EFFECT OF COGNITIVE BEHAVIOURAL AND SELF-MANAGEMENT THERAPIES ON PSYCHOLOGICAL DISTRESS AMONG IN-SCHOOL ADOLESCENTS WITH HEARING IMPAIRMENT IN OYO STATE, NIGERIA

BY

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A thesis in the Department of Special Education
Submitted to the Faculty of Education in Partial Fulfillment of the requirements for the Degree of

DOCTOR OF PHILOSOPHY

of the

UNIVERSITY OF IBADAN

2021

CERTIFICATION

I attest to the fact that this study was conducted by Olubukola Abiodun OLUFEMI-ADENIYI with Matric Number: 80508 in the Department of Special Education, Faculty of Education, University of Ibadan, Ibadan, Nigeria.

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DEDICATION

This study is dedicated to:

The Alpha and the Omega, Who declares the end from the beginning;

The Author and the Sustainer of life

And

All lovers of good things

ACKNOWLEDGEMENTS

The only source of all good things is God, Who sits upon the circle of the earth (John3:27; Isaiah40:22). Man's intentions are fulfilled through divine interventions. Therefore, I give all praises to my Maker, Who gave the inspiration to aspire for the programme. HE adequately supplied all that is needed for the success of the work, though there were apprehensions along the way. Alas! At HIS own appointed time, everything has been made beautiful. Glory be to God forever.

The mentorship of my amiable supervisor, Professor Adebomi Oyewumi is quite unquantifiable. The relationship goes beyond that of "teacher-student". I can only describe her with very few words as encouraging, going out of her way to guide, patient but very thorough. I shall forever be grateful to you Ma'am, and our "Father" will reward you and your seeds greatly in Jesus' name.

The Department of Special Education has been a wonderful family to me. Specifically, I want to appreciate the Head of the Department, Dr Ayo Osisanya who left no stone unturned for the success of this work, from the time of being the PG coordinator till the present. You have proven to be a father and a friend indeed. The grace of God will take to the peak in Jesus' name.

I cannot but appreciate all my lecturers in the department. Professors M.S. Eniola, I.A. Nwazuoke, J.A. Ademokoya, J.O. Oyundoyin; Drs Kelechi Lazarus, O.O. Isaiah, K. Komolafe, Adelodun, Esther Oyefeso and T. Adewumi. You have all lent unto the Lord over this work through your criticism, counselling and encouragement. You will never lack helpers in Jesus' name.

Lecturers from other departments who have enriched this study through their contributions include Professor R.A. Animasahun, Drs A. Tella, M. Ogundokun and A. Jimoh. Thank you a great deal for finding time to make this work better.

I want to specially express my gratitude to Professor O.A. Fakolade- my lecturer, former Head, Department of Special Education, the current Dean, Faculty of Education, and above all a friend of the family indeed and an encourager par excellence! May you continue to enjoy the favour of the Lord in Jesus' name. Dr A.W. Raheem, without the role God has used you to play in this study, it may just

remain a dream. You have spent and have been spent. You will not miss your destiny connectors in Jesus' name.

It will be a gross act of ingratitude if I refuse to appreciate all the Principals, seniors and colleagues in my place of work, though some have retired now. Mrs Frances S. Ogunrinde paved the way by encouraging as many that aspired to further their education among the members of staff. Your slogan then was "don't allow your programme affect your primary assignment". Your old age shall not be painful in Jesus' name. I have also enjoyed the favour of God through Mrs Arohunfara, Mrs Lanipekun, Dr Mrs Efosa Urhohede, Mrs Aderibigbe, Mrs Adekola, and presently, Mrs Ayangunna. When you knock a door, thousands will open to you and your seeds in Jesus' name. For words of encouragement and covering up for the gap when need be, I say thank you to Mrs O.O. Kehinde, Ms Afekhare, my "aunti" Alhaja Ajagbe, Mrs Akindele, Mrs A.J. Adeleke, Dr O.K. Alao and other well wishers. We will continue to celebrate the goodness of the Lord.

A bountiful appreciation goes to the following members of household of faith: Our retired but not tired parents in the Lord- Rev and Dr Mrs Ademola Nike Falade. Daddy is always desirous to hear the news that the programme is over. Both of you have sown great seeds into our lives, being ambassadors of Christ indeed. May you not lose the focus in Jesus' name. Deacon Professor and Professor Mrs Folasegun Modupe Dawodu, Late Deacon Professor Olajiire Aremu Adegoke, Dr and Deaconess Michael Victoria Alao, Brother Idowu Olasupo, Pastor Dr and Pastor Dr Mrs Akinlabi Olaide Ogunleye, Rev and Mrs Job Foluke Adeyemo, and innumerable others but for time and space to be mentioned, I say thank you all for your prayers, encouragement, gifts in cash and kind. Your labours of love will definitely be rewarded here and hereafter in Jesus' name.

My siblings and in-laws have been wonderful and encouraging on this programme. Mr Oluwasesan Oyekale and Mr Oluwatoyin Shittu, may you never lack what it takes to be the "egbon" in Jesus' name. To Bose Ilelaboye, Dupe Ariyo, Femi and Olawumi, thank you all. Though I would have loved my mother to be alive to witness this success, yet I bless God for my father's life. Grandma Ayanbimpe Adeniyi, thanks so much for the peace of mind you have enabled me to enjoy in your family. You will yet see and enjoy many good days on the land of the living in Jesus' name.

Mr Bukola Adeniyi, Mrs Alarape Iwasanmi, you have demonstrated brotherliness always. You will always have help beyond your needs in Jesus' name.

Our wonderful seeds, Joan Oluwafunmilayo, Joshua Oluwafisayo and Joseph Oluwafolasayo, you have all been supportive in the course of this programme, always ready to help in searching online, helping mummy on the computer and cooperating with mummy whenever she has to attend to her work. You will all be greater than we your parents in Jesus' name.

How do I express my appreciation to my invaluable "TREASURE"? I don't have exact or enough words to describe my wonderful HEAD. You are the backbone for this work, an encourager, a correct head and my friend indeed. DR SAMUEL OLUFEMI ADENIYI, you will continue to receive more grace to be up to the tasks with ease in Jesus' name.

ABSTRACT

Psychological distress is usually exhibited among in-school adolescents with hearing impairment as a result of their inability to communicate and relate effectively with their hearing counterparts especially in Oyo State, Nigeria. The consequences of hearing impairment are withdrawal from peer relationship, low performance in school, anxiety and at times suicidal ideation. Past studies have concentrated more on factors predicting psychological distress among adolescents with hearing impairment than on the therapies for the management of psychological distress among these adolescents. This study was, therefore, carried out to investigate the effects of Cognitive Behavioural Therapy (CBT) and Self-Management Therapy (S-MT) on psychological distress among in-school adolescents with hearing impairment in Oyo State, Nigeria. The moderating effects of onset of hearing impairment (before and during birth: congenital impairment; and after birth: acquired impairment) and self-esteem were also examined.

Beck's Cognitive Behavioural and Rehm's Self-control theories of depression were used as the framework. The pretest-posttest control group quasi-experimental design with a 3x2x2 factorial matrix was adopted. Three secondary schools (Methodist Grammar School, Bodija Ibadan; IMG Grammar School, Agodi Ibadan and Durbar Grammar School, Durbar Oyo) from Oyo South and Central senatorial districts having units for students with hearing impairment were conveniently selected. Sixty-nine adolescents with hearing impairment were selected after screening using Kessler Psychological Distress Scale and students with the index scores of 19 and above were included in the study. The schools were randomly assigned to CBT (31), S-MT (16) and Control (22) groups. Instruments used were Kessler Psychological Distress Scale (r=0.73), Clinical Outcomes in Routine Evaluation (r=0.71) and Rosenberg Self-esteem Rating (r=0.78) scales instructional guides. The treatment lasted 10 weeks. Data were analysed using Analysis of covariance and Scheffe post-hoc test at 0.05 level of significance.

The participants' age was 18.54±2.36 years. 54.0% were male. More than half (56.0%) of the participants had acquired hearing impairment (after birth), while 44.0% had congenital hearing impairment (before or at birth). The participants' self-esteem was low (36.4%). The treatment had a significant main effect on the management of psychological distress ($F_{(2, 57)}$ =107.38; partial η^2=0.79). The participants in CBT had the most reduced psychological disress (6.35), followed by those in S-MT (7.02) and control (16.35) groups. There were no significant main effects of onset of hearing impairment and self-esteem on the management of psychological distress. The two-way and three-way interaction effects of treatment and onset of hearing impairment, treatment and self-esteem, onset of hearing impairment and self-esteem, treatment, onset of hearing impairment and self-esteem respectively were not significant on the reduction of psychological distress.

Cognitive behavioural and self-management therapies were effective in reducing psychological distress among in-school adolescents with hearing impairment in Oyo State, Nigeria, regardless of the onset of hearing impairment and self-esteem. Special educators, councellors and clinical psychologists should adopt these therapies for the management of psychological distress among adolescents with hearing impairment.

Keywords: Psychological distress, Self-esteem, Onset of hearing impairment, In-school adolescents with hearing impairment, Onset of hearing impairment, Cognitive behavioural and Self-management therapies

Word Count: 478

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CHAPTER ONE
INTRODUCTION

1.1 Background to the study

Living appropriately in order to conform to the dictates of one's surroundings is dependent on social and psychological wellbeing. This is measured by the ability to relate and communicate effectively and subdue some pressures in one's environment. However, there are occasions whereby poor mental health occurs which may result in exhibiting some maladaptive behaviours. One of these sitautions is living with hearing impairment. Hearing is an essential tool for language development, skills acquisition and social interaction. However, hearing impairment manifests whenever there is an alteration to smooth process of information in form of acoustic stimuli traceable to a dysfunctional hearing system. This may lead to communication breakdown and social isolation that could result into psychological distress.

The term psychological distress is commonly discussed when there is the need to describe hostile feelings or emotions that have negative impact on the status of operation. Psychological distress is a complicated health situation and even having a different meaning than what meets the eye. It is also described as a reduced amount of detailed portion of psychopathology which equally is used to report the general mental health status of the people (Korkeilla, 2000). It is usually referred to as symptoms of anxiety (Aromaa and Koskinen, 2004), insomnia (Jorm and Butterworth, 2009) and perceived stress (Mathew and Galla 2011), depression (Elknaton, Bauermeister and Zimmerman, 2010; Raheem, 2016), Thus, psychological distress is, in broad term, regarded as a disruption of the mood state, which comprised the identifiable traits of depression and anxiety (Abiola, Lawal and Habib, 2015). The condition is described as the basic component of mental health deficiency as both emotional and social wellbeing would be affected. Generally, mental health could be viewed as one's state of health whereby a person is able to handle accurately the stressors in form of conflicts within himself and in his immediate environment. This ability to cope touches various facets of life – thoughts, emotions and behaviours as they relate to when one was born (age), natural background and norms for lifestyle.

Contrarily, being unhealthy mentally indicates a psychological status which occurs as behavioural abnormalities which disturb day-to-day performances (Oyewunmi, Oyewunmi, Iyiola and Ojo, 2015).

Furthermore, symptoms of psychological distress are characterised by dejection, sadness, cognitive distortion, lack of concentration, abscene of pleasure, irritating mood, anxiety and apprehension, low appetite, eating more than necessary, aches and pains, fatigue, and sleep disturbance. Psychological distresss could be grievous for the adolescents. It could bring about disruption in social and familial activities, as well as low school performances (Fergusson and Woodward, 2002; Alika, Akanni and Akanni, 2016) as well as suicidal ideation (Ogunwale, 2016). Even after the symptoms are reduced, episodes tend to recur and hamper the ability of the adolescent in functioning both at school as well as at home (Raheem, 2016).

Any short coming affiliated with communication and social issues consequent on hearing impairment, usually have significant influence on the individual's way of relating with the larger society, more especially on psychological prosperity of adolescents with hearing impairment. Losing the ability for conversation in form of speech and being aware of this limitation can cause a great concern, essentially for the growing adolescents with hearing impairment who are beginning to develop sense of identity (Adeniyi and Kuku, 2016). The problems of communication, peer relation, self-esteem, social interaction and host of others may lead to isolation that can motivate a shift in the adolescents with hearing impairment's social and emotional approaches to the world around them and also their self-perception. Adolescents, particularlly those that are experiencing hearing impairment, thereby being unable to maintain social interaction in form of talking, joking and picking up social cues may lose sense of identity and this may adversely affect their social and scholastic performance in form of self-esteem and self-efficacy which could invariably give a rise to poor academic achievement (Adeniyi and Kuku 2016).

Like any other persons, individuals with hearing impairment are also psychologically distressed. The condition is often compounded and varied with the kinds of pathology they suffer from and the degree of severity, in addition with the onset of hearing impairment. Deafness (which is a damage or alteration to the sense of hearing pathologically or in functioning or even both ways) which occurs when an individual is already an adult brings about different problems entirely from those that occur in those who lost their sense of hearing before birth or at the point of birth, and

even those who lost their hearing at childhood before the acquision of language (Munoz-Bael and Ruiz, 2000). Hearing loss before or during birth otherwise known as hereditary/ congenital impairment is usually attended by language problem because people with hearing impairment most often hardly adequately acquire any verbal language before the loss occurred. Their communication disability could lead to being socially rejected, acquiring little or no education, having underutilised job opportunities and poor earnings, which in turn influence self-esteem terribly (Strong and Shaver, 1991; Jambor and Elliott, 2005). On the other hand, hearing impairment acquired at adulthood usually is accompanied by other issues relating with self-esteem.

Acquired hearing impairment, that is, hearing loss at adulthood, significantly changes the lives of such individuals. These individuals would need to become adjusted to a new way of life, adopting new methods of communicating and lifestyle. They have to acquire a new identity and fashion out a new order of social relationships. Also, those with profound hearing loss cannot conduct a conversation, as the use of sense of hearing and talking are the recognised information media in the human society. Such individuals would require signals such as nearby and direct communication or message in form of continuous eye communication, lip movement interpretations and mastering of how movements of the body are used in expressing thoughts and communicating with others. The mentioned signals are usually not accessible to individuals with hearing disorder in their interactions with people without hearing loss, and as a result of that, much facts could be lost when communicating with those around them specifically individuals without hearing impairment, irrespective of the usage of hearing devices such as hearing aids (Adeniyi, 2012). Recurring situations of unsuccessful verbal interaction usually give in to feelings of annoyance and a feeling of insufficiency which could diminish self-esteem of someone experiencing profound hearing loss (Jambor and Elliott, 2005) and thereby result in psychological distress. However, those who experience mild or moderate hearing difficulties do not believe themselves to be impaired of hearing. Nevertheless they do not function adequately as individuals without impaired hearing in circumstances that depend majorly on perception of sound and talking (speech). They are therefore often confused. Discouragement may ensue in their interactions and thereby bringing about an injured and distressed self-esteem (Jambor and Elliott, 2005). To a greater extent, self-esteem tends to be highly essential for the overall

psychological wellbeing as both are highly correlated (Amos, Okoye and Hamsatu, 2016), being indicated through their accomplishment in form of achievement (Ademokoya and Shittu, 2007) and being able to handle stresses of life (Nwanko, Okechi and Nweke 2015).

Studies carried out by Verkuyten, 2003; Way and Robinson, 2003 presented features which included style of conversing at home, school type before their secondary school, the time the condition of hearing impairment was detected, and the degree of hearing loss as substantial predictors of psychological distress of people experiencing hearing impairment. However, irrespective of whether children with disabled hearing grow in a family mainly containing hearing or with the deaf parents, they could have encountered discouragement, terrible misunderstandings, as well as loneliness of being isolated from oral conversation. More specifically, children with impaired hearing who had been brought up by parents who also experience deafness could be at an advantage over those who are brought up by parents without hearing disorder since that meant they were brought up in a setting where mode of passing across messages is purely by relying on the use of vision (Jambor and Elliot, 2005). For instance, studies by Crowe (2003) and Schirmer (2001) revealed that almost all parents with hearing impairment engage in language of signs in conversing with their children, and with this, there is the possibility of family members understanding one another better in nearly all aspects of life; whereas parents of children experiencing hearing disorder but who could not use sign language in conversing with such children, could bring up their hearing impaired children with restricted prospects needed in cultivating the required social skills in interacting in the general public. As a result, they often have the feeling of being more neglected in the social context both in their own homes and communities they find themselves, unlike those who enjoy the prospects of communicating in the family environment (Marini and Slate, 1997; Jambor and Elliot, 2005).

However, in the formative years of children with hearing impairment, they could benefit psychologically most while in schools among those with similar traits, thereby being able to converse adequately and satisfactorily, being able to discuss their previous encounters freely (Jambor and Elliott, 2005). Meanwhile, Panda (1997), presented that persons with hearing impairment who did not enjoy the provision above could be labelled as being aggressive, hyperactive, inferior, helpless, having poor self-concept, poor gross motor coordination, deferred hand preference, low

attention duration and seemingly below average intelligence quotient (IQ), not measuring up to that of the hearing individuals. Abstract concepts and vocational adjustment are often difficult for them to understand. According to Sheridan (2001), adolescents with hearing impairment were discovered to be hyperactive, self-conscious, distractible, irritable, lacking in perseverance, crying over minor issues, more restless, aggressive, lack perseverance, shy and suggestible because of their auditory deprivation. Sensory impairment may not enable individuals with hearing impairment to open up themselves to events that could socially challenge them and so leading to psychological distress (Oyewumi and Anieke, 2013). The myriad of problems listed applied to adolescents with hearing impairment in and out of school.

Having presented the myriad of risk factors for exhibiting psychological distress among in and out of school hearing impaired adolescent individuals, therefore it is necessary to evolve methods that could enable the in-school adolescents experiencing disabled hearing to exhibit more efficient relationships, cognitive and emotional behaviours which should yield improved functioning outcomes (being well psychologically). A number of psychotherapies could be employed to manage psychological distress; these include cognitive behavioural therapy (Raheem, 2016), self-management therapy (Falaye and Afolayan, 2015), social skills training (Ibudeh, 1991), and self-efficacy building strategy (Okeke, 2009). In this study, cognitive behavioural and self-management therapies were employed. This was because the two therapies have been gaining credence in recent years.

Cognitive behavioural therapy evolves through the cognitive theory of depression, as presented by Beck (1967). The therapy gives a fundamental responsibility to the cognition in form of exhibition of depression. Cognitive behavioural therapy is centred on some fundamental suppositions which included: cognitive activities affect behaviour; cognitive movement can be censored for modification; and modifications would bring about anticipated behavioural reforms (Dobson and Dozorts, 2009). The treatment process includes the identification and modification of dysfunctional beliefs, manifesting as problematic behaviours. The therapist assists participants in recognising their dysfunctional (incorrect) beliefs. The assistance includes the therapist asking series of questions which can easily be answered by the participants since the questions are projected in order to enable the clients to recognise their incorrect or biased beliefs on their own. Clients are informed to assume these thoughts as hypothetical opinions which are subject to pragmatic

confirmation and not facts. Both the therapist and clients fashion out the assignments that could be used to inquire into their beliefs which had been regarded as assumptions or hypothetical views, a procedure referred to, by Beck as collective experimentation. Immediately these clients partaking in cognitive behavioural therapy understand how to contest the authenticity or otherwise of their dysfunctional beliefs, they will then be guided to exchange those incorrect beliefs with the beliefs that are more appropriate (Beck, Rush, Shaw and Emery, 1979).

During the therapy, clients undergo an intake procedure which includes both clinical interview and psychological test. The clinical interview elicits an indepth of the previous occurrences, which jointly form the bedrock for the client's distress.Through the consultation, the clients' up-to-date form of working, symptoms that are noticeable as well as anticipated outcome from therapy are examined. The initial interview has many purposes which include initiating a relationship, providing a rationale for cognitive behavioural therapy, and eliciting important information. During the initial interview, the therapist begins by defining problems. Descriptions of problems involve both functional (practical) and cognitive (reasoning) analyses. The analysis based on the functional aspect is meant to answer questions such as 'what are the component parts of the problem?' 'How is it manifested?' 'In what situation does it occur?' 'What is the rate of recurrence, concentration and length?' and 'what are its significances?' The cognitive analysis detects the client's thought and descriptions when feeling is prompted, the degree of the client's assumptions, being in control of thoughts and images, the expectations about what problem is likely to be happening and that which actually could happen (N - Jones, 2001).

Therapist trains the clients, right from the beginning, on how to observe their mental state, thought patterns and behaviour, then on how to recognise existing connection among all of them. Homework is a major feature all through the sessions of cognitive behavioural therapy. A typical pattern of an initial task might be requiring clients to document their automatic thoughts at the moment of being distressed. At the initial sessions, therapist and clients design the problem list. Problem list can consist precise symptoms, behaviours or prevalent problems. Therapist approaches each of the problems as he chooses the suitable cognitive and behavioural techniques to employ. Therapist always offers a basis for each of the procedures and elicits feedback from clients.

The early stages of therapy may focus on symptoms removal, mid and later stages are more on altering the thinking pattern of the participators. Participators are enabled to comprehend the relative association between their opinions, emotional state and behaviour. Once they can contest with the automatic thoughts which inhibit their efficient working, the fundamental suppositions or beliefs creating those thoughts could then be detected and scrutinised. The moment their suppositions and fundamental beliefs have been recognised and their disturbing poor thinking comprehended, then cognitive behavioural therapist assists clients to scan their validity and then abandon or amend them as suitable. As cognitive behavioural therapy advances, the clients would have improved on skills that will enable them become their own therapists. Clients undertake serious obligation in order to pinpoint their difficulties, analyse their thinking, and also create suitable homework.

However, therapy will terminate whenever the goals are achieved and clients become assertive about implementing the newly acquired skills. At the beginning, therapist discusses conditions and the basis for expiration of the therapy sessions with the client. Some of the indications of improvement, include respite from symptoms, modifications in described and experiential behaviour; also in their thinking both during and outside therapy sessions. Series of undertakings in the homework among which are supplying of the needed information in the duty record of automatic thoughts log and conduct specified activities and tryouts, also assist in measuring improvement.

Cognitive behavioural therapist attempts to explain counselling by using language that is comprehensible for the clients. He holds clients in high esteem by putting forth reasons for his actions in form of inclusive style and the techniques that he proposes. In addition, he takes charge of what happens in the therapy by intimating them with case conceptualisations and including clients in setting goals with the intention of ensuring that the therapy succeeds. Also, cognitive behavioural therapist elicits reactions from clients about both their ideas and their behaviour. Therapist is responsive to indicators of change, then he allows his clients' responses to them be acknowledged. These transformation reactions could be employed by the therapist to detect and work with client's automatic thoughts and relational biases (N – Jones, 2001). Some studies have shown that psychological distress could be effectively managed by cognitive behavioural therapy. These include Rush, Beck, Kovac and

Hollow (1977), Chu and Kendall (2004), David-Ferdon and Kaslow (2008) and Garnefski and Kraay (2011).

Cognitive behavioural therapy then becomes imperative to manage psychological distress in adolescents with hearing impairment because difficulties affecting mental health, particularly in form of psychological distress in young adults with disabilities are not different from psychological distress of those without disabilities. For instance, Fellinger, Hotzinger and Polland (2012) reported a study carried out in Sweden among people with deafness; it was found that people with deafness displayed advanced degrees of depression and insomnia than their counterparts with hearing. The degrees of depression and other associated psychological distress were also linked to types and degree of hearing loss. Studies (Suarez, 2000; Williams, Farlkum and Martinsen, 2015; Pirami, Afshar and Hatami, 2017; Gharashi and Moheeb, 2018) have confirmed that cognitive behavioural therapy reduces psychological distress among hearing impaired individuals.

Self-management therapy is another behaviour therapy for the management of psychological distress. This therapy, according to Rehm (1977), Fuchs and Rehm (1977) comprises didactic exhibitions of instructional drills to impart perceptions and skills, while adaptation of those skills to the participators' everyday life in form of assignment is equally expected. Moreover, self-management therapy aims at three outcomes; to assist the client obtain highly operational relational system, intellectual and expressive behaviour; modifying the participant's views, also assessing dispositions to challenging state of affairs; it also aims at helping the client either to move out of the hostile environment, inducing stress or better still, adjust by coping with such environment by admitting that such situations cannot be prevented from happening. While most efforts have been focused on changing rather than learning to accept problem situations, realistic appraisal sometimes also requires that clients learn to cope by adopting new attitudes towards situation that cannot be altered; such procedures as self-observation, contingent self-rewards, problem-solving or contracts serve the function of facilitating change (Kanfer and Goldstein, 1991).

Furthermore, tasks and assignment take a central role in self-management therapy. Tasks stress the importance of changing behaviours outside the facilitating relationship and help the client perceive the continuity between treatment sessions and daily life experiences. Assignments yield information about the client's skills and treatment objectives. Assignments are often presented as tentative and safe efforts to

acquire new behavioural repertoires. They provide opportunities to experience new life patterns. However, four steps are to be followed anytime a client is requested to complete an undertaking or assignment; these include step for obtaining information, pre-emptive practice or rehearsal, performance in natural settings and review. During the information stage, the requirements involve didactic instruction about a particular technique or discussion of how the technique can be tailored to the client's routine (Stock, 1987).

During rehearsals, the client is guided to imagine and practice the apportioned task with utmost care in order to ensure the perfection of the therapy and safety of the environment. Rehearsal provides opportunities for the helper to model various behaviours, clarify the details of the situation and the behaviour to be executed, and extinguish some of the anxiety associated with them. Role plays are commonly used during rehearsal. They can involve sceneries of interpersonal situations or rehearsals of what the client will later think, fantasise or say to himself or herself. The helper initially provides guidance and structure for the role play in the session and for preparing the behaviour associated with the assigned task. As the client shows increased competence, the helper reduces participation, except to maintain encouragement and reinforcement (Kanfer and Hagerman, 1981).

According to Stock (1987), a therapeutic contract which must be signed before the commencement of the sessions is a printed statement that sketches out precise actions that the client has decided to perform and establish significances for fulfillment and non-fulfillment of the agreement. Contracts can be used to help the client initiate exact actions, create clear cut criteria for accomplishment and make available a mechanism for expounding the consequences of engaging in the behaviour. Contract offers both the helper and the client with a record of what has been decided upon and a chance to appraise progress by comparing against the terms of the agreement. It also presents the client with a set of instructions that govern the change procedure and with practice in the process of clearly defining goals and contributory acts.

According to Kanfer and Goldstein (1991), self-monitoring which is one of the procedures of self-management, aiding in some of the functions that do not require outright accuracy in recording. Self-monitoring could be engaged to acquire distinctive information pertinent to the functional analysis and preparation for the treatment. For example, client might be requested to spot the motivating

circumstances in addition to the outcome of a focused behaviour or to note of their emotional states by recording while engaging in the behaviour. Self-monitoring could also escalate client's inspiration for changes. Therefore self-management could be helpful in reducing some conditions that lead to psychological distress which occurs amid adolescents experiencing hearing impairment based on the fact that it could help them to handle social and personal demands more effectively. Client whose problems are suitable for treatment by techniques used in self-management therapy has probably made repeated attempts to alter his or her behaviour. Failure might have been a fall out of the environmental support, dearth of facts on specific behaviour change methods, or lack of sufficient incentives for trying to change (Raheem, 2016). Environmental modification includes manipulations of physical environment, rearrangement of the social environment and self-generation of controlling stimuli and controlling responses (Stock, 1987; Raheem, 2016). However, some researches have proved that self-management therapy is effective in the management of psychological distress. These include Rehm, Fuchs, Roth, Kornblith and Romano (1979), Rokke, Tomhave and Jocic (2000), Dunn, Rehm, Schillaci, Souchek, Mehta, Ashton, Yanasak and Hamilton (2007), Kehinde (2012) and Raheem (2016).

Cognitive behavioural and self-management therapies are feasible interventions in managing psychological distress. However, strong proof of their efficiency has not been totally established among population with hearing impairment in sub-Sahara Africa, including Nigeria population with hearing impairment. Consequent on this, this particular study investigated the efficacy of cognitive behavioural and self-management therapies on psychological distress amongst adolescents having hearing impairment in Oyo State, Nigeria.

1.2 Statement of the problem

Adolescents who have been found having hearing problems in whatever form, usually experience a number of unique challenges. These include: not being able to communicate verbally and relate together with their hearing mates, and poor skills acquisition. Experiencing the stressing and challenging conditions by these adolescents puts them in a tight corner, positioned to become psychologically distressed with characteristics such as anxiety and apprehension, aggression, inability to concentrate, inability to experience pleasure, sadness and dejection, irritable mood, cognitive distortion, sleep disturbance, and loss of appetite. Remarkably, these

adolescents with hearing impairment usually undergo decline in domestic association, inability to engage in close relationship with peers and low school accomplishment, and even suicide attempts. Earlier studies have concentrated largely on the theoretical scopes of psychological distress among adolescents with hearing impairment with little emphasis on how to manage the condition. This study was then undertaken to probe the effects of cognitive behavioural and self-management therapies on psychological distress among adolescents with their organ of hearing impaired in Oyo State, Nigeria. The controlling effects of onset of hearing defects and self-esteem were also studied.

1.3 Purpose of the study

Purpose of this academic investigation was towards examining effects of cognitive behavioural therapy together with self-management therapy on psychological distress in the midst of adolescents affected with hearing difficulty in Oyo State, Nigeria. In reality, the research investigated:

(i) the significant main effect of cognitive behavioural and self-management therapies on participants' management of psychological distress;

(ii) the significant main effect of onset of loss and self-esteem on participants' management of psychological distress;

(iii) the significant interaction effect of onset of loss and self-esteem on participants' management of psychological distress;

(iv) the significant interaction effect of treatment, onset of loss and self-esteem on participants' management of psychological distress.

1.4 Hypotheses

These hypotheses were tested at 0.05 level of significance.

H_{O1}: There is no significant main effect of treatment on participants' management of psychological distress.

H_{O2}: There is no significant main effect of onset of hearing loss on participants' management of psychological distress.

H_{O3}: There is no significant main effect of self-esteem on participants' management of psychological distress.

H_{O4}: There is no significant interaction effect of treatment and onset of hearing loss on participants' management of psychological distress.

H_{O5}: There is no significant interaction effect of treatment and self-esteem on participants' management of psychological distress.

H_{O6}: There is no significant interaction effect of onset of hearing loss and self-esteem on participants' management of psychological distress.

H_{O7}: There is no significant interaction effect of treatment, onset of hearing loss and self-esteem on participants' management of psychological distress.

1.5 Significance of study

Literature has shown that very few studies have addressed the impacts of the disabilities, particularly hearing impairment and psychotherapies on the psychological and social adjustment of the affected adolescents or youngsters and that they were mainly conducted in foreign countries. This study, therefore, would be of advantage to the adolescents with hearing impairment having psychological distress associated with loss of hearing in Oyo State. The treatment would be recommended for such adolescents because the condition of psychological distress could be improved on.

Additionally, from the results of the study, professionals associated with behavioural intervention as well as adolescents with these traits would be beneficiaries. These professionals include special educators, with whom the adolescents with hearing impairment often come in contact especially in the school, engaging in classroom teaching; social workers in the social welfare unit, clinical and counseling psychologists as well as rehabilitation counsellors who are engaged in helping the hearing impaired in resuscitating their hope; they could all come together to salvage the course of such adolescents experiencing psychological distress associated with hearing impairment. The parents of such an adolescent could benefit from the outcome as he or she could employ the therapy at the home front.

More importantly, the study will contribute to knowledge about the management of adolescents' psychological distress associated with having hearing impairment especially in Nigeria, through cognitive and behavioural interventions. The findings of the study would be able to prove that psychological distress among adolescents living with hearing impairment could be managed by cognitive behavioural and self-management therapies.

1.6 Scope of the study

Focus of the study was on effects of cognitive behavioural and self-management therapies on psychological distress management among adolescents with hearing impairment. Adolescents having hearing defects in Oyo State were selected as participants of the research work. The participants were drawn from three secondary schools which admit both adolescents without hearing impairment and adolescents with hearing impairment for this work. The schools were: Methodist Grammar School, Bodija, Ibadan; IMG Grammar School, Agodi, Ibadan; and Durbar Grammar School, Durbar, Oyo. These were schools where the adolescents with hearing impairment stayed in the same class or setting for learning with their hearing peers.

1.7 Operational Definition of terms

Meanings to the phraseologies listed below were given as relevant to this disquisition:

Adolescents with Hearing Impairment: They are young individuals between 12 and 21 years having hearing impairment of all types and degrees in integrated secondary schools in Oyo State.

Cognitive Behavioural Therapy: Therapy to modify the participants' dysfunctional behaviour associated with having hearing impairment through modification of cognition.

Hearing Impairment: A disorder in which the organs of hearing of an individual is non-functional due to some damages to those organs of hearing.

In-school Adolescents with Hearing Impairment: Adolescents with hearing defects learning in the school system.

Onset of Hearing Loss: A time of life at which the individual with hearing impairment develops hearing loss of any type.

Psychological Distress: This refers to a problematic situation involving exhibition of maladaptive behaviours (in mood, thinking, behaviour, interaction) by adolescents with hearing impairment.

Self-Esteem: The degree of worth or value placed on adolescents with hearing impairment by themselves.

Self-management Therapy: This is the type of therapy that enabled the adolescents with hearing impairment become skilled in managing their problematic situation.

CHAPTER TWO

LITERATURE REVIEW

A concise conceptual, empirical and theoretical critique of literature for the research work was engaged in this order:

2.1 Conceptual Review

2.1.1 Concept of Psychological Distress

2.1.2 Concept of Hearing Impairment

2.1.3 Concept of Onset of Hearing Loss

2.1.4 Concept of In-School Adolescents with Hearing Impairment

2.1.5 Concept of Self-Esteem

2.1.6 Concept of Cognitive Behavioural Therapy

2.1.7 Concept of Self-Management Therapy

2.2 Theoretical Framework

2.2.1 Theories of Psychological Distress

2.2.1.1 Theory of Depression by Beck

2.2.1.2 Theory of Depression by Rehm

2.3 Empirical Review

2.3.1 Hearing Impairment and Psychological Distress

2.3.2 Cognitive Therapy and Psychological Distress Management among In-School Adolescents with Hearing Impairment

2.3.3 Self-Management Therapy and Psychological Distress Management among In-School Adolescents with Hearing Impairment

2.3.4 Onset of Hearing Loss and Psychological Distress among In-School Adolescents with Hearing Impairment

2.3.5 Self-Esteem and Psychological Distress among In-School Adolescents with Hearing Impairment

2.4 Appraisal of Literature Review

2.5 Conceptual Framework for the Study

2.1 Conceptual Review

2.1.1 Concept of Psychological Distressh

Psychological distress implies an aspect of health condition in which emotions, thinkings and behaviours change (often described as mental ill-health), having no constant definitions nor procedures. It refers to psychopathology that is less specific. It entails a mixture of gloomy indications, anxiety and perceived stress and sleep problem (insomnia) (Kleinman, 1991; Payton, 2009). Psychological distress is described as 'a syndrome' occurring, not as a result of a specific cause or previous attacks. This syndrome comprises constructs which include irritability, cognitive problems, anger, anxiety, depression, and obsession-compulsion (Korkeilla, 2000). Psychological distress is believed to be common practice of life, an outcome of persisting or short term difficulties, in form of distress triggered by life changes, challenges and losses, happeing from the area of life like education, career, family ties, interactions, advancement of age and so on (Bolton, 2010).

However, classificstion of psychological distress in the field of psychiatry is vague. Various writings have mentioned this point extensively. In an instance, psychological distress is regarded as a disruption to the emotion which may influence negatively on how an individual functions socially as much as his daily activities. (Wheaton, 2007). With that, objective of various studies has been to find out what risk and caring issues are related with the condition. In another instance, psychologcal distress is a form of diagnosis to detect some psychiatric problems (for instance, posttraumatic stress disorder, obsessive-compulsive disorders) as well as deficiency in everyday life activities, a major pointer to the magnitude of symptoms in other disorders (including generalised anxiety disorder, major depression) (Watson, 2009; Phillips, 2009). Invariably, psychological distress would turn out to be a medical distress typically if complemented by other symptoms which placate the diagnostic criteria for a psychiatric disorder when everything is put together. However, the three scopes of psychological distress – depression, sleeplessness and perceived stress are discussed in this section. In discussing psychological distress, there is no way one will shy away from mentioning and describing mental health because it actually creates understanding of what it takes to be in good health and things to avoid.

Mental health otherwise described as the aptitude to cope with stress, is a source of psychological working in relation to the management of life. The status includes inherent component of overall health, which organisations on health have

concluded that to be described as healthy, an individual must be mentally sound, otherwise one is not healthy when one is not mentally healthy (Prince, Patel, Saxen, Maj, Masclkp, Phillips and Rahman, 2007). Going by the universal meaning through the World Health Organisation (WHO), mental health is given as being sound enough, so that an individual can realise his or own ability, he is able to manage common pressures of life, he has the ability to work effectively and faithfully, and he is able to impact on his community (WHO, 2001).

However, one common method is to scrutinise the desirable and undesirable sides of mental health. The constructive (desirable) side of mental health is all about mental health properties, which include hopefulness, self-esteem and self-mastery, in contrast to the destructive part. The negative (undesirable) feature appears in form of symptoms together with problems of mental disorders. An additional corporate part of mental health is its objective and subjective scopes. The objective aspect concerns an idea that mental health is assumed to originate from common practical evidences, whereas the subjective aspect of mental health is investigational information to determine the status of an individual's mental health (Tudor, 2008, 2014). Furthermore, mental health can be described on the basis of constant or irregular traits. Normality is assumed to have limitation. Another assumption is that there is a continuous distribution of symptoms among the population, which could be in form of absence of symptoms or mild psychological symptoms, or as high to the range of most severe mental disorders (Stein, Kupfer and Schatzberg, 2006). In the functional model of mental health, it is a dominant part of a procedure, designed through some influencing factors (including innate factors, at birth factors and societal and physical circumstances, tutoring and occupation), definite triggering elements (for instance, life events), and present social setting (such as social backing) in addition to different consequences (including symptoms, level of wellbeing, physical health) (Lehtinen, Raikkonen, Heinonen and Raitakari, 2006). Psychological distress is an emotional suffering, in which an individual has been exposed towards stressful events. As a result of this, one's physical or mental health is threatened. As it has been discussed earlier, WHO (2001) has it that health status is all encompassing; once an aspect is not in order, such individual cannot be regarded as healthy.

Record has it that a common mental health problem is psychological distress (Felman, 2020). The stage of adolescence has been described as that in which an individual is confronted with the challenge of imagining who he is and in what way

he fits into the world (Brice & Strauss, 2016). This cannot be achieved in isolation; adolescents interact more with one another at this stage and they love to explore more. As human community is oral language dominated, it is hardly possible for an adolescent experiencing hearing impairment to interact with his hearing counterparts (Oyewumi, Akangbe and Adigun, 2013). It is presented that his inability to exhibit language skill proficiency due to the alteration to the organ of hearing irrespective of onset of hearing loss, usually makes social interaction to turn out to be a struggle, thereby resulting to social segregation, isolation and loneliness. These could in turn result into fear, concerns and anxiety for the adolescent with hearing impairment. These experiences are very stressful for the psyche of an individual; they could therefore result into either mental or physical breakdown or even both.

The experiences mentioned above would have affected the self-esteem negatively. Low (weak) self-esteem is presented to be the major factor for being psychologically distressed; specifically Mejstad, Heiling and Svedin (2009) offered that low self-esteem predicts psychological distress which is a variation of mental health problem. An argument was presented on hearing loss, as a fall out of an alteration to the organ of hearing, generating distrustful ideation disorders, affective disorders – predominantly unipolar (not involving maniac) depression, insanities, like late-onset schizophrenia, generalised anxiety (nervousness) disorders, severe and posttramautic stress disorders, substance abuse malady, behaviour that could bring destruction to self and leading to personality disorder (Black & Glicman, 2006). Most of the items listed are indices of psychological distress and so an adolescent with hearing impairment is susceptible to all these except if there are deliberate interventions.

2.1.2 Concept of Hearing Impairment

The term hearing impairment is very broad because it includes damages of various kinds to the organs of hearing, manifesting as a reduction in the hearing awareness of an individual thereby making it difficult for the individual to perceive or understand auditory signals (sound) either partially or completely (UNESCO, 2009; Mangal, 2007; Okuoyibo, 2006). In spite of these varieties, each of these groups is unique, so they should be attended to accordingly if the condition is to be remedied or ameliorated. An individual with hearing disability could be affected in various ways which therefore defines such a person's behaviour or reactions to issues,

sounds or events. These reactions could be viewed by the society as contravening preferred time, frequency and a set of norms generally accepted or set up by the society. Some of these behaviours or reactions (which can as well be described as symptoms) consequent on the hearing loss, in the views of Okuoyibo (2006), Alade (2005) and Mba (1995), could contain: watching the lips of the speaker and not the speaker's eyes; discharge from the ears; frowning or tilting towards the speaker in order to hear or comprehend what is said; monotonal quality of voice; failure to respond to or mixing up uttered directions; being apathetic to sensations or vibrations; not responding when called from a distance; expressing feelings of pain as a result of ringing or buzzing in the ear; showing no surprise in situation that would normally warrant such; bending to the speaker's mouth; requesting consistently for a repeat of statement; speaking arbitrarily loud or low; evading situation that may necessitate him or her to talk; and exhibiting temper tantrum.

Despite these common characteristics, hearing loss is often graded or ranged from mild to profound (Kirk, Gallagher, Anastasiow and Coleman, 2006; WHO, 2014). Going by the view of Oyewumi (2003), it is maintained that many terms are often used to define hearing impairment. Some of these include deafness and disabled hearing. Erika (2011) however termed impairment to the sense of hearing as a disorder indicated by partly or totally unable to hear and at times referred to as a hidden disorder, noticeable only when verbal communication is required unlike the disability which can be seen in the appearance of the individual. This description is related with Bodner-Johnson and Sass-Lehrer's (2003) view of hearing impairment as an essential deficit (which can be partial or total) manifesting as lack of auditory reception. Therefore, they described hearing loss as an obstruction to a communication and sociolinguistic development. Proffering solution to this, Kirk, Gallagher et al (2006) presented that for such individuals, language can either be assessed orally (speech training) or by the use of signs (manual-movement/sign language or visual). Kirk et al (2006) reflected that hearing losses are defined based on the gradation (degree) of the loss, the time of life when the loss of the hearing loss became apparent (onset) and the type of loss or the place of the damage. Corroborating this description, Ademokoya (2016) presented that impairment of hearing can be described as absence of usual or natural course of hearing as a result of a damage or malfunction of the hearing mechanism or a defect in the hearing apparatus, thereby bringing about reduction in response to sounds in varying degrees

and finally rendering the sense of hearing impaired, that vision becomes the person's main channel of communication.

Okuoyibo (2006) also remarked that hearing defect affects different people in different ways, differing from person to person, since the definitions usually depended on the factors listed above, which included onset, degree or place of damage (pathology); and these variations account for differences in the type of experiences from person to person. The assertion, that hearing disorder is a blanket terminology, can be expatiated on, in that it encompassed all degrees (grades) of hearing losses (mild, moderate, moderately-severe, severe and profound) in either of or both ears (Ademokoya, 2016). Hearing threshold is calibrated in decibels (dB) and so the range of hearing losses and their implications on speech perception goes thus:

Degree/Gradation of Hearing Loss in Adults

Degrees/Gradation of Hearing Loss	Hearing Threshold (in decibels, dB)	Implication on Speaking
None	0-25 Db	No striving perceiving what is spoken.
Mild	26-50 Db	Can only understand what is said in quiet environments; it is difficult to hear soft speech and conversations especially in boisterous or reverberant circumstances.
Moderate	41-55 Db	Higher volumes from television and radio are needed for hearing. Usually there is struggle in comprehending speech when there is a background noise.
Moderate to severe	56-70 Db	Speaking must be very loud than expected, and there are complications when group conversations ensue.
Severe	71-70 dB	Comprehension is only possible through shouting or amplification. The regular speech is inaudible as well as loud speech.
Profound	91 + dB	Even intensified speech is difficult to understand.

Source: WHO 2014

Degrees of Hearing Loss in Children in Ademokoya (2016) are given as follows:

10-15 dB HL (Hearing Loss): Normal

16-25 dB HL: Minimal

26-40 dB HL: Mild

41-55 dB HL: Moderate

56-70 dB HL: Moderate to severe

71-90 dB HL: Severe

91 dB HL and greater: Profound

Based on these different levels of losses, Ademokoya (2016) reported that persons experiencing impairment of hearing are usually categorised as deaf (those with profound hearing defect) or hard-of-hearing (those with partial hearing defect). The intention of classification is to aid audiological and educational provisions for persons with hearing impairment

The Individuals with Disabilities Education Act (IDEA) in Kirk et al (2006) defined deafness to be "hearing impairment very severe, making the child unable to process information morphologically through the organ of hearing, whether or not involving magnification, which harmfully disturbs such child experiencing the impairment". Hard-of-hearing was thus described as impairment in hearing, either stable or fluctuating, not unfavorably disturbing the educational programme of that child and so it is not embedded in the meaning given to deafness. Apart from classification based on levels of losses, onset of hearing impairment is usually described as congenital, a condition which occurs before birth; perinatal, meaning a condition which occurs during birth. These two timings are also known as prelingual losses because the losses occurred before the child acquired language (both acquisition and usage of language). Hearing loss could occur after birth which is known as postnatal deafness. This could also be divided into prelingual or postlingual. It will be postnatal-prelingual deafness when the child lost the sense of hearing before he or she was able to have mastery of language. This can be from five years and below. Postlingual deafness will occur when an individual lost the sense of hearing after the acquisition or development of language. Adeniyi (2012) was of the opinion that majority of individuals who are postlingually hearing impaired are capable of maintaining their capabilities to speak, and communicate with others oral forms. Their speech could however be monotonal or speaking unnecessarily too loud or very low and in soft voices.

Site of pathologies (place of impairment) also varies. According to Okuoyibo (2006), it is very pertinent to have the knowledge of the place of impairment, otherwise known as site of pathologies. This, in the view of the scholar, will enhance accurate amplification. In order to do this, it must be understood that the structure of the ear is complicated, while the way it functions is equally complex. The ear can be segemented into external, middle and innermost ear. The external ear majorly included the pinna – the fleshly structure fixed to the sides of the skull. Furthermore, Kirk et al (2006) described the middle ear to be composed of the tympanic membrane (eardrum) and the trio bones labelled as the malleus, the incus and the stapes which lie next to the oval window – the gateway to the segment called inner ear. In this segment (the inner ear), we have the cochlear and the vessibular apparatus which are collectively known as the labyrinth. Researches presented that defects or damages could occur in structure, as well as in the function. All together, hearing loss could be well-arranged into four different types of losses (Kirk et al, 2006).

A hearing loss will be described as conductive type when a blockage of sound occurs, hindering the passage of sound coming in through the exteriorpart of the ear and moving to the innermost ear (March of Dines, 2000). Blockage could occur as a result of accumulated wax, infections (otitis media) or even malformation of the ear canal. Herter, Knightly and Steinberg (2002) presented that hearing loss of this kind could be remediated by surgery or medication. Hence, it is a temporary loss. Defects of the cochlea or the auditory nerve, especially in the sensory hairs of the inner ear which are desribed as delicate (or the nerves) are described as sensorineural hearing losses. The nerves are the transmitters of forces to the brain control centre of the central nervous system (Newton and Stokes, 1999). Assorted hearing damages (otherwise known as mixed hearing losses) are an outcome of complications occurring in the outer ear as much as in the middle or inner ear. Those losses could make the individual hear distorted sounds and have difficulty with sound level. When there is a change in the way hearing is received in the brain or a hinderance to the passageways to the brain, central hearing losses are said to be present. However, central hearing losses are seldomly encountered (NICD, 1999).

Causes of hearing impairment are often grouped variously. Mba (1995), Newton and Stokes (1999) and Alade (2005) are of the opinion that above average of the sources of inability to hear or being hard-of-hearing stem from issues relating to antenatal conditions. In the view of Harter, Knightly and Steinberg (2002), the causes

of hearing losses are grouped into three, with one part being genetic, aother part is environmental (acquired) while the last one part is unknown. Hereditary reasons which can as well be regarded as hereditary are described as hearing disorders that come about as a result of biological breakdown or defects in one or both of the parents and then passed on to the offspring. Though there are about 70 documented genetic syndromes associated with the causes of deafness and partial deafness, above two hundred diverse genetic deafness have been established (NICD, 1999; Herter, Knightly andSternberg 2002). Kirk et al (2006) mentioned some of the genetic factors to include Down syndrome, whereby the child usually has narrow ear canals thereby predisposing him to middle ear infections, resulting in hearing losses. Cleft palate is another genetic disorder resulting in middle ear infections. The opening could be the gateway for infections to enter into the middle ear and thereby predisposing the child to hearing loss.

Rh (hyperbilirubineunia) also known as Rhesus factor which can lead to the development of incompatibility between the pregnant mother and her foetus when the mother's Rh-factor is negative while that of the foetus is positive. However, the mother's immune system could destroy the foetus's red blood cells and such a situation could result in anemia and stillbirth. In the alternative, if the foetus survived the situation, a high rate of occurrence of hearing defect could occur. Though the first pregnancy of such a woman may not be affected, all subsequent ones are likely to be affected especially if the condition is not identified and treated with the drug known as RhoGAM. The drug is meant to block the formation of antibodies in the mother's system (Kirk et. al., 2006). Herter et al (2002) cautioned that not all hearing losses due to genetic defects appear at birth. Some children who were born with perfectly normal hearing may lose the hearing after few months or years as a consequence of genetical make up.

Environmental causes of hearing losses could arise as an outcome of the health condition of the pregnant mother; Newton and Stokes (1999) grouped some infections that affect the mother during pregnancy, which are liable for severe hearing losses in the foetus and labelled them as 'TORCHS'. 'TO' stands for Toxoplasmosis; 'R' represents Rubella, also recognised as German measles which can cause series of sensory disorders. The 'C' represents Cytomegalovirus (CMV), a contamination found inside the uterus of the mother, known to be critical ecological causative factor for hearing problems in the United States. It can pass through the placenta to the

foetus or the mother's breast milk when nursing (Kirk et. al., 2006). The 'HS' represents Herpes Simplex Virus, recording 60 percent of deaths and are known to be the cause of serious neurological problems and potential hearing loss.

Other environmental causes of hearing losses include noise pollution, from loud and persistent noises, infectious contaminations such as meningitis, otitis media which is universal infection affecting the middle ear. When it is persistent and untreated, it may cause hearing loss. Kirk et. al. (2006) also mentioned that asphyxia which is lack of oxygen (anoxia) during delivery could cause hearing difficulties. Premature and low-birth weight of between 2 pounds and 4 pounds (0.9072Kg to 1.8144Kg) are also noted to be responsible for hearing loss. This is consequent on the use of life saving techniques being used in the neonate nurseries (Batshaw, Roizen and Pellegrino, 2019).

Effects of hearing impairment could differ from person to person conditioned by the type, onset, the range of hearing problem, incidence of other disabilities, health status as well as the personality of the affected (Ademokoya, 2016). Several studies have revealed that loss of hearing by an individual creates obstacles to the overall progressive development of the person affected. This occurs based on the belief that the sense of hearing is such an invaluable and vital aspect of our daily experiences (Adeniyi, 2012; Oyewumi, 2014).

Since hearing is a major tool for language (oral) acquisition, hearing impairment therefore is a sensory disorder which precludes the affected person from developing communication skills thereby preventing language acquisition. This situation is more prominent with preverbal (prelingual) deafness because the early hearing loss in the individual deprives the individual the natural ability to acquire verbal language. In postverbal (postlingual) loss, hearing impairment implies sensory deprivation (Ademokoya, 2016). Ademokoya and Oyewumi (2002) reported that persons with profound hearing impairment (the deaf) are often misunderstood and thereby relegated to the background. This situation, they believe is largely due to the hostile socio-cultural practices they are often subjected to in the communities they find themselves. Since there is no distinguished feature physically between the hearing and non-hearing persons, the non-hearing persons are therefore usually harshly and unjustly penalised when they do not accurately respond to verbal requests or commands. Ologe (2014) indicated that persons with hearing impairment usually receive "sympathy" and help late and often grudgingly from the society, unlike other

groups of disabilities, for instance, the society's actions to the blind, whose disability can easily be seen.

Persons with hearing impairment have been noted to suffer social and emotional problems (Osisanya, Adeniyi and Udoh, 2013). Some among the children experiencing hearing difficulties have been discovered to exhibit some personality and psychological problems which include emotions uncertainty, dearth of self-assurance, damaging self-image, unformed behaviour, thoughtlessness as well as melancholy (Okuoyibo, 2006; Kirk et al, 2006). They added that communication problems can contribute to social and behavioural difficulties. Kirk et. al. (2006) put it across that temperament lists have regularly revealed that kids who are experiencing hearing problems have higher adjustment difficulties than their mates without hearing problem. The scholars mentioned that youngsters with deafness without overt or serious problems could exhibit characteristics of rigidity, egocentricity and suggestibility. Osisanya, Adeniyi and Udoh (2013) mentioned that hearing impairment could lead to distortions in social and psychological developments as well as in affective and behavioural related problems especially when invoving the hearing society. Oyewumi et. al. (2013) expatiated that these problems could be grouped into internalising behaviours such as isolation, depression, anxiety; and externalising behaviour such as aggression, hyperactivity and delinquency. Such behaviours could have attached to them worrying, while Woolcook and Campbell (2005) observed that strong upsetting can lead to emotional stress, sleep disorder, depression and psychological illnesses.

Profound hearing loss (deafness) could be terrible; those who suffer partial hearing impairment encounter more damages in terms of interpersonal relationship as there could be distorted information, leading to inappropriate response from a person with partial hearing impairment (hard-of-hearing). Somefun (2016) indicated that hearing is not just a sense but the strength by which knowledge, pleasures and security could be acquired. Life therefore becomes meaningless when these are unattainable, hence, an individual with hearing impairment (whether partially or totally) would be disturbed psychologically and become more "abnormal" than "normal".

Children with hearing impairment are believed to possess the same intelligence score distributions like their hearing mates (Obilade, 2015). It is however disturbing that children with hearing impairment are always behind others who are

hearing mates in various school subjects such as language, reading and mathematics (Moores, 2004). In fact, it is believed that learning disadvantages of children with hearing impairment widen with age. Hearing disability as a condition, has been identified as the major reason for this poor academic performance rather than their intelligence (Ademokoya, 2016). Unlike his hearing mates who establish links between what they hear and see, children with hearing impairment hardly can do this. They are deficit in language, both in acquisition and use; they can hardly associate what is said with what is seen (Werts, Cullata and Tompkins, 2007). Since proficiency in speaking, communication skills and language is indispensable for the youngster's cognitive, social and emotional growth, learning and growth therefore are premised on the child's capability to utilise these skills (Rose, 2001; Goswani & Bryan, 2007). Ademokoya and Shittu (2007) then reported that inability of children experiencing hearing problems to use verbal linguistic expressions erode their self-esteem, destroy their achievement motivation and consequently limit their academic achievement. This therefore explains the high rate of truancy and dropout cases commonly associated with school children with hearing impairment.

Hearing impairment being a hidden disability, affecting emotions and restricting the potentials of the individual, influences every sphere of life of such a person. Human phases of life include neonate, babyhood/childhood, teenage/adolescence which dovetails into youthful stage, adulthood and oldage. However, adolescence is believed to be the most crucial stage of life as it is the boarderline between childhood and adulthood. It is the age in which an individual's life can be made or be destroyed if not properly coordinated. It is very essential to factor in the experiences of an adolescent in question by the administrator in order to schedule programme for each of them.

An adolescent is that human being who has attained that phase of life in which progression and structural increase are recorded (Amao-Kehinde, 2008). An alternative term given to these adolescents is teenagers. This could be in line with the age range for members of this group (13-19 years). The author (Amao-Kehinde, 2008) indicated that human development is critical at the period of adolescence because it is the period that an individual starts to improve on his opinion about the world around him and forms his character. This could stand as a reason for one of the definitions of adolescence as the stage of life for human growth that spans within childhood and adulthood. The period is believed to be stormy, stressful and crisis filled. English

(2012) even described the adolescence as a "period of curative madness" whereby an individual seeks to remake his personality.

Major factor responsible for this turbulence at this period has been identified as the on-going development of the adolescent's frontal cortex, a section of the brain which is otherwise known as the "executive centre" of the brain (Phillip, 2007). Physical changes indicating maturity especially in body form may be seen at this period yet as long as this frontal cortex is not yet fully developed, an adolescent is yet to be an adult. This section of the brain is said to facilitate judgement, organisation, preparation and strategising. Due to the development procedure going on at the frontal cortex, Merrell (2007) observed that many thinking errors usually occur whereby later on in life such an individual realises that some actions taken during the period have been inappropriate or immature (Sylvester, 2007).

Individuals with hearing impairment discover that they are in an uncommon condition whereby they are coerced to acquire the culture of the larger society, thereby additing some measures of complexity to their tussle for special growth (Brice and Strauss, 2016). If this evolution period is frustrating for a typical adolescent, having an additional challenge, such as a disability especially hearing loss could facilitate greater crisis for an adolescent than his hearing peer. It can be summed up that the changes they are experiencing at this period is distinct from that of a typical adolescent. Addition of hearing loss at the stage of adolescence which naturally calls for adjustment could cause them to find it difficult to cope. Language or conversation is considered to be highly essential at adolescence for teenagers at this stage to have interpersonal relationships. Since they have no access to oral language, their ability to understand others is marred (Calderon and Greenberg, 2011). Consequently, the adolescents with hearing impairment usually strive to internalise proper behaviour prototypes, acquire self-regulation approaches and often misconstrue norms of the society.

Consequent on the above, adolescents with hearing impairment often recounted feeling publicly isolated, lonely and having poorer self-esteem. Youths (adolescents) with hearing impairment are thus reported to possess general lower worth of life than their peers with hearing (Fellinger, Holzinger and Dobner, 2005). They are also observed to experience increasing mental well-being hitches than their peers without hearing disorder (Fellinger, Holzinger, Laucht and Sattel, 2008). Another challenge for adolescents with hearing impairment is how to create

friendship and recreate especially with their hearing mates. Invariably their self-concept is said to be lower than their hearing peers, and therefore, there is always the need to boost their self-concept since self-concept and mental health are connected. It is further expatiated that low self-concept emanates from hearing loss especially because many of human endeavours rely on sounds to convey meaning. Consequent on this, most individuals experiencing hearing impairment regularly get confused. The next thing is that they "check out" emotionally and physically from that environment. Finally, they lose their self-reliance even when the inner strength is there (Harter, 2006; Weisel and Kamara, 2005; Henderson, Grinter and Starner, 2005). In order to forestall all these, Isaiah and Aderibigbe (2013) are of the opinion that adolescents with hearing impairment will be in need of counselling services, as these will enable them to maximise their potentials and adjust to their environment.

2.1.3 Concept of Onset of Hearing Loss

Hearing impairment, otherwise referred to as hearing loss could be labelled in terms of the time it occurred. Onset of hearing loss therefore was described by Kirk, Gallagher, Anastasiow and Coleman (2006) as age, which the loss occurred. This could be a definite or estimated time in which the condition was noticed or observed in the individual.

The loss which occurs before or at birth is known as congenital hearing loss (Kirk et. al., 2006). In addition to this, there could be an early-onset, meaning an occurrence of hearing loss before meaningful language could be developed hence the time is known as prelingua/prelinguistic loss. A report from the National Child Traumatic Stress Network (2006) presented that innate elements are usually liable for a very large percentage of congenital hearing loss at childhood. Recessive genes are identified as being responsible for some of these genetic factors while others could be attributed to dominant gene and other inherited or accidental factors.

Postlingual or postlinguistic hearing loss is that which occurred after the child had acquired meaningful language, in terms of vocabulary, syntax and grammar (Kirk et al, 2006). It is recorded that there are some preventable causes of post-lingual hearing loss. One of such is the noise in recreational settings. World Health Organisation was quoted as reporting that young people (aged between 12 and 35 years) who are about 1.1 billion population are threatened of losing their hearing due to constant contact with recreational noise. Incidentally, the organisation presented

that we start to have a declined hearing starting from around age 20 (World Health Organisation, 2019). Though this age-related loss may not normally lead to total loss of hearing, higher frequencies are usually affected. The sound or speech may be heard but not understood. This could then account for hearing damage, manifesting as completely inability to hear, hard-of-hearing, anacusis or hearing defect, being grouped together and termed as a functional or complete incompetent to perceive sound or verbal codes (World Health Organisation, 2019).

Hearing impairment, irrespective of onset of losing the hearing, definitely to a large extent affects the capability of someone who experiences the loss, preventing communication with others in his immediate or larger society (WHO, 2019). It is noticed that among the children, there is usually a delay in language development. The adolescents and adults are equally affected as they are often excluded from communication; this invariably impacts them socially and emotionally. As a result of this, the problems of isolation, loneliness and frustration are usually reported (WHO,2019).

Academically, children who experience prelingual hearing loss are recorded to be backward as grade failure is found to be on the high side among them. This is an adverse effect of the delayed language development, as language development starts even before birth (Kirk et. al., 2006). Furthermore, it is stated that youngsters experiencing hearing problems hardly could access education especially in the developing countries (WHO, 2019). This could limit the potentials of such children especially economically.

World Health Organisation (2019) reported that hearing loss could bring a devastating effect on the economy of entire world. This cost involves the amount to be expended on the health as well as education of the individual with hearing loss. Underproductivity could be another impact, as majority of these individuals could be underutilised.

2.1.4 Concept of In-School Adolescents with Hearing Impairment

Adolescence is a juncture of life at which an individual begins to undergo some physical, emotional, cognitive and social changes. These changes require adaptation from the adolescents. It is a stage that one can be easily confused, making or marring (damaging) his future. The reason is that it is the stage when an adolescent is just discovering himself, getting to understand himself. So he is just building up an

identity for himself (Brice and Strauss, 2016). World Health Organisation (WHO, 2018) classified adolescents' age range as between 10-19 years.

Adolescents become confused as a result of self-consciousness or self-awareness. Due to this thought line in the adolescents, the adolescents ususlly experience crisis nearly on every area of their lives. It is a taxing stage of life which often triggers emotions and behaviours suggestive of saying "leave me alone" or "give me attention". There is usually a deficit in what is said to them and what they hear. This is the major reason why adolescents are in need of adaptations in order to be fit for their endeavours.

Adolescents with hearing impairment both in and out of the school are often faced with additional demands beyond their hearing counterparts. Brice and Strauss (2016) explained from their findings that the hearing impaired at adolescence, find it difficult to adapt in the hearing world. They pointed out that these adolescents, due to the hearing impairment, have little or no information on how to socialise with others, specifically their hearing counterparts.

In-school adolescents with hearing impairment are adolescent within the age of 11-21 currently enrolled in either primary or secondary schools. This can be in special, mainstream and or inclusive schools that may either be residential or day school. The concept of inclusiveness is all about having all children enrolled in the neighbourhood school irrespective of their disabilities, with the provision of the special resources in form of human and material. The motive behind this concept is to promote unity and bonding through equal opportunity. It is believed that since the hearing impaired do not have a separate society, they will eventually have the hearing as their neighbours, co-workers,business associates or fellow worshippers (Obi and Ashi, 2016).

In spite of the concept of togetherness in form of mainstreaming and inclusiveness, Nunes, Pretzlik and Olsson, (2001) observed that these in-shool adolescents with hearing impairment most of the time, experience social isolation, lonliness, segregation and discrimination. These experiences without doubt, injure their emotions and thereby block their socialisation moves. Low self-esteem among the in-school adolescent with hearing impairment stems out from the usual unwelcoming reactions from the rest of the school (hearing couterparts and even some non-teaching staff).

These unwholesome reactions could graduate to equally unwholesome treatment being meted out to them from their hearing peers. These can come up in form of isolation, exemption from fun-filled activities (such as footballing), discrimination, abuse and even stigmatisation which can make adolescents with hearing impairment drop out of school (VanGent, Goedhart and Treffers, 2011). Though adolescents make interactions in order to make new friends and explore, in-school adolescents having hearing defects discover it is challenging to do this with their hearing mates due to language barrier. Both parties do not understand the other one. Since the in-school adolescents experiencing hearing difficulties are usually in the minority, they go about alone or with limited interactions while the hearing peers have a great number of friends.

Academic progress of the in-school adolescents with hearing impairment is often reported to be below average. Farmer and Adams (2021) attributed this to their social-emotional incompetencies. In their words, the scholars expatiate the social-emotional to comprise ability to control one's feelings, project clear cut visions, cope with stressful situations as well as accurately communicate. To overcome this ordeal, Farmer ans Adams (2021), Satapathy (2016) recommended adaptation skills. These skills recommended included goal directed behaviour, relationship skills, optimistic thinking, among others. This is to arrest the incidences of academic failure and by extension dropping out of school, as it is dishearting to know that one out five students that drop out of school is a child or adolescent with disability (including the hearing impaired), (Santos and Nune, 2011).

In-school adolescents with hearing impairment stand a chance of having a leverage to have quality and quantity job opportunity, health and other benefits unlike out-of-school adolescents with hearing impairment who become underutilised as anyone without required educational background is usually regarded as not having possessed required skills (Watt, 2019). Formal education is presumed to make the hearing impaired better informed about their rights, challenge stigmas and occupy the vantage positions in their communities.

2.1.5 Concept of Self-esteem

Self-esteem denotes typical personal comprehensive evaluation of oneself; and could also be considered to be worthiness placed on self; or better still, a picture carved out about self (Santrock, 2002). For instance, a person could recognise that he

is not ordinary but decent or otherwise. Rosenberg (1979) described self-esteem to be cumulative appraisal that someone has of his worthiness in human perspective. In the light of this, self-esteem could be regarded as global since it refers to the entireties of personal qualities instead of being singular facet (Rosenberg, Schooler, Schoenbach & Rosenberg, 1995). In order to have a superior knowledge of the concept, Purkey (1988), Harter (1999), Hurtt (2004) and Mekonnen, Hannu and Lehtomaki (2016) deliberated on the connection that self-esteem and self-concept shared. Self-concept is described to be insight which individuals possess concerning diverse traits of their qualities and their make up. It is presented that while self-esteem is regularly engaged to denote the affective or expressive part of the individual's disposition, that is, referring to the impression someone has about or prices someone places on himself or herself, self-concept is regarded as the cognitive (mental) intellectual part of personal identity. It is assumed to be related to the image projected about one's self, commonly referring to whole of an intricate, structured and vibrant organisation of cultured principles, outlooks and ideas that each person embraces to be true about his personal being and where he fits in, in the society or among his mates. In essence, self-esteem can be described as specific measures about the constituents of self-concept. However, both self-esteem and self-concept are sometimes used in place of each other (Marsh, 1993).

Another scholar (Braden, 1997) defined self-esteem to be the outlook to knowledge one has, judging one'self to be proficient in managing the elementary trials of life and being eligible to be happy. To him, to think constructively and positively is a factor of self-confidence in the efficiency of our mind.To a large extent, self-confidence in our capability enables us to learn, present suitable choice together with appropriate decision, as well as responding excellently towards modification. In view of this, self-esteem can be referred to as someone's overall evolution or evaluation of the self, as well as state of mind about self-worth (Theunissen, Kouwenberg, Soede, Briaire and Frijins, 2014).

Hearing impairment whether congenital or adventitious (that is acquired) presents adverse outcomes on communal and psychological health of the affected one. Concerted research reports have revealed a considerable effect of deafness on psychosocial well-being of the affected person (Adeniyi and Kuku, 2016). The earlier studies on self-esteem posited that people with hearing impairment possess little self-esteem as they are grouped as undervalued subgroup and could assume the

undesirable attitude different from the general hearing population (Lane, 1992). This is because memberships of minority serve as factor moderating self-esteem of its members (Jambo and Elliot, 2005). A subgroup comprises people who could be identified by same features and these are in a subsidiary ranking of the the general population. These groups are often defamed and they include individuals with disabilities, (part of whom individuals with hearing impairment belong), ethnic minorities, socially disadvantaged among others (Jambo and Elliot, 2005). Regardless of whether kids with hearing impairment are brought up by parents with hearing or deaf parents, similar treatments are experienced as they attempt to discover their ways in the main stream of the society. Often times, these children are likely to have confronted with frustration, humiliating misunderstandings, and isolation in form of being left out of verbalised conversation. These present lots of difficulties in social adjustment and evaluation of themselves. Though a number of researches have shown that youngsters with hearing impairment who are brought up by parents with hearing loss frequently have leads over those who are raised in the hearing families (Jambo and Elliot 2005), nevertheless, those findings are contentious as there are other reports that have indicated that hearing impairment negatively affects social well-being of the affected person (Bat-Chava, 1993; Emerton, 1996; Crowe, 2003). This is because large heterogeneity of cognitive, social and emotional discrepancies often attend impairment of hearing. These discrepancies are quite obvious in their social and academic behaviours.

However, having positive or negative self-esteem is a determinant of environment and may not totally hinge on ones attributes such as disabilities, ethnic minority, and social disadvantages among others. Researchers have revealed that self-esteem is not inherent and can therefore be modified (Branden, 1997; Santrock, 2002). It can be great or little (Santrock, 2002; Jambo & Elliot, 2005) and can be fashioned over a period of time and not prompted by drugs (Branden, 1997). Santrock (2002) posited that self-esteem can transform particularly in reaction to alteration in the course of life. This position gives clear indication that somebody with adventitious (acquired) deafness can swing from positive to negative self-esteem owing to transition experience at their time. This is because failure to achieve the desired goal is exclusively associated with the linking between low self-esteem and depression. Impairment of hearing which occurs at adulthood generates difficulties that are not the same as problems of those born without hearing or those whose hearing was damaged

at a very tender age (Munoz-Bael and Ruiz, 2000). Individuals with genetic hearing impairment face difficulty in social adjustment. This is because congenital deafness presents linguistic barrier which in turn affects communication. Communication incapacity in turn, may give rise to being rejected socially, acquiring little education, and being of low-status which invariably affect how one values himself. These attending situations have serious damaging effects on self-esteem (Strong and Shaver, 1991).

Furthermore, going by audiological assessment, hearing, of even the highest degree and frequencies could be restricted (Luey, Glass and Elliot, 1995). Observation revealed that those people in profound hearing loss category are required to identify with their deafness in as much as the most advanced high-tech means can enhance their hearing meaningfully (Jambo and Elliot, 2005). These individuals with deafness are expected to admit to the fact that their deafness is a status that they have to bear throughout their life time. As a result of this, they often seek the company of others of similar attributes which may form strong basis for having improved self-esteem in comparison with others that suffer the range of mild to moderate hearing loss.

Contrariwise, those who suffer mild to moderate or with other less frequency loss may conceal their auditory shortcomings. This is because they believe they possess residual hearing which allows them to perceive some of the sounds and voices around them (Luey, Glass and Elliot, 1995). Nevertheless, their hearing loss may portend some hindrance to smooth conservation and communication which may make them to seek further clarification in form of facial cue, lip reading, and then sometimes body language. As these are not usually totally possible, individuals experiencing hearing impairment may lose some vital information when needed which can result to mood of inadequacy and frustration thereby reducing self-esteem of individuals with impaired hearing (Moore and Levitan, 1992).

It cannot be overemphasised, that the stress associated with adolescence for an individual especially for an adolescent with hearing impairment is of a great magnitude. It is a stage regarded as a time of fast change in many areas such as bodily, cognitive and social or interrelatedness (Brice & Strauss, 2016). There could be early changes for some while others experience the changes much later. These changes enable an adolescent to consciously become conscious of himself or herself, hence the need for adaptations. Brice and Strauss (2016) are of the mind that the

adolescents, otherwise referred to as youngsters, must adjust by developing skills needed for acclamatising with the growing environmental pressures.

Adolescents experiencing hearing defects however, find it difficult to adapt at this stage. They are usually confronted with additional challenges of handling these new developments in a hearing world whereby ability to communicate and acquire information, particularly about the social aspect of their life is deficient if at all available, or non-existent at the extreme (Brice and Strauss, 2016). Invariably these adolescents having hearing impairment could feel isolated from their hearing peers since they cannot access information may be partially or fully. Communication challenges including unconducive communicative settings especially in the initial years by individuals with hearing impairment are substantial factors in developing low self-esteem (Mekonnen et. al., 2016). These can further be broken down to uneffectivec communication skills of the parent, insufficient bonding between mother and child, expressions of distrust based on a sense of discrimination and hurtful approaches towards adolescents with hearing impairment, inability to acquire sign language, nonexistence of suitable exemplars, social seclusion, undesirable outward physical appearance, denial by relatives and the general public (Bat-Chava, 2000; Schlensinger, 2000; Hintermair, 2008). The adolescents with hearing impairment who experience some or all the listed conditions will without doubt at this stage have low self-esteem, as recorded by many studies.

Naturally, an adolescent with hearing impairment needss not have low self-esteem all things being equal. It can be inferred that his experiences with individuals without hearing loss placed a demarcation on his development as it is difficult for him to reach out to them majorly due to his hearing loss. Adeniyi and Kuku (2016) presented that forming peer relationship and developing high self-esteem could be difficult for the adolescent with hearing impairment since he is just developing his sense of identity. He feels ostracised and so may be downcast, placing no value on himself, having no self-worth. Goldfried and D'Zurilla (1969) provided a behavioural definition of social skills that are operationalised which include efficiency or competence, demonstrated in response to the different challenging circumstances which threaten him. Thus, according to this definition, the ability to solve a problem is closely tied to the concept of social skills. In essence, possession of social skills would to a large extent assist in solving the problem of low self-esteem among individuals with hearing impairment.

Specifically, adequate self-esteem is tremendously required for capability to manage stressful life events. Possession of adequate self-esteem is believed to have multiple effects on our lives, such as being able to establish friendships, having academic and career successes (Theunissen et. al., 2014). Contrarily, weak self-esteem is related to the state of being lonely, peer rejection, being angry, deliqeuency and psychopathology, that is, disorder of the mind. Appropriate self-esteem is therefore canvassed, as good self-esteem is described as an attribute of the psychologically healthy individual.

Some of the characteristics of low self-esteem are presented as lack of trust in one's opinion, allowing others make important decisions, following and conforming to others, lack of self-confidence and believing one is not worthy of being treated respectfully. Low self-esteem should then be discouraged as much as possible. Although it is assumed to be difficult to improve as it usually develops gradually over the years, it is however not impossible to improve on one's self-esteem (Horizons, 2018).

One of the means suggested for improving on self-esteem is by improving on the social skills. Observation made revealed that mostly poor self-esteem manifests in form of poor social skills. This implies that individuals with poor social skills may have low self-esteem. Social skills could be measured by means of behaviours facilitating friendships, gaining approval of the peers as well as having more helpful interpersonal products (Ladd, 1997). Social skills comprise displaying concern for other people, emphasising necessities, showing considerations together with compassion (Ladd, 1997). Another aspect of social skills is effective means of exchanging information. An individual with hearing impairment can do this by using paper and pen, gestures or the use of an interpreter. Social skills are acquired right from birth all through childhood up till adolescence (Matsy & Schewa, 2006). It is opinionated that as the social skills improve, self-esteem also improves and the individual previously distressed becomes psychologically healthy and begins to exhibit more appropriate behaviours towards others, learning to gain satisfactions from relating to others, and trying being more assertive as his rights, freedoms and responsibilities are involved (Seema and Kumar, 2018).

2.1.6 Concept of Cognitive Behavioural Therapy

Cognitive behavioural therapy was originally established at the beginning of 1960s by Aaron Beck. The theory proposes that during clients' cognitive growth they learn inappropriate ways of handling and understanding information. Cognitive behavioural therapists try to undo clients' distortions and assist them to acquire diverse and more realistic ways of handling and proving received information. However, cognitive behavioural therapy's theoretical foundations are from three major sources. First, the phenomenological method of psychology, which postulates that someone's interpretation of self and peculiar realm are dominant on how they behave. Second, theory of structure and depth psychology; particularly, Freud's theory backed Beck's structuring cognition into elementary and succeeding process. Third, the effort of cognitive psychologists in the modern time, like George Kelly influenced Beck (Beck and Weishaar, 2000). For example, Kelly's theory of personal concepts can be compared with Beck's impression of Schemas (Beck, Freeman and Associates, 1990).

Cognitive behavioural therapy purposes clearly towards "reenergising" the reality–testing structure (Beck, Freeman and Associates, 1990). In irregular degrees, clienteles with psychopathological conditions and pairs in unhappy relations have missed the capacity to reality–test dysfunctional clarifications. Cognitive behavioural therapy imparts adaptive metacognition into the clients – reflecting over their thinking in order for them to right their wrong way of handling cognitive issues and cultivate suppositions that permit them to go along. Although cognitive therapy may, to begin with, focus on symptom respite, its definitive objective should be to eliminate methodical prejudices in how clients reason. Furthermore, cognitive therapy wishes to convey behavioural expertise applicable to clients' difficulties, such as attention-paying and communication abilities for distressed individual or assertive abilities for nervous people (N-Jones, 2001).

Clients are informed about the objective of cognitive behavioural therapy which is for them to become their own therapists. When working with clients' cognition, goals comprise training them to:

1. trace damaging automatic thoughts which are instinctive;
2. recognise links joining cognition, affect and behaviour;
3. check and conduct reality–test to prove in support of and against biased automatic thoughts;

4. replace highly accurate clarifications in place of biased cognitions; and
5. find out how to recognise, then modify the views which have inclined them to misrepresent their previous undertakings (Beck and Weishaar, 2000).

Clients need not be highly intelligent to gain from cognitive therapy. The therapy is highly active with clienteles who concentrate on their automatic thoughts and are ready to make some efforts on self-help. This therapy is not approved to be used with clients having weakened reality–testing status, such as illusions and misapprehensions, or for clients with weakened retention, also cognitive aptitudes, in the form of carbon-based brain conditions. For some maladies, including recurring typical depressive occurrences, a blend of cognitive behavioural therapy and medicine is suggested (N-Jones, 2001).

However, cognitive behavioural therapy comprises both cognitive and behavioural interventions. The intercessions designated should rest on aspects including the quality of the client's difficulties, the therapeutic objectives and the rate of functioning.

Cognitive Interventions Procedures

Here are few of the foremost cognitive interventions employed by cognitive therapists to support clients in substituting their biased automatic thoughts as well as their beliefs with more genuine methods of handling information as mentioned by Beck and Weishaar (2000).

- Eliciting and Identifying Automatic Thoughts

To modify their thinking, clients must first be mindful of their thinking processes. Below are some specific interventions for eliciting and identifying automatic thoughts.

Providing reasons: Therapists can mention the significance of scrutinising the connection concerning the manner the clienteles reason, feel, then react to situations. Furthermore, the therapists can introduce the idea of automatic thoughts and make available an example of the way underlying perceptions influence feelings. Additionally, therapists can discuss the main supposition of cognitive behavioural therapy in the light of the complications often experienced in challenging the reality of the validity of the interpretations they give to their seemingly acquired information.

Inquiring: Clients may be interrogated on automatic /involuntary thoughts that occur for the duration of distressing situations. Where clients experience struggle in

recalling thinking pattern, imagery or role-playing method may be empolyed. During interrogation, therapists take note of clients cautiously for signs of distress that may lead to further questioning.

Using a whiteboard: As the therapist inscribes the board with the clients' original thoughts, the clients may generate less obvious and more frightening thoughts.

Encouraging participants to be involved in feared events: Frequently, for the duration of sessions, clients stand to be stimulated to take part in anxiety-evoking activities: for instance, making phone calls/sending text messages or writing letters they had been putting off. As they perform the activity, therapists can ask questions like: what is moving along your mind at this moment? The therapist can also go with the client into real life situations where they experience difficulty, for instance, crowded places, and get them to mention what they think.

Concentrating on imagery: Collecting data about pictures could be a significant way of editing automatic thought. Though individual differences exist, clinical observations suggest that a lot of people envisiaging sights respond to them as though they were real.

Self-surveillance of thought: Clientetels are given assignment in which they document their automatic thoughts. They may complete a Daily Record of Automatic Thoughts log in which they record in the respective columns.

- day
- conditions bringing about adverse emotion(s)
- the degree of emotion(s) felt, ranged on a 0-100% scale.
- rating of how strongly they believed the identified automatic thought(s) on a 0-100% scale

Therapists may encourage some clients to use wrist counters to help them learn to recognise automatic thoughts as they occur.

- Reality-testing and Modifying Automatic Thoughts

Interferences for assisting clients to see their thoughts as suppositions that necessitate trial to ascertain reality; then if this requires that they dump, adjust or substitute them, then the following could be included:

Conducting Socratic dialogues: Questions constitute the principal type of verbal statement in cognitive therapy. Questions reflect the elementary pragmatic direction of the methodology and have the direct objective of changing clients' conviction

systems into organised systems. More particularly, inquiries seek to support clients; come to be conscious of what their thoughts comprised; scrutinise the thoughts for cognitive biases; replace them with more accurate thoughts; thereafter design strategies for cultivating fresh thought models. An elementary awareness making question is to request from the clients: What is going on in your mind at this moment? Therapists inquire instead of indoctrinating or brainwashing as well as disputing. Directed in a sensitive climate of cordiality and acceptance, the Socratic style of inquiring helps clients to develop and assess how they think. Common questions could be:

Is there a proof?

Is there logic?

Could there be other means for identifying the circumstances?

Do I have anything to suffer?

Do I have anything to benefit?

What would be the most awful thing that could take place?

Can I learn from this experience? (Beck and Emery, 1985; N-Jones, 2001).

Clients learn to ask themselves the same questions that their therapists have asked. For instance, however plausible their automatic thoughts may 'feel', clients in distressed relationship can question their validity by examining themselves through the following sequences of interrogations:

Is there any evidence in favour of my understanding?

Does it reasonably follow from my spouse's actions that my spouse has the intention that I assign to him or her?

Is there a substitute clarification for his or her behaviour? (N-Jones, 2001).

Furthermore, N-Jones (2001) broke down the techniques usually engaged in cognitive intervention to include.

Categorising cognitive distortions: Therapists can categorise for the clients some well known cognitive distortions, for instance arbitrary inference and magnification. During therapy, as well as for the assignment, distortions could be detected by testing the clients in the manner of their thinking. Clients may use the three-column techniques for this:

- Column one – designate a condition that elicits undesirable emotions;
- Column two – pinpoint their automatic thoughts in the situations;
- Column three – list the natures of distortions in these thoughts.

Decatastrophising: Decatastrophising involves asking the basic questions such as 'and what if it happens?' The scope of this technique includes: the event's prospect and gravity, the clients survival ability and back up factors, and the clients' readiness to admit and handle the most terrible possible outcomes.

Reattribution: Reattribution technique tests automatic thoughts and basic beliefs, by bearing in mind another methods of allocating responsibility and cause, clients can be encouraged to rate on a 0-100 scale, the level of responsibility felt for adverse events and dreaded outcome. By means of questioning, the therapist attempts to loosen them up by generating and evaluating alternative explanation.

Redefining: Redefining involves making the problems really visible and declaring these problems to determine what the client should do. An example is that of an isolated person who senses uncared for, may then redefine his or her problems as"I need to launch out to other persons and be caring".

Decentring: Decentring, a form of assistance given to clients in order to challenge the belief that all and sundry is concentrating on them. Clients can be stimulated to evaluate further closely, what others are doing: for instance, other students may be daydreaming, looking at their lecturer, or taking notes. In addition, clients can be requested to meticulously note how often they attend to others. This may help them realise in what way their observations are limited, and consequently deduce that other people's mindsets are the same.

Daily recording of rational responses: When ready, clients can be encouraged to fill out the rational response and outcome columns on their Daily Record of Automatic Thoughts log. In the outcome column, clients:

- re-rate their beliefs in their automatic thought(s) on a 0-100% scale, and
- specify what their succeeding emotions are and grade them on a 0-100% scale.

Imagery techniques: Numerous imagery techniques are discussed by Beck and Emery (1985). These techniques assist clients to gain more accurate perceptions through constant visualisation of images, through projecting themselves into the future and looking back on their present situations, and by getting them to exaggerate images, for instance, of harming others.

- Identifying and modifying underlying beliefs

Underlying beliefs may be harder for therapists to access than automatic thoughts. Often they fall into one of three main belief clusters centering on issues of:

- acceptance – for instance, ‘I’m flawed and therefore unacceptable’;
- competence – for instance, ‘I’m inferior’; and
- control – for instance, I have no control.

Underlying beliefs are signposted by the themes in clients’ automatic thought. Client’s behaviour, coping approaches and peculiar pasts are supplementary fonts for therapists to institute belief suppositions. Most clients find it difficult to articulate their belief without assistance. Generally, therapists present hypotheses to clients for verification. Where clients disagree, therapists can work with them to form more accurate statements of their beliefs. Following are some cognitive interventions for modifying beliefs, as presented by Beck and Emery (1985).

Socratic questioning: Therapists can use questions that encourage clients to examine their beliefs: for instance, ‘Does the belief make sense? Is it possible that you review the proof for it? And what are the benefits and shortcomings of maintaining the belief?

Hypothesis testing: Jointly, therapists and clients can conduct investigations that encourage clients to assess the realisation of their belief.

Reliving childhood memories: Beck (N-Jones, 2001) presented that with prolonged personality disorders, it is crucial to use childhood material to assist clients in reviewing and loosening their underlying beliefs. By re-creating ‘pathogenic’ growing circumstances in form of role-playing and role reversal, clients have an opportunity to restructure or modify belief formed during this period.

Refashioning beliefs: Therapists can assist clients to refashion their beliefs. Beck (Beck and Emery, 1985) gave the example of M.K., a director of a research institute at a major university, who suffered from an elementary depressing disorder as well as generalised anxiety disorder. Client in question has strong beliefs of inadequacy and rejection which he crystallised as ‘I have to be the best at everything I engage in. One of M.K.’s beliefs was refashioned thus: ‘It is gratifying to succeed highly, but smaller success is equally rewarding, in fact it has no bearing on my adequacy or inadequacy. ‘I am adequate no matter what’.

Behavioural interventions

Behavioural interventions have many purposes in cognitive behavioural therapy. First, behavioural interventions can lay the foundation for later cognitive work. An issue arises, on either to concentrate on behaviour aspect first, cognition

aspect first or the two concurrently. Behavioural interventions may sometimes be used before cognitive interventions to promote relief of symptom and enhance willingness. For instance, severely depressed clients may be encouraged to perform minor responsibilities to counter their moving apart, get the clients involved in productive exercises, as well as encourage them to open their minds to the possibility of gaining satisfaction from previously pleasurable activities. In contrast to average people, depressed clients can transform their behaviour evidently, but do not essentially transforma their harmful hypervalent cognitions (N-Jones, 2001). Second, behavioural interventions can be employed to support clients in testing the reality of their automatic thoughts and beliefs. A third use of behavioural interventions is to assist clients engage in feared activities. A fourth use is to train clients in specific behavioural skills. Since the use of behavioural interventions overlap, they are not categorised according to purpose. Some of the main behavioural interventions used by cognitive therapist include the following:

Activity Scheduling: Scheduling of activity is related to having a timetable. Designing particular exercises with clients can be vital in assisting clients to realise that they can regulate their time. A norm of activity scheduling is to emphasise what activity the client decides to participate in somewhat than how much they will complete. Clients can spare each evening to strategise their undertakings for the following day.

Rating mastery and pleasure: Using 0-10 Scales of 0-10, clients can rate the grade of mastery and grade of pleasure they encountered in each exercise during the day. Mastery and pleasure ratings can provide depressed clients an understanding into the activities that lessen their dysphoria.

Hypothesis testing: Hypothesis testing has both behavioural and cognitive characteristics. Especially later in therapy, behavioural experiments may be designed to provide information that may contradict existing automatic thoughts, faulty predictions and underlying beliefs. A youth about to terminate a prearranged meeting because of the fear ‘What will I say at the meeting?’ was helped to go on the date and treat, not knowing what to say as an experimental hypothesis. The findings of this particular experiment disproved his hypothesis (Beck and Emery, 1985).

Rehearsing behaviour and role-playing: Behavioural rehearsal can be used to develop clients’ skills for specific social and stressful situations. Demonstration and video feedback can be used as part of skills training. Behaviour rehearsal should have an amount of trials and review through clients in a variation of responses. Also, clients

can rehearse situations by using their imaginations.

Assigning graded tasks: Often, clients fail at tasks because they try to do too much too soon. Therapist and clients can develop hierarchies of feared or difficult situations. Then clients can perform less threatening activities before moving on to more threatening ones.

Using diversion techniques: Clients may be encouraged to engage in activities that divert them from their strong negative emotions and thoughts. Such activities include work, play, socialising and doing something physical.

Assigning homework: Homework, otherwise known as assignment is a central part of cognitive behavioural therapy. Its goal is both to make short the time spent in therapy sessions and assist in the development of cognitive and behavioural expertise for usage subsequently after psychotherapy. Exercises for homework include self-monitoring, activities planned to reality-test automatic thoughts and original beliefs, executing techniques for managing particular situations and activities for increasing cognitive distortions, rational responding and refashioning beliefs (N-Jones, 2001).

Cognitive behavioural therapy has been used among all ages. It has been used for group work with families. Recent presentations of cognitive behavioural therapy include working with clients with posttraumatic stress disorders, substance abuse problem, schizophrenia, hypertension and dissociative disorders. Therefore, the therapy could be of benefits for adolescents with hearing impairment experiencing psychological distress.

2.1.7 Concept of Self-management Therapy

Self-management therapy, in the view of Kanfer and Goldstein (1991), was centered on the participatory ideal, which emphasises the essence of the responsibility of the client. Instead of offering a protective treatment environment, it boosts rehabilitative participations through which the client assents to cumulative tasks for his or her own behaviour in handling the environment and designing the future.

Kanfer and Grimm (1980) asserted that the traditional concepts underlying the activities of health workers imply an administrative model of treatment. The model presumes that clients seek assistance earnestly to change their current problem situations. The therapist administers a treatment to which the client submits and which eventuates in improvement in the client's life conditions. The model assigns a caretaking function to the therapist and a relatively passive, accommodating and

trusting role to the client.

The therapeutic environment is a transitory support system that prepares the client to handle social and personal demands more effectively. Self-control techniques (which are paramount) are prescriptive methods that place much of the burden of engaging in the change process on client. Nonetheless, they regard the therapist's role as crucial in providing the most favourable conditions for change (Watson and Tharp, 1977).

The Self-management framework is based on the following rationale:

- Human behaviour can not be easily accessed for scrutiny by another person but the client. For example, some intimate behaviours, distressing thoughts, or emotional reactions can lead to client's discomfort even though other people do not notice their occurrence. Participation of the client as a cooperative observer, reporter and change agent, is then essential.
- Changing behaviour is difficult and often unpleasant. Many clients seek assistance but often they are motivated not so much as to change but to alleviate current discomforts or threats, preferably without altering their behaviour or lifestyles. The client's approval of the goals together with the procedures of therapy is a basic motivational requirement. Therefore, the change process is conducted within a negotiation model that stresses the need for joint decisions on method of setting parameters and goals.
- The usefulness of a change programme is not just in removing situation specific problems or symptoms. What is learnt in therapy should include a set of generalisable coping strategies and an ability to assess situations and anticipate behavioural outcomes to encourage the client in avoiding or handling future problems more effectively than in the past (Spates and Kanfer, 1977).

Accepting responsibility during treatment obliges the client to develop a tough drive to change. Therefore, the early phase of self-management therapy is planned to assist the client admit the essentiality of adjusting, also cultivating genuine motives for treatment (Kanfer and Grimm, 1980).

As posited by Kanfer and Goldstein (1991), self-management therapy may possibly focus at three outcomes: to assist the client obtain more real interpersonal, cognitive and passionate behaviour, to modify the client's perception as well as

evaluate his/her attitude towards challenging circumstances and to either modify a stress-instigating or intimidating situation or aspire towards managing it by accommodating or agreeing that it is unavoidable. While most efforts have focused on changing rather than learning to accept problem situations, realistic appraisal sometimes also requires that clients learn to cope by adopting new attitude towards situations that cannot be altered. Such techniques as self-observation contingent self-rewards, problem-solving, or contracts serve the function of facilitating change.

Behaviour is regarded as the outcome of three foundations of control: the immediate environment, the person's genetic system and the clues initiating from the person's collection of cognitive and self-directive variables. Those three spheres of influence mentioned relate together, and it is their combined effect at a particular point in time that ultimately shapes behaviour. Although the influence of a sole factor can not ever remain reduced to zero, its comparative significance moves through intervals, also through changing environments. For example, eating behaviour is sometimes primarily under the control of the biological system. At other times, environmental variables such as the smell of fresh bread or the sight of other people eating are more important. Training in self-regulation can decrease the effect of transitory instabilities in natural and ecological variables on a person's behaviour, with such therapy freeing the individual to pursue self-imposed goals with some consistency across time and situations. However, such control breaks down when the strength of variables originating in the environment or in the person's biological system is substantially increased (Hayes and Nelson, 1983).

In the opinion of Kanfer and Goldstein (1991), they presented that social-learning theory assumes that man’s ordinary behaviour comprises series of reactions that have been previously built up so that a response is automatically prompted by completion of the immediately past reaction. For example, typing, driving a car and preparing breakfast are associated with well-learned repertoires stored in long-term memory. Their proper execution does not require continuous decision making about how to proceed. These well-learned sequences are related to the automatic mode of cognitive processing, which has been comprehensively studied by cognitive psychologists. However, Fish and Schneider (1984) asserted that automatic processes, once established, do not have the need of attention, can be done in parallel with additional actions, and are difficult to modify. In some situations, greatly learned repertoires are not available, or previously learned repertoires are no longer effective.

Furthermore, anytime new behaviours are necessary to be learned, as choices must be made, as goals are attained or unrealised; as usual reaction series break up or are unproductive, self-regulation processes are called to play. A qualitatively diverse kind of cognitive operation known as uncontrolled dispensation marks the onset of self-regulation. Controlled dispensation demands concentrated attention and constant decision making among different responses. Numerous maladaptive behaviours are related with well-learned repertoires that are performed in an automatic fashion. The helper's task often involves assisting the individual to deautomatise troublesome behaviour patterns, making them accessible to the self-regulation process and to reautomatise newly learned and more adaptive behaviour chains. Once initiated, the self-regulation procedure is categorised into three different stages which include self-monitoring, self-evaluation and self-reinforcement stages (Fish and Schneider, 1984).

- Self-monitoring stage

This stage involves intentionally paying attention to one's personal behaviour for example, the social drinker might monitor the number of drinks he consumes each day or his behaviour while drinking. Based on the bans of the previous encounter, the drinker has fabricated prospects of tolerable drinking behaviour, this may be called presentation measures or standards, the rules through which a person evaluates his or her own behaviour. These rules are influenced by social values and personal experience.

- Self-evaluation stage

This is an evaluation conducted between the information gotten from self-monitoring and the individual's standards for the identified behaviour. The stage involves an evaluation between what one's present behaviour and what one is expected to be doing. Self-evaluation, centered on wrong or deficient self-monitoring interferes with efficient self-regulatory behaviour since the evaluation does not produce the desired direction needed for correcting the focused action.

- Self-reinforcement stage

During this stage, an individual reacts cognitively and enthusiastically to the outcomes of the self-evaluation. These actions generated have effects on the feedback, which then affects the capacity of the scheduled behaviour, and the actions equally have feedforward effects, manipulating the client's prospects and behaviour on upcoming occasions (Kanfer and Goldstein, 1987).

The importance of attribution processes at two stages of the model was

emphasised by Kanfer and Hagerman (1981). First, to begin self-regulation the person must be engaged in goal-directed behaviour. He or she must view the requisite behaviour as being under his or her control and secondly, in evaluating the causes of success or failure to reach the aspired criterion, the person can attribute the causes of a discrepancy to some aspect of self or to some external factor. Internal attributions create more arousal and stronger motivation for change, but they can also interfere with the change effort if they associate with global, negative and unalterable characteristics of the person.

2.2 Theoretical Framework

2.2.1 Theories of Psychological Distress

2.2.1.1 Cognitive Behavioural Theory of Depression by Beck

Cognitive behavioural theory of depression by Beck also known as Cognitive Theory of Depression (Beck, 1967) conceptualised depression, which is an aspect of psychological distress, as a disturbance in cognition whereby depressed emotion emanates from a distortion arising through a negative, biased view one has about himself, the world he lives in generally, and his future. However, Beck (1967) recognised three processes which he assumed were accountable for psychological distress; which could be in the form of depression, anxiety or other emotional trouble.

1. The cognitive triad (negative automatic thinking)
2. Negative self-schemas
3. Error in logic (faulty information processing)

The Cognitive Triad

The cognitive triad are three levels of destructive, damaging (that is, making helpless) thinking, being characteristic of whoever is experiencing distress; these include negative opinions about himself, the world where he lives and his own future. These thoughts forming his opinions are inclined to be instinctive in distressed individuals as they seem to transpire naturally.When the three components come in contact, they impede the standard cognitive processing, which results to deficiencies in perception, retention and problem-solving skills which are replaced with harmful, undesirable contemplations.

Negative Self-schemas

Beck (1967) assumed that indivsiduals who are susceptible to psychological distress come up with a negative, destructive self-schema. They are controlled by fixed of opinions and anticipations regarding themselves, which are fundamentally negative (destructive), as well as cynical. Beck opined that destructive schemas probably could be learnt from the cradle as a consequence of a shocking incident. Incidences that could necessitate negative schemas may be of these origins:

- Demise of someone related to one by blood, such as parents and siblings;
- Rejection from a common group, disapproval, overprotection, being deserted or abused by parent and relatives; and
- Unfriendly learning environment in form of bullying or segregation from peer cluster.

Individuals having negative self-schemas are inclined to come up with logical errors in their thought pattern, and then assumedly concentrate arbitrarily on definite parts of a circumstance though disregarding similarly related issues.

Errors in Logic

Beck (1967) identified some irrational thinking processes (alterations of assumed progressions). The irrational thinking patterns could be self-defeating, so bringing about excessive anxiety and depression for the individual. These include:

Arbitrary inference: This is the process of concluding based on insufficient or immaterial fact. A typical example of arbitrary inference could be that of the working class nursing mother who concludes on her own after a hectic day, 'I am a very bad mother'.

Selective abstraction: This involves concentrating on a specific facet of situation to the detriment of others. An example of selective abstraction is that of the boyfriend who becomes jealous as he sees his lady friend slant her head in the direction of a man at a noisy party so that she can hear him better.

Overgeneralisation: Coming to wide undesirable conclusions based on a single inconsequential event. Example of overgeneralisation is that of the woman who comes to conclusion, when disappointed by a man, 'Men are terrible. Men'll always reject me.'

Magnification: This involves overstating the significance of unwelcome events.

Example of magnification is the scholar who sees the situation as a catastrophe 'if I should act however nervous in class it will amount to a disaster.'

Minimisation: This involves underestimating how important an event is. An example is that of the driver who assumes that removal of a bit of paint work on his car will make him a completely terrible driver.

Personalisation: Assigning the negative emotional state of others to yourself. Example include concluding in one's mind that an associate who walks on the other side of a busy street, who refuses to reciprocate a wave of salutation; then assumes 'I have not being courteous enough, thereby offending him/her'.

Dichotomous thinking: Another names for this include black-and-white, either/or and polarised thinking. Individuals experiencing dichotomous thinking take their thinking pattren to the extreme, for instance, 'When I don't make a distinction on this exam, I am a complete never-do-well'.

Individuals who are depressed usually interpret circumstances according to their developed undesirable cognitive representations, and so their automatic thoughts manifest as depressive cognitive distortion. Automatic thoughts could be described as self-statements which are made though the individual does not have the complete information so as to react to it in a comprehensible manner (Carr, 2014).

2.2.1.2 Self-Control Theory of Depression by Rehm

Though this theory of depression through Lewinsohn, centres on the role of the incidents of the environment on depression, Rehm based her own theory of depression on a reflection of incidents taking place internally. In the view of Rehm (1977) on theory of depression, depression comes to be as an outcome of shortfalls in self-monitoring, self-evaluation and self-reinforcement. Precisely, depression occurs when a person arbitrarily tracks the negative events solely, excluding the positive events; giving attention to temporary rather than long-term penalties of actions; using clearly tough measures to assess actions, make negative acknowledgements for personal actions; engaging in little self-reinforcement for suitable behaviours; but engaging in disproportionate self-punishment.

Application of Beck's Cognitive Behavioural Theory to the Development and Management of Depression among Adolescent with Hearing Impairment (HI)

The model was proposed to help adolescents with Hearing Impairment (HI) conceptualise distress and how the treatment protocol could help to improve their mood problem. The model followed Cognitive behavioural theory of depression by Beck (1976). As indicated in figure 2.1, distress cycles often begin with stressors associated with having hearing impairment. These stressors include feeling of being lonely, insecure, shame, bored, and unpleasant. However, the way the adolescents with HI respond to these stressors is a fallout of interaction between thoughts, feelings and behaviours. Beck's cognitive behavioural theory postulates that it is not stressful situations themselves that produce distress, however, it is the dysfunctional or negative analyses that cause distress. By implication, it is not the adolescents' hearing impairment that causes distress, rather, it is the negative interpretations that are made about such condition that create and maintain distress. These negative thought patterns are associated with psychological distress. Consequently, behaviours such as social withdrawal, irritable mood, being aggressive, nail biting, fatigue and poor academic performance are exhibited by these adolescents.

However, therapy is founded on the supposition that it will help the distressed adolescents with hearing disorder come up with more effective behavioural patterns. The treatment protocols for the therapy have two constituents: cognitive and behavioural constituents. The cognitive constituent attempts to help the distressed adolescents identify and break negative thought patterns through techniques such as decatastrophising, refashioning beliefs, forming rational response and redefining. The behavioural component (constituent) emphasises increasing behaviours which are likely to enhance psychosocial adjustment of the adolescents with hearing impairment. The techniques include: graded task assignment, initiating and maintaining peer interaction and recognising social cue. The self-management therapy consists of techniques in the treatment protocols which include acquiring basic skills needed for effective self-management therapy, such as obtaining reinforcement, self-monitoring, challenge test reward, and stimulus control. The management guide for the treatment course in the two therapies is reinforced by daily mood rating log sheets, requests on distress, daily record of dysfunctional thought, weekly self-monitoring record, and pleasant event sheet.

Cognitive Theory of Distress Adapted and Modified from Asarnow, Jaycox and Thompson (2001)

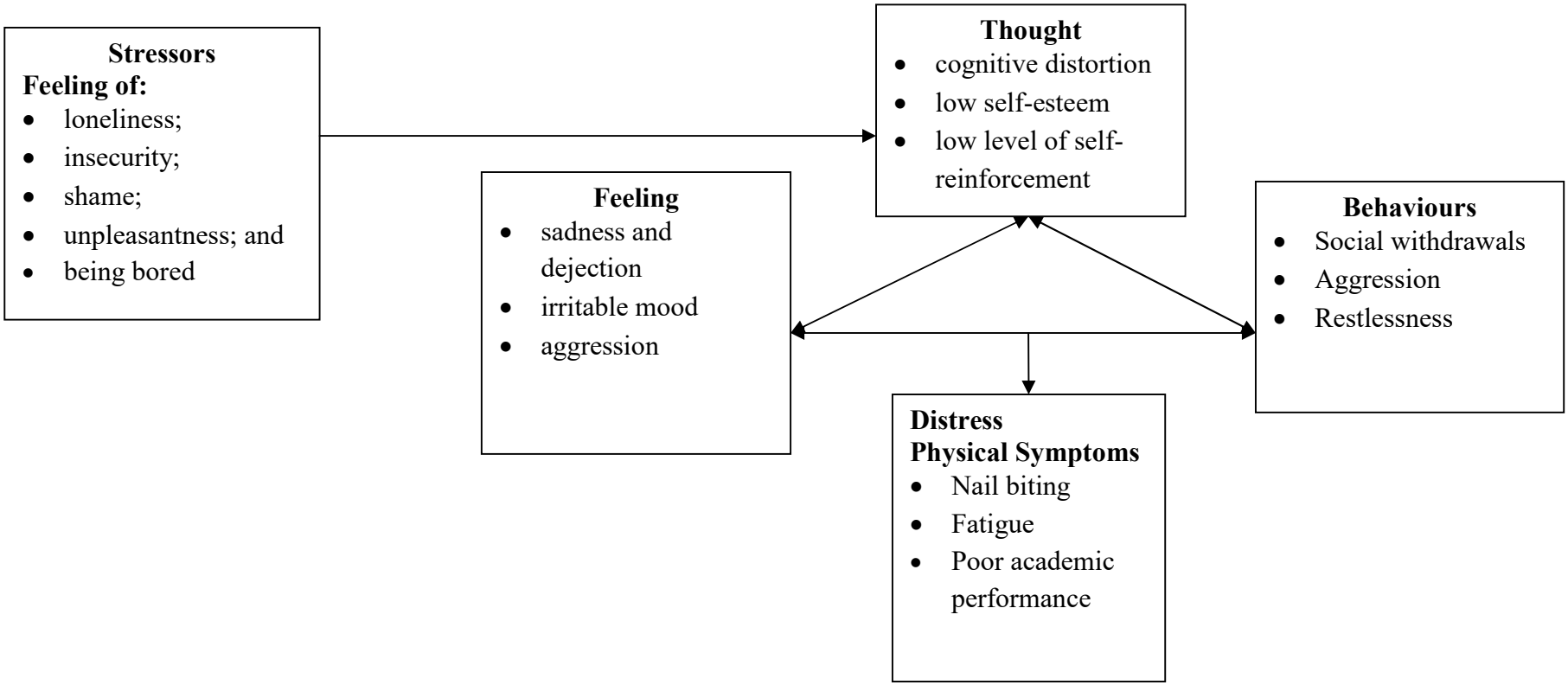


Figure: 2.1: A Theoretical Model for the Development and Management of Psychological Distress among Adolescents with HI

Source: Researcher

2.3 Empirical Studies

2.3.1 Hearing Impairment and Psychological Distress

Earlier study has shown that children with hearing disorder may be agitated by social and psychological adjustment difficulties (Meadow & Dysseguard, 1983; Konik, Erdogem, Atik & Ugur, 2006; Isaiah, 2015). As the incidence of such problem is not identified, some information suggests that striving in psychosocial adjustment may vary from 8% (Hintermair, 2007) to 41.3%. The fundamental sources of that type of psychosocial adjustment difficulties could be connected with conversational hitches and possible language deferments which frequently ensue in kids experiencing hearing defects (Eisenberg, 2007). Particularly, hearing disability could depressingly disturb someone's skill for communication in conjunction with others thus influencing the worth of eventful connections.

Various elements affect communication advancement in children experiencing hearing impairment. The disturbing elements comprised the level of the hearing disability, the stage of life the hearing was lost (onset), presence of any additional difficulties, as well as the time when intervention was given (Sininger, Grimes & Christensen, 2010). Thus psychosocial adjustment difficulties can be experienced among children experiencing hearing loss for the fact that ability to communicate through words is a communal instrument for connecting with others. Nonetheless, in case the environment is not favourable, such that children are not able to sufficiently recognise acoustic indicator, communication could be negligible amid students experiencing hearing diability and their equals with hearing intact (Antia and Kreimeyer, 1996). Furthermore, in situations whereby children with hearing disorder could perceive information through hearing, they could probably not still comprehend the language nature in form of the sound signal which further limits the prospect for proper connections to take place (Harris, 2014).

However, a number of academic works suggested that much suffering is often experienced by children experiencing hearing disabilities in maintaining courtesy so they are not able to tolerate long interactions enough for a social chat to be built. The insignificant communication could as well be as a result of unsuitable behaviour exhibited by the person with hearing disability, reduced sensitivity of emotion, insufficient approaches accessing a group, or several unsuccessful moves for communication (Most and Michaelis, 2012; Remine and Brown, 2010; Most, Shina-August and Meilijson, 2010). Irrespective of whatever exact fundamental reason for

condensed interaction, the youngsters experiencing impaired hearing would probably be at risk of being psychologically troubled in form of distress. In an example given by Theunissein et al (2011), they assessed the level of psychological distress and the exceptional involvement of aspects of emotion regulation which are used for assessing coping and mood states, in order to monitor increase in distress among children experiencing impaired hearing and a control group. In a bid to make a comparison between those in the experimental and the control groups, self-report questionnaire regarding indications of depression, planned actions to enable coping, and mood conditions were employed. The number of children scheduled for the study comprised 27 kids with cochlear grafts, 56 kids using the usual hearing supports and 117 children without hearing disability. The scholars ascertained that kids with impaired hearing consistently presented regular signs of depression above their peers without hearing impairment. They also found issues like the extent of hearing loss, socio-economic level, whether male or female and age to be unconnected with the degree of depression symptoms.

Another important thing is that parental psychological distress has become greater than before among parents of children with hearing disorders, who manifest social and psychological adjustment difficulties (Hintermair, 2006). A research conducted among women having kids who are genetically hearing disordered, brought about a forecast of greater distress occasioned by maternal reaction in line with entire behavioural defects presented by their children, having controlled for hearing loss. The increased maternal distress could adversely affect the overall wellbeing of those relatated to children with impaired hearing (Harris, 2014).

2.3.2 Cognitive Beavioural Therapy and Psychological Distress Management among In-School Adolescents with Hearing impairment

Various academic studies have validated cognitive behavioural therapy as active in managing distress. Taylor and Marshall (1977) compared cognitive therapy to Lewinsohn's (1974) behavioural model and created a third management that joined both approaches. Volunteers who were twenty eight in all, experiencing mildly-to-moderately distress were distributed haphazardly to either of the appointed three dynamic managements or to an awaiting-list control. At posttest, the three treatment groups indicated significant improvement than controls on the Beck Depression Inventory (BDI) (Beck, Ward, Mendelson, Mock, and Erbanigh, 1961), another self-

report depression scale and a self-esteem index. Cognitive therapy and behavioural intervention presented no significant differences in effect when used solely. However, the effect of the joint treatment generally surpassed the individual treatments both at posttest and follow-up.

A scholar, Ibudeh (1991) studied the efficiency of cognitive behavioural therapy in the management of psychological distress clinically. Forty-eight (twenty-four males and twenty-four females) mild to severely distressed clients were indiscriminately allocated to any of the experimental groups and the control group. Clients' ages stretched across 18 and 45 years, while the common age was 24.71 years, and an average of 2.38. Participants for treatment met in small groups of twelve for one hour (60 minutes) weekly sessions over 12 weeks. Degree of distress was evaluated at four points spaced at 4-week intermissions for the pretreatment, mid-treatment as well as post-treatment, and a 2-month follow-up. Dependent or outcome calculations comprised four self-report clinical scales and five self-report non-clinical scales. However, some changes were recorded in both groups, greatest improvement was observed among participants managed with cognitive therapy.

Jointly, Teasdale, Scot, Moore, Hayhurst, Pope and Paykel (2001) examined cognition mediation of degeneration inhibition by cognitive behavioural therapy (CBT) when tried with 158 patients experiencing psychological distress. Marks centered on pact with article subject matter of 5 questionnaires of depression-related cognition gave no indication for cognitive facilitation. A calculation of the number of times the participants chose outermost answer categories ("totally agree" and "totally disagree") from the sheet of answers to those questionnaires, indicated major considerable likelihood of deterioration, degree of difference in response to CBT, and toeing the line to meditational requirement. CBT brought down the level of relapse by means of declines in absolutist, dichotomous thinking style.

Similarly, Nakano, Akechi, Furnikawa and Sugiura-Ogasawara (2013) examined the decrease of psychiatric symptoms by means of individual cognitive behaviour therapy for women suffering recurring miscarriage (RM) and psychological distress. Patients who experience miscarriage recurringly and having an accrued point of five and above for K6, which is used as self-report selection scale for depression/anxiety, were interrogated to discover evidence of taxing situation, thinking patterns, leading to behaviours that are shared and probable foundations of psychological distress amongst recurring miscarriages (RM) patients. The authors

afterwards carried out separate cognitive and behaviour therapy (CBT) on 14 patients with RM and psychological distress, bringing up a compilation based on the interviews, and observation of special results of CBT by a harmonising t-test. The regular Beck Depression Inventory (BDI) – Second Edition and State – Trait Anxiety Inventory – State Anxiety Scores, Self-report eliminating measures for depression/anxiety, declined from 13.6 (S.D, 8.2) and 49 (SD, 7.1) at baseline to 5.2 (SD, 4.4) and 38.0 (SD, 10.2) post-therapy in that order. These were statistically significant changes.

Researchers Secker and Brown (2005) evaluated the effectiveness of cognitive behaviour therapy (CBT) in managing psychological distress among some people experiencing Parkinson's disease. A whole of 30 carriers recording at case zone on the 28 item General Health Questionnaire (GHQ – 28) received whichever a course of 12-14 meetings of CBT or to a no-treatment control group at random. While few changes were noticed in the two sets, meaningful progress on the GHQ – 28 came to bare at the end of ninety-day session of the CBT managed pariticipants. Related discoveries made in measures obtained from caregiving stress and personal trouble, with benefit retained in three successive months for the follow up stage.

In a study relating to cognitive therapy and pharmacotherapy, Rush, Beck, Kovacs, and Hollon (1977) pitted the Beck treatment package against irnpirainine therapy, both presented over a 12-week treatment period. Based on questionnaire data and psychiatric history, the degree of distress could be described as moderate to severe for each subject (for example, 75 percent reported suicidal ideation; the median number of previous therapists was 2.0). In terms of subjective ratings, that is, the Beck Inventory and behavioural observations, the two groups exhibited substantial and clinically significant decreases in psychological distress, with positive results generally holding up at three - six month follow-ups. However, significantly greater posttest improvement was associated with cognitive therapy. At the follow-ups, the same trend was apparent, nonetheless the variances did not have significant calculated values (Kovacs, Rush, Beck and Hollon, 1981). The dropout rate for the drug condition (8 out of 22) was far higher than that for cognitive therapy (1 out of 19), and whereas 68 percent of the drug group sought additional treatment, only 16 percent of the cognitive therapy group sought additional help.

In a four-group comparison study, Murphy, Simons, Wetzel, and Lustman (1984) tested the comparative effectiveness of 12 weeks of pharmacotherapy

(nortriptyline) cognitive therapy, a merger of cognitive and pharmacotherapy treatment, and cognitive therapy and active placebo. Unipolar primary affective-disordered clients (ages 18-60) with BDI scores greater than 20 and meeting appropriate diagnostic criteria were assigned to the treatments in a chance fashion. Clients in cognitive therapy received 20 50-minute sessions over 12 weeks, with the intervention following the programme designed by Beck (1976). Therapy sessions were audiotaped and reviewed to insure adherence to Beck's approach. Assessments included 13 clinical rating scales and self-report measures, though the authors focused solely on the results of the BDI and Hamilton ratings in their 1984 report.

Analyses of the target dependent measures revealed significant enhancements as time went by. However, significant differences were not recorded across treatment modalities. When similar analyses were performed with the preceding documented mark for loafers used as a cessation mark, the results were essentially unchanged. Using BDI scores of 9 or less as an indicator of clients' being no longer depressed, Murphy et al. (1984) reported that 63 percent of the clients met this standard by the close of 12 weeks of management (13 clients were still moderately depressed; 8 clients continued to have BDI scores over 20). As Murphy et al. (1984) commented, "Virtually every client in this study became better dispassionately". Neither mean enhancement nor the fraction of clients who were presumed not to be depressed at the close varied by type of treatment" (p. 39).

Hollon, DeRubeis, Tuason, Weiner, Evans and Garvey (1986) provided yet another test differentiating between cognitive therapies, tricyclic pharmacotherapy, in comparison with cognitive plus pharmacotherapy in the management of depressed non-hospitalised clients. One hundred and six depressives were assigned at random to one of four management cells (the three listed above and a fourth drug only, maintenance cell in which drug treatment was provided in the first year of a two-year follow-up period). The protocol closely followed Rush et al. (1977), again with the exceptions of continuing medications before the expiration of the 12-week session of active management, executing blood plasma drug level checks, and utilising independent evaluators blind to the treatment.

Sixty-five clients completed active treatment. Response rates were strong, with 75 percent of the clients in each of the single modalities (cognitive therapy and tricyclic pharmacotherapy) evidencing full or partial response, along with 88 percent of the clients in combined treatment. A significant difference was evident between the

cells on only one of four measures (the MMPI-D) (Hathaway and McKinley, 1951), favouring the combined treatment over pharmacotherapy alone, but non significant trends were evident on the other three primary dependent measures, with an additive composite based on all four measures evidencing a fully significant effect, again favouring the combined treatment over drugs alone. Most strikingly, there was clear evidence of a prophylactic effect for cognitive therapy, whether combined with medication or provided alone. Across the two-year post-treatment follow-up, clients initially managed through medications singly, which were then stopped from the medications, had a higher degeneration rate (50 percent) than did clients treated with cognitive therapy (20 percent) or combined treatment (31 percent).

A brief intervention using cognitive therapy for psychological distress was employed by Teasdale and Fennell (1982) to examine: (1) whether or not reductions in the frequency and intensity of negative thoughts would alleviate psychological distress in distressed clients and (2) whether one component of the cognitive behaviour therapy package would produce desired change. A within-subject design was used with each distressed client (five female clients identified by the Research Diagnostic Criteria (RDC) and other criteria): 38 minutes of attempting to change depressive thoughts was compared to an equal time exploring depressive thoughts. The comparison conditions were embedded within the general therapeutic content of cognitive-behavioural therapy, such that all subjects were a part of a treatment regimen with nonspecific factors available to all.

However, for all subjects, depressive thoughts were identified, and clients rated how strongly they believed the thoughts (for example, "I will always be a cripple as a person"). In the condition of thought change, the client was encouraged by the therapist to re-evaluate her thinking, to examine the full range of evidence, to consider alternatives, and to review other types of action. In the condition of thought exploration, the therapist sought to identify more relevant information by questioning and providing reflective statements. Subjects rated their belief in the target thoughts and rated their level of depression. The researchers also timed the subjects' natural pace of counting from 1 to 10. The alternate experimental condition was engaged later on in the course of the therapy appropriately to repeat the procedure. An analysis of the tape-recorded treatment (manipulation check) documented that the two conditions were implemented as intended. Since only five clients were studied, the data analysis relied heavily on consistency across subjects and visual inspection. For instance,

belief in the clients' thoughts changed as a result of the thought change condition, but changed only slightly in one client after thought exploration.

A noteworthy decrease in psychological distress was recorded following the thought change condition, but no differences on the measure of counting time (previously shown to correlate with self-ratings of depression).These findings suggest that changing thoughts, as embedded within cognitive behavioural therapy for depression produces greater change in the belief on the depressive thought and in reported psychological distress than does further clarification of thoughts. Nevertheless, the thoughts suggest that the data support "the specific effectiveness of cognitive behaviour therapy through the techniques consisted in the therapy so that there would be an immediate alleviation of depression" (Teasdale and Fennell, 1982). They also recognised an important shortcoming in the study: The predicted effects were seen only on self-report measures. Some form of client acquiescence (or demand effects) to the change effects could account for the differences.

Through his findings, Dobson (1989) stated in the report from the outcome of a meta-analysis of the effect of cognitive therapy for psychological distress. Twenty-eight research works that engaged the BDI as an outcome measure were found, and Dobson established that cognitive therapy brought about a higher grade of modification better than the other psychotherapies. Clients managed with cognitive therapy, in an instance, had an effect superior to 67 percent of behaviour therapy clients.

These schorlars, McNamara and Horan (1986) tried to identify the treatment-specific outcome of Beck's (cognitive) and Lewinsohn (behavioural) treatment for depression. They discovered that cognitive therapy formed consistent, tough effect on a scale of measures for identification of cognitive manifestations of depression as well as on behavioural measures. The behavioural treatment failed to produce similar impact on the behavioural measures. All treatment conditions, including the high demand control (non-directive condition) produced significant reductions in global depression scores, with the cognitive and behavioural treatment generally yielding superior reduction relative to the non-directive condition. From the studies above, cognitive therapy is a feasible psychological intervention in managing psychological distress; nonetheless, perfect indication of its effectiveness is not yet completely proven in sub Saharan Africa, as well as Nigeria, particularly among adolescents with hearing impairment.

Studies have shown that cognitive therapy can bring about useful effects with concern to indicators of psychological distress in grown-ups and adolescents experiencing disabled hearing. For instance, Garnefski and Kraaj (2011) examined probability of the effect of a cognitive-behavioural self-help programme in edifying people who acquired deafness at later years, experiencing depressed mood and anxiety. Persons who developed deafness later in life, forty-five in number, who partook in the programme, were assigned at random, to the Cognitive-Behaviour Self-help (CBS) group or the Waiting List Control (WLC) group. Depression and anxiety marks were evaluated at three measurement instances: at pretest, instantly after the conclusion of the intervention (posttest), and again 2 months later (follow-up). To appraise the efficiency of the programme, recurrent measures analyses of covariance were executed. The outcomes revealed that depression and anxiety symptoms in the CBS group meaningfully became better after conclusion of the programme, paralleled with the WLC group. No deterioration all through pretest to follow-up.

Other erudite researchers such as Barklage (2004), Lemanck and Gresham (1984), Antia, Kreimeyer and Elotredge (1994), Antia and Kreimeyer (1996) and Suarez (2000) have found that cognitive behavioural therapy produced beneficial effects in managing psychological distress among adolescents and adults experiencing hearing impairment.

2.3.3 Self-management Therapy and Psychological Distress Management among In-School Adolescents with Hearing impairment

Many researches have confirmed the efficacy of self-management therapy on psychological distress. Fuchs and Rehm (1977) had provided a test of the Rehm model with female volunteers. The six-week self-management programme involved sequential representation of instruction in self-monitoring, self-evaluation and self-reinforcement. On a variety of measures, self-management or self-control subjects exhibited significantly superior change than non-treatment control subjects on several relevant measures, which included the MMPI-D scale, Beck Depression Inventory, together with a measure of group interaction. Group differences were in general sustained at a six-week follow-up.

Researchers – Rehm, Fuchs, Roth, Kornblith, and Romano (1979) found self-management therapy to be better than social skills exercise on a variety of measures, again in a community volunteer sample. In a pair of dismantling studies, Rehm,

Kornblith, O'Hara, Lamparski, Romano and Volin (1981) found maximum change associated with the self-monitoring component alone, while Kornblith, Rehm, O'Hara and Lamparski (1983) discovered that the complete self-management package was again outperformed by its components, as well as by a dynamic group psychotherapy. In a companion study, Rehm, Kaslow, Rabin and Willard (1981) found no differences between the full self-management packages for the therapy and both cognitively and behaviourally targeted self-control packages. Further, no specific differences were evident on cognitive and behavioural variables included as potential mechanism measures.

Scholars including Roth, Bielski, Jones, Parker and Osborn (1982) contrasted comprehensive self- management therapy versus combined self-management therapy plus antidepressant medication (desipramine). Twenty-six community volunteers were treated over a 12-week interval in individual therapy. No variations were apparent at posttest or at three-month follow-up, although the combined self-management plus pharmacotherapy group appeared to evidence more rapid symptom reduction. A study by Rude (1986) examined answers to behavioural declaration exercise compared to a cognitive self-control management to be an outcome of depressed individuals' comparative capability in the matching skill aspects at pretreatment. Rude (1986) predicted that reductions in psychological distress would be better for treated participant relative to wait-list controls, so those initially deficient in a skill would acquire maximum assistance from the treatment as the skill where deficit is noticed is targeted. Results revealed the efficacy of a collective declaration skill-cognitive treatments on global depression (BDI) relative assertion skill level forecast reaction to the treatment. This combined treatment also improved cognitive self-control related to controls, but did not affect assertion skill.

The study carried out by Van den Hout, Arntz and Kunkels (1995) showed a 12-week self-management therapy programme centered on the self- management ideal recommended by Rehm was included as a regular standard programme for individuals experiencing depression, being attended to in a psychiatric day-treatment center. There was a hypothesis that inclusion of the self-management therapy would hasten the restoration of individuals experiencing depression. Depressed patients numbering about twenty-five were allocated at random to either standard treatment alone or standard treatment plus the self-management therapy, otherwise known as self-control therapy programme. At posttest, patients in the self-management (self-

control) situation exhibited noteworthy development in respect of self- management, bordering on self-esteem, depression, depressed mood, and frequency and potential to enjoy pleasurable activities, while the control patients did not. Only 5 of 6 measures the changes between the groups were significant in the hypothesised direction. The positive effects of the therapy were sustained as revealed by 13-week follow-up, while between-group variations were no more substantial, excluding for self-management. They found that each of their behaviour, cognitive and combined conditions improved significantly on general depression, but there were no between group differences. Evidence of different treatment revealing the initial status on pretreatment measures was not also seen.

In Stark, Reynolds and Kaslow (1987), children of ages 9 to 12 years old up to twenty –nine in all who were classified as moderately to severely distressed through the use of the Children's Depression Inventory, were designated at random to any one of self- management, behavioural problem-solving, or waiting list situation. Self-management treatment concentrated on teaching children how to develop self-control skills. Behavioural problem-solving therapy, which is the major component of self-management therapy, comprised tutoring, self-monitoring of pleasurable occasions; and collective problem cracking, focused on developing social behaviour. Participants were evaluated pre- and post- treatments and at 8-week follow-up using manifold assessment processes and from multiple standpoints. During post-treatment, participants in both vigorous handlings presented substantial positive change on self-report and consultation events of depression whereas participants in the waiting list situation presented least transformation. Outcomes remained same at follow-up.

In the study by Rokke, Tomhave and Jocic (2000) randomly assigned a concluding sample of 34 adults, over the age of 60, and meeting DSM-III-R diagnostic criteria for major depression to three conditions. Self-management therapy and educational group therapy were likened to a waiting-list control situation. Treated partakers became better, comparative to the controls, on two of four catalogues of depression, and three of four secondary measures of effect, together with frequency of self-reinforcement, knowledgeable ingenuity, and self-control knowledge. Both treatments exhibited substantial reductions in depression over the course of treatment and sustained these gains over a 1-year follow-up period. Averaged across depression instruments, 71% of self-management participants and 61% of educational collective

partakers exhibited dispassionately expressive enhancement. There were no statistically substantial dissimilarities between these treatments.

The study by Dunn, Rehm, Schillaci, Souchek, Mehta, Ashton, Yamasak and Hamilton (2007) at random designated 101 male old-timers with lingering combat-related posttraumatic stress disorder (PTSD) and depressive disorder to an evidence-based depression treatment (self-management therapy; n = 51), or active-control therapy (n = 50). Main outcome measures for efficacy, using intention-to-treat analyses, were subjective and objective PTSD and depressive scales at pretest, posttest and 3-, 6-, and 12-month follow-up. Some other processes put in place included treatment complying procedures, fulfillment, treatment directed constraints, functioning, service utilisation and costs. Self-management therapy's modest improvement on depression symptoms at treatment completion disappeared on follow-up. Other differences on symptom or functioning did not occur, although the utilisation as well as the overall outcome costs of psychiatric outpatients were lower with self-management therapy. In spite of the noticed improvement among other populations experiencing depression, self-management therapy did not bring out any clinical effect on depression among the population with chronic PTSD.

The researchers Robinson-Whelen, Hughes, Taylor, Hall and Rehm (2007) examined effectiveness of self-management intervention programme among countryside women with physical disabilities and experiencing distress. 96 of these women with disabilities experiencing psychological distress were enlisted through centres for independent living (CILs), then at random allotted to either self-management intervention or a control group, and responded to pretest, posttest and 3-month follow up questionnaires. The intervention programme is an 8-week self-management programme on depression led by workers in CILs, who had been taken through pre-intervention training and continuing clinical supervision. The scopes used included Beck Depression Inventory II (BDI-II) and the 10-item Centre for Epidemiologic Studies-Depression Scale (CESD-10). It was observed that women in the intervention group exhibited a greater decrease in BDI-II scores at posttest and follow-up unlike those in the control group; significant degree of different improvement was not found on the CESD-10 or on the following hypothesised mediators: self-efficacy, distress self-management skills, social support, and correctedness. Thus, they concluded that a short time, peer-led, self-management

programme for distress came up with a decrease of depressive symptomatology on 1 of the 2 measures of depression.

Self-management therapy is a feasible intervention for managing psychological distress, however, strong proof of its effectiveness has not been entirely proven in Africa, including Nigeria, mostly among adolescents with hearing impairment.

2.3.4 Onset of loss and Psychological Distress among In-School Adolescents with Hearing Impairment

Hearing impairment whether from the point of birth, at infancy, young adult or adulthood may have long life concerns for an individual's social coping skills and psychological health (Springer and Hauser,2006; Woll,2008; Gentili and Holwell,2011). The reasons for this may be adduced to a number of factors such as inability to communicate effectively with people in his/her immediate environment, social alienation that may eventually lead to some socio-psychological problems, auditory deprivation of some vital information directly and indirectly related to their total well-being and a host of others. It has been projected that 90% of youngsters with deafness who are affected by mental health problems come from hearing families (Gentili and Holwell, 2011). This is because the hearing relatives find it difficult accepting their children experiencing deafness, communicating and associating with them. Consequently, the incidence of auditory and language deprivations have their toll on psychological fitness of adolescents with hearing impairment. Studies on mental welfare problem among children with hearing disabilities have revealed advanced degrees of psychiatric disorders in comparison with groups of general population (Fellinger, Holzinger, Sattel, Lauchtaht and Goldberg, 2008). Nevertheless, information on occurrence and exhibition of psychosis in deaf people are contentious (Polllard, 1993). This alluded to the fact that there is scarcity of study focusing on the rate and degrees of mental health difficulties with reference to onset of loss, the time of detecting the problem of hearing, whether pre- or post-lingual and or adventitious (acquired) hearing disability in deaf population whether adolescents or adults.

It is often assumed that adolescence is a very difficult period of life, having hearing disorder would make it even more problematic and indeed deaf adolescents are more prone to psychological distress in forms of depression, aggression, anxiety

and mood swing than their hearing peers (Rostami, Bahmani, Bakhyari and Movallali, 2014). Research has identified more specific risk elements peculiar to adolescents who are hearing handicapped due to hearing difficulties. For instance deaf children born with deafness to hearing parents usually experience depression more than children with hearing impairment with deaf parents (Turner, Windfuhr and Kapur, 2007). This is an important risk factor since 90-95% of kids with deafness are given birth to by parents without hearing impairment.

In a research carried out on comparison amid entities with pre-lingual and post-lingual deafness, the result revealed that individuals with post-lingual hearing deficit recorded higher degree of mental distress than the pre-lingual group (deGacf and Bijl, 2002). High degree of mental distress was adduced to communication difficulties, inferior self-esteem as well as reluctant approval of hearing loss. This makes the rate of emotional and behavioural disorder to be higher in deaf children and adolescents (Rostami, Bahami, Bakhtyari and Movallali, 2014).

2.3.5 Self-esteem and Psychological Distress among In-School Adolescents with Hearing impairment

Hearing loss condition distresses as much as 15-26% of the world's inhabitants, with the largest occurrence in nations with poor economy (WHO, 2011; Agrawal, Platz andNiparko, 2008). In number, over 360million individuals are documented in the world to be experiencing impaired auditory system and very unfortunate, about 32million are kids and adolescents (WHO, 2012). The effects of hearing impairment generate other secondary problems which include communication difficulty, poor self-esteem and self-value, emotional and psychological impairment (Adeniyi and Kuku, 2016).

Deafness is connected with great composition of diversities in social, emotional and cognitive development (Kral and O'Dowoghue, 2010). Obtainable studies revealed great rate of mental health challenge or psychological distress among young adults and adults with hearing impairment (Fellinger, Holzinger and Polland 2012). It has been observed that rate of psychological distress and behavioural hitches of children with hearing difficulties and adolescents are double in size than they are for the hearing kids and adolescents.

Self-esteem is a major element of mental health (Jambo and Elliot, 2005). Self-esteem is an essential idea as it has been revealed to possess a persistent and

emotional effect on individual's enthusiasm, feeling, cognition and behaviour (Campbell and Lavallee, 1993). Earlier researches have pointed out that there is correlation between self-esteem and psychological health (Rosenberg et. al., 1995), accomplishment (Campbell and Lavalee, 1993) and being able to manage taxing life occasions.

In the research work carried out amongst the deaf community in Austria, some of these individuals had increased scores on all the symptoms measurement, as scores for anxiety and somatisation being greater among females with hearing impairment; however, both genders had related quantities of distrustful ideation, depression and interactional misunderstanding (Fellinger, Holzinger and Polland 2012). Evident in the reports are that paranoid ideation and depression are manifestation of poor self-value and self-esteem.

Study by Monzani, Gelazzi, Genovese, Marrara and Martin (2008) examining the psychological distress aspect of the hearing impaired participants, the results revealed that they were more susceptible to depression, anxiety, interactive understanding and aggression than the individuals without hearing impairment. They supported the outcome of their finding by arguing that sensory impairment with its related impact may dampen adolescents with hearing impairment from revealing themselves to socially stimulating conditions, segregation that results to depression, susceptibility and feeling of lowliness which is an indication of low self-esteem. Also in a study conducted by Rawoyen, Stenseng, Klockner, Wallander and Jozefiak (2015) which included both hearing impaired having cochlear implant and those without, self-esteem which predict mental health complications in children without hearing loss was also discovered to be meaningfully lesser for school children with hearing impairment. In related studies carried out among adolescents with cochlea implant in Austria, it was found that more emotional, behavioural and social problems relate to their mental health status (Huber & Kipman, 2011). Keilmann, Limberger and Mann (2007) similarly assessed the psychological and physical comfort in 6-11years old hearing impaired participants, their result showed that students having hearing defects saw themselves in a less favourable light; they were less assertive and poorly confident. They obtained lower scores in building friendships and were more worried and depressed. Tidball (1990) also discovered that hearing deficit leads to a portion of psychological difficulties and that individual with deafness are sociologically maladjusted.

While the most obvious effect of hearing impairment is on language development, report by Yoshinaga-Hano, Seday, Coulten and Menl (1998), Northern and Down (2001), Olusanya, Neumann and Saunders (2014) showed a relationshp between self-esteem and psychological distress of young adults and adults with hearing impairment with marked deficit in self-esteem and socialisation, anxiety and depressive tendencies among their participants. Study has also recognised precise link between hearing loss, self-esteem, social connections and distress (Leigh, Robins, Welkowitz and Bond, 1989; Tomita, Mann and Welch, 2001; Saito, Nishiwaki, Michikawa, Kikuchi, Mazitari, Takebayashi and Ogawa, 2010).

More specifically, Griffin, Botvin, Scheier, Epstein and Doyle (2002) studied the connection amongst well-being, personal proficiency and psychological distress, and illegal drug consumption with a principally ethnic minority sample of junior high school students (Grades 7-9) in New York City (N=1184). Naeini, Arshadi and Bakhshi (2013) reported from their investigation that since language is a very important facilitator for possessing and increasing in knowledge, to gain familiarity with one's environment, social relationships become almost impossible as there would be hinderance to communication. In the light of that, certain emotional and behavioural problems such as delinquency, substance abuse among others, which could provoke psychological distress. More personal competence, connecting cognitive (for example, decision-making) and behavioural (example: self-regulation) skills, forecast a reduced amount of distress and greater wellbeing as time passes. Successively, increased wellbeing forecast a reduction in the amount of subsequent use of illegal drug use. Equally, Holopainen, Lappalainen, Juntilla and Savolainen (2011) investigated an all-inclusive age collection of adolescents (N=412) from Grades 9-12; social competence projected later wellbeing as indicated by developed self-esteem, and nonappearance of depression and exhaustion when monitoring for previous level of psychological wellbeing.

The study by Lee, Dean and Jung (2008) found on two samples of collegiate students (gay, lesbian and bisexual respectively), that social connectedness shows an arbitrating part between extraversion and wellbeing on both samples. William and Galliher (2006) collected data from a subset of college students and discovered that social connectedness was a mediator between more specific forms of social backing (from relatives and aquaintances), depression and self-esteem. The analyses have been implemented through a Structural Equation Model (SEM) and showed that social

connectedness had a bad influence on depression and an optimistic influence on self-esteem.

The concept of social skills has been discovered to be of great deal of interest in the recent years. This has been propagated initially by behaviourally oriented investigators who searched the connection between man's mental health and social connectedness. These investigators include Lewinsohn, (1974), Asher, Oden and Gottman, (1977), Frenouw and Zitter, (1978), Twemtyman and Zimmering, (1979). Although specific mechanisms of behaviours comprising an overall judgement of social skills and assertiveness can be identified and precisely defined, a good generic of self-esteem has implications both from theoretical and clinical frameworks, and may lead to testable hypotheses.

An operationl definition of social skills has been given as efficacy or appropriateness with which an individual is proficient in retorting to the several challenging circumstances which he encounters as described by Goldfried and Dzurilla (1969) who happened to be foremost advocates of social skills having a link with positive self-esteem. This definition specifies that the concept of social skills is a channel for solving problems. Lewinsohn, Weinstein and Shaw (1969) hypothesised in order to validate this definition, that is to investigate effect of lack of social skills on psychological distress. Their findings brought about an explanation of social skills as that intricate ability both to emanate behaviours that are positively and negatively protected, and to extinguish punishable behaviours. The skills, in the words of Pam, (2013), are such that enable an individual relate fittingly in any given social contexts. Social skills that are learnt and used in order to boost an individual's ego and resulting in positive self-esteem include assertiveness, coping, communication and friendship making skills.

Social skills, in the words of Calderrela and Merrell (1977), include capacities to comprehend, cope, and direct the social and emotional phases of one's life in the manner that enhances controlling of life responsibilities in form of scholarship, forming contacts, daily difficulties and adopting the multifarious burdens of progress and expansion. Furthermore, expressing contrary to general opinions, asking for favour, initiating conversation, refusing unreasonable requests from strangers and friends and asking for help in solving problems are additional abilities indicating possession of social skills.

Other scholars such as Matsy and Schwab (2006) listed social skills to include displaying attention for others, proclaiming requests, collaborating efficiently and presenting concern and kindness. Social skills can also manifest in form of impulsivity control, self-care and caring for others. These social skills indicators are bricks put in place to build self-esteem, as they enable an individual to associate or interact easily and conveniently and then be socially connected.

Regardless of which of this array of definitons or findings is considered, it can be inferred that once there is a deficit in social and interpersonal functioning of an individual, behavioural disorders are not far fetched. Relationship between social skills deficit and psychopathology has been investigated by Zigler and Phillip (1961). They concluded that, whereas clients with relatively greater social competence manifested complaints that could traditionally be labelled as neurotic, clients with less social competence tended to manifest more acting-out behaviour (such as suicide attempts or violent behaviour). They further found that premorbid levels of social competence tended to be good predictors of length of hospitalisation and post hospitalisation adjustment.

Scholars Vartanian and Hopkinson (2010) investigated the determinants of bulimic symptoms and dietary restrain on a sample of 300 young women, found through a path analysis, that social connectedness influenced negatively, the tendency to conform to external influences, and indirectly to internalise societal standards of attractiveness and directly protect from the development of body image problems and bulimic symptoms. The feeling to be connected with the others makes it necessary to conform to external standards to feel like a part of the society. Williamson, Sandage and Lee (2007) researched on a sample of 226 youth equally distributed by gender and age, tested through a structural equation model (SEM), the role of social connectedness in determining more adaptive reactions and feelings after transgressions. The authors tested a model where two different psychological reactions to transgressive behaviours were measured: shame and guilt. The authors hypothesised that shame-prone individuals tend to make a global self-evaluation and activate feelings of worthlessness and generate hostile defensiveness while guilt-prone people tend to distinguish self and behaviour and are more prone to seek for forgiveness from others, as well as act with reparative behaviours. Results revealed that socially connected people were more self-differentiated, hopeful to be able to remediate and these dimensions affected positively, the feelings of guilt and

negatively, the feeling of shame after a misdemeanor. The authors concluded that low social connectedness is associated with a poor differentiation of self that make people more prone to experience feelings of discomfort and fear to confront with difficulties and low self-esteem.

More specifically, psychological distressed people tend to exhibit the most glaring lacks in social skills: withdrawal from others, failing to initiate and sustain conversation, failing to gain satisfaction from social intercourse, and the likes. As social skills improve, self-esteem also improves and so persons previously distressed begin to exhibit more appropriate behaviours towards others, learn to gain satisfactions from relating to others, and learn to be more assertive where their rights, privileges and obligations are concerned (Babakhani, 2011).

Research and literature contributions showed how people with socialisation deficit are made vulnerable to various psychosocial problems such as psychological distress. Lee, Draper and Lee (2001) studied the correlation among dysfunctional interpersonal behaviours, psychological distress and social connectedness. The scholars specially hypothesised that the direct negative influence of social relationship on psychological distress would be facilitated by dysfunctional relational behaviours. Preceding to testing the hypothesis, the scholars went over the initial Social Connectedness Scale (SCS) (Lee and Robbins, 1998). Studies I and 2 described the review and authentication of the SCS on distinct models of college students. In study 3, the scholars scrutinised 184 college students and initiated backing for the intervention hypothesis on overall psychological distress.

The work of Segrin (2000) in 2-wave piece study, required to examine a socialisation insufficiency susceptibility classical of psychosocial difficulties. Giving this model, reduced social connections are assumed to brand people susceptible to psychosocial problems in agreement with the experience of stressful life events. This model was verified in a sample of 118 students moved out at least 200 miles from their dwelling and family, and making the conversion to their first semester of college. At the conclusion of their high school period, partakers finalised measures of social skills on these psychosocial difficulties: depression, loneliness and social anxiety. Close to the end of their first semester of college, they once more accomplished measures of the demanding life dealings. Outcomes showed that lesser social skills scores at TI (Testing Vulnerability Model 1) were prognostic of a deteriorating psychosocial problems during the study. Besides, social skills related

with stressful life occucrrence to forecast modifications in psychological distress and solitude. In each case, those with lesser social skills at TI seemed more susceptible to the development of psychosocial problems by T2 (Testing Vulnerability Model 2) than individuals with improved social skills at TI (Segrin, 2000).

A longitudinal study conducted by Ezyz, Liu and King (2012) on psychiatric adolescents with suicidal ideations and attempts, found that social connectedness is a protective factor influencing post-hospitalisation adjustment. The opinion that there is a rise in closeness with family after being admitted in and discharged from hospital had a lasting defensive effect on depressive symptoms and suicidal ideation; and increased connectedness with peers emerged as the only protective factor from post-hospitalisation suicide attempts.

Specifically, the collected written works have acknowledged significant problems in the aspect of developing socially for children with impaired hearing status. In 1986, Loeb and Sargaiani stated that children of school age experiencing hearing disorder in the public school manifested lesser points on measures of perceived self-confidence in the aspects of peer approval, courting friends with ease, and being able to obtain encouraging peer connections unlike the students without hearing problems in the same schools. Review of six studies on self-esteem among hearing impaired children in conventional classrooms by Ita and Friedman (1999) revealed that, through the conducted studies, a large number of the children who participated in the study presented complications in the aspect of peer relationship as well as social connections as a whole (Nicholas and Geers, 2003).

Another appraisal of 33 studies by Kluvin, Stinson, and Colarossi (2002) presented that students experiencing partial or complete hearing disorder in public schools commonly find it difficult to begin significant and intimate relationships with their hearing peers. Consequent on this, numerous students recounted emotions on separation and being alone in school. It was established that students in conventional programmes do not completely appreciate their relationship with peers, especially, peers without hearing disorder. However, in a bid to evaluate the ability possessed for the pragmatic skills required in bringing about effective face to face interaction by students with and without hearing disoder, Jeanes, Nienhuys and Rickards (2000) established that children who had been profoundly deafened had trouble with the use of proper behaviours when demanding explanation, when reacting to entreaties for explanation, and during collapse of communication. It was postulated that the

compacted superiority and extent of interpersonal skill for the deafened children is likely to be a singular purpose for this striving.

Studies by Stinson and Antia,(1999); Stinson and Kluvin, (2003) on understanding of loneliness of both individuals with and without hearing loss showed that their adverse emotional experiences, which include absence of social skills to be part of a group, rejection and snubbing were regularly centered on accurate social hitches in form of humble social position or peer elimination. Waunters and Knoors (2007) informed that children with hearing loss (HL) had few acquaintances and sensed being excluded than their peers with hearing, bringing out in them feeling of isolation and loneliness. Children with hearing loss possessed a lesser grading for prosocial behaviour. These children with hearing loss were classified as uncooperative, believed to be high ranking in social withdrawal behaviour, and were regarded quite often as targets for help than their mates without hearing disorders.

The scholars Nunes, Pretzlik and Olsson (2001) also presented, that children of school age experiencing hearing loss in the conventional setting were commonly ignored by their friends without hearing disorder and probably having no allies in class. Current studies conducted on children using cochlear implants by some scholars revealed related degree of these children's loneliness compared to the degree of their mates without hearing problem (Schorr, 2006; Leigh, Maxwell-McCaw, Christianem and BatChava, 2009). Although, Schorr (2006) asserted that youngsters at the middle and late childhood could be given interventions through cochlear implantations, Leigh et al (2009) reported that higher rate of emotional, social and behavioural disorders was prominent among hearing impaired school children. Schorr (2006), nonetheless, furthermore indicated a great inconsistency among the partakers having cochlear implants. She intimated that timely cochlear implant mediation linked with inferior sense of loneliness.

Essentially, lots of publications have shown that several children with impaired hearing are inclined to associate particularly with children having hearing status similar to theirs (Antia, Kreimeyer and Eldredge, 1994; Minnett, Clark and Wilson, 1994). Antia and Kreimeyer (1992) revealed that nursery school children with hearing disorders enjoyed more genuine and satisfying interactions with other children having the same hearing status, in comparison to their relationship with children whose hearing status is different from theirs.

The study by Suarez (2000) established that social skills intervention programme led to noteworthy improvement of self-confident behaviour in school life of students with hearing disorders, together with increased socio-emotional transformation, and self-image as perceived by the students' tutors. It was affirmed that children with hearing disorders became well adapted when social-emotional parts of students' development was given much devotion. This could therefore be an indication of a high self-esteem resulting from the social skills intervention.

2.4 Appraisal of Literature Review

Adolescence has often been described as a stage in which spontaneous changes occur. These changes affect every domain of an individual – cognitive, social, emotional and the physical. As a result of these changes, the adolescents are faced with various stresses from the need for adaptations required of their new age.

Adolescents with hearing impairment are at this stage faced with additional challenges as they would have to combine the adaptations with their hearing loss. Their lack of ability to interact with their hearing mates usually results to a strained relationship (Brice & Strauss, 2016). Eventually, they will be socially isolated (ostricised) and so loneliness follows. Social identity is believed to be formed at this stage, as the adolescents seek to figure out who they are and how they fit into the world. Once they feel isolated, fear, concerns and anxiety could arise.

Consequently, an adolescent with such condition may exhibit unwelcome behaviours socially, emotionally and cognitively. It is presented that individuals with hearing impairment usually develop psychological issues such as psychological distress (Cook, 2018). This is assumed to be by-product of a declining ear functioning resulting in symptoms such as anxiety, depression and confusion.

Interventions for psychological distress are given as pharmacological and psychotherapeutic. It is however established that pharmacological agents usually have side effects on the users, hence the promotion of psychotherapeutic or behavioural interventions. It is observed that there is paucity of researches on the effectiveness of psychotherapeutic or behavioural interventions such as cognitive behavioural and self-management therapies particularly in Nigeria. Few studies on this topic were identified to be foreign and they were recorded to be effective.

Cognitive behavioural therapy aims at identifying and correcting the distorted information enhancing negative habits (otherwise known as negative behaviours).

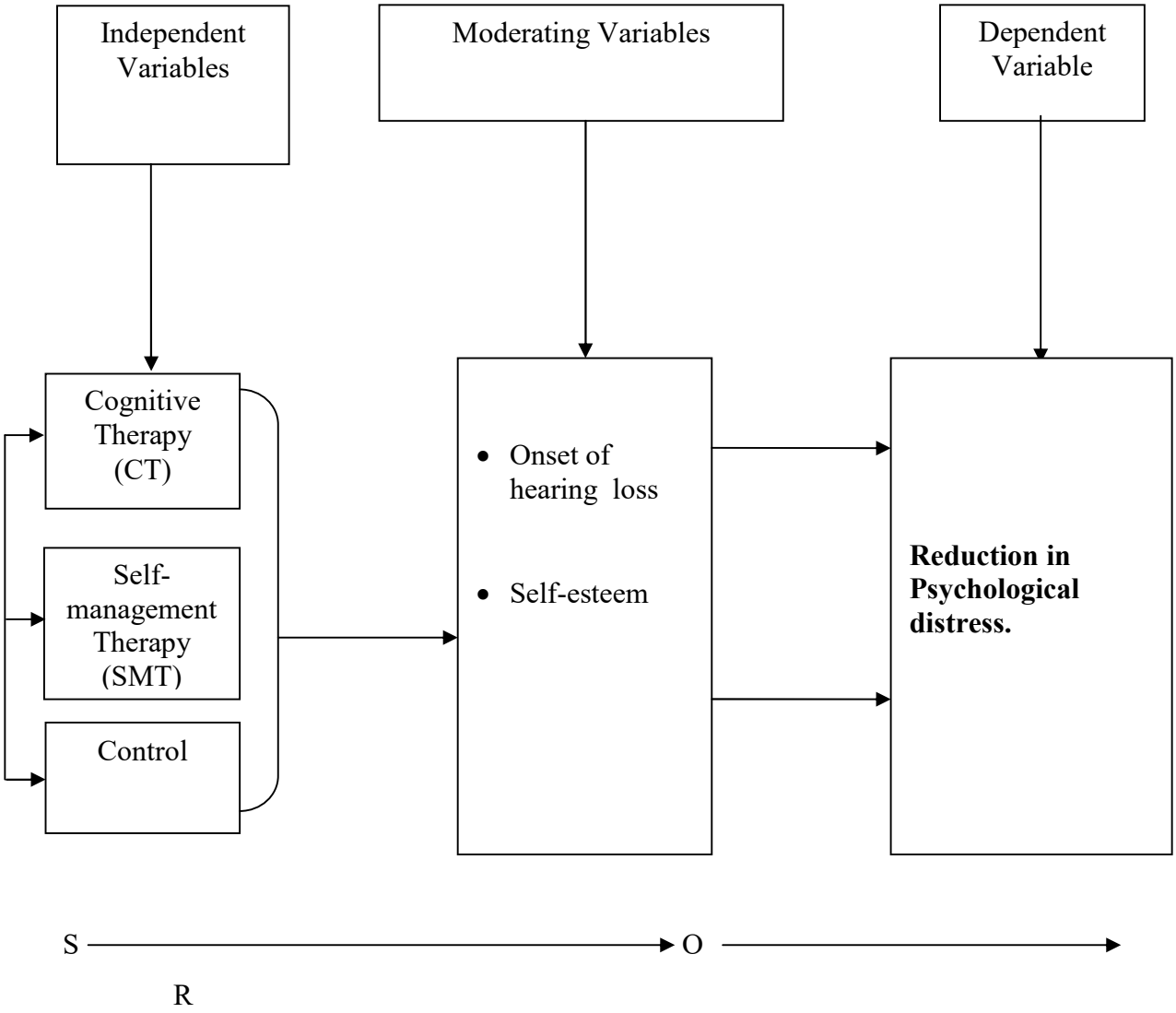
Distortion in cognition facilitates exhibition of wrong attitudes and behaviours in an individual. The therapy is to enable the client to correct the defective cognitive handling of issues and design rules that enable them to manage with the supposed stress.

Self-management therapy is established on the fact that the client earnestly seeks a change in his present condition hence the need for the client to accept responsibility in the treatment by developing a robust impetus for an adjustment. Self-management according to Kanfer and Goldstein (1991) is meant to: enable the client develop greater effective relational, cognitive and emotional behaviour; to modify client's perception and evaluate his or her attitude towards challenging circumstances; to either alter a stress–generating/unfriendly environment; alternatively he or she can acquire skills for coping with it by agreeing that it is unavoidable.

Beck's Cognitive behavioural Theory of Depression and Rehm's Self-Control Theory of Depression were also reviewed so that their relevance to managing psychological distress among in-school adolescents with hearing impairment could be revealed.

2.5 Conceptual Framework for the Study

The conceptual framework for the current work is derived from two psychotherapeutic techniques (cognitive behavioural and self-management therapies; the former comprised cognitive and behavioural treatment components while the latter comprised behavioural treatment component) used in this study. This framework displays the independent, moderating, and dependent variables as presented in the figure 2.2. However, the independent variables used in this study included cognitive behavioural therapy and self-management therapy. The moderating variables were onset of hearing loss and self-esteem. The dependent variable which is psychological distress would be measured by the resultant effect of the therapies which in this case is the development of more adaptive behaviours (improved interpersonal and emotional behaviours), obtainable as the psychological distress is reduced.



Source: Researcher, 2019

Fig. 2.2: Conceptual Framework for the Study

The behavioural equation S-O-R represents the total interaction of the variables in the study

Key

S = Stimulus (Independent variables)

O = Organism (Factors inherent in the organism which are moderating variables i.e. internal and external)

R = Response (Dependent variable i.e. the resultant effects of the independent variables) *Onset of hearing loss } Moderating variables in the study.

* Self-esteem }

CHAPTER THREE
METHODOLOGY

This section dealt with the methodology employed in the current work, including: research design, population, sample and sampling technique, instruments, treatment procedure and data analysis.

3.1 Research Design

The study adopted the pretest-posttest control group, quasi-experimental design with 3x2x2 factorial matrix. The purpose was to examine the effect of cognitive behavioural and self-management therapies on psychological distress management among in-school adolescents with hearing impairment in Oyo State. The design is diagrammatically illustrated below:

O_1	X_1	O_2	(E_1)
O_3	X_2	O_4	(E_2)
O_5		O_6	(C)

Fig. 3.1: Schematic Representation of the Research Design

Where X_1 = Cognitive Therapy

X_2 = Self-management Therapy

E_1 = Experimental Group 1

E_2 = Experimental Group 2

C = Control Group

O_1 O_3 O_5 = Pre-treatment Measurement

O_2 O_4 O_6 = Post-treatment Measurement

Table 3.1: A 3 x 2 x 2 Factorial Design for Distress Management

Treatment group A	**Onset of loss**			
	Pre-lingual		**Post-lingual**	
	HSE	**LSE**	**HSE**	**LSE**
Cognitive Therapy (A_1)	A_1B_1HSE (0)	A_1B_1LSE (14)	A_1B_2HSE (0)	A_1B_2LSE (17)
Self-Management (A_2)	A_2B_1HSE (0)	A_2B_1LSE (06)	A_2B_2HSE (0)	A_2B_2LSE (10)
Control (A_3)	A_3B_1HSE (0)	A_3B_1LSE (18)	A_3B_2HSE (0)	A_3B_2LSE (04)

From Table 3.1, the treatment condition (A), that is, the two experimental conditions namely, Cognitive Behavioural Therapy (A_1) and Self-management Therapy (A_2) as well as the Control Group (A_3) form rows. The onset of hearing loss (B) factor varying at two levels; Pre-lingual (B_1), and Post-lingual (B_2) and the self-esteem factor, bearing the two levels of low and high in mind, and this formed the columns.

3.2 Population

Population for this work comprised adolescents with hearing impairment in Oyo State. Three secondary schools were purposively, consciously selected from two senatorial districts out of the three in Oyo State.

3.3 Sample and Sampling Technique

A technique described as purposive sampling was employed in choosing 190 adolescents with hearing impairment. The Kessler Psychological Distress Scale with index scores of 19 and beyond was used as the screening instrument employed in identifying hearing impaired adolescents with psychological distress. The number of adolescents with hearing impairment having psychological distress were 69 out of the population of 190 adolescents with hearing impairment initially purposively selected. Male participants were 37 (53.6%) while female participants were 32(46.4%). The adolescents partaking in the study were in the 12 to 21 yearsx age range. The partakers were allocated to Cognitive Behavioural Therapy (CBT, 31), Self-management Therapy (SM, 16) and Control (22) groups randomly.

3.4 Inclusion Criteria

The partakers were requested to fulfill all the conditions listed below before they could be assigned to the three experimental groups.

1. Should be having hearing impairment
2. Should exhibit symptoms of psychological distress (A Kessler Psychological Distress scale with index scores of 19 and above).
3. Should be free of the risk of self-harm.
4. Should be within 12 and 21 years of age.
5. Should be willing to participate without coercion.

3.5 Instruments

Three research tools were utilised in this work. These included:

1. Kessler Psychological Distress Scale (K10)
2. Clinical Outcomes in Routine Evaluation (Core-10).
3. Rosenberg Self-esteem Rating Scale

1. Kessler Psychological Distress Scale (K10)

The Kessler Psychological Distress Scale (Kessler, Barker, Colpe, Epstein, Gfroerer and Hiripi, 2003) is a unidimensional scale, containing 10 items precisely planned to evaluate psychological distress in population studies. The K10 was considered to be item response theory model to optimise its accuracy and sensitivity in the clinical range of distress, and to insure a dependable understanding with regards gender and age groups (Kessler et al., 2003). The scale assesses how often respondents experienced anxio-depressive symptoms (for instance nervousness, sadness, restlessness, hopelessness, worthlessness). Each item is scaled from 0 (none of the time) to 4 (all of the time) and the local score is used on index of psychological distress. Several studies indicated no considerable preference for the K10 in relation to gender, education (Baillie, 2005) or age (O'Connor and Parslow, 2010).

For this study, there was revalidation of the instrument as it was shared with scholars in Clinical and Counselling Psychology as well as the field of Special Education. The recommendations of the experts indicated that the instrument is suitable for the distressed in-school adolescents with hearing impairment. The instrument's reliability was verified by using test-retest method. This method involved administration of the instrument to fifteen (15) distressed in-school adolescents with hearing impairment, (other than those that were involved in the study) on two occasions of four weeks interval. The fresh Kessler Psychological Distress Scales internal reliability estimates generated a mean coefficient of 0.63.

2. Clinical Outcomes in Routine Evaluation (Core-10).

The CORE-10 which is a short result measure having 10 items, is taken from the CORE-OM (which contains 34 items). It was developed by Barkham, Leach, Lucock, Noble, Clarke and Iveson (2005) in UK. CORE-10 is measuring a single construct – psychological distress. The scale evaluated how often over the last week the respondents experienced anxiety, nervousness and panic, among others. Each item

was scaled from 0 (not at all) to 4 (all of the time). The scale was administered for both pretest and posttest.

For this study, the instrument's revalidation was done by involving scholars in the area of Clinical and Counseling Psychology, together with the field of Special Education. Recommendations made by these experts favoured suitability of the instrument for distressed in-school adolescents with hearing impairment. The reliability of the tool was re-established by test-retest method. This method involved administration of the instrument to fifteen (15) distressed adolescent with hearing impairment (other than those that were involved in the study) on two occasions of four weeks interval. The fresh CORE-10 (psychological distress scale) internal reliability estimates produced a mean coefficient of 0.71.

3. Rosenberg Self-esteem Rating Scale

Self-esteem scale which was developed by Rosenberg (1965) was adopted. The scale was fabricated in four likert balance category extending from Strongly Agreed (SA), Agreed (A), Disagreed (D) and Strongly Disagree (SD) with ten items. Samples of the items on the inventory include: (I feel that I possess some good qualities; I feel I am a person of substance, at least on an equal plane with others). The scale is to enable the classification of the participants into high or low self-esteem.

For this study, revalidation of the instrument was done by involving scholars in the field of Clinical and Counselling Psychology as well as the field of Special Education. The instrument was found to be suitable for the distressed in-school adolescents with hearing impairment according the experts' recommendations. To found the reliability of the tool, a test-retest method was used. This method involved administration of the instrument to fifteen (15) distressed adolescents with hearing impairment (other than those that were involved in the study) on two occasions of four weeks interval. The fresh Rosenberg Self-esteem Rating Scale's internal reliability estimates produced a mean coefficient of 0.58.

Biodata of Participants

A form was designed by the therapist to obtain information on the participants' socio and demographic characteristics such as identification and centre codes, age, sex, state of origin, religious affiliation, family type (whether monogamy or polygamy), family status (whether intact or broken) and onset of hearing loss.

Procedure

Collection of data was conducted in three phases as follows:

1. Pre-treatment phase;
2. Treatment;
3. Post-treatment/ evaluation phase.

Pre-treatment Phase

Permission to use the selected secondary schools was obtained from the head of each of the schools after the presentation of the letter of acquiantance from the Head of Department (HOD). After permission had been granted, adolescents with hearing impairment (HI) were contacted in collaboration with the principals, Heads of Departments (HODs) and class teachers in each of the selected schools. The adolescents with impaired hearing communicated with got intimated with the characteristics of the study, together with the crucial ethical matters connected with the research. Thereafter, the fathers and mothers of those who desired to participate were contacted and the explanation of the study, including the key ethical issues, was also given to them. However, individual adolescents who desired to partake of the study and the researcher discussed about the subsequent appointment day.

On the appointment date, the researcher came into contact with the adolescents and previous activities were recapped. Following this was the screening of the adolescents for the study eligibility. First, they were examined through questioning and observation techniques to assess their deafness status and severity. Second, the adolescents' level of psychological distress was determined through the administration of Kessler psychological distress scale (K-10). The context within which distress had risen was also established using the structural approach format (Questions on Distress).

Treatment Sessions

These are actually therapeutic sessions. First thing was the administration of the Clinical Outcomes in Routine Evaluation (CORE-10) on the three groups in order to obtain pretest scores. Rosenberg's self-esteem scale was similarly run to categorise the participants into the two ranks of self-esteem. Thereafter the partakers designated for treatment underwent 10-week treatment procedure for management. The partakers designated as control group took part only in the pre- and post-treatment sessions.

There was a session of therapy in every week and every meeting was for about 60 minutes. The participants in the experimental group I were managed with cognitive behavioural therapy, while those in experimental group II were treated with self-management therapy. Each group had ten sessions of therapy. The participants scheduled for the control group only had distress education counselling when conducting post-treatment phase. More importantly, the treatment format for the three groups were both indivdiualised and grouped.

Treatment Packages

Cognitive behavioural therapy is a version of David-Feron and Kaslow's (2011) cognitive-behavioural therapy originating in cognitive theory of depression recommended by Beck (1967). The therapy comprises ten 60 minute-week-by-week meetings that enabled distressed young people with hearing impairment pinpoint their incorrect beliefs related with their hearing loss, test the validity of these dysfunctional beliefs; then study to substitute them for new suitable beliefs. Suitable (adaptive) beliefs are conserved by engaging cognitive and behavioural procedures embedded in Cognitive Behavioural Therapy. The cognitive procedures involve making balanced response, decatastrophising, refashioning beliefs and redefining. Behavioural procedures involve initiating and maintaining peer interaction, graded task assignment and recognising social cue.

Self-management therapy is an adaptation from Falaye and Afolayan's (2015) self-management therapy. It was also of 60 minutes – weekly sessions that enabled the distressed adolescents become skilled in the application of relevant learning principles to their problematic situation associated with having hearing loss. The techniques in the treatment protocol included acquiring basic skills needed for effective self-management therapy, obtaining reinforcement, self-monitoring, challenge test reward, and stimulus control. The treatment manual for the two therapies is aided by daily mood rating log sheets, enquiries on distress, daily record of dysfunctional thought, weekly self-monitoring record, and amusing event sheet.

The manual for control group consisted of merely distress education. This included meaning, sources and indications of distress. The distress education lacked any operational method that can be used to handle distress related with hearing loss.

Post-treatment Evaluation Phase

This included the running of the Clinical Outcome in Routine Evaluation (CORE-10) for the collection for posttest marks from the three groups.

3.6 Ethical Consideration

The candidate collected an introductory letter from the Special Education Department, Faculty of Education, University of Ibadan, to the Head of Service, State of Oyo, on to Ministry of Education. The ethical approval to carry out an investigation in three schools having adolescents who suffer hearing defects in the state was applied for and obtained.

The following formed the border line for the ethical matters associated with this work.

1. Concealment of data: The entire data collected were handled with complete confidentiality. To accomplish this, the entire participants were only tagged with symbolic identification. The study did not request for personal data in form of the label, mobile number, residential address and e-mail address of the partakers. All partakers had an appropriate education on the confidentiality of their names; and that none of their identifier would be used in any write up or compilations of the study.
2. Translation of protocol to the local language: The research questionnaire was interviewer administered.
3. Beneficence to participants: At the close of each treatment session, the partakers were given light refreshment.
4. Non-maleficience to participants: The participants had adequate education on what the research work entailed, not presenting harm for them but they would spend only their time for the participation.
5. Voluntariness: Participation was basically due to their preparedness to participate and devoid of any pressure. In addition, the participants were informed of the freedom to opt out of the study at any moment.

3.7 Control of Extraneous Variables

For the extraneous variables, such as participants variables, researcher variables, temporal variables, method and techniques variables and situational

environmental variables, that can affect the study, to be well managed, the following approaches were applied.

1. Selection of the three secondary schools through purposive sampling technique, from two senatorial districts out of the three in Oyo State.
2. Selection of participants using Kessler Psychological Distress Scale (K10) with the index score of 19 – 29.
3. Use of pretest-posttest control group, quasi-experimental design with 3x2x2 factorial matrix.
4. Employment of both individualised and grouped treatment format to enhance indepth understanding of treatment protocol.
5. Use of Analysis of Covariance (ANCOVA). This helps to control any other variations that may not be easily or adequately handled by the measures taken.

3.8 Method of Data Analysis

Information collected in the study was subjected to analysis by the usage of expressive statistics of simple percentages and pie-charts to analyse the biodata of participants. Inferential statistics of Analysis of Covariance (ANCOVA) was engaged to investigate likely impacts of treatment, age at which hearing defect was discovered and self-esteem on dependent variable. Scheffe post-hoc analysis was engaged to decide the foundation for the significance and evaluate the quantity of discrepancy owing to individual independent variable (treatment).

CHAPTER FOUR

RESULTS

Results of the data analysed for this study are given in this chapter. The first part of this chapter focused on the demographic information of participants. This included gender, age, religious affiliation, family type, family status and onset of hearing loss. This allowed the investigator determine the fitness of the participants used for the study. Another part of this section focused on the presentation and discussion of the major finding on the effect of cognitive and self-management therapies on psychological distress among adolescents with hearing impairment.

4.1 Demographic Characteristics of Participants

In the study, demographic characteristics of the participants comprised gender, age, religious affiliation, family type, family status, onset of hearing loss, and level of self-esteem.

4.1.1 Distribution of Participants by Gender

Distribution of the participants' demographic characteristics based on gender is presented in Figure 4.1.1.

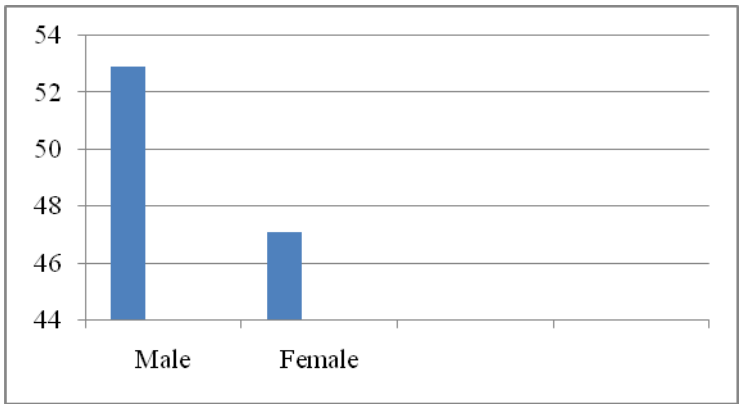


Figure 4.1.1: Frequency Counts Showing Participants' Gender

Source: Field Data, 2018

Figure 4.1.1 showed the classification of the partakers by gender. Large percentage of the population (52.9%) were male, while a significant number (47.1%) were female. The implication that could be drawn from the distribution is that the male gender of in-school adolescents having hearing impairment used in this work were more than the female.

4.1.2 Distribution of Participants by Age

Distribution of the participants' demographic characteristics centred on age is presented in Figure 4.1.2.

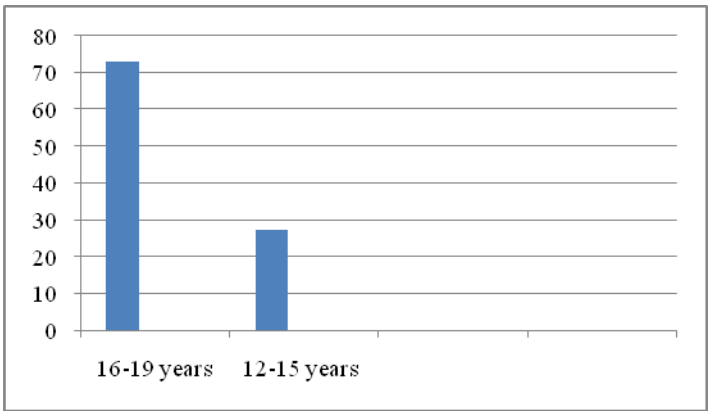


Figure 4.1.2: Frequency Counts Showing Participants' Age

Source: Field Data, 2018

Figure 4.1.2 revealed the allocation of the participants by age. However, large percentage of the partakers (72.9%) were between the age brackets of 16-21 years, while a slightly significant number of the participants (27.1%) were between the age brackets of 12-15 years. This suggests that bulk of the in-school adolescent experiencing impaired hearing used in this study were more mature and older; that means in late adolescence. This could promote better understanding of the treatment protocol.

4.1.3 Distribution of Participants by Family Type

Distribution of the participants' demographic characteristics according to family type is given in Figure 4.1.3.

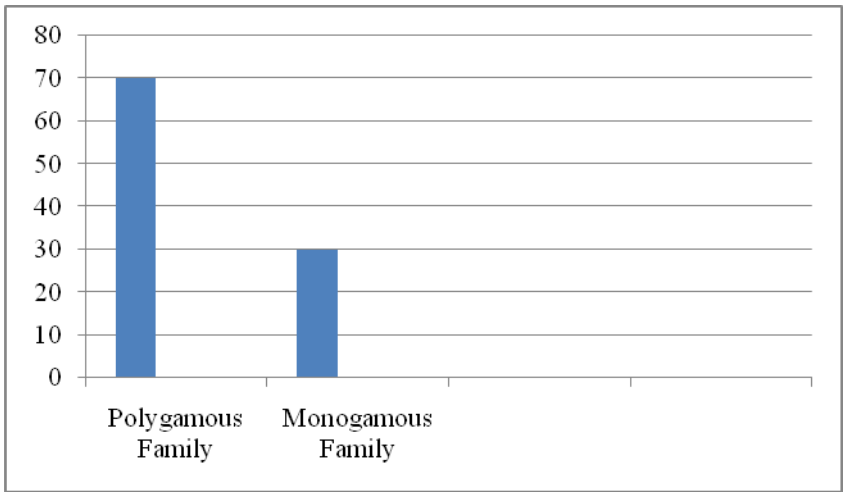


Figure 4.1.3: Frequency Counts Showing Participants' Family Type

Source: Field Data, 2018

The result of the frequency distribution of the participants' family type (Fig. 4.1.3) showed that majority of the participants (70.0%) were from polygamous families, while a few number of the participants (30.0%) were from monogamous families. The implication of this is that majority of the adolescents used in this study were from the polygamous families. Generally, children from larger families are associated with parental risk factors such as drug abuse, rejection, disproportionate chastisement and bodily or sexual abuse. These risk factors, coupled with the challenges associated with hearing impairment may place the adolescents from polygamous families at an amplified risk for developing psychological problems such as distress. This could facilitate their participation in the treatment protocol.

4.1.4 Distribution of Participants by Family Status

Distribution of the participants' demographic characteristics according to family status is offered in Figure 4.1.4.

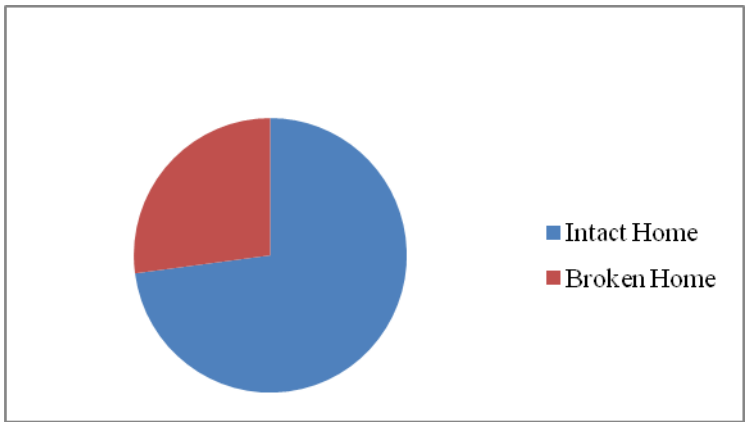


Figure 4.1.4: Frequency Counts Showing Participants' Family Status

Source: Field Data, 2018

Figure 4.1.4 presented the distribution of the participants according to family status. Majority of the participants (72.9%) were from intact homes, while a few participants (27.1%) were from broken homes. The possible implication that could be drawn from this distribution is that the higher number of the in-school adolescents experiencing hearing defects used in the study was from intact home. This drastically reduced the challenges of seeking the consent of the parents.

4.1.5 Distribution of Participants by Onset of Hearing Loss

Distribution of the participants' demographic characteristics based on onset of hearing loss is presented in Figure 4.1.5.

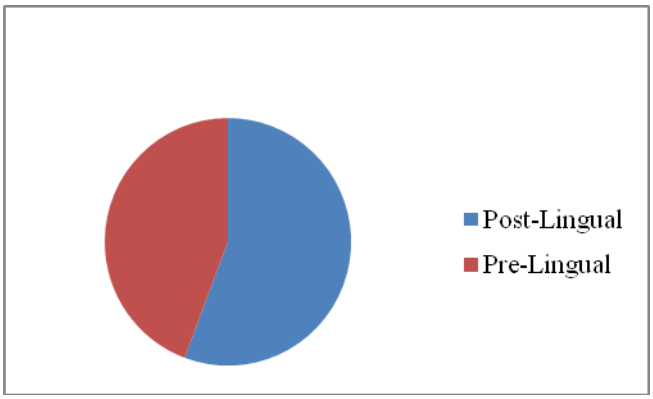


Figure 4.1.5: Frequency Counts Showing Participants' Onset of Hearing Loss

Source: Field Data, 2018

The result of the frequency distribution of the participants' onset of hearing loss (Fig. 4.1.5) revealed that the large percentage of the population (55.7%) had the hearing loss after birth, after language was acquired (post-lingual), while a very significant number of the participants (44.3%) had the hearing loss right from their birth (pre-lingual). The implication that could be inferred from this distribution is that the higher number of in-school adolescents experiencing hearing diability used in the work had their hearing loss after birth (post-lingual). This could enhance the acceptance of the treatment protocol among the study sample.

4.1.6 Distribution of Participants by Self-esteem in Relation with Gender, Religion, Family Type, Family Status and Onset of Hearing Loss

Distribution of the participants' demographic characteristics based on self-esteem in relation with their gender, religion, family type, family status and onset of hearing loss.

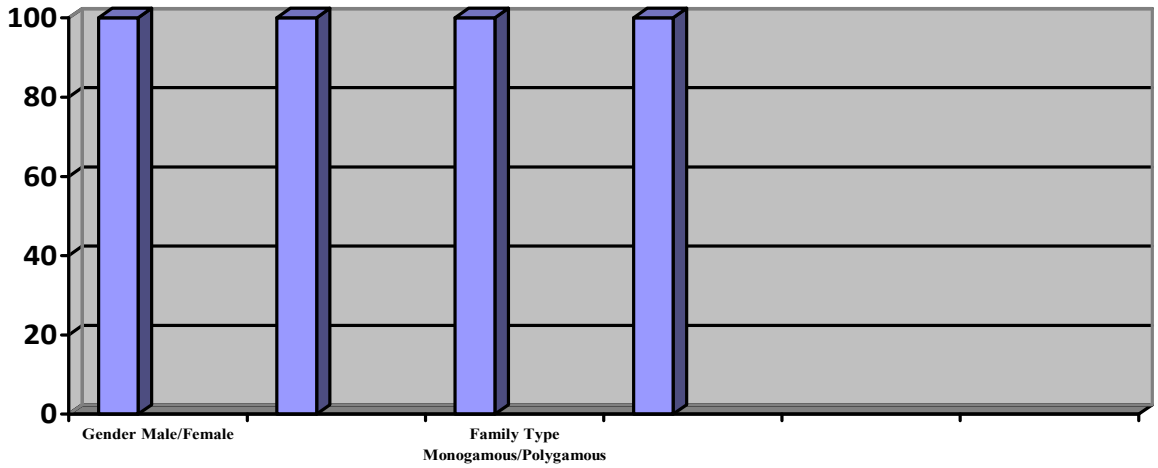


Figure. 4.1.6: Frequency Counts showing participants' self-esteem in relation with their gender, religion, family status, family type and onset of loss

From Fig. 4.1.6, it was revealed that the participants, irrespective of the disparities in their demographic characteristics, all of them are of low self-esteem. This implies that the self-esteem of all the participants, whether male or female; from broken or intact family; from monogamous or polygamous; pre-lingual or post-lingual, is low. This could prompt their participation in the treatment protocol.

4.2 Testing of Hypotheses

To scrutinise the effects of the two behaviour therapies namely: cognitive behavioural and self-management therapies on the management of psychological distress among in-school adolescents with hearing impairment, the study was directed by certain hypotheses. This section provided the results of the tested hypotheses.

Hypothesis One (H_{O1})

There is no significant main effect of treatment on participants' management of psychological distress.

For this hypothesis to be tested, analysis of covariance (ANCOVA) was employed analysing the posttest performances of the partakers to determine level of distress management, by using the pretest performances as covariate for determining whether the post investigational variances are scrupulosly substantial. The concise of this analysis is given in Table 4.1.

Table 4.1: Summary of Analysis of Covariance (ANCOVA) of Post-psychological Distress by Treatment, Onset of Loss and Self-esteem

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1348.026	12	112.336	25.875	0.000	0.845
Intercept	256.480	1	256.480	59.480	0.000	0.509
Pre-Psychological Distress	0.135	1	0.135	0.031	0.861	0.001
Treatment	932.373	2	466.187	107.382	0.000*	0.790
Onset of hearing loss	0.340	1	0.340	0.078	0.781	0.001
Self-esteem	2.275	1	2.275	0.524	0.472	0.009
Two-way interaction effects:	11.841	2	5.921	1.364	0.264	0.046
Treatment x Onset of hearing loss						
Treatment x Self-esteem	0.828	2	0.414	0.095	0.909	0.003
Onset of hearing loss x Self-esteem	3.236	1	3.236	0.745	0.392	0.013
Three-way interaction effects:						
Treatment x Onset of hearing loss x Self-esteem	1.330	2	0.665	0.153	0.858	0.005
Error	247.459	57	4.341			
Total	7894.000	70				
Corrected Total	1595.486	69				

The results on Table 4.1 revealed a noteworthy main outcome of applying (cognitive behavioural and self-management therapies) on management of distress amid in-school adolescents experiencing impaired hearing ($F_{(2, 57)} = 107.38$; $p<0.05$, partial $\eta^2 = 0.79$). 79.0% is the recorded effect. This indicates that 79.0% difference in psychological distress among adolescents with hearing impairment occurred due to the significant main influence of the treatment. Hence, hypothesis 1 was not accepted. To appropriately decide degree of the substantial key outcome among treatment sets, the projected marginal means of the treatment groups were conducted and the finding is offered in Table 4.2.

Table 4.2: Estimated Marginal Means for Post-psychological Distress by Treatment and Control Group

Treatment	Mean	Std. Error
Cognitive Behavioural Therapy (CBT)	6.35	0.39
Self-Management Therapy (SMT)	7.02	0.54
Conventional Counselling (CVC)	16.35	0.58

Results from Table 4.2 indicated that in-school adolescents with hearing impairment exposed to Cognitive Behavioural Therapy (CGT) treatment group 1 possessed the lowest modified post-psychological distress mean score (6.35) followed by their counterparts exposed to the Self-Management Therapy (SMT) treatment group 2 (7.02), while those taught with the Conventional Counselling (CVC), control group (16.35) possessed the highest modified post-psychological distress mean score. This arrangement is coded as CBT>SMT>CVC. In order to determine which of the groups caused this significant main effect, the Scheffe post-hoc analysis was conducted across the treatment groups and the outcome is offered in Table 4.3.

Table 4.3: Scheffe Post-hoc Analysis of Post-psychological Distress by Treatment and Control Group

Treatment	Mean	CGT	SMT	CVT
Cognitive Behavioural Therapy (CBT)	6.35			*
Self-Management Therapy (SMT)	7.02			*
Conventional Counselling (CVC)	16.35	*	*	

The results from Table 4.3 presented that the post-psychological distress mean score among in-school adolescents with hearing impairment managed with Cognitive Behavioural Therapy (CBT) was not meaningfully different from their colleagues managed by using Self-Management Therapy (SMT) but significantly different from those opened to the Conventional Counselling (CVC). Also, the post-psychological distress mean score of in-school adolescents with hearing impairment exposed to the self-management therapy was significantly different from their counterparts exposed to the conventional therapy. This suggests that the significant difference revealed by the ANCOVA was as the result of difference between the treatment groups (cognitive behavioural and self-management therapies) and the control group (conventional counselling) but not between the two treatment groups as psychological distress among in-school adolescents with hearing impairment is concerned.

Hypothesis Two (H_{O2})

There is no significant main effect of onset of hearing loss on participants' management of psychological distress.

Result from Table 4.1 revealed no significant main effect of onset of hearing loss on participants' management of psychological distress ($F_{(1:57)}$=0.08; p>0.05, partial η^2 = 0.00). Hence, hypothesis two was accepted. The implication of the results is that onset of hearing loss had no main effect on the management of psychological distress among in-school adolescents with hearing impairment; psychological distress can be managed irrespective of the onset of hearing loss.

Hypothesis Three (H_{O3})

There is no significant main effect of self-esteem on participants' management of psychological distress.

The result from Table 4.1 indicated that there was no significant main effect of self-esteem on participants' management of psychological distress ($F_{(1:57)}$=0.52; p>0.05, partial η^2 = 0.01). Thus, hypothesis three was not rejected. This signifies that self-esteem had no main effect on the management of psychological distress among in-school adolescents with hearing impairment; either low or high self-esteem does not hinder management of psychological distress.

Hypothesis Four (H_{O4})

There is no significant interaction effect of treatment and onset of hearing loss on participants' management of psychological distress.

Result from Table 4.1 revealed that there was no significant interaction effect of treatment and onset of hearing loss on participants' management of psychological distress ($F_{(2,57)}$=1.36; p>0.05, partial η^2 = 0.05). Hence, hypothesis four was accepted. This means that treatment and onset of hearing loss had no interaction effect on the management of psychological distress among in-school adolescents with hearing impairment. The treatments are of benefits for both pre- and post-lingual losses.

Hypothesis Five (H_{O5})

There is no significant interaction effect of treatment and self-esteem on participants' management of psychological distress.

Result from Table 4.1 indicated that there was no significant interaction effect of treatment and self-esteem on participants' management of psychological distress ($F_{(2,57)}$=0.10; p>0.05, partial η^2 = 0.00). Thus, hypothesis five was accepted. This signifies that treatment and self-esteem had no interaction effect on the management of psychological distress among in-school adolescents with hearing impairment. The treatments are beneficial to either of the self-esteem status.

Hypothesis Six (H_{O6})

There is no significant interaction effect of onset of hearing loss and self-esteem on participants' management of psychological distress.

Results from Table 4.1 revealed that there was no significant interaction effect of onset of hearing loss and self-esteem on participants' management of psychological distress ($F_{(1,57)}$=0.75; p>0.05, partial η^2 = 0.01). Thus, hypothesis six was accepted. This means that onset of hearing loss and self-esteem showed no significant interaction effect on the management of psychological distress among in-school adolescents with hearing impairment.

Hypothesis Seven (H_{O7})

There is no significant interaction effect of treatment, onset of hearing loss and self-esteem on participants' management of psychological distress.

The results from Table 4.1 revealed that there was no significant interaction effect of treatment, onset of hearing loss and self-esteem on participants' management of psychological distress ($F_{(2,57)}$=0.15; p>0.05, partial η^2 = 0.01). Hence, hypothesis seven was not rejected. This means that treatment, onset of hearing loss and self-esteem had no significant interaction effect on the management of psychological distress among in-school adolescents with hearing impairment.

4.3 Summary of Findings

The effect of the two behaviour therapies (cognitive behavioural and self-management therapies), onset of hearing loss and self-esteem on participants' management of psychological distress is discussed in this section. The discussion on the effects is made in line with the hypotheses tested.

4.3.1 Effect of Treatment on Psychological Distress Management

Hypothesis 1 sought to investigate if there is any significant effect of treatment on the participants' management of psychological distress. The results of the study showcased significant difference among the groups for experiment and the group on control list for the management of distress. The result as shown in Table 4.1 does not provide support for hypothesis 1, suggesting a non-significant main effect and hence, was rejected. Nonetheless, the data collected appeared to provide evidence in favour of the experimental groups as being superior over their control counterpart in managing of psychological distress. Since the experimental groups were exposed to the two therapies (cognitive behavioural and self-management therapies), the interventions were found to have contributed significantly to the reduction in the psychological distress symptoms among the participants.

This result is in line with the discoveries of the growing body of studies which have used psychotherapeutic techniques such as cognitive and behavioural therapies for the management of psychological distress among individuals with hearing impairment (Suarez, 2000; Andersson & Hagnebo, 2003; Mortberg, Clark & Bejerot, 2011; Rostami, Movallahi, Younesi & Abbasi, 2014; Williams, Falkum & Matinsen, 2015; Pirami, Afshar & Hatami, 2017; Gharashi & Moheb, 2018). There are two potential explanations for the improvement observed in the management of psychological distress amongst the participants: (a) due to the formation of the operational rapport established between the therapist and clients, which was characterised by the therapist's honesty, empathy, concern, non-judgemental reception and great degree of the participants' capability for interactive association, conviction in the therapist's proficiency and reassurance of participants' alliance in protocols for the treatment; (b) the treatment methods engaged numerous diverse treatment mechanisms that focused on the hearing impairment associated stressors and stress reactions taking place in the cognitive, behavioural and social scopes.

Noticeably, the slight difference (though not significant) in the effectiveness of the two therapies on the participants' management of psychological distress may be that cognitive behavioural therapy, more than self-management, is more informative and rich in techniques capable of changing the participants' thoughts, feelings and behaviours. However, the inadequate management of distress among the participants in the group for control could occur as a result that they have not been taken through the effective strategies that can be used to manage their distress.

4.3.2 Effect of Onset of Hearing Loss on Psychological Distress Management

Hypothesis 2 sought to find out if any substantial main impact of onset of hearing defect on participants' management of psychological distress occurred. The result of the study did not reveal any significant variance concerning pre-lingual and post-lingual hearing impairment in the management of psychological distress as indicated on Table 4.1. This result provides support for hypothesis 2, stating a non-significant effect and hence was accepted. The data analysed also revealed that adolescents of both pre-lingual and post-lingual hearing impairment equally benefited from the treatment. It could be reasonably argued that onset of hearing impartment did not contribute significantly to variation in the participants' management of psychological distress. This result is not consistent with those of Kashubeck-West and Meyer (2008, 2013) and deGraaf and Biji (2002). It was reported that hearing impairment may hamper an individual to a point that tuning to environmental stressors may be impossible. However, the possible reason for the result of this study could be that the treatment enabled the participants redefined their situation which allowed them to emotionally adjust to environmental stressors.

It is largely acknowledged in the field of rehabilitation that there is a procedure of adjustment to chronic conditions such as pre-lingual and post-lingual hearing impairments. This procedure usually comprises stages of psychological exercises a person works through in the course of rehabilitation, having the aim of adjusting to the disability. However, persons who became hearing impaired after language had been developed, may find adjustment to this disability to be a more perplexing process, unlike people born with the disability or acquired hearing disorders before language was developed. Adolescents and adults who acquired deafness often instinctively rate themselves as incapacitated because their opinion of liberation has diminished. For individuals with pre-lingual and post-lingual hearing impairments, the key subject is how to adjust to social circumstances and imbibing cognitive-emotional skills for communication and interaction in all situations. The point of adjustment can disturb social relationships, self-worth and psychological wellbeing. However, it could be reasonably argued that the cognitive behavioural and self-management therapies provided the avenue for imputing psychological well-being among the pre-lingual and post-lingual adolescents with hearing impairments.

4.3.3 Effect of Self-esteem on Psychological Distress Management

Hypothesis 3 sought to examine if there is any significant main effect of self-esteem on participants' management of psychological distress existed. The result obtained and presented in Table 4.1 revealed the stated hypothesis was accepted. The data analysed also showed that hearing-impaired adolescents equally benefitted from the treatment irrespective of their level of self-esteem. This could be excused on the basis that self-esteem did not contribute significantly to the variation, in participants' management of psychological distress.

The result of this study is consistent with the presentation of Percy-Smith, Caye-Thomasen, Gudnabm Jensen and Thomsen (2008), Jambor and Elliot (2005), Rosenberg, Schooler, Schoenbach and Rosenberg (1995). They presented that self-esteem is a vital psychological construct that has a penetrating and dominant effect on human reasoning, inspiration, emotion, behaviour and overall psychological wellbeing. The possible reason for the result of this study could be that treatment protocol is rich enough to enhance the self-esteem of the participants and thereby improve their overall psychological wellbeing.

Naturally, adolescents with hearing impairment face the danger of having inferior self-esteem consequent on differences present in hearing impairment in relation to communication skills. The ability to communicate logically and convincingly relates with self-esteem. Children with hearing loss having speech and language skills, who mixed with peers without hearing disorder show further positive self-esteem than those with poorer skills. The positive relationship between uterrances, communication skills and self-esteem for adolescent experiencing hearing impairment is not based on uses of hearing aids by the adolescent or not. However, improved communication abilities encourage sophisticated social proficiency and improved self-esteem. Ability to communicate successfully gives room for being lively in social environment, which probably supports shapening of social relationships, thus enhancing self-esteem. However, the treatment protocols for the cognitive behavioural and self-management therapies provided the channel for improving social interaction of the in-school adolescents with hearing impairment thereby enhancing their psychological wellbeing.

4.3.4 Interaction Effect of Treatment and Onset of Hearing Impairment on Psychological Distress Management

Result obtained in Table 4.1 to test hypothesis four was found to be non-significant. That is, the data collected appeared to support the stated null hypothesis that there was no significant interaction effect of treatment and onset of hearing loss on participants' management of psychological distress. These findings revealed that the effect of the treatment did not differ with the onset of hearing loss factor. Evidently, the treatment is beneficial to both pre-lingual and post-lingual participants. And since the two therapies have already been established as being effective for the management of distress, then, irrespective of either pre-lingual or post-lingual hearing impairment, the two therapies were found to be appropriate. Thus, both types of the onset of hearing loss benefitted from the treatment. The discovery of this study tallies with that of Gharashi and Moheeb (2018) who found that cognitive behavioiural therapy reduced anxiety and depression among children having hearing disability. However, the purpose for this result could be that the treatment protocols enabled the participants examine their emotional distress and encourages adaptive functioning.

4.3.5 Interaction Effect of Treatment and Self-esteem on Psychological Distress Management

Hypothesis five sought to find out if there is a significant interaction effect of treatment and self-esteem on participants' management of psychological distress. Table 4.1 revealed that there was no significant interaction effect of treatment and self-esteem on participants' management of psychological distress. That is, the data collected did not provide enough evidence to justify a significant interaction. These findings provided evidence to support that the effect of treatment did not differ or depend on the level of difference for the participants at the two levels of self-esteem. As the two behaviour therapies were already identified for reducing psychological distress symptoms, it then holds that the therapies are found applicable and appropriate for distressed in-school adolescents with hearing impairment regardless of their self-esteem level. This finding corroborates the assertion of Keilmann, Limberger and Mann (2007) that youngsters with hearing disorder are susceptible to lesser self-esteem emanating from their deviations from hearing fellows in relation to communication prowess, physical look and social development but can be improved

on by psychotherapy. However, it could mean that the treatment protocols are capable of enhancing the adolescents' self-esteem which facilitated the change.

4.3.6 Interaction Effect of Onset of Hearing Loss and Self-esteem

The result obtained in Table 4.1 to test hypothesis 6 was discovered to be non-significant. Extensively, the data provided proof to backup stated null hypothesis that there is no significant interaction effect of onset of hearing loss and self-esteem on participants' management of psychological distress. The above finding revealed that the impact of the two factors (onset of hearing loss and self-esteem) are not dependent on one another. Therefore, the effect of onset of hearing loss is separate and that of self-esteem is also separate and one factor cannot hold the other factor to ransom. The result also suggests that whether pre-lingual or post-lingual or whether high or low self-esteem the effect of the treatment holds equally or both group will benefit from the treatment. However, this may be that the therapies incorporated more beneficial strategies that facilitated the change among the participants notwithstanding their onset of loss of hearing and level of self-esteem.

4.3.7 Interaction Effect of Treatment, Onset of Hearing Loss and Self-esteem

The finding of this study supports hypothesis 7 that there is no significant interaction effect of treatment, onset of hearing loss and self-esteem on the participants' management of psychological distress in Table 4.1. This result suggested that the effect of treatment did not depend on the other two factors (onset of hearing loss and self-esteem). This occurred because the treatment was found to make a difference for both onset of hearing loss and self-esteem peculiarities of the partakers. The result concurs with the studies which have employed psychotherapies to enhance psychological wellbeing of adolescents with hearing impairment (Gharashi and Moheb, 2018; Pirami et. al., 2017; Williams et. al., 2015; Rostami et. al., 2014).

However, the likely justification for this finding could be that the two therapies are efficient in raising up the in-school adolescents with hearing impairment's sense of control over their future, positive expectations about the future, self-esteem, self-confidence, and hopefulness thereby enhancing their understanding in managing the unfavourable life condition they bear. Since cognitive behavioural and self-management therapies were noted to contain a significant effect on the participants' management of psychological distress, then one can assert that the

therapies could be used as psychotherapies for the management of psychological distress among adolescents with hearing impairment. The therapies are also recommended for both types of onset of loss of hearing (either before of after birth) and the two self-esteem levels (high and low).

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary of this study which contains the problem, the interventions provided, the findings, conclusion drawn from the results obtained from the findings and then recommendations in the form of suggestion made based on the results obtained is given in this chapter.

5.1 Summary

Psychological distress is increasingly being exhibited by adolescents with hearing impairment in recent times. Decline in family relationships, pulling away from peer relationships and very low school performance could be experienced by adolescents with hearing impairment. Besides, suicidal ideation could come to play. Earlier studies concentrated essentially on hypothetical and theoretical dimension of psychological distress among adolescents with hearing impairment rather than on its management. This study, consequently, found out the effect of cognitive behavioural and self-management therapies on psychological distress among in-school adolescents having impaired hearing in Oyo State, Nigeria. The controlling outcome of onset of loss of hearing and self-esteem was also scrutinised.

The study adopted pretest-posttest control group, quasi-experimental design with 3x2x2 factorial matrix and Beck's Cognitive theory of depression provided the framework. Three secondary schools were purposively picked from two senatorial districts in Oyo State. 90 adolescents with hearing impairment were selected through purposive sampling technique. Kessler Psychological Distress Scale with index scores of 19 and beyond was the selection instrument employed in identifying the adolescents with hearing impairment experiencing psychological distress. The adolescents were in the 12 to 21 years old bracket. Randomly, the participants were allocated to cognitive behavioural therapy (A_1), self-management therapy (A_2) and control (A_3) groups. The treatment lasted 10 weeks. Clinical Outcome in Routine Evaluation and Self-esteem Rating Scales were used for data collection. Analysis of

Covariance (ANCOVA) and Scheffe post-hoc at 0.05 level of significance were used in analysing the data collected. Results exposed the following:

1. There was a significant main effect of treatment on the participants' management of psychological distress; participants who under went treatment significantly managed their psychological distress and became improved than those who were in the control group. More specifically, those who participated in the treatment with cognitive behavioural therapy managed their psychological distress better than those treated with self-management therapy.
2. There was no significant main effect of onset of hearing loss on the participants' management of psychological distress.
3. There was no significant main effect of self-esteem on the participants' management of psychological distress.
4. There was no significant interaction effect of treatment and onset of hearing loss on the participants' management of psychological distress.
5. There was no significant interaction effect of treatment and self-esteem on the participants' management of psychological distress.
6. There was no significant interaction effect of onset of hearing loss and self-esteem on the participants' management of psychological distress.
7. There was no significant interaction effect of treatment, onset of hearing loss and self-esteem on the participants' management of psychological distress.

5.2 Conclusion

The result of this current study obviously points out that cognitive behavioural and self-management therapies are effective interventions for the management of psychological distress among in-school adolescents with hearing impairment. More importantly, since the three-way interaction effect of treatment, onset of hearing loss and self-esteem was not significant, then it recommends the appropriateness of the two therapies for both onset of loss of hearing (before or after birth) and the two self-esteem levels (high and low). The findings grant backing to the former experimental research that had covered behavioural therapies.

5.3 Implication of the Study

The relative effect of the two behaviour therapies (cognitive behavioural and self-management) in managing psychological distress among in-school adolescents

with hearing impairment had been clearly demonstrated by this study. Those who participated in the two experimental groups significantly managed their psychological distress. Also, under-management of psychological distress among those that participated in the control group had further demonstrated the weakness of the conventional distress education as a means of managing psychological distress among in-school adolescents with hearing impairment. Hence, special educationist, rehabilitation psychologists, clinical and counselling psychologists, social workers and professional caregivers could employ these psycho-therapeutic techniques to manage adolescents' psychological distress associated with hearing impairment in the school setting.

Furthermore, the insignificant interaction effect of onset of hearing loss and self-esteem on participants' management of psychological distress is worthy of mention. This implies that special educationists, social workers, clinical and counselling psychologists and professional caregivers as well as rehabilitation psychologists, should not entertain any doubt concerning the potency of the two therapies in improving psychological wellbeing of in-school adolescents with hearing impairment, since the two treatment protocols were found suitable for both onset of hearing loss (pre-lingual and post-lingual hearing loss) and the two levels of self-esteem (high and low).

5.4 Recommendations

From the discoveries of this study, these are the recommendations:

1. Adolescents undergoing psychological distress connected with having a hearing loss should be helped by stakeholders such as special educators among others in managing the condition through the two behavioural interventions experimented in the study. This will enable them to cultivate better and effective interpersonal, cognitive and emotional behaviour patterns that could enhance their psychological wellbeing.
2. Special educators, who notice some of the maladaptive behaviours among their students with hearing impairment should recommend them for, and take them through cognitive behavioural or self-management therapy as necessary. As the condition is ameliorated, the adolescent's academic performance could improve as, it was established that one of the consequences of psychological distress is poor academic performance.

3. Social workers, clinical and counselling psychologists as well as professional caregivers could engage the therapies in managing adolescent psychological distress triggered by hearing impairment. These behavioural therapies unlike the administration of pharmacological agents do not have any side effects and could also costless.
4. All these stakeholders should be informed about the effectiveness of these two behavioural therapies (Cognitive Behavioural and Self-management) in managing psychological distress among adolescents associated with hearing impairment in the school enviroment. These stakeholders, including parents, special educators, clinical and counselling psychologists as well as rehabilitation psychologists, should be able to use the therapies when acquainted with the therapies.

5.5 Contribution to Knowledge

The study is unique in its contribution to knowledge on how in-school adolescents with hearing impairment experiencing psychological distress could be managed.

The study revealed that the two therapies namely, cognitive behavioural and self-management therapies have significant effect on the management of psychological distress among in-school adolescents with hearing impairment.

This study established how the two therapies employed different treatment components embedded in them (that is, cognitive behavioural and self-mangement therapies) in addressing stressors and stress reactions associated with hearing impairment, taking place in cognitive, affective, behavioural and social areas.

The study showed the suitability of the self-management and cognitive behavioural therapies for in-school adolescents with hearing impairment regardless of onset of hearing loss and level of self-esteem.

This study provided empirical basis for further research into the area of locally (different from the foreign based) applicable interventions for in-school adolescents with hearing impairment.

This study also provides alternative method for the management of adolescents' distress associated with having hearing impairment particularly for those in the school setting.

5.6 Suggestion for Further Studies

1. The disqisition should be duplicated in order to confirm or disconfirm the merit or otherwise of the two therapies and to determine the general applicability of the therapies for various ethnic population.
2. The interaction effect of other elements such as degree of hearing loss, socio-economic background in addition to parents' communication competence should be examined in further studies.
3. Longitudinal studies of the effects of the two behaviour therapies on psychological distress among other family members affected by hearing loss should be carried out.
4. While the study is not sufficient to determine the optional length for the therapies, minimum number of sessions for each of the two therapies can be addressed in the future studies.

5.7 Limitations of the Study

There are limitations which may affect the results of the study being generalised. Following are the limitations.

- The researcher investigated the efficacy of two behaviour therapies namely, cognitive behavioural and self-management therapies on management of psychological distress among in-school adolescents having impaired hearing in Oyo State. The psychotherapies are not exclusive and therefore, establishing the findings strictly on them may tend to affect the generalisation of the results. The study only focused one state: Oyo State, and drew samples from integrated special schools in two senatorial districts. These factors may limit the extent of inference drawn for the purpose of generalisation in Nigeria.
- This study was constrained by the initial unwillingness of the participants as the researcher had to appeal to them in conjunction with their teachers to take part thereby prolonging the exercise.
- The study was also constrained by lateness to the sessions by the participants as a special period apart from the normal school time table was given for the programme. This could be a counsequence of their initial unwillingness to participate.

- The study was further constrained by the financial implications of maintaining the participants as the researcher had to get them gifts in form of materials and snacks almost every session. All the constraints however did not influence negatively the results of the study.

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APPENDIX

DESCRIPTION OF TREATMENT PACKAGES

Experimental Group One

This treatment strategy was adapted from David-Feron and Kaslow's (2008) cognitive behavioural therapy. It consisted of ten 60 minutes – weekly session which enabled the distressed adolescents pinpoint their dysfunctional (incorrect) beliefs associated with experiencing hearing impairment, censor the authenticity of dysfunctional beliefs and learning to substitute them with more adaptable beliefs. The treatment protocol is presented in this section.

Session I: Orientation and Administration of Pretest Measure

Purpose: The theme enabled the participants and the researcher socialise with one another, establish confidence and good working relationship. The theme also enabled the researcher obtain pretest scores from the administration of pretest measure.

Activities: The researcher used the session to introduce herself and asked for the introduction of the participants by mentioning their identification number, age, religion, number of children in their household, position in the family. However, they were cautioned against mentioning names, home, e-mail addresses and phone numbers. They were encouraged to feel free to express their opinion throughout the period of the treatment protocol. The participants were guaranteed of the concealment of any data collected during the therapy sessions. The session was used to reiterate the content of the consent form. Thereafter, they were pretested on Clinical Outcome in Routine Evaluation (CORE-10). Rosenberg Self-esteem Scale was run on the participants in order to divide them into the self-esteem levels (low and high) in their respective groups. At the termination of the session, the participants were offerred simple refreshment and a token amount of money for cab fare.

Session II: Conceptualising Distress Associated with having Hearing Impairment

Purpose: The theme enabled the participants become aware of what constituted distress, hearing impaired-related factors that may cause distress, symptoms and consequences of the distress among adolescents and the need for the therapy.

Activities: The researcher recapped on the previous activities with the participants. Following this, the participants were given distress education by conceptualising distress associated with having hearing impairment. Distress was explained to them as a complicated situation which entails deviations in mood, thinking, biological functioning, behaviour and relationship. Distress may ensue when psychological and social challenges are faced. These psychological and social challenges were explained in line with Beck's (1967) cognitive theory of distress discussed in this study. The symptoms of distress such as lack of concentration, inability to experience delight, anxiety and apprehension, sadness and dejection, irritable mood, cognitive distortion, disruption in motor processes, lack of appetite or eating more than required, fatigue, increase in weight or reduction in weight, and sleep disorder were discussed. The consequences of their psychopathological disorder, such as worsening family interactions, pulling out from peer interactions and poor school performance were also discussed. They were thereafter informed of the need for the therapy, emphasising that the problem with them was not that they were not trying hard enough, but that they were yet to learn to engage the most operational strategies to deal with their psychological problem. The researcher then discussed the purpose of the cognitive therapy with the participants. Questions on the subject were taken. As homework, questions on distress form were given to the participants and the session was brought to an end.

Session III: Identifying the Automatic Thoughts

Purpose: The theme enabled the participants to recognise the association between their dysfunctional thinking and behaviour.

Activities: The researcher recapitulated on the previous activities. Thereafter, the participants were asked to review what happened during their home assignment experiences. Feedback and positive reinforcement were given for achievement. The researcher introduced the theory of automatic thoughts and provided examples of what way underlying perceptions influence feelings and behaviours. During the session, the researcher presented collections of pictures of people indicating diverse circumstances, making them fearful, angry, sad, or happy. Those who participated were requested to articulate the story of each group as presented on the card and describe what the feeling of the person in the picture was in that position, and state how they know the emotion of that person as they describe the important structures

they could identify on the face, in addition to those on the whole body of the person shown in the picture. They were requested to narrate their personal story on the same emotions observed from the picture by asking them questions such as 'Have you ever been sad?' 'What conditions make you sad? Please, give me some examples'. When questioning, the researcher observes carefully for sign of affect that may instigate additional questioning. As homework, the participants were asked to identify any link between their dysfunctional thoughts or beliefs and behaviour. Questions on subject were taken and the session was brought to an end.

Session IV: Identifying the Cognitive Distortions (Dysfunctional Belief)

Purpose: The theme enabled the participants identify the distortion in how they think.

Activities: The researcher recapped on the previous activities. She then asked the participants to review what happened during their home assignment experiences. Feedback and positive reinforcement were given for achievement. Then the researcher discussed with the participants the common cognitive distortions such as arbitrary inference (concluding on the basis of inadequate or inappropriate evidence), selective abstraction (concentrating on a only one side of a situation and disregarding others), magnification (embellishing undesirable events), minimisation (underplaying the implication of an event), overgeneralisation (depicting general damaging decisions based on a sole insignificant event), and personalisation (ascribing the injurious feelings of others to yourself). Both during the session and as homework, the participants were required to pinpoint the distortion in their reasoning using the three-column technique:

Column One: Define a condition that elicits negative emotions.

Column Two: Pinpoint their automatic thoughts in the situation.

Column Three: Compile the type of distortion in these thoughts.

Questions on subject were taken and the session was brought to an end.

Session V: Testing the Automatic Thoughts and Dysfunctional Beliefs

Purpose: The theme enabled the participants expand and evaluate how to think and interprete situations.

Activities: The researcher recapitulated on the previous activities. She then asked the participants to review what happened during their home assignment experiences. Feedback and positive reinforcement were given for success in the homework.

Thereafter, the researcher used Socratic questioning in reality-testing and validity of the participants' dysfunctional beliefs. Below are some of the questions that guided the researcher.

- Does the belief seem reasonable?
- Where is the evidence for it?
- Can you review the proof for it?
- What are the benefits and shortcomings of retaining the belief?
- What most horrible thing could happen?
- Can you mention what you learnt from their experience?

As home assignment, the researcher asked the participants to generate more questions and answers to test their dysfunctional belief. Questions on subject were taken and the session was brought to an end.

Session VI: Correcting Cognitive Distortions

Purpose: The theme enabled the participants learn how to replace their dysfunctional beliefs with more adaptive beliefs.

Activities: The researcher recapped on the previous activities. She asked the participants to review what happened during their home assignment experiences. Feedback and positive reinforcement were given for achievement. Thereafter, the researcher guided the participants to replace their dysfunctional beliefs with more adaptive beliefs through cognitive techniques such as:

- Decatastrophising – Admit and handle with optimisim the most awful possible outcomes (for example: 'so what if it happens')
- Refashioning beliefs – 'I am adequate no matter what'.
- Forming rational responses – Helping the participants to see their automatic thoughts as an interpretation rather than as the truth.
- Redefining – Making the problem more real and stating it in forms of the participant who feels lonely, uncared for may redefine his or her problem as 'I have to get in touch with other people and be kind'. Questions on the subject was taken and the session was brought to an end.

The session ended with an assignment on the topic, for a practice on their error.

Session VII: Behavioural Technique: Graded Task Assignment

Purpose: Theme enabled the participants to discover that small tasks improve mood; whereas large tasks lead to distressed mood.

Activities: The researcher revised on the previous activities. She then gave positive reinforcement for their achievements. Then the researcher asked the participants to report things they feel they ought to do or desire to do but assume that they could not, because the tasks look as if they are tremendously challenging. The participants were then guided to break the large, inseparable tasks into small manageable tasks. The researcher and the participants together developed hierarchies of the large task. As home assignment, they were asked to perform less threatening tasks before moving on to more threatening activities. The researcher emphasised that the participants should make time each evening to strategise their schedules for the following day. Questions on the subject were taken and the session was brought to an end.

Session VIII: Enhancing Self-Esteem: Initiating and Monitoring Peer Interaction

Purpose: The theme enabled the participants initiate social interaction and asked for clarification from peers.

Activities: The researcher revised on the previous activities. She asked the participants to review what happened during their home assignment experiences. They were given feedback and positive reinforcement for achievement. Thereafter, the researcher explained a rationale for teaching the technique, that most peer groups wanted fresh associates that could give something good and not taking something away, like swapping a bad mood with a good mood. When you are distressed, you are forced to give nothing and take away any good mood. Drilling in skills appropriate for enhancing self-esteem enhanced beating of distress by arranging to contribute companionship and good humour rather than removing it. After this, researcher asked the participants to exchange pleasantries with every one they see. Express something about themselves, like 'I like watching football'. Then write down what they said about themselves. The participants were encouraged to discuss with people whom they had never talked to before. While performing this activity, the researcher observed and identified participants who needed help, and facilitated interactions as needed. She also encouraged participants to ask for clarifications, as needed. After this activity, the researcher asked the participants to say the facts they learned. As

homework, the researcher asked the participants to talk to their new friends every day. Questions on the subjects were taken and the session was brought to an end.

Session IX: Enhancing Self-Esteem through Social Cue: Recognising Social Cues

Purpose: The theme enabled the participants improve on their self-esteem.

Activities: The researcher recapitulated on the previous activities. She then asked the participants to review what happened during their home assignment experiences. They were given feedback and positive reinforcement for achievement. The researcher then showed the participants a documented film show (already studied ahead of the session). The teacher paused the video tape at definite times, to deliberate on body projection used as language for communication, feelings and other social signals presented for illustration. Researcher asked questions such as: What is he/she doing? What do you think that means? What do you think the characters should not do? What do you think the character should do?

The researcher encouraged unrestricted communication of ideas and direct discussion. The researcher offered philosophies for guiding the participants and preventing misunderstanding. At the end of the presentation, the researcher led a session on discussion about what they noticed from they watched or saw. As home assignment, the researcher encouraged the participants to locate social cue in other similar circumstances. Questions on the subject were taken and the session was brought to an end.

Session X: Administration of Posttest Measure and Termination of Therapy Sessions

Purpose: The theme enabled the researcher obtain posttest scores from the posttest measure and terminate the therapeutic sessions.

Activities: The researcher recapitulated on the treatment protocol. The participants were then asked to review what happened during the treatment sessions. They were given feedback and positive reinforcement for achievement. Thereafter, she administered the posttest measure. She thanked the participants for their maximum cooperation throughout the treatment protocol. The researcher appealed to the

participants to practise all the skills they had acquired each time they noticed a significant change in mood. She then terminated the therapeutic sessions.

INSTRUCTIONAL GUIDE FOR COGNITIVE BEHAVIOUR THERAPY FOR ADOLESCENT WITH HEARING IMPAIRMENT

SESSION ONE

Experimental Group: 1

Strategy: Cognitive Behaviour Therapy

Topic: Introduction

Duration: 60 Minutes

Mode of Communication: Total Communication

Aims: At the expiration of the session, the researcher ought to:

(i) get familiar with all participants

(ii) get their pre-test and self-esteem status

Week	Phase	Step	Researcher's Activities	Participants' Activities
1	Introduction	1	The investigator greets the partakers, introduces herself and the research assistants	Partakers also welcome the researcher/ the assistants and they pay full attention.
	Explanation of the Content	2	Researcher/ Assistants inform the population of their intention to help some of them who will need to go through therapeutic sessions.	Participants continue to be attentive.
	Pre-test	3	Researcher/ Assistants administer the COREL-10 in order to identify the participants' psychological status.	Potential participants co-operate by responding to the test.
	Screening for Self-esteem	4	Researcher/ Assistants administer Rosenberg self-esteem rating scale to the participants.	Participants co-operate by answering the questions.
	Evaluation	5	Researcher informs the participants about their psychological status and the need for them to participate in some sessions of therapy so that they can improve on their behaviours, while they are given a token for their transportation.	Participants respond by agreeing to partake of the sessions.

	Assignment	6	The participants are to go over the consent form for subsequent participation.	Participants collect the form to be brought back next session.

SESSION TWO

Experimental Group: 1

Strategy: Cognitive Behaviour Therapy

Topic: Orientation

Duration: 60 Minutes

Mode of Communication: Total Communication

Aims: At the expiration of the session, partakers ought to:

(i) show their eagerness to participate in the therapy;

(ii) mention things that make them to be worried often

Week	Phase	Step	Researcher's Activities	Participants' Activities
2	Introduction	1	Researcher welcomes participants to the session cheerfully, thanks them for their co-operation and asks them to feel at home.	Participants respond warmly to the greetings and pay attention.
	Explanation of the Content	2	Researcher/ Assistants explain the purpose for taking them through the therapy and what the therapy is all about.	Participants listen carefully.
	Evaluation	3	Researcher/ Assistants discuss the symptoms of distress with the participants.	Participants pay full attention and ask questions.
	Assignment	4	Participants are required to write against the next session things that make them to be worried.	Participants are to come along next session with their write-up.

SESSION THREE

Experimental Group: One

Strategy: Cognitive Behaviour Therapy

Topic: Conceptualising Distress Associated with Hearing Impairment

Duration: 60 Minutes

Mode of Communication: Total Communication

Objectives: At the expiration of the session, participants ought to:

(i) mention some symptoms of distress;

(ii) explain the need for them to participate for them to participate in the Cognitive Behaviour Therapy.

Week	Phase	Step	Researcher's Activities	Participants' Activities
3	Introduction	1	Researcher welcomes the participants, thanks them for attending, then recaps on the previous activities.	Participants respond warmly, mention some of the points they can remember from the previous session.
	Explanation of Content	2	Researcher explains distress as a condition in which someone experiences change(s) in mood, thinking, behaviour and relationship.	Participants are attentive to the explanation.
	Explanation Continues	3	Researcher explains that distress occurs due to some psychological and social challenges they have; this manifests as bad-temper, moodiness, sadness, cognitive distortion, lack of pleasure, dejection among others.	Participants are allowed to ask question on the discussion.
	Essence of the Therapy	4	Researcher informs the participants that they are not failures as they experience all mentioned but they would have to employ most effective strategies to deal with their psychological problem. Hence the need for them to participate in the therapy.	Participants are allowed to ask questions on the discussion.
	Evaluation	4	Researcher/ Assistants ask questions on the session: What is distress? Mention two symptoms of distress.	Participants respond by signing or using speech (in case of Hard-of- Hearing) to give to answers to the questions.
	Assignment	5	Participants are to write down various ways they communicate with non-hearing impaired and state whether they enjoy such. The session is ended.	Participants are to bring their write-ups next session.

SESSION FOUR

Experimental Group: One

Strategy: Cognitive Behaviour Therapy

Topic: Identifying Automatic Thoughts and Cognitive Distortions (Dysfunctional Belief)

Duration: 60 Minutes

Mode of Communication: Total Communication

Aims: At the expiration of the session, the partakers ought to:

(i) describe various emotions seen in pictures and what they think would cause such reactions;
(ii) define the term distortion.

Week	Phase	Step	Researcher's Activities	Participants' Activities
4	Introduction	1	Participants are welcome, feedback from the assignment taken, reward given and previous activities recapped.	Participants respond cheerfully to the greetings and submit their assignment.
	Explanation of the Content (1) (Automatic Thought)	2	Participants are informed that automatic thoughts are thought underlying perceptions which influence feelings and behaviours.	Participants pay full attention and ask question as necessary.
	Illustration	3	Participants are shown different pictures illustrating situations showing emotions – sadness, anger, happiness and fear.	Participants are requested to describe the features they see on the face and body of the persons in the picture.
	Explanation of the Content(2) (Cognitive Distortion) and Illustration	4	Participants are informed about Cognitive Distortion as wrong beliefs built in them due to some misfortune they suffered. These include: arbitrary inference, selective abstraction, magnification, minimisation, overgeneralization among others.	Participants are allowed to ask questions on the content.
	Evaluation	5	Researcher Assistants require participants to mention few automatic thoughts and distorted beliefs.	Participants respond to the question appropriately.
	Assignment	6	Participants are requested to write down situations that could make them manifest negative or undesirable emotional reactions which could be anger and bitterness; they are	Participants are to bring their write-ups next session.

			also to write down some distorted beliefs they have experienced.	

SESSION FIVE

Experimental group: One

Strategy: Cognitive Behaviour Therapy

Topic: Testing Automatic Thoughts and Dysfunctional Beliefs

Duration: 60 Minutes

Mode of Communication: Total Communication

Aim: At the expiration of the session, partakers ought to:

(i) expand, as well as evaluate situations in order to interpret the situations correctly.

Week	Phase	Step	Researcher's Activities	Participants' Activities
5	Introduction	1	Researcher welcomes the participants, feed back from the assignment is taken with reward being given for success on the assignment, recaps previous activities.	Participants respond warmly to the greetings, turn in the assignment and settle for the session.
	Reality-Testing	2	Researcher/ Assistants use Socratic questioning to find out their dysfunctional beliefs: Can you be a leader? What type of leader can you be? Is it possible for you to be university student?	Participants respond to the question raised.
	Validity of Dysfunctional Beliefs	3	Researcher/ Assistants continue to use Socratic questioning to validate their belief: Is your belief reasonable? How will you be able to do or not do it?	Participants respond freely to the questions raised.
	Evaluation	4	Researcher requests participants to mention some things they believe about themselves presently and for the future.	Participants respond adequately.
	Assignment	5	Participants are required to think about a big post they will like to be later on in life and write it down against the next session.	Participants are to bring their answers next session.

SESSION SIX

Experimental Group: One

Strategy: Cognitive Behaviour Therapy

Topic: Correcting Cognitive Distortions

Duration: 60 minutes

Mode of Communication: Total Communication

Aims: At the expiration of the session, partakers ought to do at least one or two of the following:

(i) decatastrophise- accepting and dealing with the worst possible outcome;

(ii) refashioning beliefs- I am adequate no matter what;

(iii) forming rational responses- seeing automatic thoughts as interpretation and not the truth;

(iv) redefining- participants feeling uncared for redefining the problem as "I need to reach out to other people and be caring".

Week	Phase	Step	Researcher's Activities	Participants' Activities
6	Introduction	1	Participants are welcome to the session, assignment is reviewed, and previous activities recapped.	Participants respond warmly to the greetings and turn in their assignment as they settle for the session.
	Decatastrophising	2	Researcher/ Assistants lead participants to accept the situation they have found themselves.	Participants describe their situation (being hearing impaired) as unchangeable and they can not be relegated for that.
	Refashioning Beliefs	3	Researcher/ Assistants guide the participants to see themselves as important; that can relate and be related with.	Participants describe themselves as useful to the society.
	Forming Rational Responses	4	Researcher/ Assistants guide participants to change their thoughts to the truth seeing themselves as lovable, able to join any gathering.	Participants discuss their new understanding of people around them.
	Redefining	5	Participants are guided to always make the move to interact with people around them so as not to feel left out.	Participants express their readiness to interact with everyone around them in spite of the withdrawal of the hearing peers from them.
	Evaluation	6	Participants are guided to list ways by which they can become less worried, anxious and depressed.	Participants mention and demonstrate the skills- decatastrophising, refashioning, among others.
	Assignment	7	Researcher/ Assistants encourage participants to	Participants are to present their experience next session.

			establish friendship with a hearing peer either at home or in the school before the next session.	

SESSION SEVEN

Experimental group: One

Strategy: Cognitive Behaviour Therapy

Topic: Graded Task Assignment

Duration: 60 Minutes

Mode of Communication: Total Communication

Aims: At the expiration of the session, partakers ought to:

(i) divide into hierarchies various tasks to enhance their cognition;
(ii) take the tasks one after the other, starting with the least to the highest.

Week	Phase	Step	Researcher's Activities	Participants' Activities
7	Introduction	1	Researcher/ Assistants welcome participants, take feed back from the assignment and recap previous activities	Participants respond to the greetings, turn in the assignment and settle for the session.
	Graded Task (1)	2	Researcher/ Assistants inform participants that the tasks for enhancing their smooth relationship should be in grades with the use of total communication, starting with an improvement in their mood by greeting peers around them. They can wave with a smile to the hearing peers due to communication disparity between them.	Participants continue to pay attention.
	Graded Task (2)	3	Researcher/ Assistants guide participants to the next stages of tasks: greeting by shaking hands/ tapping on the shoulders; asking how the peer is coping with school/ life generally; asking where the peer lives; discussing topics in their various subjects with peer; and share the points of interest with peer.	Participants take note of these differentstages.
	Evaluation	4	Researcher/ Assistants request participants to describe various stages already mentioned.	Participants co-operate by mentioning the stages.

	Assignment	5	Participants are requested to perform these tasks from the least to the highest from day one to the sixth before the next session.	Participants are to produce the report of these tasks next session.

SESSION EIGHT

Experimental Group: One

Strategy: Cognitive Behaviour Therapy

Topic: Enhancing Self-Esteem: Initiating and Monitoring Peer Interaction.

Duration: 60Minutes

Mode of Communication: Total Communication

Aims: at the expiration of the session, partakers ought to:

(i) talk to person(s) they never talked to or are not so close;
(ii) establish companionship and try to be humourous;
(iii) list skills they have acquired during the session.

Week	Phase	Step	Researcher's Activities	Participants' Activities
8	1	Introduction	Investigator receives partakers to the meeting, go through the project with the participants and recap previous activities.	Participants respond warmly to the greetings, present their assignment and sit patiently for the session.
	Initiating and Monitoring Peer Interaction	2	Researcher/ Assistants discuss the essence of having interaction with peers; participants are encouraged to reach out to their peers in the group especially those with whom they were not close. They are to shake hands with every one in the group and by extension all members of their classes later.	Participants move round to shake hands with those around in the group.
	Assisting in Initiating	3	Researcher/ Assistants look out for those who are unable to initiate an interaction and then facilitate that.	Participants have a companion each to interact with.
	Evaluation	4	Researcher/ assistants are required to demonstrate how they have got a companion in that group.	Participants describe the steps used in getting their companion.
	Assignment	5	Participants are requested to make new friends who they should discuss with on daily basis and they should write down their experiences.	Participants are to present their experiences next session.

SESSION NINE

Experimental Group: One

Strategy: Cognitive Behaviour Therapy

Topic: Enhancing Self-Esteem through Social Cue – Recognising Social Cues

Duration: 60 Minutes

Mode of Communication: Total Communication

Aims: At the expiration of the session, partakers ought to:

(i) interpret social (relationships/activities generally accepted) cues;

(ii) demonstrate improved self-esteem.

Week	Phase	Step	Researcher's Activities	Participants' Activities
9	Introduction	1	Participants are welcome; assignment reviewed and previous activities recapped.	Participants respond to greetings; they relay their experiences between last session and now.
	Recorded Social Cues and their Interpretation	2	Researcher/ Assistants relay the recorded social cues which are to be interpreted by participants.	Participants watch the recorded cues and interpret what they have seen.
	Evaluation	3	Researcher requires the participants to discuss what they have watched in relation to their own lives.	Participants freely discuss what they have just watched relating it with their own lives.
	Assignment	4	Researcher encourages participants to locate social cues in other circumstances which they would report next session.	Participants are to come next session with their findings.

SESSION TEN

Experimental Group: One

Strategy: Cognitive Behaviour Therapy

Topic: Administration of Posttest Measurement and Termination of Therapy Sessions

Duration: 60 Minutes

Mode of Communication: Total Communication

Aims: At the expiration of the session, partakers ought to:

(i) mention various skills they have acquired in the course of the therapy;

(ii) participants should be able to express what they can do whenever they notice a significant change in mood.

Week	Phase	Step	Researcher's Activities	Participants' Activities
10	Introduction	1	Researcher/Assistants welcome participants to the last session, review the assignment with participants and recap previous activities.	Participants appreciate researcher for the opportunity to partake in the session, turn in their assignment.
	Posttest	2	Researcher/ Assistants administer posttest on the participants.	Participants answer appropriately.
	Appreciation	3	Researcher/ Assistants appreciate participants for their commitment, patience in participating in the therapy.	Participants acknowledge the appreciation.
	Encouragement/ Warning	4	Researcher/ Assistants remind participants that challenges would come their ways but they should always remember what they have learnt during the therapy and try to apply the skills.	Participants indicate their agreement with encouragement.
	Termination	5	Researcher informs the participants that the session has ended.	Participants depart happily.

Experimental Group Two

Self-Management Therapy

The treatment strategy was adapted from Dun et al (2007). It consisted of 60 minutes weekly session that enabled the adolescents with HI become skilled in the application of relevant learning principles to their psychopathological problem. The treatment protocol is presented in this section.

Session I Orientation and Administration of Pretest Measure

Purpose: The theme enabled the participants and the researcher socialise with each other, establish confidence and good working relationship. The theme also enabled the researcher obtain pretest scores from the administration of pretest measure.

Activities: The researcher used the session to introduce herself and asked for the introduction of the participants by mentioning their identification number, age, religion, number of children in their household, position in the family. However, they were cautioned against mentioning names, home, e-mail addresses and phone numbers. They were encouraged to feel free to express their opinion throughout the period of the treatment protocol. The participants were given the assurance of confidentiality of any information obtained from the therapy sessions. The session was used to reiterate the content of the consent form. Thereafter, they were pretested on Clinical Outcome in Routine Evaluation (CORE-10). Rosenberg Self-esteeem Rating Scale was administered to the participants to separate them into the two self-esteem levels (low and high) in their respective groups. At the expiration of the session, the participants had a light refreshment and a token amount of money for cab fare.

Session II: Concept of Distress Associated with having Hearing Loss

Purpose: The theme enabled the participants be aware of what constituted distress; hearing impaired-related factors that may cause distress, symptoms and consequences of the distress among adolescents and the need for the therapy.

Activities: The researcher recapped on the previous activities. Thereafter, she presented the distress education to the participants by conceptualising distress associated with hearing loss for them. Distress was explained to them as the complicated series of affective, cognitive, behavioural and functional deviations that

many investigators assume to be a syndrome. Vulnerability to distress may be due to psychological and social challenges they face. These challenges were explained in line with Rehm's (1977) self-control theory of depression discussed in this study. The symptoms of distress such as irritable mood, sadness and dejection, cognitive distortion, lack of concentration, unable to experience delight, interruption in motor progressions, anxiety and apprehension, inability to eat due to loss of appetite or eating unnecessarily excessively, exhaustion, change in weight and sleep disorder were discussed. The consequences of this psychopathological problem, such as decline in family connection, pulling out from peer association and poor school performance were also discussed. They were informed of the need for the therapy emphasising that the problem with them was not that they were not trying hard enough, but they just had not yet learned to employ the most operational strategies to deal with their psychological problem. Questions on the subject are taken and the session was brought to an end.

Session III: Basic Skills Needed for Effective Self-management Therapy

Purpose: The theme enabled the participants be aware of basic skills needed for effective self-management therapy.

Activities: The researcher revised on the previous session. She then discussed with the participants the basic skills they needed to make self-management therapy effective. These skills included self-concept, positive thinking, personal and interpersonal satisfaction, problem solving technique, maintenance skills, openness and questioning skills, self-monitoring, self-evaluation, self-reinforcement and self-regulating skills. During this session, the researcher emphasised that it was of no use, whatsoever, for the participants to think of themselves as lacking in willpower or backbone. Viewing themselves in such terms can only sabotage their effort in self-management. Questions on the subject were taken and the session was brought to an end.

Session IV: Obtaining Reinforcement

Purpose: The theme enabled the participants to be acquainted with the link between activity and mood, in addition to increasing the number and scope of reinforcers available to them.

Activities: The researcher revised on the previous activities with the participants. Thereafter, she discussed with the participants the relationship between activity and mood. She discussed further that absence of positive reinforcement is a crucial antecedent of depressive behaviours and so an improvement was likely to be accomplished as an increase of positive reinforcement occurs. Both during the session and as homework, the participants were asked to identify and enthusiastically search for people, programmes and circumstances that offer the anticipated back-ups. Questions on the subject were taken and the session was brought to an end.

Session V: Self-monitoring

Purpose: The theme enabled the participants identify individual activities which correlated with their mood.

Activities: The researcher recapped on the previous activities. The participants were then asked to review what happened during their home assignment experiences. Feedback and positive reinforcement were given for achievement. Thereafter, researcher reiterated that mood is related to activity and that positive mood change will occur if positive activities are increased. The researcher then asked the participants to list activities which had been amusing, pleasurable, meaningful or exciting in the past to them, using pleasant event monitoring sheet. As homework, the participants were requested to point out the activities they were involved in at the end of each day. Furthermore, the participants were required to quantify their mood on a 10-point scale on daily basis. Daily Mood Rating Log sheets were distributed to the participants to enable them perform the task appropriately. Questions on the subjects were taken and the session was brought to an end.

Sessions VI – VII: Challenge Test Reward (CTR) Method

Purpose: The theme enabled the participants acquire definite routines for question or making inactive negative automatic thoughts.

Activities: The researcher recapitulated on the previous activities. The participants were asked to review what happened during the home assignment experiences. Feedback and positive reinforcement were given for success in keeping the record. Thereafter, the researcher discussed with the participants what common cognitive distortions were, described as subjective suggestion, selective abstraction, overgeneralisation, magnification and minimization and personalisation, and how they

could be challenged by making alternative self-statement that could be made in a precise circumstances, whereby a negative automatic thoughts ensued. During the session, the participants identified the negative automatic thoughts in them using Daily Record of Dysfunctional Thoughts. The participants were informed that when their tasks were accomplished and the participants showed that the depressive automatic thought was unacceptable, they should engage in self-reward or self-management. Daily Record of Dysfunctional Thought sheets were given to the participants to enable them perform the task appropriately. Questions on the subject were taken and the session was brought to an end.

Session VIII-IX: Stimulus Control Technique

Purpose: The theme enabled the participants to weaken undesirable responses and strengthened desirable responses.

Activities: The researcher revised the previous activities. Participants were asked to review what happened during their home assignment experience. Participants received approval for achievement. Thereafter, the researcher discussed with the participants some basic operant principles. These included the following.

- Self-control is not a matter of blind willpower. Instead, it comes about as a result of judicious manipulation of antecedent and consequent events;
- The participant should take the advantage of the fact that behaviour is under stimulus control by empowering any of the following factors;

(a) Physically changing the stimulus environment;
(b) Narrowing the range of stimulus eliciting undesirable behaviour;
(c) Strengthening the connection between certain stimuli and desirable behaviours.

- The participant should determine which responses are competing with and thereby inhibiting desirable behaviour, with the goal of weakening them.
- The participant should determine which responses might serve as healthy alternatives to undesirable ways of behaving, with the goal of strengthening them.
- Participant should attempt to interrupt behaviour chains leading to undesirable responses as early as possible in the chain.
- Participant should self-administer rewards immediately after appropriate

responses have occurred.

- Participant should deliberately plan to achieve his overall goals in a gradual manner.

Both during the therapy and as homework, the participants should determine environmental cue or stimulus that gave rise to critical pattern of behaviours. Thereafter, the researcher and the participants would discuss alternative or competing responses that keep the participants from engaging in undesirable behaviour. Then, the participants were encouraged to replace their undesirable behaviour with healthy alternatives. The researcher also encouraged the participants to self-administer rewards immediately after appropriate responses have occurred. Questions on the subject were taken and the session was brought to an end.

Session X: Administration of Posttest Measure and Termination of Therapy Session

Purpose: The theme enabled the researcher obtained posttest scores from the administration of posttest measure and terminates the therapeutic sessions.

Activities: The researcher recapitulated on the treatment protocol, then, the participants were asked to review what happened during the treatment sessions. Feedback and positive reinforcement were given for achievement. Thereafter, the researcher administered the posttest measure (CORE-10). She thankED them for their maximum cooperation throughout the sessionS. The researcher appealed to the participants to put into practice all the skills they had acquired each time they notice a significant change in mood. She then terminated the therapeutic session.

INSTRUCTIONAL GUIDE FOR SELF-MANAGEMENT THERAPY FOR WITH HEARING IMPAIRMENT

SESSION ONE

Experimental Group 2

Strategy: Self-Management Therapy

Topic: Introduction

Duration: 60 minutes

Mode of Communication: Total Communication

Aims: At the expiration of the session, the researcher ought to:

(i) introduce herself

Week	Phase	Step	Researcher's Activities	Participants' Activities
1	Introduction	1	Researcher welcomes the participants, introduces herself and research assistants.	Participants responds warmly to the greetings and remain attentive.
	Explanation of the Content	2	Participants are informed that some of them would have to go through some sessions of therapy in order to improve on their behavior.	Participants remain calm.
	Pre-test	3	Researcher/ Assistants administer CORE-10 in order to identify their psychological status before treatment.	Participants co-operate by responding to the test.
	Self-esteem	4	Researcher/Assistants use Rosenberg self-esteem scale to divide participants to different status.	Participants co-operate by surrendering to the test.
	Evaluation	5	Investigator enlightens the partakers on the necessity for them to participate in the sessions of therapy in order to improve on their behavior. A token is given to them to facilitate their transportation home.	Participants indicate their readiness to participate.
	Assignment	6	Participants are to go over the consent form for subsequent participation.	Participants collect the form which will be filled and brought back.

SESSION TWO

Experimental Group: 2

Strategy: Self-Management Therapy

Topic: Orientation

Duration: 60 minutes

Mode of Communication: Total Communication

Aims: At the expiration of the session, partakers ought to:

(i) show their willingness to participate in the therapy;

(ii) participate in the pre-test measurement.

Week	Phase	Step	Researcher's Activities	Participants' Activities
2	Introduction	1	Researcher/ Assistants welcome the participants cheerfully to the session, appreciate them for their co-operation.	Participants respond warmly to the greetings and continue to pay full attention.
	Explanation of the Content	2	Researcher/ Assistants explain the purpose for taking them through the therapy and what the therapy is all about.	Participants listen carefully.
	Evaluation	3	Researcher/ Assistants discuss the symptoms of distress with the participants.	Participants pay full attention.
	Assignment	4	Participants are requested to write down things that get them worried and how they see themselves against the next session. The session is ended.	Participants are to come along with their write-ups by next session.

SESSION THREE

Experiment Group: Two

Strategy: Self-Management Therapy

Topic: Concept of Distress and Introduction to Basic Skills Needed for Effective Self-Management Therapy

Duration: 60 Minutes

Mode of Communication: Total Communication

Aim: At the expiration of the session, partakers ought to:

(i) mention some of the symptoms of distress they have noticed in themselves;

(ii) mention the basic skills required for effective self-management therapy; and

(iii) mention who they believe can help them to overcome their distress(es).

Week	Phase	Step	Researcher's Activities	Participants' Activities
3	Introduction	1	Researcher/ Assistants welcome the participants and recap the previous activities.	Participants respond cheerfully to the greetings.
	Concept of Distress	2	Researcher informs participants about certain reactions/ behaviours and some changes which are presented due to some psychological and social challenges they face resulting from their hearing loss. Hence they tend to isolate or withdraw from others.	Participants pay full attention.
	Need for Therapy	3	Researcher informs participants that the symptoms present (sadness, rejection, cognitive distortion, inability to concentrate) could be removed if they are ready to be committed to the therapeutic sessions so that they can enjoy family and peer relationships.	Participants pay full attention and indicate their readiness to be committed.
	Self-Management Therapy	4	Researcher/ Assistants guide the participants on the need for them to be ready to help themselves as their willpower is needed in applying the skills that will enhance change in behavior.	Participants remain attentive.
	Basic Skills for Self-Management Therapy	5	Researcher/ Assistants describe some of the skills involved in self-management therapy, such as self-concept, positive thinking, personal and interpersonal satisfaction, problem	Participants continue to pay attention.

			solving technique, self-monitoring, self-evaluation, self-reinforcement and self-regulating skills.	
	Evaluation	6	Researcher requires the participants to mention who they feel can help them to improve on their behaviour.	Participants are expected to respond that they will have to help themselves.
	Assignment	7	Researcher requests participants to write down some activities they desire to carry out but which they have been unable to do.	Participants are to bring their write-ups next session.

SESSION FOUR

Experimental Group: Two

Strategy: Self-Management Therapy

Topic: Obtaining Reinforcement

Duration: 60 minutes

Mode of Communication: Total Communication

Aims: At the expiration of the session, partakers ought to:

(i) identify people, activities as well as situations that provide them desired reinforcement.

Week	Phase	Step	Researcher's Activities	Participants' Activities
4	Introduction	1	Researcher welcomes participants cheerfully, reviews the assignment and recaps previous activities.	Participants respond warmly to the greeting, turn in their assignment and pay full attention.
	Concept of Reinforcement	2	Researcher informs participants on what self-reinforcement is all about as an integral part of self-management.	Participants listen attentively.
	Need for Reinforcement	3	Researcher explains to the participants the need for them to be positively reinforced in order to reduce or remove depressive behaviours.	Participants jot various means of reinforcement as described by the researcher.
	Evaluation	4	Researcher requires participants to describe some situations which can serve as reinforcers to them.	Participants mention at least one.
	Assignment	5	Researcher asks participants to write down names of people who serve as reinforcers to them and why when coming next session.	Participants are expected to submit the assignment next session.

SESSION FIVE

Experimental Group: Two

Strategy: Self-Management Therapy

Topic: Self-Monitoring

Duration: 60 minutes

Mode of Communication: Total Communication

Aims: At the expiration of the session, partakers ought to:

(i) list the activities which had been entertaining, satisfying, important or fun-filled to them earlier by using satisfying event sheet;

(ii) grade their mood on a 10-point scale on daily basis, by means of the daily mood rating log sheet.

(iii)

Week	Phase	Step	Researcher's Activities	Participants' Activities
5	Introduction	1	Researcher/ Assistants welcome participants warmly, review the assignment and recap previous activities.	Participants respond to the greetings, submit the assignment and remain calm.
	Self-Monitoring	2	Researcher informs participants on the need for them to monitor their mood in relation with their activities.	Participants take note of some their negative moods which they are ready to neutralize.
	Evaluation	3	Researcher / Assistants encourage participants to mention some positive activities that could result in positive mood (such as smiling to all, seeing peers as potential friends and reaching out to help others instead of waiting to be helped).	Participants mention some of the activities.
	Assignment	4	Researcher/ Assistants distribute Daily Mood Rating Log Sheets to the participants to be filled daily against the next session.	Participants collect the sheet and return them filled next session.

SESSION SIX

Experimental Group: Two

Strategy: Self-Management Therapy

Topic: Challenge Test Reward (CTR) Method (I)

Duration: 60 Minutes

Aim: At expiration of the session, partakers ought to:

(i) challenge their negative automatic thoughts.

Week	Phase	Step	Researcher's Activities	Participants' Activities
6	Introduction	1	Investigator greets the partakers, appreciates all for their commitment, reviews the assignment and recaps previous activities.	Participants turn in their assignment and settle for the session.
	Cognitive Distortions	2	Researcher guides participants in identifying cognitive distortions and how these manifest; which can be in form of arbitrary inference, selective abstraction, overgeneralisation, magnification and minimisation; and personalisation.	Participants write down the distortions as they pay attention.
	Alternative Self-Statement	3	Researcher guides participants to make alternative self-statement which will challenge their negative automatic thoughts such as: that cannot be; others are not affected; if others succeed, I can also succeed.	Participants write down the alternative self-statement and add their own.
	Evaluation	4	Researcher requires the participants to mention some ways by which they can challenge their negative automatic thoughts.	Participants respond by mentioning having thoughts such as "I am a human being even if hearing impaired".
	Assignment	5	Researcher requests participants to write down some negative automatic thoughts such as "They are making jest of me" ; "I cannot attend all outings".	Participants are to come back next session with their answers.

SESSION SEVEN

Experimental Group: Two

Strategy: Self-Management Therapy

Topic: Challenge Test Reward (CTR) Method II

Duration: 60 Minutes

Mode of Communication: Total Communication

Aim: At the expiration of the session, the partakers ought to:

(i) engage in Self-Management by using Daily Record of Dsyfunctional Thought Sheet to record their depressive automatic thoughts and making them invalid.

Week	Phase	Step	Researcher's Activities	Participants' Activities
7	Introduction	1	Researcher/ Assistants welcome participants cheerfully, review the assignment and recap previous activities.	Participants respond warmly to the greetings and settle for the session.
	Use of Daily Record of Dysfunctional Thought Sheet	2	Researcher/ Assistants guide participants to fill the sheets accordingly.	Participants watch carefully.
	Invalidating the Automatic Dysfunctional Thoughts	3	Researcher/ Assistants guide participants to invalidate their automatic dysfunctional thoughts by asking them "how real the automatic thought is" and encouraging them to see the thought in a different way.	Participants try to view the thought in another way and say what they think.
	Evaluation	4	Researcher/ Assistants require participants to describe dysfunctional thoughts.	Participants respond by describing dysfunctional thoughts as those responses or thoughts that prompt negative emotions.
	Assignment	5	Researcher/ Assistants allow participants to go home with Daily Record of Dysfunctional Sheet to fill in order to invalidate their dysfunctional thoughts.	Participants re to bring the assignment next session.

SESSION EIGHT
Experimental Group: Two
Strategy: Self-Management Therapy
Topic: stimulus Control Technique (I)
Duration: 60 Minutes
Mode of Communication: Total Communication
Aims: At the expiration of the session, partakers ought to:

(i) describe self-control;
(ii) mention some ways in which they can strengthen the connection between certain stimuli and desirable behaviours.

Week	Phase	Step	Researcher's Activities	Participants' Activities
8	Introduction	1	Researcher/ Assistants welcome participants cheerfully, review the assignment with them and recap previous activities.	Participants respond to the greeting, submit the assignment and settle down for the session.
	Self-Control/ Stimulus-Control	2	Researcher/ Assistants describe self-control as the result or outcome of taking time to analyse previous behaviours and the consequences; then being able to decide whether such are desirable or not; whether to continue or not.	Participants listen carefully.
	Measures for Stimulus-Control	3	Researcher/ Assistants demonstrate some steps that can enhance stimulus-control of the participants; these include: physically changing the environment; narrowing the range of stimulus eliciting undesirable behaviour; and strengthening the connection between certain stimuli and desirable behaviours.	Participants are very attentive as they write down means of stimulus control.
	Assignment	4	Participants are required to find out some physical environment they will need to change in order to have a desirable behaviour against the next session.	Participants are expected to come with the answers next session.

SESSION NINE

Experimental Group: Two

Strategy: Self-Management Therapy

Topic: Stimulus Control Technique (II)

Duration: 60 Minutes

Mode of Communication: Total Communication

Aims: At the expiration of the session, partakers ought to:

(i) identify responses inhibiting desirable behaviours and be ready to weaken them;

(ii) identify responses likely to serve as healthy alternatives and be ready to strengthen them.

Week	Phase	Step	Researcher's Activities	Participants' Activities
9	Introduction	1	Researcher/ Assistants welcome participants cheerfully, review the assignment and recap last activities.	Participants respond warmly, submit their assignment and settle for the session.
	Inhibiting Responses	2	Researcher/ Assistants guide the participants to identify responses that could compete with desirable behaviour: withdrawal, crying, temper tantrum.	Participants are attentive and ask questions where necessary.
	Healthy Alternative Responses	3	Researcher/ Assistants guide participants to identify healthy alternative responses: smiling to all, greeting all, etc	Participants are attentive and write down the healthy responses.
	Evaluation	4	Researcher/ Assistants guide the participants to mention various measures to weaken undesirable responses and strengthen healthy alternative behaviours.	Participants mention various measures
	Assignment	5	Researcher encourages participants to take note of environmental cue or stimulus that gives rise to critical pattern of behaviours, between then and the next session.	Participants are to work on the assignment and turn it in next session.

SESSION TEN

Experimental Group: Two

Strategy: Self-Management Therapy

Topic: Administration of Posttest and Termination of Therapy Session

Duration: 60 Minutes

Mode of Communication: Total Communication

Aims: At the expiration of the session, partakers ought to:

(i) discuss distress associated with having hearing loss;

(ii) discuss how to challenge or neutralise negative automatic thoughts;

(iii) pledge their allegiance to practicing the skills acquired any time they notice a significant change in their mood.

Week	Phase	Step	Researcher's Activities	Participants' Activities
10	Introduction	1	Researcher/ Assistants welcome the participants cheerfully, thank them for their co-operation and commitment. The assignment is reviewed and the previous activities recapped.	Participants respond to the greetings and settle down for the session.
	Evaluation (I)	2	Researcher/ Assistants lead participants to discuss symptoms of distress that manifest as a result of the status of their hearing: sadness, anxiety, cognitive distortion, apprehension and irritable mood.	Participants mention the symptoms of distress as they are guided.
	Evaluation (II)	3	Researcher/ Assistants lead participants to identify sources of the distress- social challenges (environment) and remind them that the environment could be changed; if the hearing peer or family member will not relate with them, they can make the move or try to engage in positive activities thereby neutralising the undesirable responses or behaviours.	Participants relay their readiness to make first move if no one is ready to interact with them.

	Posttest	4	Researcher/ Assistants administer the posttest on the participants.	Participants respond to posttest accurately administered on them.
	Appreciation and Termination of the Therapeutic Sessions	5	Researcher/ Assistants thank the participants for their patience, co-operation and commitment. They are encouraged to always apply the skills they have acquired during the therapeutic sessions. The therapeutic session is declared closed.	Participants express their thankfulness for being nominated to partake in the programme, and depart happily.

Control Group

This was exposed to only distress education counselling. Such process lacks any operational skill that can be used in managing distress initiated by hearing loss. The treatment protocol is presented in this section.

Session I: Orientation and Administration of Pretest Measure

Purpose: The theme enables the participants and the researcher socialise with each other, establish confidence and good working relationship. The theme also enables the researcher obtain pretest scores from the administration of pretest measure.

Activities: The researcher uses the session to introduce herself and ask for the introduction of the participants by mentioning their identification number, age, religion, number of children in their household, position in the family. However, they were cautioned against mentioning names, home, e-mail addresses and phone numbers. They will be encouraged to feel free to express their opinion throughout the period of the treatment protocol. The participants were given an assurance of the confidentiality (secrecy) of any information (data collected) given in the course of the therapy sessions. The session will be used to reiterate the content of the consent form. Thereafter, they will be pretested on Clinical Outcome in Routine Evaluation (CORE-10). Rosenberg Self-esteeem Rating Scale will also be administered to the participants into the two self-esteem levels (low and high) in their respective groups. At the expiration of the session, the participants were given light refreshment and a token amount of money for cab far.

Session II: Conventional Counselling

Session III: Conventional Counselling

Session IV: Conventional Counselling

Session V: Conventional counselling

Session VI: Conventional Counselling

Session VII: Conventional Counselling

Session VIII: Conventional Counselling

Session IX: Conventional Counselling

Session X: Administration of posttest measure, presentation of psychological distress education counselling and termination of treatment session

Purpose: The theme enables the researcher to obtain posttest scores from the

administration of posttest measure, present distress education counselling, and terminate the therapeutic sessions.

Activities: The researcher recaps the previous activities. Thereafter, she administers the post-test measure. She thanked them for their maximum cooperation. Then, the participants 173are given distress education counselling by conceptualising distress associated with having hearing loss for them. Distress is explained to them as a complicated situation presenting as changes in biological functioning, thinking, mood, behaviour and relationship. Psychological and social challenges faced by them could make them susceptible to distress. These psychological and social challenges were explained in line with the theories of depression discussed in this study. The symptoms of distress such as irritable mood, sadness and dejection, cognitive distortion, lack of concentration and unable to experience delight, interruption in motor procedures, anxiety and apprehension, appetite loss or over-eating, fatigue, change in weight, and sleep disruption were discussed. The consequences of this psychopathological disorder such as decline in family interactions, pulling out from peer interactions and poor school performance were also discussed. They are then told that should they experience any symptom of this psychological problem, they should feel free to consult social workers, clinical and counselling psychologists, psychiatrists, or any other mental health professionals. This is marked the end of treatment sessions.

INSTRUCTIONAL GUIDE FOR DISTRESS EDUCATION COUNSELLING FOR ADOLESCENTS WITH HEARING IMPAIRMENT

SESSION ONE

Group: Control Group

Strategy: Conventional Counselling

Topic: Introduction and Screening

Duration: 60 minutes

Mode of Communication: Total Communication

Aims: At expiration of the session, researcher ought to:

(i) recognise qualified participants (distressed adolescents with hearing impairment);
(ii) divide the identified participants according to their degrees of losses.

Week	Phase	Step	Researcher's Activities	Participants' Activities
1	Introduction	1	Researcher welcomes potential participants, introduces herself and the research assistants.	Participants respond warmly to the greeting and remain attentive.
	Explanation of Content	2	Researcher informs participants of the need for them to go through the programme eventually.	Participants agree to participate.
	Pre-test	3	Researcher/ Assistants administer the pre-test on them in order to identify the psychological status of participants.	Participants respond appropriately to the questions.
	Self-esteem	4	Researcher/ Assistants administer self-esteem scale on the participants.	Participants participate fully in the test.
	Evaluation	5	Researcher/ Assistants require participants to mention various feelings people can have.	Participants respond to the question.
	Assignment	6	Participants are to go over the consent form for subsequent participation.	Participants are to bring the form when coming for the next session.

SESSION TWO

Group: Control Group

Strategy: Conventional Counselling

Topic: Orientation: Hardworking

Duration: 60 Minutes

Mode of Communication: Total Communication

Aims: At the expiration of the session, participants ought to be able to:

(i) participate in the pre-test measurement;

(ii) identify their distress status.

Week	Phase	Step	Researcher's Activities	Participants' Activities
2	Introduction	1	Researcher/ Assistants welcome the participants warmly to the second session, collect the consent form from them one by one.	Participants respond to the greetings and turn in the consent form.
	Explanation of the Content (Hardworking)	2	Researcher explain to participants that hardworking has to do with having an assignment or task and then doing it very well.	Participants are attentive to the discussion.
	Evaluation	3	Researcher/ Assistants require the participants to describe hardworking.	Participants respond sincerely to the questions.
	Assignment	4	Researcher/ Assistants require the participants to take note of their reaction to work given by parents or teachers.	Participants write down the assignment and come back with their discoveries next session.

SESSIONS THREE-NINE

Group: Control Group

Strategy: Conventional Counselling

Topic: Counselling on Different Areas of Life

Duration: 60 Minutes per Session

Mode of Communication: Total Communication

Week	Phase	Step	Researcher's Activities	Participants' Activities
3-9	Introduction	1	Researcher welcomes participants to the session, appreciates them for their commitment.	Participants respond to the greetings and settle down for the session.
	Explanation of the Content	2	Researcher counsels participants on various aspects of life such as punctuality to school, good neighbourliness, balanced diet, absentism, career and friendliness.	Participants listen attentively, write down main points and ask questions where and when necessary.
	Assignment	3	Researcher requires the participants to go over the notes copied and come with their various questions next session.	Participants are to come the following session with their questions.

SESSION TEN

Group: Control Group

Strategy: Conventional Counseling

Topic: Posttest Measurement, Psychological Distress Counselling Education and Termination of Treatment Session

Duration: 60 Minutes

Mode of communication: Total Communication

Aims: At the expiration of the session, partakers ought to:

(i) describe psychological distress, then mention its symptoms;

(ii) mention some consequences of psychological distress; and

(iii) mention people they can consult whenever they experience any symptom of psychological distress.

Week	Phase	Step	Researcher's Activities	Participants' Activities
10	Introduction	1	Investigator receives the partakers to the period, reviews the project with them and recaps previous activities.	Participants respond cheerfully to the greetings and submit their assignment.
	Administration of posttest Measurement	2	Researcher/ Assistants administer posttest measure on the participants.	Participants respond accurately to the posttest administer on them.
	Concept of Psychological Distress	3	Researcher/ Assistants discuss psychological distress as a condition where negative changes in mood, thinking, behaviour and relationship occur. Consequences of these changes are also discussed – decline in family interactions, pulling out from peer interactions and poor school performance.	Participants are very attentive.
	Psychological Distress Education Counselling	4	Researcher/ Assistants mention the need for them to watch their mood, and behaviour; as they notice deterioration in their relationships with peers or family members as well as poor academic performances, they are urged to consult social workers, clinical and counseling psychologists.	Participants listen attentively and ask questions along the line.
	Termination of Session	5	Researcher appreciates participants for their commitment, co-operation and patience. She encourages them not to hesitate in seeing a counsellor if there is a need for that. The session is then declared closed.	Participants joyfully depart from the venue.

DAILY MOOD RATING LOG SHEET

Day	Date	Time	Mood rating 1 2 3 4 5 6 7 8 9 10 Low mood High mood	Activity before mood rating	Relationship before Mood rating

QUESTIONS ON PSYCHOLOGICAL DISTRESS

1. Write down all that make you distressed

   _____

   _____

   _____

   Under what situation are you distressed? _____

   _____

   _____

   _____

2. What do you think of
   1. Myself : _____
   2. The World: _____
   3. The Future: _____
   4. People: _____
3. What are those things that make you happy? _____

   _____
4. What are in your environment that make you sad? _____

   _____
5. My thoughts are
   1. Senseless [ ]
   2. Hopeless [ ]
   3. Worthless [ ]

PLEASANT EVENTS SHEET

Date: _____

Please list five pleasant events you would like to see happening this week according to their importance

1. _____
2. _____
3. _____
4. _____
5. _____

Note:

Activities Associated with Mood

1. Being relaxed
2. Being with happy people
3. Thinking about something good in the future
4. Thinking about people I like
5. Seeing beautiful scenery
6. Being with friends
7. Watching people
8. Having a frank and open conversation
9. Listening to music
10. Being told I am loved
11. Looking through stories, novels, poems, or plays and bringing out information
12. Planning or organising something
13. Expressing my love to someone
14. Being with someone I love
15. Desiring good things take place in my family among friends
16. Complimenting or praising someone
17. Coming across someone new of the same sex
18. Driving
19. Saying something clearly
20. Being with animals
21. Having a lively talk
22. Acknowledging the presence of the Lord in my life
23. Listening to the radio
24. Learning to do something new

25. Seeing old friends
26. Watching wild animals
27. Amusing people
28. Watching television

WEEKLY SELF-MONITORING RECORD

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Remarks

DAILY RECORD OF DYSFUNCTIONAL THOUGHTS

Date	Situation	Emotion(s)	Automatic Thoughts	Rational Response	Outcome
	Describe: 1. Actual event leading to unpleasant emotion or 2. stream of thoughts, day-dream, or recollection, leading to unpleasant emotion	1. specific sad, anxious, depressed etc. 2. rate degree of emotion 1-100%	1. Write automatic though(s) that preceded emotions 2. Rate belief in automatic thought 0-100%	1. Write rational response to automatic though(s) 2. Rate belief in rational response 0-100%	1. Re-rate belief in automatic thought(s) 0-100% 2. Specify and rate subsequent emotion.

Interpretation: When you go through an unpleasant emotion, identify the situation that seemed to bring about the emotion: (if the emotion occurred while you were thinking, day dreaming, done, with people etc. please take note of this). Then note the automatic thought connected with mood. Record the range you believe this thought is: 0% = not at all; 100% = completely. In grading the degree of emotion, we have: 1 = a trace, 100 = the most intense possible.

DEPARTMENT OF SPECIAL EDUCATION
FACULTY OF EDUCATION
UNIVERSITY OF IBADAN

Dear respondent,

This survey/scale is scheduled to identify the level of wellbeing among in-school adolescents experiencing hearing impairment in Oyo State. It is solely for academic and research purposes, hence confidentiality is guaranteed. Therefore, you are requsted to respond to the enquiries as candid as possible.

Thanks.

Olufemi-Adeniyi, O. A.

FORM A: BIODATA OF PARTICIPANTS

Instruction: Kindly fill and tick appropriately.

Date: _____

Centre Code: _____

Participant's Identification Code: _____

Age: _____

Sex: _____

Nationality _____

State of Origin: _____

Local Government Area: _____

Region: _____

Family Type: Monogamy [ ] Polygamy [ ]

Family Status: Intact [ ] Broken [ ]

Onset of loss of hearing: Pre-Lingual [ ] Post-Lingual [ ]

SECTION B: PSYCHOLOGICAL DISTRESS SCALE

Instruction: Please tick (✓) against any option that most appropriately answers the item as preferred by you.

KESSLER (K10) PSYCHOLOGICAL DISTRESS SCALE

These questions concern how you have been feeling over the past four weeks. Tick the column that best represent how you have been.

S/N	Description	None of the Time (1 score)	A Little of the Time (2 score)	Some of the Time (3 score)	Most of the Time (4 score)	All of the Time (5 score)
1	During the last four weeks, about how often did you feel tired out for no good reason?					
2	During the last four weeks, how often did you feel so nervous?					
3	In the last four weeks, how often did you feel nervous that nothing could calm you down?					
4	During the last four weeks, about how often did you feel hopeless?					
5	During the last four weeks, how often did you feel restless or fidgety?					
6	In the last four weeks, how often did you feel so restless you could not sit still?					
7	During the last four weeks, about how often did you feel depressed?					

8	During the last four weeks, how often did you feel that everything was an effort?					
9	During the last four weeks, about how often did you feel so sad that nothing could cheer you up?					
10	In the last four weeks, about how often did feel worthless?					

ROSENBERG'S SELF-ESTEEM RATING SCALE

Below is a list of statements dealing with general feelings about yourself. Please indicate how strongly you agree with each statement.

S/N	Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
1	On the whole, I am satisfied with myself.				
2	Most of the time, I think I am very good.				
3	I feel that I have a number of good quality.				
4	I am able to do things as well as most other people.				
5	I feel I have much to be proud of.				
6	I certainly feel useful or good most of the time.				
7	I feel I'm a person of worth, at least on an equal plane with others.				
8	I feel I have more respect for myself.				
9	All in all, I am inclined to feel that I am a success.				
10	I take a positive attitude towards myself.				

CLINICAL OUTCOME IN ROUTINE EVALUATION (COREL-10)

These questions concern how you have been feeling over the last week. Tick the column that best represents how you have been

S/N	Over the last week…	Not at all (0)	Only occasionally (1)	Sometimes (2)	Often (3)	Most or all of the time (4)
1	I have felt tense, anxious or nervous.					
2	I have felt I have someone to turn to for support when needed					
3	I have felt able to cope when things go wrong.					
4	Talking to people has felt too much for me.					
5	I have felt panic or terror.					
6	I made plans to end my life.					
7	I have had difficulty getting to sleep or staying asleep.					
8	I have felt despairing or hopeless.					
9	I have felt unhappy.					
10	Unwanted images or memories have been distressing me.					