–30

Johnson, G., Gallagher-Thompson, D. E., Gilewski, M. J., & Thompson, L.W (2008). Bearing witness to suffering in AIDS: Constructing meaning from loss. *Journal of the Association of Nurses in AIDS Care, 12*(2), 44-55.

Johnson, J., Gooding, P., & Tarrier, N. (2008). Suicide risk in schizophrenia: explanatory models and clinical implications, The Schematic Appraisal Model of Suicide (SAMS). *Psychol. Psychother., 81*, 55–77.

Johnson, R. B. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher, 33*(7),14–26.

Joiner, T. E. (2005). Therapeutic effects of psychological autopsies: The impact of investigating suicides on interviewees. *Crisis, 30*(1), 20-24.

Joiner, T. E. (2005). Trauma and growth and other outcomes attendant on loss. *Psychological Inquiry, 15*, 26-29.

Joiner, T. E. (2005). *Why people die by suicide*. Harvard University Press.

Joiner, T. E. (2005). *Why people die by suicide*. Harvard University Press.

Joiner, T. E. (2010). Psychological autopsy interviews in suicide research: The reactions of informants. *Archives of Suicide Research, 7*, 73-82.

Joiner, T. E., Jr., Van Orden, K. A., Witte, T. K., Selby, E. A., Ribeiro, J. D., Lewis, R., & Rudd, M. D. (2009). Main predictions of the interpersonal-psychological theory of suicidal behaviour: Empirical tests in two samples of young adults. *Journal of Abnormal Psychology, 118*(3), 634-646.

Joiner, T. E., Van Orden, T. K., Witte, D., Selby, Gearing, R. E., & Lizardi, D. (2009). Bereavement following suicide: A review of the literature. *Current Psychological Research and Reviews,* 53-61.

Joiner, T. E., Van-Orden, T. K., Witte, D., & Rudd, S, E. (2009). Factors contributing to therapists' distress after the suicide of a patient. *The American Journal of Psychiatry, 161*(8), 1442-1446.

Joormann, M., & D'Avanzato, S. (2010). *Counseling with Native American Indians and Alaska Natives: Strategies for helping professionals.* Sage.

Jordan, J. R. (2008). Bereavement after suicide. *Psychiatric Annals, 38*(10), 679-785.

Jordan, J. R., & McIntosh, J. L. (2011c). Suicide bereavement: Why study survivors of suicide loss? In Jordan, J. R., & McIntosh, J. L. (Eds), *Grief after suicide: Understanding the consequences and caring for the survivors* (pp.3 – 17). Routledge/ Taylor & Francis Group.

Jougla, E., Pavillon, G. S., De-Smedt, A., & Bonte, W. (1998). Why we need qualitative research in suicidology. *Suicide and Life-Threatening Behaviour, 40*(1), 74-80.

Kahn, D. L., & Lester, D. (2013). Efforts to decriminalize suicide in Ghana, India and Singapore. *Suicidology Online, 4,* 96-104.

Kapur, W., Cooper, A., O'Connor, S., & Hawton, L. W. (2013). Development and validation of the Hogan Grief Reaction Scale. *Death Studies, 25,* 1-32.

Kaslow, N. J., Samples, T. C., Rhodes, M., & Gantt, S. (2001). A family oriented and culturally sensitive postvention approach with suicide survivors. In J. R. Jordan & J. L. McIntosh (Eds) *Grief after suicide:*

Understanding the consequences and caring for the survivors (pp. 301 – 323). Taylor and Francis Group.

Kattimani, S., Bharadwaj, S. N. Sarkar, A., & Mukherjee, D. (2015). Nomenclaturefor suicide-related ideations, behaviors, and communications. *Crisis: The Journal of Crisis Intervention and Suicide Prevention, 36*(1), 61-64.

Kattimani, S., Sarkar, Z., Grad, O. T., & Clark, S. (2015). Comprehending childhood bereavement by parental suicide: A critical review of research on outcomes, grief processes, and interventions. *Death Studies, 33*, 781-814.

Kelly, T. M., Lynch, G. K., Donovan, J. E., & Clark, D. B. (2001). Alcohol use, disorders and risk factor interactions for adolescent suicidal ideation and attempts. *Suicide and Life-Threatening Behavior, 31*(2) 181-193.

Kennedy, L. Evans, E., Chen, C. M., Craven, L., Detloff, P. J., Ennis, M., & Shelbourne, P. F. (2003). Dramatic tissue-specific mutation length increases are an early molecular event in Huntington disease pathogenesis. *Hum Mol Genet, 12*(24), 3359-67.

Kernic, M., Wolf, M., & Holt, V. (2000). Rates and relative risk of hospital admission among women in violent intimate partner relationships. *American Journal of Public Health, 90*, 1416-1420.

Kessler, O. Groesbeck, C. J., & Taylor, B. (2005). Samaritans grief support services. In J.R. Jordan & J.L McIntosh (Eds.). *Grief after suicide: Understanding the consequences and caring for the survivors* (pp. 341-348). Routledge.

Kessler, R. C., Mickleson, K. D., & Williams, D. R. (1991). The prevalence, distribution and mental health correlates of perceived discrimination in the US. *Journal of Health and Social Behavior.*, *40*(3), 208 – 230.

Kirmayer, J. W., Goldstein, L. S., & Buongiorno, P. A. (2007). Is suicide bereavement different? A Reassessment of the literature. *Suicide and Life-Threatening Behaviour*, *31*(1), 91-102.

Kirmayer, L. J. (1994). Suicide among Canadian aboriginal people. *Transcultural Psychiatric Research Review.*, *31*(1), 3-58.

Kirmayer, L. J., & Young, A. (1998). Culture and context in the evolutionary concept of mental disorder. *Journal of Abnormal Psychology.*, *108*(3), 446-452.

Kitzrow, M. A. (2003). The mental health needs of today's college students: Challenges and recommendations. *NASPA Journal*, *4*(1), 167-181.

Kitzrow, M. A. (2009). The mental health needs of today's college students: Challenges and recommendations. *Journal of Students Affairs Research and Practice*, *46*(4), 646-660.

Klewchuk, E. M., McCusker C. G., Mulholland, C., & Shannon, C. (2007). Cognitive biases for trauma stimuli in people with schizophrenia. *British Journal of Clinical Psychologist*, *46*, 333-345.

Klimes-Dougan, B., Klingbeil, D. A., & Meller, S. J. (2013). The impact of universal suicide- prevention programs on the help-seeking attitudes and behaviours of youths. *The Journal of Crisis Intervention and Suicide Prevention*, *34*(2), 82-97.

Klonsky, E. D., & May, A. M. (2015). The three-step theory (3ST): A new theory of suicide rooted in the ‘’ideation-to-action’’ framework. *International Journal of Cognitive Theory*, *8*(2), 114-129.

Klonsky, E. D., May, A. M., & Glenn, C. R. (2013). The relationship between nonsuicidal self- injury and attempted suicide: Converging evidence from four samples. *Journal of Abnormal Psychology, 122*(1), 231-237.

Knizek, B. L., Akotia, C. S., & Hjelmeland, H. (2011). A qualitative study of attitudes toward suicide and suicide prevention among psychology students in Ghana. *OMEGA Journal of Death and Dying*, *62*(2), 169-186.

Knizek, J., & Hjelmeland, W. (2007). Bereavement after suicide. *Psychiatric Annals Online, 38*(10), 679-685.

Kolo, F. D. (2003). *Basic research concepts for behavioural researchers*. Raspa Vicko.

Korb, L., & Platter, I. E. (2014). Suicide ideation and depression in university students in Botswana. *Journal of Psychology in Africa, 24*(5), 420-426.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement, 30*(3), 607-610.

Kuhn, T. S. (1970). *The structure of scientific revolutions* (2nd ed.). The University of Chicago Press.

Kumekpor, T. K. (2002). *Research methods and techniques of social research*. SonLife Press & Services.

Kuramoto, S. J., Brent, D. A., & Wilcox, H. C. (2009). The impact of parental suicide on child and adolescent offspring. *Suicide and Life- Threatening Behavior, 39*(2), 137 – 151.

Kusi, H. (2012). *Doing qualitative research: A guide for researchers*. Emmpong Press.

Lalovic, R., & Turecki, N. K. (2002). Research on the needs of survivors. In J.R. Jordan & J.L. McIntosh. (Eds.), *Grief after suicide: Understanding the consequences and caring for the survivors* (pp. 115-132). Routledge.

Lamis, D. A., Malone, P. S., Langhinrichsen-Rohling, J., & Ellis, T. E. (2010). Body investment, depression, and alcohol use as risk factors for suicide proneness in college students. *The Journal of Crisis Intervention and Suicide Prevention, 31*(3), 118-127.

Langford, J. L., Webster, K. E., & Feller, J. A. (2009). A prospective longitudinal study to assess psychological changes following anterior cruciate ligament construction surgery. *Br J. Sports Med., 43*(5), 377-81.

Leedy, P. D., & Ormrod, J. E. (2005). *Practical research: Planning and design* (8th ed.). Prentice Hall.

Leenaars, A., DeLeo, D., Diekstra, R., Goldney, R., Kelleher, M., & Lester, D. (1997). Consultations for research in suicidology. *Archives of Suicide Research, 6*(1), 185–197.

Leenaars, H. A. Houston, K., Malmberg, A., & Simkin, S. (2010). *Grief after suicide: Understanding the consequences and caring for the survivors.* Routledge.

Leenars, A. A. (2006). Suicide among indigenous peoples: Introduction and call to action. *Arch Suicide Research, 10*(2), 103 – 115.

Leong, F. L., Leach, M. M., & Gupta A. (2008). Suicide among Asia Americans: A critical review with research recommendations. In F. T. Leong &M. M. Leach (Eds), *series in death, dying and bereavement, Suicide among racial and ethnic minority groups: Theory, research & practice* (pp. 117-141). Taylor & Francis Group.

Leong, H., & Leach, A. W. (2008). Suicide bereavement: Why study survivors of suicide loss? In J.R. Jordan & J.L. McIntosh. (Eds.), *Grief after suicide: Understanding the consequences and caring for the survivors* (pp. 3-18). Routledge.

Lester, D. (1994). Depression and suicidal preoccupation in high school and college students. *Psychological Reports, 75*(2), 984.

Lester, D. S. (2016). Note on a Mohave Theory of suicide. http://dx.doi. org/10.1177/1069 39719703100305 31, 268–272.

Lester, D., & Gunn, J. F. (2012). Perceived burdensomeness and thwarted belonging: An investigation of the interpersonal theory of suicide. *Clinical Neuropsychiatry, 9*(6), 221-224.

Levy, J. C., & Deykin, E. Y. (1989). Suicidality, depression, and substance abuse in adolescence. *The American Journal of Psychiatry, 146(*11), 1462–1467.

Lewinsohn, P. M., Rohde, P., & Seeley, R. J. (1996). Adolescent suicidal ideation and attempts: Prevalence, risk factors, and clinical implications. *Clinical Psychology Science and Practice, 3*(1), 25-46.

Linehan, M. M. (1986). Suicidal people: One population or two? In J. J. Mann & M. Stanley (Eds). Annals of the New York Academy of Sciences. *The Psychobiology of Suicide,* Vol 481(pp. 16-33). Academy of Sciences.

Linehan, R., Comtois, R., Brown, A., Heard, S. J., & Wagner, S. (2006). Interventions for suicide survivors: A review of the literature. *Suicide and Life-Threatening Behaviour, 34*(4), 337-350.

Linkowski, P., Mendlewicz, J., Leclerq, R., Brasseur, M., Hubain,P., Golstein, J., Copinschi, G., & Van Cauter, E. (1985). The 24-hour profile of adrenotropin and cortisol in major depressive illness. *Journal of Clinical and Endocrinological Metabolism, 61,* 429– 438.

Little, K. Y., Clark, T. B., Ranc, J., & Duncan, G. E. (1993). β-adrenergic receptor binding in frontal cortex from suicide victims. *Biol. Psychiatry, 34*, 596–605.

Liu, J., Chen, X., & Lewis, G. (2011). Childhood internalizing behaviour: analysis and implications. *J. Psychiatr. Ment. Health Nurs., 18*, 884–894.

Loftis, M. A., Michael, T., & Luke, C. (2019). College student suicide risk: The relationship between alexithymia, impulsivity and internal locus of control. *International Journal of Educational Psychology, 8*(3), 246-269.

Logan, J. E., Crosby, A. E., & Hamburger, M. E. (2011). Suicidal ideation, friendships with delinquents, social and parental connectedness, and differential associations by sex: Findings among high-risk pre/early adolescent population. *Crisis*: *The Journal of Crisis Intervention and Suicide Prevention, 32*(6), 299-309.

Machlin, A., Pirkis, J., & Spittal, M. J. (2013). Which suicides are reported in the media – and what makes them "newsworthy"? *Crisis: The Journal of Crisis Intervention and Suicide Prevention, 34*(5), 305-313.

MacLeod, A. K., Rose, G. S., & Williams, J. M. G. (1993). Components of hopelessness about the future in parasuicide. *Cogn. Ther. Res., 17*(175), 441–455.

MacNeil, F. (2008). Using a modified neurolinguistic programming swish pattern with couple parasuicide and suicide survivors. *The Family Journal: Counseling and Therapy for Couples and Families, 16*(4), 391-396.

Madianos, R, P., Haas, A.P., Maltsberger, J.T., Szanto, K., & Rabinowicz, H. (1993). Postvention for African American families following a loved one's suicide. *Professional Psychology: Research and Practice, 40*(2), 165-171.

Malone, E. M., Heppner, P. P., Kivlighan, D. M., & Wampold, B. E. (1996). A family-oriented and culturally- sensitive postvention approach with suicide survivors. In J. R. Jordan & J. L. McIntosh (Eds.), *Grief after suicide: Understanding the consequences and caring for the survivors* (pp. 301-326). Routledge.

Mann, C. C. (2003). Observational research methods. Research design II: Cohort, cross sectional and case- control studies. *Emergency Medicine Journal, 20*(1), 54- 60.

Mann, C., Micouin, J.Y., Chiannilkulchai, N., Treich, I., Buhler, J. M., & Sentenac, A. (1992). RPC53 encodes a subunit of Saccharomyces cerevisiae RNA polymerase C (III) whose inactivation leads to a predominantly G1 arrest. *Mol Cell Biol, 12*(10), 4314-26.

Mann, E., Waternaux, A., Haas, S., & Malone, D. (1999). Suicide among Asian Americans: A critical review with research recommendations. In F.T.L. Leong & M.M. Leach (Eds.), *Suicide among racial and ethnic minority groups: Theory, research, and practice* (pp.117-142). Routledge.

Mann, G. (1998). Stories of distress and healing: Inuit Elders on suicide. In A. A. Leenaars, S. Wenckstern, I. Sakinofsky, R. J. Dyck, M. J. Kral, & R. C. Bland (Eds.). *Suicide in Canada* (pp. 179 - 188). University of Toronto Press.

Mann, G. (2005). The impact of parental suicide on child and adolescent offspring. *Suicide and Life-Threatening Behaviour, 39*(2), 137-151.

Mann, G., & Currier, S. (2010). The suicide survivor's grief and recovery. *Suicide and Life-Threatening Behaviour, 29*(4), 353-364.

Mann, J. J., Huang, Y. Y., Underwood, M. D., Kassir, S. A., & Arango, V. (2000). A serotonin transporter gene promoter polymorphism (5-HTTLPR) and prefrontal cortical binding in major depression and suicide. *Arch. Gen. Psychiatry, 57*, 729–738.

Mann, J. J., Malone, K. M., Diehl, D. J., Perel, J., Cooper, T. B., & Mintun, M. A. (1996a). Demonstration in vivo of reduced serotonin responsivity in the brain of untreated depressed patients. *Am J Psychiat, 153*, 174–182.

Mann, J., Connor, R. C., Tyack, P. L., & Whitehead, H. (Eds) (2000). *Celacean societies.* University Press.

Marion, M. S., & Range, L. M. (2003) African American College Women's Suicide Buffers. *Suicide Life-Threatening Behav., 33*, 33–43.

Mark, L., Samm, A., Tooding, L., Sisask, M., Aasvee, K., Zaborskis, A., Zemaitiene, N., & Varnik, A. (2013). Suicidal ideation, risk factors, and communication with parents. *The Journal of Crisis Intervention and Suicide Prevention, 34*(1), 3-12.

Marusic, H. J., & Farmer, S. (2001). Attitudes toward suicide among Chinese people in Hong-Kong. *Suicide and Life-Threatening Behaviour, 37*(5), 565-575.

McGuffin, P., Riley, B., & Plomin, R. (2001). Towards behavioural genomics. *Genomics and Behaviour, 291*, 1232- 1249.

McIntosh, H. (2013). *Grief after suicide: Understanding the consequences and caring for the survivors*. Routledge.

McMenamy, J., Jordan, J. R., & Mitchell, A. M. (2008). What do suicide survivors tell us they need? Results of a pilot study. *Suicide and Life-Threatening Behaviour, 38*(4), 375-389.

Meilman, P. W., Pattis, J. A., & Kraus-Zeilmann, D. (1994). Suicide attempts and threats on one college campus: Policy and practice. *Journal of American College Health, 42*, 147-154.

Mercy .H J., Holstein, J. A., & Gubrium, J. F. (2001). Suicide among indigenous peoples: Introduction and call to action. *Archives of Suicide Research, 10*, 103-115.

Merriam, S. B., & Associates. (2002). *Qualitative research in practice: Examples for discussion and analysis.* Jossey-Bass.

Mewton, L., & Andrews, G. (2016). Cognitive behavioural therapy for suicidal behaviours: Improving patient outcomes. *Psychology Research and Behaviour Management, 9*, 21-29.

Mezzich, A. C., Tarter, R. E., Giancola, P. R., & Kirisci, L. (2001). The dysregulation inventory: A new scale to assess the risk for substance use disorder. *Journal of Child and Adolescent Substance Abuse, 10*(4), 35–43.

Middlebrook, D. L., LeMaster, P. L., Beals, J., Novins, D. K., & Manson, S. M. (2001). Suicide prevention in American Indian and Alaska Native communities: A critical review of programs. *Suicide and Life-Threatening Behavior, 31*(Suppl), 132–149.

Mills, P. D., Watts, B. V. & Hemphill, R. R. (2014). Suicide attempts and completions on medical-surgical and intensive care units. *J Hosp Med., 9*(3), 182–185.

Mireault, M., & De Man, A. F. (1996). Suicidal ideation among the elderly: Personal variables, stress and social support. *Soc. Behav. Pers.: An International Journal, 24*(4), 385–392.

Morgan, A. (2000). *Beginning to use a narrative approach in therapy*. Dulwich Centre Publications.

Morgan, D. L. (2014). Pragmatism as a paradigm for social research. *Qualitative Inquiry, 20*(8), 1045-1053.

Morrison, R., & O'Connor, R. C. (2008). A systematic review of relationship between rumination and suicidality. *Suicide and Life-Threatening Behavior, 38*(5), 523-538.

Morse, A. (1991). Suicide in different cultures: A thematic comparison of suicide notes from Turkey and the United States. *Journal of Cross-Cultural Psychology, 41*(2), 253-263.

Morse, J. M., & Niehaus, L. (2009). *Mixed methods design: Principles and procedures*. Left Coast Press.

Mouton, J. (2001). *How to succeed in master's and doctoral studies: A South African guide and resource book.* Van Schaik.

Mugenda, O., & Mugenda, A. (2003). *Research methods: Quantitative and qualitative aproaches*. Acts Press.

Nam, B., Hilimire, M. R., Jahn, D., Lehmann, M., & Devylder, J. E. (2017). Predictors of suicidal ideation among college students: A prospective cohort study. *Social Work in Mental Health, 10*, 1 -15.

Neece, C. L., Berk, M. S., & Combs-Ronto, L. A. (2013). Dialectical behaviour therapy and suicidal behaviour in adolescence: Linking developmental theory and practice. *Professional Psychology: Research and Practice, 44*(4), 257-265.

Neuringer, C. (1974). Validation of the cognitive aspect of Adler's theory of suicide. *Journal of Individual Psychology, 30*(1), 59-64.

Newman, I., & Benz, C. R. (1998). *Qualitative -quantitative research methodology: Exploring the interactive continuum.* Southern Illinois University Press.

Niu, B. (2014). MSI sensor. *Bioinformatics, 30*, 1015-1016.

Nock, H. McMenamy, J., & Mitchell, A. M. (2008a). In the aftermath of teenage suicide: A qualitative study of the psychosocial consequences for the surviving family members. *BMC Psychiatry, 26*(8), 62-65.

Nock, H., & Favazza, A. (2009). Suicide among indigenous peoples: A cross-cultural perspective. *Archives of Suicide Research, 10,* 117-124.

Nock, H., & Kessler, D. (2006). Emerging criteria for quality in qualitative and interpretative research. *Qualitative Inquiry, 1*(3), 275-289.

Nock, W. R., Wedig, A., Holmberg, Z., & Hooley, A. (2008). An epidemiological study of Aboriginal adolescent risk in Canada: The meaning of suicide. *Journal of Child and Adolescent Psychiatric Nursing, 21*(1), 3-12.

Nowotny, K. M., Peterson, R. L., & Boardman, J. D. (2015). Gendered context: variation in suicidal ideation by female and male youth across United States. *J. Health Soc. Behav., 56*(1), 114-130.

Nsamenang, S. A. (2014). *Attitudes towards suicide, mental health and help – seeking behaviour among African immigrants: An ecological perspecti ve.* [Electronic theses and dissertation]. http://dc.etsu. edu/ etd/ 2420.

O'Carroll, N., Halton, T., Paul, K., Simpson, C., & Tait, C. (1996). Interventions for people bereaved through suicide: Systematic review. *The British Journal of Psychiatry, 193,* 438-443.

O'Connor, G. (2011). Family survivors of suicide and accidental death: Consequences for widows. *Suicide and Life-Threatening Behaviour, 18*(2), 137- 148.

O'Connor, G., & Cassidy, J. (2007). Interviewing the ill and the healthy. In M. Murray & K. Chamberlain (Eds.), *Qualitative health psychology: Theories and methods* (pp. 117-132). Sage.

O'Connor, G., & Nock, W. (2014). Going forward: A research agenda for suicide survivors. In J.R. Jordan & J.L. McIntosh. (Eds.), *Grief after suicide: Understanding the consequences and caring for the survivors* (pp. 507-522). Routledge.

O'Keefe, V. M., Wingate, L. R., Tucker, R. P., Rhoades-Kerswill, S., Slish, M. L., & Davidson, C.L. (2013). Interpersonal suicide risk for American Indians: Investigating thwarted belongingness and perceived burdensomeness. *Cultural Diversity and Ethnic Minority Psychology, 20*(1), 61-67.

Okobiah, O. S. (1991). Formal population education at the primary school level in Nigeria: Population education and the Nigerian society. *Proceedings No. 4 of the 1985 Conference Held at the University of Nigeria, Nsukka (No 4, p. 202).* Population Association of Nigeria.

Oladele, A. O. (2016). Depression and suicidal ideation among college students with and without learning disabilities in Nigeria. *European Journal of Social and Behavioural Sciences,* 16, 85-90.

Omigbodun, O., Dogra, N., Esan, O., & Adedokun, B. (2008). Prevalence and correlates of suicidal behaviour among adolescents in Southwest Nigeria. *International Journal of Social Psychiatry, 54*(1), 34 – 46.

Oppong Asante, K., & Meyer-Weitz, A. (2017). Prevalence and predictors of suicidal ideations and attempts among homeless children and adolescent in Ghana. *Journal of Child and Adolescent Mental Health, 29*(1), 27-37.

Oppong Asante, K., Kugbey, N., Osafo, J., Quarshie, E. N. B., & Sarfo, J. O. (2017). The prevalence and correlates of suicidal behaviours (ideation,

plan and attempt) among adolescents in senior high schools in Ghana. *SSM-Population Health*, *3*, 427–434.

Oppong, K. A., & Andoh-Arthur, J. (2014). Prevalence and determinants of depressive symptoms among university students in Ghana. *Journal of Affective Disorders*, *171*, 161-166.

Ordway, W. S., Kunuk, O., Ootoova, E., Papatsie, M., & Taparti, L. (1994). An Exploration of quality in qualitative research. Are "reliability" and "validity" relevant? In M. Kopala & L. A. Suzuki (Eds.) *Using qualitative methods in psychology* (pp. 25-36). Sage.

Osafo, J. (2011). *Attitudes towards suicide. Exploring the cultural meaning(s) of suicide in Ghana* [Unpublished doctoral dissertation]. http:ask.bibsys.no/ask/action/show?kid.

Osafo, J., Akotia, C. S., Andoh-Arthur, J., & Quarshie, E. N. B. (2015). Attempted suicide in Ghana: Motivation, stigma and coping. *Journal of Death Studies*, *39*(5), 274-280.

Osafo, J., Hjelmeland, H., Akotia, C. S., & Knizek, B. L. (2011a). Social injury: An interpretative phenomenological analysis of the attitudes towards suicide of lay persons in Ghana. *International Journal of Qualitative Studies on Health and Well-being*, *6*(4), 313-319.

Osafo, J., Hjelmeland, H., Akotia, C. S., & Knizek, B. L. (2011b). The meaning(s) of suicidal behaviour to psychology students: A qualitative approach to understanding suicidal behaviour in Ghana. *Journal of Transcultural Psychiatry*, *48*(5), 1-17.

Osafo, J., Hjelmeland, H., Knizek, B. L., & Akotia, C. S. (2012). Attitudes of psychologist and nurses towards suicide and suicide prevention in Ghana: A qualitative study. *International Journal of Nursing Studies, 49*(6), 691-700.

Osafo, J., Hjemeland, H., Akotia, C. S., & Knizek, B. L. (2011). The meaning of suicidal behavour to psychology students in Ghana: A qualitative approach. *Transcultural Psychiatry, 48*(5), 643-59.

Osafo, J., Knizek, B. L., Akotia, C. S., & Hjelmeland, H. (2013). Influence of religious factors on attitudes toward suicidal behaviour in Ghana. *Journal of Religion and Health*, 52(2), 488–504.

Osafo, J., Quarshie, E., Akotia, C., & Peprah, J. (2015). Adolescent suicide in Ghana: A content analysis of media reports. *International Journal of Qualitative Studies on Health and Well-being, 10*(1), 27682.

Oti, M. (2014). Exploring the lived experiences of mothers of children with intellectual disability in Ghana. *Sage Open, 7*(4), 1-12.

Ougrin, D., Tranah, T., Stahl, D., Moran, P., & Asarnow, J. R. (2015). Therapeutic intervention for suicide attempts and self-harm in adolescents: systematic review and meta-analysis. *J AM Acad Child Adolesc Psychiatry, 54*, 97-107.

Owen, R., Gooding, P., Dempsey, R., & Jones, S. (2015). A qualitative investigation into the relationship between social factors and suicidal thoughts and acts experienced by people with a bipolar disorder, diagnosis. *Journal of Affective Disorder, 176*(37), 133-140.

Owusu-Ansah, F. E., Addae, A. A., Peasah, B., Oppong A., K., & Osafo, J. (2019). Suicide among university students: Prevalence, risks and protective factors. *Health Psychology and Behavioral Medicine, 8*(1), 220-233.

Pallant, J. (2005). *SPSS survival manual: A step by step guide to data analysis using SPSS* (5th ed.). McGraw Hill.

Panagioti, S., Gooding, A., Dunn, S., & Tarrier, A. (2011). Embodied work: Insider perspectives on the work of HIV/AIDS peer counsellors. *Health Care for Women International, 30*, 570-592.

Panagioti, S., Gooding, A., Dunn, S., & Tarrier, A. (2014). Suicide prevention in American Indian and Alaska Native communities: A critical review of programs. *Suicide and Life-Threatening Behaviour, 31* (Supplement), 132-149.

Paykel, E. S., Myers, J. K., Lindenthal, J. J., & Tanner, J. (1974). Suicidal feelings in the general population: A prevalence study. *Br J Psychiatry, 124*(0), 460-9.

Pekeberg, I. M. B. (2012). *Inclusive education in Ghana: An analysis of policies and the practices in one mainstream school and one inclusive school in the Greater Accra Region.* [Unpublished thesis submitted to the Institute of Educational Research, University of Oslo].

Pereira, A., & Cardoso, F. (2015). Suicidal ideation in university students: Prevalence and association with school and gender. *Paideia, 25*(62), 299-306.

Petronis, K. R., Samuels, J. F., Moscicki, E. K., & Anthony, J. C. (1990). An epidemiologic investigation of potential risk factors for suicide attempts. *Soc. Psychiatry Psychiatr. Epidemiol., 254(*25), 193–199

Pfeffer, C. R., Normandin, L., & Kakuma, T. (1994). Suicidal children grow up: Suicidal behavior and psychiatric disorders among relatives. *J Am Acad Child Adolesc Psychiatry, 33*, 1087-1097.

Plattner, B. (2007). State and trait emotions in delinquent adolescents. *Child Psychiatry Hum. Dev., 38*, 155–169.

Polit, D. F., & Hungler, B. P. (2004). *Nursing research: Principles and methods* (7th ed.). Williams & Wilkins.

Pompili, M. K. (2003). A comparison of guilt in bereaved parents whose children died by suicide, accident, or chronic disease. *Omega: Journal of Death and Dying, 24*(3), 203-215.

Pompili, M., Mancinelli, I., & Tatarelli, R. (2003). Stigma as a cause of suicide, *British Journal of Psychiatry, 183*, 173-174,

Pratt, D. (Ed), (2016). *Advances in mental health research. The prevention of suicide in prison: Cognitive behavioural approaches*. Routledge / Taylor & Francis Group.

Prinstein, M. J., Boergers, J., & Spirito, A. (2001). Adolescents' and their friends' health-risk behavior: Factors that alter or add to peer influence. *J. Pediatr. Psychol., 26*, 287–298.

Pujari, A. K., Rajesh, K., & Reddy, D. S. (2001). Clustering techniques in data mining—A survey. *IETE Journal of Research, 47*(1-2), 19-28.

Puplampu, B. M. (2015). *Attitudes and treatment regimens in suicide prevention: The role of religious leaders in the Ga East Municipal District.* [Unpublished master's dissertation, University of Ghana].

Ram, R. K., Jagtap, B. L., & Chaudhury, S. (2018). Prevalence of suicidal ideation among university students. *Pravara Medical Review, 10*(3), 7 – 11.

Randell, B. P., Wang, W., Herting, J. R., & Eggert, L. L. (2006). Family factors predicting categories of suicide risk. *Journal of Child and Family Studies, 15*(3), 255-270.

Rawlinson, D., Schiff, J., Chugh, U., Hides, E., Leith, J., & Barlow, C. (2009). An evaluation of a suicide bereavement peer support program. *Death Studies, 34*(10), 915-930.

Reifman, A., & Windle, M. (1995). Adolescent suicidal behaviors as a function of depression, hopelessness, alcohol use, and social support: A longitudinal investigation. *American Journal of Community Psychology, 23*(3), 329–354.

Reinherz, H. Z., Giaconia, R. M. Silverman, A. B., Friedman, A., Pakiz, B., & Frost, A. K., (1995). Early psychosocial risk for adolescent suicidal ideation and attempts. *J Am Acad Child Adolesc Psychiatry, 34*, 599-611.

Ribeiro, J. D., & Joiner, T. E. (2009). The interpersonal-psychological theory of suicidal behaviour: Current status and future directions. *Journal of Clinical Psychology, 65*(12), 1291-1299.

Ribeiro, J. D., Bodell, L. P., Hames, J. L., Hagan, C. R., & Joiner, T. E. (2013). An empirically based approach to the assessment and management of suicidal behaviour. *Journal of Psychotherapy Integration, 23*(3), 207-221.

Ribeiro, Q., Bodell, Z., Hames, A., Hagan, R., & Joiner, A. (2013). Survivor identity and post-traumatic growth after participating in challenge-based peer-support programmes. *British Journal of Health Psychology, 16*, 660-674.

Rich, A. R., Kirkpatrick-Smith, J., Bonner, R. L., & Jans, F. (1992). Gender differences in the psychosocial correlates of suicidal ideation among adolescents. *Suicide Life-Threatening Behav., 22*, 364–373.

Rich, C. L., Young, D., & Fowler, R. C., (1986). San Diego suicide study, I. Young vs old subjects. *Arch Gen Psychiatry, 43*(6), 577-582.

Rivera, F. G. (2015). Self – instructional cognitive training to reduce impulsive cognitive style in children with Attention Deficit with Hyperactivity Disorder. *Electronic Journal of Research in Educational Psychology, 13*(1), 27-46.

Robins, G. R., & Fiske, W. (2009). Reducing suicide potential among high- risk youth: Tests of a school-based prevention program. *Suicide and Life-Threatening Behaviour, 25*, 276–296.

Robinson, J., Cox, G., Malone, A., Williamson, M., Baldwin, G., Fletcher, K., & O'Brien, M. (2013). A systematic review of school-based interventions aimed at preventing, treating, and responding to suicide-related behaviour in young people. *Journal of Crisis Intervention and Suicide Prevention, 34*(3), 164-182.

Robinsons, W., Kuramoto, S. J., Brent, D. A., & Wilcox, H. C. (2013). Influence of life stress on depression: Moderation by a polymorphism in the 5-HTT gene. *Science, 301*, 386–389.

Robson, E. H. (2003). TT I 2000: Introduction and conference overview. *Industry and Higher Education, 15*(1), 8-12.

Rowe, C. A., Walker, K. L., Britton P. C., & Hirsch, J. K. (2013). The relationship between negative life events and suicidal behaviour. *Journal of Crisis Intervention and Suicide Prevention, 34*(4), 233-241.

Roy, A., Segal, N. L., & Sarchiapone, M. (1995). Attempted suicide among living co-twins of twin suicide victims. *Am J Psychiat, 152*, 1075–1076.

Roy, A., Segal, N.L., Centerwall, B. S., & Robinette, C. D. (1991). *Suicide in twins. Arch Gen Psychiat, 48*, 29–32.

Roy-Byrne, P., Craske, M. G., Sullivan, G., Rose, R. D., Edlund, M. J., Lang, A. J., Bystritsky, A., Welch, S. S., Chavira, D. A., Golinelli, D., Campbell-Sills, L., Sherbourne, C. D., & Stein, M. B. (2010). Delivery of evidence-based treatment for multiple anxiety disorders in primary care: A randomized controlled trial. *JAMA., 303*(19), 1921-8.

Rudd, H. (2006). PTSD among bereaved parents following the violent deaths of their 12- to 28-year-old children: A longitudinal prospective analysis. *Journal of Traumatic Stress, 12*(2), 273-291.

Rudmin, F.W., Ferrada-Noli, M. & Skolbekken, J. A. (2003). Questions of culture, age and gender in epidemiology of suicide. *Scandinavian Journal of Psychology, 44*(4), 373 – 381.

Rujescu, S. Phillips, M. R., & Kleinman, A. (2003). Fostering posttraumatic growth: A narrative elaboration. *Psychological Inquiry, 15*(1), 53-59.

Runeson, B., & Åsberg, M. (2003) Family history of suicide among suicide victims. *Am. J. Psychiatry, 160,* 1525–1526.

S. P. R. C. (2004). Promoting mental health and preventing suicide among college and university setting. Education Development Center, Inc.

Sachs-Ericsson, J. Candansayar, C., Leenaars, L., Akar, T., & Demirel, B. (2014). Grief therapy and the reconstruction of meaning: From principles to practice. *Journal of Contemporary Psychotherapy, 40,* 73-83.

Samples, B., Rhodes, S., & Gantt, W. (2011). Sequence of bereavement resulting from suicide. *The American Journal of Psychiatry, 147*(3), 279-285.

Samuelsson, N., Hjelmeland, H., & Knizek, B.L. (2006). The wounded healer archetype: Applications to palliative care practice. *American Journal of Hospice and Palliative Care, 19*(6), 403-407.

Sarfraz, G., & Castle, A, R. (2002). Theoretical and methodological issues in the assessment and interpretation of posttraumatic growth. *Psychological Inquiry, 15*(1), 60- 64.

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students.* (5th ed.). Pearson Education Limited.

Saunders, M., Lewis, P., & Thornhill, A. (2012). *Research methods for business students*. Pearson Education Ltd.

Saunders, M., Lewis, P., & Thornhill, A. (2012). *Research methods for business students*, (4thed.). Financial Times Prentice Hall.

Savin-Williams, R. C. (2001). Suicide attempts among sexual-minority youths: Population and measurement issues. *J. Consult. Clin. Psychol., 69*, 983–991.

Schmidtke, A., Fricke, S., & Lester, D. (1999). Suicide among German federal and state police officers. *Psychol. Rep., 84*, 157–166.

Schneidman, E. (2006). *The suicidal mind*. Oxford University Press.

Schotte, D.E., Cools, J., & Payvar, S. (1990). Problem –solving deficits in suicidal patients: Trait vulnerability or state phenomenon? *Journal of Consulting and Clinical Psychology, 58*, 562-564.

Schulsinger, F., LaFosse, J. M., Mednick, S. A., Praestholm, J., Vestergaard, A., & Parnas, J. (1994). The influence of parental socioeconomic status on CT studies of schizophrenia. *Schizophrenia Research, 11*(3), 285–290.

Schutt, R. K., Meschede, T., & Rierdan, J. (1994). Distress, suicidal thoughts, and social support among homeless adults. *J. Health Soc. Behav., 35*, 134–142.

Schwab, J. J., Warheit G. J., & Holzer, C. E. (1972). Suicidal ideation and behaviour in a general population. *Disease of the Nervous System, 33*, 745- 748.

Schwartz, A. J. (2006). College student suicide in the United States: 1990-1991 through 2003-2004. *Journal of American College Health, 54*, 341-352.

Selby, K., & Joiner, P. (2013). The personal experience of chronic benign lower back pain: An interpretative phenomenological analysis. *British Journal of Health Psychology, 3*(1), 65-83.

Sharma, W., Markon, Z., & Clark, G. (2014). Navigating two worlds: Experiences of counsellors who integrate aboriginal traditional healing practices. *Canadian Journal of Counselling and Psychotherapy, 44*(4), 346-362.

Sher, E. (2006). Thriving after trauma: The experience of parents of murdered children. *Journal of Humanistic Psychology, 42*(1), 33-70.

Sher, U. Linley, P. A., & Joseph, S. (2006). The transformed self: A narrative understanding of posttraumatic growth. *Psychological Inquiry, 15*(1), 65-69.

Shneidman, E. S. (1993). Commentary: Suicide as psychache. *Journal of Nervous and Mental Disease, 181*(3), 145-147.

Shneidman, E. S., & Buda, B. (2001). Comprehending suicide: Landmark in 20 th century suicidology. *Crisis: The Journal of Crisis Intervention and Suicide Prevention, 22*(2), 272- 229.

Siegel, G. J., Carter, C. S., & Thase, M. E. (2006). Use of fMRI to predicts recovery from unipolar depression with cognitive behaviour therapy. *American Journal of Psychiatry, 163*, 735-738.

Silverman, D. R., Berman, A., Sanddal, X., O'Carroll, Z., & Joiner, Q. (2007a). Repressive coping, emotional adjustment, and cognition in people who have lost loved ones to suicide. *Suicide and Life-Threatening Behaviour, 38*(6), 676-687.

Silverman, D. R., Berman, A., Sanddal, X., O'Carroll, Z., & Joiner, Q. (2007b) Support groups: A psychological or social device for suicide bereavement? *British Journal of Guidance and Counselling, 30*(4), 401-414.

Silverman, D. R., Monterosso, L., Halkett, G. K. B., & Davies, A. (2007b) Meaning making and growth: New directions for research on survivors of trauma. *Journal of Loss and Trauma, 11*, 389-407.

Silverman, D. R., Monterosso, L., Halkett, G. K. B., & Davies, A. (2007a). Introduction to the special section: Growth following highly stressful life events status and future directions. *Journal of Consulting and Clinical Psychology, 74*(5), 791-796.

Silverman, M. M., Meyer, P. M., Sloane, F., Raffel, M., & Pratt, D. M. (1997). The big ten student suicide study: A 10-year study of suicides on Midwestern University campuses. *Suicide Life-Threatening Behav., 27*, 285–303.

Sisask, M. L., Dornelas, E., Caramanica, L., Gregonis, E., & Curry, S. (2010). Training to be a volunteer rape crisis counsellor: A qualitative study of women's experiences. *British Journal of Guidance and Counselling, 36*(1), 19-32.

Smith, A. (2018). Depression and suicide in professional sports work. *Sport, Mental Illness, and Sociology, 11*, 79–95.

Smith, G. T., Cerel, J., Padgett, J. H., Conwell, Y., & Reed, G. A., Jr. (2007). Predictors of psychosocial distress after suicide, SIDS, and accidents. *Death Studies, 27*(2), 143-165.

Smith, M., Golder, S., Hawton, K., & Sowden, A. (2008). A Review of peer support for suicide bereavement as a postvention alternative. *Currents: New Scholarship in the Human Services, 8*(2), 1-20.

Smith, P. N., Cukrowicz, K. C., Poindexter, E. K., Hobson, V., & Cohen, L. M. (2010). The acquired capability for suicide: A comparison of suicide attempters, suicide ideators, and non-suicidal controls. *Depression and Anxiety*, *27*(9), 871-877.

Sokero, T. P., Melartin, T. K., Rytsala, H. J., Leskela, U. S., Lestela-Mielonen, P. S., & Isometsa, E. T. (2005). Prospective study of risk factors for attempted suicide among patients with DSM–IV major depressive disorder. *Br. J. Psychiatry*, *186*, 314–318.

Sovery, D., Van Gestel, S., Masssat, I., Blairy, S., & Adolfson, R. (2001). Tryptophan hydroxylase, polymorphism and suicidality in unipolar and bipolar affective disorders. *A Multicenter Association study*, *45*(5) 405-409.

Sreeramareddy, C. T., Shanker, P. R., Binu, V. S., Mukhopadhyay, C., Ray, B., & Menezes, R. G. (2007). Psychological morbidity, sources of stress and coping strategies among undergraduate medical students of Nepal. *BMC Med. Educ.* 7(1), 26. DOI: 10.1186/1472-6920-7-26.

Stack, S. (2000a). Volunteers in an oncology support organization: Motivation, stress, and satisfactions. *Journal of Psychosocial Oncology*, *19*(1), 63-83.

Stack, S. (2005). Explaining the relation between religiousness and reduced suicidal behaviour: Social support rather than specific beliefs. *Suicide and Life-Threatening Behaviour*, *39*(4), 386-395.

Statham, W. A. Vyavaharkar, M., Murdaugh, C., & Phillips, K.D. (1998), *Suicide in Canada*. University of Toronto Press.

Stoelb, M., & Chiriboga, J. (1998). A process model for assessing adolescent risk for suicide. *J. Adolesc., 21*, 359–370.

Strauss, N., & Corbin, Q. (1994). Bereavement experiences and personal growth. In M.S. Stroebe, R.O. Hansson, W. Stroebe, & H. Schut (Eds.). *Handbook of bereavement research: Consequences, coping, and care* (pp. 145-167). American Psychological Association.

Stravynski, A., & Boyer, R. (2001). Loneliness in relation to suicide ideation and parasuicide: A population-wide study. *Suicide Life-Threatening Behav., 31*, 32–40.

Strubert, H. J., & Carpenter, D. R. (2011). *Qualitative research in nursing: Advancing the humanistic imperative.* Williams & Wilkins.

Suicide Prevention and Resource Center. (2004). *Promoting mental health and preventing suicide among college and university setting*. Education Development Center, Inc.

Sumiyoshi, T., Suzuki, K., Sakamoto, H., Yamaguchi, N., Mori, H., & Shiba, K. (1995). Atypicality of several antipsychotics on the basis of in vivo dopamine-D2 and serotonin-5HT2 receptor occupancy. *Neuropsychopharmacology, 12*, 57-64.

Tarrier, M., Dysart Gale, D., Garand, L., & Wesner, S. (2013). Parental bereavement after suicide and accident: A comparative study. *Suicide and Life-Threatening Behaviour, 24*(5), 489-498.

Tarrier, M., Dysart Gale, D., Garand, L., & Wesner, S. (2014) Corroborating evidence of posttraumatic growth. *Journal of Traumatic Stress, 21*(4), 421-424.

Tarrier, N., Taylor, K., & Gooding, P. (2008). Cognitive behavioural intervention to reduce suicide behaviour: A systematic review and meta-analysis. *Behaviour Modification, 32*(1), 77-108.

Tarter, R. E., Kirisci, L., Reynolds, M., & Mezzich, A. (2004). Neurobehavior disinhibition in childhood predicts suicide potential and substance use disorder by young adulthood. *Drug Alcohol Depend., 76*, S45–S52

Tashakkori, A., & Teddlie, C. (1998). *Mixed methodology: Combining qualitative and quantitative approaches.* Sage Publications.

Taylor, P., Gooding, P., Wood, A. M., Johnson, J., & Tarrier, N. (2011). Prospective predictors of suicidality: Defeat and entrapment lead to changes in suicide ideation over time. *Suicide and Life-Threatening Behavior, 41*(3), 297-306.

Teddlie, C., & Tashakkori, A. (2009). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioural sciences*. Sage.

Thompson, E. A., Eggert, L. L., & Herting, J. R. (2000). Mediating effects of an indicated prevention program for reducing youth depression and suicide risk behaviors. *Suicide Life-Threatening Behav., 30*, 252–271.

Thompson, R. (1982). Is religiosity a protective factor against attempted suicide: A cross-cultural case-control study. *Archives of Suicide Research, 14*(1), 44-55.

Tice, L., Morris, B.A., Campbell, M., Dwyer, M., Dunn, J., & Chambers, S. K (2001). An interpretative phenomenological analysis of posttraumatic growth in adults bereaved by suicide. *Journal of Trauma and Loss, 16,* 413-430.

Tosevski, D. L., Milovancevic, M. P., & Gajic, S. D. (2010). Personality and psychopathology of university students. *Curr Opin Psychaitry*, *23*(1), 48-52.

Trochim, W. M. K. (2006). Introduction to validity. Social research methods, www.socialresearchmethods.net/kb/introval.php.

Trovato, N. (1998). Reflecting on the development of interpretative phenomenological analysis and its contribution to qualitative research in psychology. *Qualitative Research in Psychology, 1*(1), 39-54.

Turecki, A. Hjelmeland, H., & Knizek, B. L. (2005). *Suicide in Canada*. University of Toronto Press.

Turecki, B. Johnson, L. C., & Beaton, R. D. (2001), Doing Interpretative Phenomenological Analysis. In M. Murray & K. Chamberlain (Eds.). *Qualitative health psychology: Theories and methods* (pp. 218-240). Sage.

Turecki, G. (2005). Dissecting the suicide phenotype: The role of impulsive aggressive behaviours. *Journal of Psychiatry and Neuroscience, 30*(6) 395-408.

Tyssen, R., Vaglum, P., Gronvold, N. T., & Ekerberg, O. (2001). Suicidal ideation among medical students and young physicians: A nationwide and prospective study of prevalence and predictors. *Journal of Affective Disorder, 64*(1), 69-79.

US Department of Health and Human Services. (1995, 2002). *National College Health Risk Behavior*. Author.

Van Dongen, C. J. (1990). Agonizing questioning: Experiences of survivors of suicide victims. *Nursing Research, 39*(4), 224-229.

Van Niekerk, L., Scribante, L., & Raubenheimer, P. J. (2012). Suicidal ideation among South African medical students. *S Afr Med J., 102*(6), 372 – 3.

Van Orden, K. A., Cukrowicz, K. C., Witte, T. K., & Joiner, T. E., Jr. (2012). Thwarted belongingness and perceived burdensomeness: Construct validity and psychometric properties of the interpersonal needs questionnaire. *Psychological Assessment, 24*(1), 197-215.

Van Orden, K. A., Joiner, T. E., Hollar, D., Rudd, M. D., Mandrusiak, M., & Silverman, M. M. (2006). A test of the effectiveness of a list of suicide warning signs for the public. *Suicide and Life-Threatening Behavior*, 36(3), 272-287.

Van Orden, K. A., Witte, T. K., Braithwaite, S. R., Selby, E. A., & Joiner, T. E., Jr. (2010). The interpersonal theory of suicide. *Psychological Review, 117*(2), 575-600.

Vandivort, D. S., & Locke, B. Z. (1974). Suicide ideation: Its relation to depression, suicide and suicide attempt. *Suicide and Life–Threatening Behavior, 9*(4), 205 – 218.

Van-Dongen, H. G. (1993). Posttraumatic growth: Future directions. In R.G. Tedeschi, C.L. Park, & L.G. Calhoun (Eds.), *Posttraumatic growth: Positive changes in the aftermath of crisis* (pp. 215-238). Lawrence Erlbaum Associates Publishers.

Van-Orden, M., & Neimeyer, R. A (2010). *Suicides and suicide rate, by sex and by age group.* http://www40.statcan.ca/l01/cst01 /hlth66a-eng.htm.

Van-Orden, Witte, E. Gordon, S. L., Bender. T. P., & Joiner, A. (2008) Insight from a breastfeeding peer support pilot program for husbands and fathers of Texas WIC participants. *Journal of Human Lactation, 20,* 417- 422.

Wallack, C. E. (2007). Factors associated with suicidal ideation among American college students: A re-examination of the escape theory of suicide. (Doctoral dissertation, University of Florida).

Wallack, C., Servaty-Seib, H., & Taub, D. J. (2013). Gate keeping Training on campus suicide. In D. Taub, & J. Robertson (Eds), *Preventing college student suicide* (pp. 27-41). Jossey-Bass.

Wannan, G., & Fombonne, E. (1998). Gender differences in rates and correlates of suicidal behaviour amongst child psychiatric outpatients. *J. Adolesc., 21*, 371–381.

Watts, R. E. (2015b). Adler's individual psychology: The original positive psychology. *Revista de Psicoterapia, 26*(102), 123 – 131.

Watts, R. E., & Pietrzak, D. R. (2000). Adlerian ''Encouragement'' and the therapeutic process of Solution-Focused Brief Therapy. *Journal of Counseling Development, 78*(4), 442-447.

Watts, S. (2014). User skills for qualitative analysis: Perspective, interpretation and the delivery of impact. *Qualitative Research in Psychology, 11*(1), 1 -14.

Weissman, M. M., Wolk, S., Goldstein, R. B., Moreau, D., Adams, P., Greenworld, S., Klier, C. M., Ryan, N. D., Dahl, R. E., & Wickramaratne, P. (1999). Depressed adolescent grown up. *JAMA, 281*(18), 1707 – 1713.

Weitzman, E.R. (2004). Poor Mental health depression and associations with alcohol consumption, harm and abuse in a national sample of young adults in college. *Journal of Nervous & Mental Disease, 192*(4), 269 – 277.

Wenzel. D., & Beck, A. (2008). Suicide and stigma: A review of the literature and personal reflections. *Academic Psychiatry, 32*(2), 136-142.

Wertheimer, A. (1991). A special scar: The experiences of people bereaved by suicide. *The British Journal of Psychiatry, 159*(5), 758-759.

White. K. L. (2007). Suicide survivors' mental health and grief reactions: A systematic review of controlled studies. *Suicide and Life-Threatening Behaviour, 38*(1), 13-29.

Wilcox, H. C., Arria, A. M., Caldeira, K. M., Vincent, K. B., Pinchevsky, G. M., & O'Grady, K. E. (2010). Prevalence, predictors of persistent suicide ideation, plans and attempts during college. *Journal of Affective Disorder, 127*(1-3), 287-294.

Williams, H., & Pollock, H. L. (2000). *Trauma and transformation: Growing in the aftermath of suffering*. Sage.

Williams, S. (1997). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry, 15*(1), 1-18.

Williams, S. (2001). Can we facilitate posttraumatic growth in combat veterans? *American Psychologist, 66*(1), 19-24.

Wojnar, M., Ilgen, M. A., Czyz, E., Strobbe, S., Klimkiewics, A., Jakubczyk, A., Glass, J., & Brower, K. J. (2009). Impulsive and non-impulsive suicide attempts in patients treated for alcohol dependence. *Journal of Affective Disorder, 115*(1-2), 131-139.

Wojnar, N. H. (2009). Posttraumatic growth among cancer patients in India. *Journal of Behavioural Medicine, 33*, 15-23.

Wolfersdorf, M., Straub, R., Barg, T., Keller, F., & Kaschka, W. P. (1999). Depressed inpatients, electrodermal reactivity, and suicide – a study about psychophysiology of suicidal behavior. *Arch. Suicide Res., 5*(51), 1–10.

World Health Organization. (2007). *Adolescents, social support and help-seeking behaviour.* Author.

World Health Organization. (2014). *Health for the world's adolescents: A second chance in the second decade.* Author.

Wright, C., & Sim, J. (2000). Research in health care: Concepts, designs and methods. *Physiotherapy Research International, 6*(4), 264-264.

Wrobleski, A. (1984). The suicide survivors grief group. *Omega: Journal of Death and Dying, 15*(2), 173–184.

Yang, B., & Clum, G. A. (1994). Life stress, social support, and problem-solving skills predictive of depressive symptoms, hopelessness, and suicide ideation in an Asian student population: A test of a model. *Suicide Life-Threatening Behav., 24*, 127–139.

Yaseen, Q., Gilmer, A., Modi, S., Cohen, A., & Galynker, D. (2012). An interpretative phenomenological analysis of maternal identity following child suicide: Absridged. *Counselling Psychology Review, 20*(2), 18-23.

Yerevanian, H. Ness, D., & Pfeffer, C. R. (2004). Working in the midst of ideological and cultural differences: Critically reflecting on youth suicide prevention in indigenous communities. *Canadian Journal of Counselling and Psychotherapy, 41*(4), 213-227.

Yin, R. K. (2009). *Case study research: Design and methods* (4th ed). Library of Congress Cataloguing-in-Publication Data.

Young, N., Ness, D., & Pfeffer, C. R. (1996). The history of recovered people as wounded healers: From Native America to the rise of the modern alcoholism movement. *Alcoholism Treatment Quarterly, 18*(1), 1-23.

Zhou, K. Z., Yim, K. C., & Tse, D. K. (2005). The effects of strategic orientation on technology and market-based breakthrough and innovations. *Journal of Marketing, 69*(4), 42-60.

Zill, P. (2004). Single nucleotide polymorphism and haplotype analysis of a novel tryptophan hydroxylase Isoform (TPH2) gene in suicide victims. *Boil. Psychiatry, 56*, 581-586.

Zimmerman, M. A., Ramirez, J., Washienko, K. M., Walter, B., & Dyer, S. (1995). Enculturation hypothesis: Exploring direct and protective effects among Native American youth. In H. I. McCubbin, E. A. Thompson & A. I. Thompson (Eds.), *Resiliency in Ethnic Minority Families, Volume I: Native and Immigrant American Families,* (pp. 199-220). University of Wisconsin.

APPENDICES

APPENDIX A

ETHICAL CLEARANCE

UNIVERSITY OF CAPE COAST
INSTITUTIONAL REVIEW BOARD SECRETARIAT
TEL: 0558093143 / 0508878309/ 0244207814
E-MAIL: irb@ucc.edu.gh
OUR REF: UCC/IRB/A/2016/718
YOUR REF:
OMB NO: 0990-0279
IORG #: IORG0009096
C/O Directorate of Research, Innovation and Consultancy

26TH JUNE, 2020

Ms. Benedicta Ama Ackon
Department of Guidance and Counselling
University of Cape Coast

Dear Ms. Ackon,

ETHICAL CLEARANCE – ID (UCCIRB/CES/2020/27)

The University of Cape Coast Institutional Review Board (UCCIRB) has granted **Provisional Approval** for the implementation of your research protocol **Efficacies of Individual Psychology and Cognitive Behavioural Therapy in Reducing Suicide Ideation among Undergraduate Students of University of Cape Coast, Ghana.** This approval is valid from 26th June, 2020 to 25th June, 2021. You may apply for a renewal subject to submission of all the required documents that will be prescribed by the UCCIRB.

Please note that any modification to the project must be submitted to the UCCIRB for review and approval before its implementation. You are required to submit periodic review of the protocol to the Board and a final full review to the UCCIRB on completion of the research. The UCCIRB may observe or cause to be observed procedures and records of the research during and after implementation.

You are also required to report all serious adverse events related to this study to the UCCIRB within seven days verbally and fourteen days in writing.

Always quote the protocol identification number in all future correspondence with us in relation to this protocol.

Yours faithfully,

Samuel Asiedu Owusu, PhD
UCCIRB Administrator

ADMINISTRATOR
INSTITUTIONAL REVIEW BOARD
UNIVERSITY OF CAPE COAST

APPENDIX B

LETTER OF INTRODUCTION (IRB)

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
FACULTY OF EDUCATIONAL FOUNDATIONS
DEPARTMENT OF GUIDANCE AND COUNSELLING

Telephone: 0332091854
Email: dgc@ucc.eedu.gh

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref: 26/03/2020.

The Chairman
Institutional Review Board
U. C. C.
Cape Coast

LETTER OF INTRODUCTION

We introduce to you, Benedicta Ama Ackon a student from the Department of Guidance and Counselling, University of Cape Coast. She is pursuing PhD in Guidance and Counselling.

As part of her requirement, she is expected to work on a thesis titled:

Efficacies of Individual Psychology and Cognitive Behavioural Therapy in Reducing Suicide Ideation Among Undergraduate Students of University of Cape Coast, Ghana.

She has successfully defended her proposal and is seeking for ethical clearance to collect data for the study.

We would be most grateful if you could provide her the necessary assistance for ethical clearance for his/her study.

Thank you.

DR. STEPHEN DOH FIA
HEAD OF DEPARTMENT

APPENDIX C

LETTER OF INTRODUCTION

UNIVERSITY OF CAPE COAST

COLLEGE OF EDUCATION STUDIES

FACULTY OF EDUCATIONAL FOUNDATIONS

DEPARTMENT OF GUIDANCE AND COUNSELLING

Telephone: 0332091854
Email: dgc@ucc.edu.gh

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref: DGC/L.2/VOL.1/101

Your Ref:

13th December, 2019

TO WHOM IT MAY CONCERN

LETTER OF INTRODUCTION

We introduce to you, Benedicta Ama Ackon a student pursuing a Ph.D Programme in Guidance and Counselling at the Department of Guidance and Counselling of the University of Cape Coast. As a requirement, she is to submit a Thesis on the topic: ***"Efficacies of Individual Psychology and Cognitive Behavioural Therapy in Reducing Suicide Ideation Among Undergraduate Students of University of Cape Coast, Ghana".*** We are by this letter affirming that, the information she will obtain from your Institution will be solely used for academic purposes.

We would be most grateful if you could provide her the necessary assistance.

Thank you.

Dr. Stephen Doh Fia
HEAD OF DEPARTMENT

APPENDIX D

SUICIDE IDEATION- BECK'S SCALE FOR SUICIDE IDEATION

I am a PhD student from the University of Cape Coast with the Department of Guidance and Counselling conducting research on the topic, Efficacies of Individual Psychology and Cognitive Behavioural Therapy in reducing suicide ideation among undergraduate students of University of Cape Coast, Ghana.'' Suicide ideation means entertaining or experiencing thoughts about committing suicide. The purpose of this study therefore, is to examine whether using Individual Psychology (IP) and Cognitive Behavioural Therapy (CBT) as intervention strategies will help in reducing suicide ideation among the students of the University of Cape Coast. I would like to ask you a few questions pertaining to the study. I want to assure you that your responses and information given would remain confidential and that is why your name is not asked for; participation in the research is voluntary. I would very much appreciate your participation in this study. However, I respect your right if you decide not to be part of the study.

Background Information/ Demographics

Kindly tick as applied to you.

1. Sex: a. Male [ ] b. Female [ ]

2. Age: a. 18yrs and below [ ] b. 19-23 years [ ] c. 24 and Above [ ]

3. College:

a. College of Agriculture and Natural Sciences [ ]

b. College of Education Studies [ ]

c. College of Health and Allied Sciences [ ]

d. College of Humanities and Legal Studies [ ]

4. Programme of study: ……

5. Level: a. 100 [ ] b. 200 [ ] c. 300 [ ] d. 400 [ ]

6. Who supports your education? a. Parents [ ] b. Self [ ] c. Relative [ ]

Other (please specify): .....

Suicide Ideation

Circle the option which corresponds with your answer

1. Wish to Live

0. Moderate to strong

1. Weak

2. None

2 Wish to Die

0. None

1. Weak

2. Moderate to strong

3 Reasons for living/dying

0. For living outweigh for dying

1. About equal

2. For dying outweigh for living

4 Desires to Make Active Suicide Attempt

0. None

1. Weak

2. Moderate to strong

5 Passive Suicide Desire

0. Would take precautions to save life

1. Would leave life/death to chance
2. Would avoid steps necessary to save or maintain life

6. Duration of Suicide Ideation/Wish

0. Brief, fleeting periods
1. Longer periods
2. Continuous (chronic) or almost continuous

7 Frequency of Suicide Ideation

0. Rare, occasional
1. Intermittent
2. Persistent or continuous

8 Attitude toward Ideation/Wish

0. Rejecting
1. Ambivalent: indifferent
2. Accepting

9 Control over Suicidal Action/Acting-Out Wish

0. Has sense of control
1. Unsure of control
2. Has no sense of control

10. Deterrents to Active Attempt

0. Would not attempt because of a deterrent
1. Some concern about deterrents
2. Minimal or no concern about deterrents

11. Reason for Contemplated Attempt

0. To manipulate the environment; get attention, revenge
1. Combination of 0 and 2

2. Escape, surcease, solve problems

12. Method: Specificity or Planning for Contemplated Attempt

0. Not considered

1. Considered, but details not worked out

2. Details worked out/well formulated

13. Method: Availability or Opportunity for Contemplated Attempt

0. Method not available; no opportunity

1. Method would take time/effort; opportunity not readily available

2a. Method and opportunity available

2b. Future opportunity or availability of method anticipated

14. Sense of Capability to Carry Out the Attempt

0. No courage, too weak, afraid, incompetent

1. Unsure of courage, competence

2. Sure of competence, courage

15. Expectancy/Anticipation of the Actual Attempt

0. No

1. Uncertain, not sure

2. Yes

16. Actual Preparation for Contemplated Attempt

0. None

1. Partial (eg. Starting to collect pills)

2. Complete (eg. Had pills, loaded gun)

17. Suicide Note

0. None

1. Started but not completed; only thought about

2. Completed

18. Final Acts in Anticipation of Death

0. None

1. Thought about or made some arrangements

2. Made definite plans or completed arrangements

19. Deception or Concealment of Contemplated Suicide

0. Revealed ideas openly

1. Held back on revealing

2. Attempted to deceive, conceal, lie

APPENDIX E:

WEEKLY ACTIVITIES PLAN FOR GROUPS A, B AND C

To have a plan to guide the trained teaching assistants, a treatment schedule was made to help them with the intervention of the two groups, Experimental Group A and B, and the Control Group C.

I. For the sessions, the groups met to agree on the time for the meeting so as to avoid disruption of the participants regular lecture times and campus activities. They met twice in a week for an hour each for the eight weeks intervention. Mondays and Thursdays were scheduled for meeting days at 6:45 pm – 7:40pm at an agreed venue. Since all participants were presents to decide on the time schedule, their participation in the sessions was good.

II. The focus of the intervention sessions was on teaching and helping participants on the techniques and strategies of IP and CBT and how these strategies can help them to reduce the level of suicide ideation.

III. Per the focus, Siegel, Carter and Thase (2006) proposed a 16-session therapy as adequate to achieve this focus and that informed the researcher to plan the 8 weeks intervention schedule to help reduce suicide ideation among participants.

IV. The assistants were encouraged to use both the question-and-answer method as well as the discussion method of teaching to enhance the interest of participants and also to ensure they contribute effectively to make each session a good one.

V. To ensure effective delivery, research assistants for all the groups (A, B and C) prepared lesson plans to help them flow in their delivery of the

lesson. Participants were refreshed thrice throughout the whole session; first meeting of the first week, 2nd meeting of the fourth week and the last meeting of the eight weeks. In all, the treatment programs or the intervention series was a successful one.

APPENDIX F

TREATMENT PACKAGE FOR EXPERIMENTAL GROUP A- INDIVIDUAL PSYCHOLOGY (IP)

Week 1: Introduction, Welcome and Orientation

Participants met their research assistants at the agreed time and venue. This being the first meeting for intervention, there was the need to establish rapport, build strong therapeutic relationship between the participants and their teaching assistants who is acting as a moderator for the sessions. This is what Adler called 'Engagement', the stage that client and therapist establish the therapeutic relationship (Hopper, 2019).

According to Ardito and Rabellino, establishing a therapeutic relationship is a vital step in the recovery process and the client or the individual becomes more inclined to open up emotionally and provide more information about their concerns or their problems. Also, participants were encouraged to work together as a team and to fraternize among themselves.

Goals and principles, rules and regulations of the group were deliberated upon and put down. Boundaries were set to clearly define acceptable and unacceptable behaviours and above all confidentiality among group members was discussed and assured. Assistants expressed warmth and empathy. Members were encouraged to feel safe, open up and remain non-judgmental to ensure smooth and effective running of the group.

Question and Answer Time

For confirmation and clarification, participants were asked to ask questions to clarify and clear all doubts.

Closing Remarks

The researcher thanked the participants and encouraged them to keep up the spirit with which they have started with.

Refreshment

Week 2

Teaching on Suicide, Ideation, Suicide Ideation

Presentation

Suicide, taking one's own life, is a tragic reaction to a stressful life situation. Suicide ideation, which is also known as suicide thoughts, means thinking about or planning suicide. These thoughts can range from a detailed plan to a fleeting consideration. Suicide thoughts are common and may be experienced by people undergoing stress or experiencing depression (Brazier & Roberts, 2004).

Suicide ideation is a broad term that refers to thinking about ending one's own life. According to Brazier and Roberts, understanding the signs, symptoms, causes and effects of suicide ideation is an important step toward healing and recovery. There are many causes of suicide, but most often suicide ideation comes as a result of feeling you cannot cope when faced with life threatening issues or life stressing issues.

Risk Factors

One may be at risk of suicide if

- One feels hopeless, worthless, socially isolated or lonely
- One experiences a life stressful event such as loss of a loved one or a dependent, break up, financial problems
- One has a chronic, terminal illness/ diseases
- One has been a victim of abuse

- One has attempted suicide
- One reads or hears the account of suicide by peers

Suicidal ideation is not obvious; however, the following can help determine if one is suicide ideated

Behavioural Symptoms

- Isolation from others
- Avoiding activities previously enjoyed
- Giving away possessions
- Discussing or sharing feelings of worthlessness or hopelessness

Physical symptoms

- Changes in appearance
- Changes in diet or eating habit
- Neglect of personal hygiene

Cognitive symptoms

- Difficulty in concentrating or planning activities
- Intrusive and persistent thought of suicide
- Wishing to die or escape

Psychosocial symptoms

- Feelings of depression, anxiety, shame worthlessness
- An unexpected, sudden change in moods
- Loss of pleasure in activities once enjoyed

According to research, suicide ideation is a prerequisite to suicide attempts (Husky et al. 2012). If suicide ideation is left unattended to, it may lead to the tragic consequence of suicide attempt. Others surviving effects may include guilt, self-loathing, damage to some vital organs just to mention but a few.

Questions and Answers Time

Homework

Explain in your own words suicide ideation and how it has affected you in the past week.

Closing Remarks

Session successfully done.

Week 3

Explanation of the term therapy, IP, therapeutic goal

Recap of previous lesson and review of homework

Presentation

A therapy is a form of treatment aimed at relieving emotional distress and mental health problems. It is usually provided by trained professionals.

It involves talking about, examining and gaining insights into difficulties faced by individuals, couples and families. Therapy is for all people of all ages and profession.it is a collaborative effort between the therapist and the client where the therapist provides a supportive environment that allows the clients to talk openly and freely with an objective, neutral and non-judgmental person. It can be done on one- on -one basis or on a group basis.

IP is a short term, goal-oriented therapy. The focus is on the feelings of inferiority versus superiority, discouragement and sense of belonging to one's community and society at large. In this therapy for example, the feelings of inferiority can result in neurotic behaviour but can also be used as a motivation to strive for greater success in the right setting. It is appropriate for all ages and can be employed for children, adolescents, adults, individuals, couples, families and groups.

Therapist and clients engage in developing a close relationship. They establish their goals and boundaries for the therapeutic process. The goal of therapy is to help clients to know that they have control over their thoughts, beliefs and behaviours. IP can help individuals gain confidents in themselves so as to make informed choices and confident decisions. The ultimate goal of this therapy is to replace long- held negative belief with more positive ones to ensure self-reliant, confidence and social empowerment. This leads to the client taking a healthier decision and having a healthier relationship as well.

One important strength of IP s that, it empowers the individual through positive encouragement to become a successful member of his/ her community. IP goals are sustainable in that, they encourage insights and personal growth even when therapy is over. And this promotes confidence and self-worth which leads a person to naturally interact with society and build interactive and healthy relationship within his or her own community.

Questions and Answers time

Homework

Explain how you understand the concept IP.

Closing Remarks

Researcher was grateful to participants for their support, reminded of their next meeting and encouraged to be punctual.

Session was successful.

Week 4 – Individual Psychology

Teaching on Push Button

Recap of previous lesson and review of homework

Presentation

During the session, clients are made to recall a pleasant memory, a time when they felt happy, loved, successful etc. Participants are made to recreate the image in their minds in a specific detail as possible and asked to strongly focus on the positive feeling generated by this pleasant memory exercise. Participants shared their experience afterwards.

They are made to do the same thing again, but this time recall and focus on unpleasant memory; the time they felt sad, unaccepted, unloved and unsuccessful and strongly focus on the negative feelings that accompanied. Again, participants shared their experience of negative feelings.

For the third time, participants were made to relive that pleasant memory or another pleasant memory and the feelings that those memories created. Participants shared their experiences. They were asked to relate to both the pleasant and the unpleasant memory experiences and the feelings created in both situations. They were made to understand that, instead of feeling victimized by feelings, they can monitor the relationship between their thoughts and their feelings, after all, they are responsible for their feelings. Per the earlier exercises conducted, they can quickly shift or interrupt from unpleasant feeling to a more pleasing and beneficial feeling through the images created in their thoughts and that again they are responsible for their feeling.

Questions and Answers

Homework

Participants were asked to practice push button and journal their experiences.

Closing Remark

Participants were encouraged to practice what they have been thought to facilitate sharing during the next meeting.

Refreshment

Session was successful.

Week 5

Teaching on Encouragement

Recap of previous lesson and review of homework

Presentation

Adlerian counselling is a growth and wellness model (Watts, 2015b) and emphasis is laid on prevention, optimism, hope, social consciousness, finding meaning and a sense of community relationship. Adlerians see their clients as discouraged and lack the confidence and the courage to engage successfully in the problems of life. And without encouragement, without having faith restored in oneself, one cannot see the possibility of functioning better (Watts & Pietrzak, 2000). This technique seeks to reorient clients by stimulating the clients' courage to change. It helps counsellors to value clients as they are and helps clients to also identify humour in life experiences.

During the session, participants were made to understand that they have something good in them- their assets, abilities and strength. They are made to draw strength from their past successes and achievements. Participants were helped to decipher between what they do and who they are and become aware that they are not the same. According Watts, encouragement helps clients recognise their worth. Participants were also assisted in generating perpetual alternatives for discouraging fictional beliefs. The encouragement process helps

to build hope in clients and make them anticipate success. Participants were encouraged throughout the session to help them create new way of behaviour, recognise their innate strengths and capabilities. The session came to a successful end with a homework.

Questions and Answers

Homework

Participants were given an encouraging piece (audio) to listen to and were encouraged to listen to it as often as possible.

Closing Remark

They were encouraged to report on time for the next session and their coming was appreciated.

Week 6

Teaching of Paradoxical Intension

Recap of previous lesson and review of homework

Presentation

Paradoxical Intention is a deliberate practice of a habit or thought, undertaken to identify and remove it. It is a situation of having clients consciously pay attention to and exaggerate debilitating thoughts and behaviours. The rational for paradoxical intention is to assist clients to become dramatically aware of how they are behaving or their thoughts on issues and know that they are responsible for the consequences of their actions. In paradoxical Intention, the counsellor needs to help clients to;

- Identify what causes the thought, fear or anxiety. In this case, what triggers the suicidal thoughts?

- Look for ways to make those causes bigger than they are. Magnifying what might have caused the suicidal thoughts.
- Start putting yourself in the situation such as causing the suicide.
- This should continue until the thoughts, idea, habit becomes extinct and no longer attractive. Go through the process until the suicidal thoughts no longer comes.

The goal of paradoxical intension is to provoke certain changes in the clients' thoughts and attitudes. By practicing paradoxical intention clients see their symptoms as markedly out of proportion to the reality of the situation. In using this technique, it is best to recommend exaggeration of behaviour and thoughts pattern for specific period so that clients can see and experience what they might learn from the experiment. Clients can also be encouraged to do what they are afraid of. In paradoxical intention, moving with the clients' resistance in therapy, makes the thoughts or behaviour less attractive (Watts, 2015b).

During the session, participants were taking through the process. They were asked to identify what causes them to have those suicidal thoughts. Having caught up with the causes, they were asked to exaggerate them for a period of time and were asked to share their experience. Again, they were asked to put themselves in the situation, that is, they should think of themselves committing the suicide. They were asked to share their experience. They were allowed to practice that severally and each time share how the whole situation went. Participants were made aware that they are responsible for the consequences of their own thoughts and actions. Participants were admonished to practice very often until those thoughts begin to go extinct and become less attractive.

The session ended with a home work.

Questions and Answers

Home work

Participants were asked to practice paradoxical intention as often as possible and then journal their experiences every time they practice.

Closing Remark

Participants were appreciated for their participation and support and were encouraged to be punctual for the next meeting.

Week 7

Summary, Revision of Previous sessions

Recap of previous lesson and review of homework

Sharing of experiences and challenges from the homework

Summary of sessions

Questions and Answers

Closing Remark

Participants were encouraged to be punctual for the next meeting and were appreciated for their support and participation.

Week 8

Post test

Closure of Therapy

Refreshments

APPENDIX G:

TREATMENT PACKAGE FOR EXPERIMENTAL GROUP B- COGNITIVE BEHAVIOURAL THERAPY (CBT)

Week 1: introduction, Welcome and Orientation

Participants met their research assistants at the agreed time and venue. This being the first meeting for intervention, there was the need to establish rapport, build strong therapeutic relationship between the participants and their teaching assistants who is acting as a moderator for the sessions. This is what Adler called 'Engagement', the stage that client and therapist establish the therapeutic relationship (Hopper, 2019).

According to Ardito and Rabellino, establishing a therapeutic relationship is a vital step in the recovery process and the client or the individual becomes more inclined to open up emotionally and provide more information about their concerns or their problems. Also, participants were encouraged to work together as a team and to fraternize among themselves.

Goals and principles, rules and regulations of the group were deliberated upon and put down. Boundaries were set to clearly define acceptable and unacceptable behaviours and above all confidentiality among group members was discussed and assured. Assistants expressed warmth and empathy. Members were encouraged to feel safe, open up and remain non-judgmental to ensure smooth and effective running of the group.

Question and Answer Time

For confirmation and clarification, participants were asked to ask questions to clarify and clear all doubts.

Closing Remarks

The researcher thanked the participants and encouraged them to keep up the spirit with which they have started with.

Refreshment

Week 2

Teaching on Suicide, Ideation, Suicide Ideation

Presentation

Suicide, taking one's own life, is a tragic reaction to a stressful life situation. Suicide ideation, which is also known as suicidal thoughts, means thinking about or planning suicide. These thoughts can range from a detailed plan to a fleeting consideration. Suicidal thoughts are common and may be experienced by people undergoing stress or experiencing depression (Brazier & Roberts, 2004).

Suicide ideation is a broad term that refers to thinking about ending one's own life. According to Brazier and Roberts, understanding the signs, symptoms, causes and effects of suicide ideation is an important step toward healing and recovery. There are many causes of suicide, but most often suicide ideation comes as a result of feeling you cannot cope when faced with life threatening issues or life stressing issues.

Risk Factors

One may be at risk of suicide if

- One feels hopeless, worthless, socially isolated or lonely
- One experiences a life stressful event such as loss of a loved one or a dependent, break up, financial problems
- One has a chronic, terminal illness/ diseases

- One has been a victim of abuse
- One has attempted suicide
- One reads or hears the account of suicide by peers

Suicidal ideation is not obvious; however, the following can help determine if one is suicide ideated

Behavioural Symptoms

- Isolation from others
- Avoiding activities previously enjoyed
- Giving away possessions
- Discussing or sharing feelings of worthlessness or hopelessness

Physical symptoms

- Changes in appearance
- Changes in diet or eating habit
- Neglect of personal hygiene

Cognitive symptoms

- Difficulty in concentrating or planning activities
- Intrusive and persistent thought of suicide
- Wishing to die or escape

Psychosocial symptoms

- Feelings of depression, anxiety, shame worthlessness
- An unexpected, sudden change in moods
- Loss of pleasure in activities once enjoyed

According to research, suicide ideation is a prerequisite to suicide attempts (Husky et al. 2012). If suicide ideation is left unattended to, it may lead to the

tragic consequence of suicide attempt. Others surviving effects may include guilt, self-loathing, damage to some vital organs just to mention but a few.

Questions and Answers Time

Homework

Explain in your own words suicide ideation and how it has affected you in the past week.

Closing Remarks

Participants were appreciated for their effort. They were reminded of the next meeting and were encouraged to be punctual.

Session successfully done.

Week 3

Explanation of the term therapy, CBT, therapeutic goal

Recap of previous lesson and review of homework

Presentation

A therapy is a form of treatment aimed at relieving emotional distress and mental health problems. It is usually provided by trained professionals.

It involves talking about, examining and gaining insights into difficulties faced by individuals, couples and families. Therapy is for all people of all ages and profession. It is a collaborative effort between the therapist and the client where the therapist provides a supportive environment that allows the clients to talk openly and freely with an objective, neutral and non-judgmental person. It can be done on one- on -one basis or on a group basis.

CBT is a psycho- social intervention that aims to improve mental health. It is designed to help change negative thoughts and behaviours, by providing more positive and fulfilling solution. The goal of CBT is to change patterns of

thoughts and behaviour that are exhibited by and thereby changing the way they feel. It helps change people's attitude and behaviour by focusing on the cognitive processes, thoughts, images, beliefs, attitudes and how these processes relate to the way a person behaves.

It is a relatively short period therapy, which takes an average of 5 – 20 sessions with a session lasting approximately 50 minutes. During this period, clients and therapist work hand in hand to understand challenges and develop strategies for overcoming them.

CBT is a combination of psychotherapy and behavioural therapy. The psychotherapy stresses on the personal thinking pattern of the individual while the behavioural therapy looks at how the thoughts influences and affects our behaviour. Therapist and client set goals they desire to work towards. Homework series is an important force in CBT, since it helps the therapists to monitor clients' progress.

Questions and Answers time

Homework

Explain how you have understood the concept CBT.

Closing Remarks

Researcher was grateful to participants for their support, reminded of their next meeting and encouraged to be punctual.

Session was successful.

Week 4 CBT

Teaching on Thought Stopping

Recap of previous lesson and review of homework

Presentation

Thought stopping, also known as thought blocking is a technique CBT which helps people to deal with negative thought cycles and constant worrying. The basis of this technique is that, once a negative thought arises, the client should consciously issue a command for the thought to stop. The idea is to replace a negative thought with a more balanced and positive one. It acts as interaction to the negative thoughts, interrupting obsessive negative thought (Smith, 2018).

During the session, participants were asked to close their eyes and concentrate on their negative thought which triggers undesirable reaction such as suicidal thoughts, then the moderator (research assistant) shouted 'Stop'. She did this severally and then asked the participants to practice. Indeed, it was such a great moment for most participants because as the first stop started, they were startled and all their suicidal thoughts vanished all of a sudden.

Participants were encouraged to reroute their minds to an inspiring and a more useful and uplifting thoughts. This can be through saying that gives encouragement, focusing on a healthy activity, listening to a good music or a guided meditation. Participants were encouraged to practice this more often. Again, they were told of others means such as envision the sounding of alarm, stop sign, bell ringing, raised hand and so on. The use of this technique was simple but effective.

The session was concluded with a summary of the lesson.

Questions and Answers time

Home work

Participants were asked to use other means aside the 'stop' to practice thought stopping.

Closing Remark

Participants were also thanked for their support and participation.

Refreshment.

Session was successful

Week 5

Teaching on Cognitive Rehearsal

Recap of previous lesson and review of homework

Presentation

This technique assumes that faulty cognitive or thoughts patterns cause maladaptive behaviour and emotional response. In other words, suicidal thoughts could cause or lead to suicidal attempts and other suicidal behaviours. According to APA, it's a technique in which clients imagine those situations that tend to produce anxiety and self-defeating behaviour and then repeats positive coping statement or mentally rehearses more appropriate behaviour.

With this technique, participants were asked to find out and start imagining those situations and circumstances, or any stressful situation they find themselves, that release the thoughts of suicide. Having done that, the moderator helped them develop positive statement and rehearse more positive behaviour. Participants were asked to imagine having positive and encouraging interaction and experience.

The session was concluded with a summary of the lesson.

Questions and Answers time

Homework

Participants were asked to practice cognitive rehearsal at as they go to their various halls of residence.

Closing Remarks

Researcher was grateful to participants for their support, they were reminded of their next meeting and encouraged to be punctual.

Session was successful

Week 6

Teaching on Thought Recording

Recap of previous lesson and review of homework

Presentation

This technique helps one to recognise and change unhelpful or unhealthy thoughts. The purpose is to get one into the habit of paying attention to the thoughts and working towards changing them.

In using this technique, participants were able to record and put down any unpleasant thoughts, life threatening thoughts in their diaries and how they perceive themselves, others and the world. The moderator helped them to overcome using a more positive thought.

It helps clients capture, evaluate and restructure their negative automatic thoughts. Recording and evaluating thoughts allow one to test the accuracy of our thinking and often times, people feel better when they identify and correct their inadequacies. One objective of the thought recording is to encourage more balanced thinking.

Everyone was encouraged to practice that, and it gave them the chance to reflect on their suicidal thoughts. Having made them aware that these suicidal thoughts can be changed and that one needs to develop the habit of challenging the thinking pattern, especially the ill and negative to a more positive and encouraging one.

The session was concluded with a summary of the lesson.

Questions and Answers time

Homework

Participants were encouraged to practice. They were given a sheet (the thought recording sheet) and were asked to work on that and bring during the next meeting for a discussion.

Closing Remarks

Participants were appreciated for their effort. They were reminded of the next meeting and were encouraged to be punctual.

Session successfully done.

Week 7

Summary, Revision of Previous sessions

Recap of previous lesson and review of homework

Sharing of experiences and challenges from the homework

Summary of sessions

Questions and Answers

Closing Remark

Participants were encouraged to be punctual for the next meeting and were appreciated for their support and participation.

Week 8

Post test

Closure of Therapy

Refreshments