EFFECTS OF COGNITIVE RESTRUCTURING AND REALITY THERAPIES ON STRESS MANAGEMENT AMONG MOTHERS OF PUPILS WITH INTELLECTUAL DISABILITY IN IBADAN, NIGERIA

BY

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CERTIFICATION

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DEDICATION

This thesis is dedicated with all my affection and gratitude and awe to Almighty God, the author, programmer and pilot of my life and also to my whole family.

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ABSTRACT

Stress management is an intervention which enables individuals to cope with stressors and negative emotions, physiological arousal and health consequences derived from these stressors. However, scientific reports have shown that mothers of Pupils with Intellectual Disability (PID) in Nigeria have poor stress management skills. Previous studies on stress management have interrogated various factors such as emotional, psychological well-being and social support. However, there is scarcity of literature on interventions through Cognitive Restructuring Therapy (CRT) and Reality Therapy (RT), Thus, this study determined the effects of CRT and RT on stress management among mothers of PID in special schools in Ibadan, Nigeria. The moderating effects of Socio-economic Status (SeS) and Maternal Employment (ME) were also examined.

The study was anchored to the Cognitive Mediational Theory and was a quasi-experimental study-design with 3 arms, 2 experimental groups and 1 control group, with assessment at baseline and at 8 weeks. Three schools with PID (one per LGA) were purposively selected based on availability of PID. Sixty mothers of PID were randomly selected (20 per school). The participants were randomly assigned to CRT (20), RT (20) and Control (20) groups after being screened with Cohen Perceived Stress scale (r=0.80). The instruments used were Slosson Intelligence Test for Children and Adults (r=0.86), and Socio-economic Status (r=0.70) scales. The treatment lasted eight weeks. Data were analysed using Analysis of covariance and Scheffe post-hoc test at 0.05 level of significance.

The respondents' age was 39.92± 6.85 years, 90.0% were employed, 61.7% were of low SeS, 31.7% were of middle SeS, while 6.6% were of high SeS. There was a significant main effect of treatment on management of stress, ($F_{(2;49)}$= 53.291, partial η^2=0 .521). Participants exposed to CRT experienced the lowest level of stress (13.07) followed by the participants in RT (18.06) and control (23.75) groups. There was a significant main effect of ME status on the management of stress ($F_{(2;49)}$ = 4.825, partial η^2 = 0.09). The employed participants exposed to RT had a higher mean score (95.0) than the unemployed (5.0). There was no significant main effect of SeS. There was a significant interaction effect of ME and SeS on the management of stress ($F_{(2;49)}$ = 5.728, partial η^2= 0.27). The participants with low SeS in CRT obtained higher mean score (61.7) than participants with high SeS (6.6). The two-way interaction effects of treatment and ME and SeS were not significant. The three-way interaction effect was not significant.

Cognitive restructuring, was more effective than reality therapies, in managing stress among mothers of pupils with intellectual disability in Ibadan, Nigeria. These therapies should be adopted by special educators to improve maternal stress management.

Keywords: Stress management, Cognitive restructuring therapy, Reality therapy, Maternal employment status, Pupils with intellectual disability.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Stress is experienced by everyone from time to time. It ranges from everyday responsibilities like studying, working, parenting, teaching, business and leading others. Stress can be beneficial to man's health if it is experienced in short-term situations which can make life interesting and invigorating. One of the benefits of stress is that it may be used as coping mechanism during potentially adverse situations. This is because the body produces a defence mechanism of releasing hormones, adrenaline and cortisol, leading to elevation of heart and respiratory rates, leading to fight or flight response. However, when stress is persistent or excessive, it is no longer beneficial, leading to various disease conditions (Legg, 2017).

Parenting naturally should be an enjoyable activity, however some parents experience stress due to several reasons. It is a natural responsibility placed particularly on the mothers in every society which, no matter the level of stress involved, cannot be avoided. Right from the time of conception to the time a child is born, every mother encounters all sorts of stress regardless of the parenting experience. This trend does not preclude stress among fathers, but the fact remains that mothers tend to experience more severe stress than fathers in the process of a child's upbringing. Stress among mothers while caring for their children is understandable, given their role as the primary caregiver of their children (Legg, 2017).

Maternal stress has continued to be the focus of research because of its association with many negative outcomes such as depression, marital conflict, poorer physical health, poor parenting and increased child behavioural problems (Kersh, Hedvat, Hauser-Cram, and Warfield, 2006). Stress among mothers is because their role, expectations and responsibilities are far in excess of the resources they have or at their disposal to succeed in their maternal role. For example, how the child feeds, sleeps and other activities of daily living are the usual sources of stress for mothers.

As the child grows, the mother is also expected to train and instil discipline in the child, which is another source of stress for the mother. Nonetheless, every mother is expected to find a suitable and convenient way of coping with stress arising from parenting (Kersh et al., 2006).

As soon as a baby is delivered and is found to have intellectual disability the mother experiences more stress than any other family member because she bears the burden of the negative effects of the child's condition. This leads to confusion and disintegration among family members as well as chaos. In such a situation, family members may begin to hold negative expectations of the child's future, which subjects the mother to continuous grieve, which may lead to emotional and physiological break-down. According to Hosseinkhanzadeh, Yeganeh, Rashidi, Zareimanesh, and Fayeghi (2013) this unexpected circumstance leads to emotional problem. Pupils who are intellectually disabled are also often stigmatized, which aggravates their poor intellect and also limits their social interaction. This creates a lot of adjustment problems for them and limits their opportunities. Thus, the process of providing care for children with intellectual disability creates enormous stress for their mothers. The situation becomes more complex and complicated when it is realised that mothers often have to struggle endlessly with financial demands, workplace stress, time constraints, intense emotions, feelings of inadequacy and other personal challenges in order to provide all the needs and requirements of their children. Also, mothers often bear the brunt of pupil's constant negative experiences resulting from pupil's daily interactions with their typical peers and others.

The caregiving demands placed on the mothers of these pupils are usually tasking and frustrating. A number of research findings also indicate that mothers of pupils with intellectual disability tend to undergo more stress than mothers of typical pupils (Majumdar, Da Silva Pereira, and Fernandes, 2005) This situation arose from the fact that pupils with intellectual disability require caregiving services beyond those provided for the typical pupils which often last a lifetime. Thus, the long-term care the mothers gives to the child leads to burden of care, and caregivers' burden itself is a determinant of physical and emotional health problems over time. Although, stress is inevitable among parents of children who are intellectually disabled, the degree to which parents are affected and the amount of stress experienced by them greatly differ (Flaherty and Glidden, 2000). While some parents easily adapt to this

life event, others find it difficult to do so, moreover, it is not a temporary situation (Flaherty and Glidden, 2000).

Intellectual disability is defined as condition characterized by limitations in mental functioning and skills needed for daily survival. Pupils with intellectual disability may have communication problems, problems with social skills as well as problems with activities of daily living such as self-care. These problems often make them slow learners in school and in physical growth. They are also more likely to be faced with discipline issues in school. According to the American Association on Intellectual and Developmental Disability (American Association on Intellectual and Developmental Disability (AAIDD), 2018), intellectual disability is characterized by marked limitation both in intellectual capacity and ability to adapt to a wide range of activities, with onset before 18 years of age. According to the association there are various causes, types and severity. Intellectual disability has biological social and environmental causes. Thus, in the classroom setting, a child with intellectual disability may demonstrate delays in cognitive behaviour, while with the peers, may exhibit delays in social and adaptive behaviour. According to Oyundoyin and Botwe (2010), individuals with intellectual disability have arrested brain development during the pregnancy period, leading to marked reduction of their cognitive, environmental, and psychological adjustments.

Research examining the aetiology of parenting stress in families with children with intellectual disability had laid its focus on the child's primary characteristics. It has been shown that behavioural problems of the child constitute a huge source of stress to the mothers. According to Neece and Baker, (2008) children with intellectual disability tend to have more behavioural problems than those without intellectual disability. There are reports that stress in mothers of children with intellectual disability is mediated by the child's behavioural problems and the intelligent quotient of the child. By implication, maternal stress has a strong correlation with child's behavioural problems.

Neece and Baker (2008) submitted that pupils with intellectual disability generally have poor social skills that are unrelated to their behavioural problems. Therefore, these co-existing factors contributes in no small measures to maternal stress of pupils with intellectual disability. Social skills can be defined as a combination of pro-social learned behaviour that promotes good interaction with

people. Good social skills also make the person avoid socially unacceptable behaviour and response. Examples of social skills are ability to share, help, offer compliments, request assistance when required, being courteous, being appreciative, saying thank you. Social skills are required for successful relationships. Unlike peers without intellectual disability, pupils with intellectual disability have been found not to be too engaging, to be socially inert, play alone, rarely initiation group play and rarely form part of group interactions. They also have less adaptive social interaction, less to respond to friendship initiated by their peers and generally social barren (Neece and Baker, 2008).

The early school years are the period when a child is expected to have developed social skills. This usually coincides with the middle childhood period. This is because this is the period when peer interaction and pupil-teacher interaction is expected to have developed because of the sharpening role of school environment. The development of social skills in middle childhood period is so important that social skills when the child starts school have an important association of school adjustment outcomes such as social integration with peers, academic performance, pupil-teacher relationship, and classroom involvement (Neece and Baker, 2008). Pupils with intellectual disability usually have worse pupil-teacher relationships, and the work of (Eisenhower, Baker, and Blacher, 2007) suggested the relationship between their intellectual quotient and quality of pupil-teacher relationship is mediated via social skills. On the other hand, pupils' psychological, social, academic and behavioural adjustment in school is determined by relationship with peers and teachers (Silver, Measelle, Armstrong, and Essex, 2005). Thus, middle childhood social skills are important determinants of the pupil's total outcome, of which if poor would be deleterious to the mental health of the mother.

The way and manner that mothers perceives children with intellectual disability is a major contributor to maternal stress in raising such children (Smith, Romski, Sevcik, Adamson, and Barker, 2014). However, the role of mothers of children with intellectual disability has shifted in the past two decades from a pathological perspective to a more positive adaptation and effective coping in families (Smith et al., 2014). It has been reported that some mothers showed a wide range of positive experience and perception of their children with intellectual disability. Besides, the positive perception held by parents, mothers over time have developed

methods of dealing and adjusting to the psychological burden of caring for children with any form of disability generally (Hastings, 2002). Beyond that, the communication difficulty pupils with disability have with others has the potential to increase maternal stress. In this regard, (Romski et al., 2011) noted that mothers whose children are living with intellectual impairment are highly susceptible to stress for reasons such as difficulty in establishing meaningful communications with them and others.

Several studies had evaluated the severity of stress among fathers and mothers of pupils with intellectual disability. For instance, the study by Gerstein, Crnic, Blacher and Baker (2009) examined the relationship between daily parenting stress experienced by fathers and mothers of pupils with intellectual disability and their findings showed that, while the stress experienced by the fathers was constant, the severity of stress experienced by mothers increased over time. In another study, Shin et al. (2006) studied the role child variables plays on the level of stress parents of pupils with intellectual disability experienced, although no information was given on a temporal association, compared to fathers, mothers were found to experience a higher level of stress.

It is beyond dispute that proper understanding of the emotional pressure parents experience while parenting pupils with intellectual disability is an important factor in the level of help required by the parents. Thus, parents, particularly mothers may require psychological intervention in finding more successful ways to manage their stress levels. Stress management is a set of techniques and strategies intended to assist individuals deal effectively with stress in their lives through analysing the precise stressors and taking positive actions to limit their effects. Stress management begins with figuring out the cause of stress. While it is straightforward to point out the major stressors such as moving from one city to another, loss of a loved one and changing jobs and so on, singling out the cause of chronic stress can be more complex. It is quite easy not to realise how personal thoughts and behaviour can actually make a contribution on stress levels. Management of stress focuses on changing the dynamics of the situation, developing coping skills, treating conditions that could have originated from stress and coming up with useful therapeutic interventions.

Different types of intervention approaches have been proposed to manage

stress (Martin and Dahlen, 2005). These strategies include cognitive restructuring, cognitive behavioural, choice and reality therapies. Cognitive restructuring and reality therapies have been considered in this study. Cognitive restructuring is an effective useful therapy that can identify why people are unhappy or sad. It is also helpful in identifying the dynamics responsible for cognitive distortions and can thus be helpful to restructure these maladaptive generalization, magical thinking and magnification. These cognitive distortions are commonly found in neurotic and stress-related disorders, depression and anxiety disorder. It was first developed by Beck as a programme for social skills, designed to help clients manage anxiety (Beck, 2016). It is also useful for boosting the social skill of pupils and their parents.

Cognitive restructuring therapy is a psychotherapy that is used to modify negative behaviour and thoughts that had preoccupied someone over time, leading to emotional problems. Cognitive restructuring is an effective psychological intervention in the management of stress (Beck, 2016). According to Traeger (2013), a lot of research has been done on cognitive restructuring therapy and its applicability in the treatment of stress. According to the authors cognitive restructuring is applicable for children adolescents as well as adults, either as individuals or in groups. Studies have shown that cognitive restructuring therapy is time efficient, economic and friendly that yields success with 4 to 14 session treatment in uncomplicated cases of anxiety (Sheikh, Ashraf, Imran, Hussain, and Azeem, 2018).Cognitive restructuring therapy is therefore applicable to ameliorate psychological pressure in mothers of pupils with intellectual disability. Traeger (2013) as well found cognitive restructuring therapy to be a time-efficient option for clients with stressful life circumstances. By implication, cognitive restructuring therapy is geared towards addressing clients' cognitive and affective characteristics.

In cognitive restructuring therapy, the maladaptive thoughts and the behaviour of an individual are addressed, by restructuring their thoughts. This leads to better adaptability and coping. Cognitive behaviour therapists make effort to change the cognitive distortion of the client, improve coping skills and increase self -efficacy. Studies examining the effect of cognitive restructuring therapy on stress management among parents of pupils with intellectual disability in Nigeria are scarce, nevertheless, the study of Hosseinkhanzadeh et al. (2013) proved that cognitive behavioural stress management training reduced depressive symptoms as well as anxiety in parents of

children with intellectual disability in the city of Babol, Iran. Also, Hastings and Beck (2004) at the University of Wales, Bangor investigated a group intervention programme that aimed at reducing anxiety among parents of pupils with disability, and found significant evidence that cognitive behavioural intervention reduced stress in the mothers. They found that fathers and mothers of children with intellectual disability were very prone to stress and other psychological problems and hence, require intervention programmes that will ameliorate it. In like manner, varying treatment approached use the principle of cognitive restructuring therapy, examples are rational emotive therapy as well as cognitive behavioural therapy (Hope, Burns, Hayes, Herbert, and Warner, 2010). In line with Hope and colleagues (2010), Brain (2006) described cognitive restructuring therapy as a method of unlearning a negative schema of thinking into a positive one, or at worst a neutral one leading to less stress. For instance, Adeusi (2013) found that cognitive restructuring was effective in treating conduct disorders in adolescents in Lagos, Nigeria.

Reality therapy is another intervention approach that is helpful in reducing maternal stress associated with caring for an intellectually disabled child. Essentially, what reality therapy does is to alleviate parental stress associated with caring for an intellectually disabled child to develop better approaches of achieving their needs. Reality therapy basically operates under the premise that if man's present behaviour is not getting him what he wants, he is motivated to change his behaviour when he believes that he can choose another behaviour that will help him to achieve his aims. It, therefore, implies that reality therapy assists parents to achieve what they lack and what they are looking for (Wubbolding, 2006).

Reality therapy sees man as an autonomous being who knows what he wants from life and makes plans for meeting his needs and goals. Man lives in the external world but he always tries to control it so that it is as close as possible to his own internal world. The deterministic philosophy of human nature is to alter his behaviour, live more effectively and mould the environment to match the inner picture of what he want Glaser (2009) identified five basic human needs that are the powerful forces that drive man which are the sense of survival, the sense of belonging and love, freedom, fun and power.

Reality therapy stresses that people know what they do at any time, irrespective of its success as long as it works out for them and meets their

fundamental psychological needs for achievement, gains, recreation and freedom. It is a matter of personal choice that one can effect changes for better or worse. Although it it is difficult to meet the requirement for survival, one runs into trouble based on the way one aspires to meets other psychological needs. Reality therapy teaches to determine personal goals and ambition and follow it. According to reality therapy, the primary determinant or power that motivates someone are sense of belonging and love. Freedom is another source of motivation.

The therapy reiterates that life exists because we complement each other and we operate based on choice. However, ability to change when an approach is poor is also central to reality therapy. Reality therapy emphasizes that although everyone is responsible for his past, once the past is not complementary, it should be forgotten (Glaser, 2009). Reality therapy has also been used to improve self-esteem of people with deviant behaviour (Adeniyi and Omoegun, 2013). Prenzlau (2006) also employed reality therapy in treating clients with low self-esteem. Through the application of reality therapy, one can gain insight into one's abnormal behaviour and change to normal behaviour, resulting in better and positive relationships with neighbours, family members, counsellors and friends. These good relationships improve the quality of life of someone.

Busari (2012) found that reality therapy was effective in the management of depression among women. Irrespective of the intervention strategies that are used in the management of stress, it is important to understand that there are certain variables that can interact to enhance or limit the effectiveness of the strategies such as maternal employment, parents' socioeconomic status and self-esteem among others.

Moderating variables in this study are maternal employment and parents' socioeconomic status. Many mothers of pupils with intellectual disability perceive that their children's conditions pose challenges to their careers. Ejiri and Matsuzawo (2017) observed significantly lower employment rate among Japanese mothers of children with intellectual disability as compared with those without, despite their willingness to work. The care of individuals with mental disability is often engulfing that maintaining job is difficult for their mothers. It was also noted that those who worked earned lower incomes as compared with other Japanese mothers. Similarly, Chou, Kroger and Pu (2017), studied underemployment among mothers of children with intellectual disability. His results showed that in certain local authorities in

Taiwan, mothers who were more educated and had younger children who were disabled were more likely not to be in any employment compared with those who worked part time voluntarily or were altogether unemployed. These group of mothers were found to have poor finances and high caregivers' burden.

Having an intellectually disabled child in the family puts the mothers at the risk of low employability and threatens their careers. In a bid to be closer to the children as much as possible, some mothers may decide to seek less hectic jobs and by implication, less paid employment with the attendant cost of poor quality of life. Worse still, some mothers may even be forced to give up their paid jobs altogether in the interest of the helpless children and depend wholly on their husbands to provide the families' needs with unpleasant consequences on the families' economic well-being (Eisenhower and Blacher, 2007). Although mothers are primarily regarded as caregivers, they are still required to share the financial burdens in the home. Therefore, maternal employment is an important issue to mothers of children with intellectual disability. Balancing the caregiving needs with the labour market requirements may complicate the challenges encountered by the mothers. Children with severe conditions may require special medical attention which is sometimes expensive, thus imposing significant financial burdens on the parents.

Socio-economic status, which is the second moderating variable in this study, is usually used as a means of classifying social class based on family income, parental occupation and societal values. Macionis and Gerber (2011) opined that social class can be classified according to societal trait, generational perpetuity, universality and inequality. In Nigeria, similar to what obtains in the developed countries of the world, social class is divided into upper, middle and lower class., with further classification of each type of occupation, years of education and the extent of the bounties among others. The seeming undependability of families to manage stress especially among mothers of pupils with intellectual disability is not unconnected with the unprecedented global inflation that has had an alarming influence on families, resulting in near breakdown of family ties. Less educated mothers of pupils with intellectual disability who are 76% alcoholics are found to show less social competency, more internalizing and externalizing behaviour, more negative performance and more psychiatric distress that often lead to increased stress both emotionally and psychologically among them.

Mothers of low socioeconomic status are more domineering and have the tendency to be more harsh, inflicting punishment on their children. Such mothers are also less likely to be engaged in meaningful and creative activities outside the home setting. Low socioeconomic mothers also have the tendency to build a good social network with mothers of higher socioeconomic status for the advantage of their children. Factors responsible for these aspects of parenting include type of residence, location of residence, financial incapability and employment status (Hoff, Laursen, and Tardif, 2002). Family socioeconomic status typically places mothers of pupils with intellectual disability in varying neighbourhoods, based on economic strength and presence of psychological triggers. It has been shown that parenting styles, methods of verbal communication are important determinants of differences in social economic status. By implications, family dynamic and family factors play crucial role in the stratification into socioeconomic class (Hoff et al., 2002).

Heng et al. (2018) discovered that the low social class people generally have a high level of psychological distress. In line with this, it has been discovered that fathers with high level of education were able to monitor their family more, unlike mothers who monitor their children, irrespective of their educational level. This may account for the reason mothers appear more methodical and organized than the fathers. From the aforementioned, differences in socioeconomic status strongly influence the style, mode, mechanisms and quality of parenting, but some of the factors influence parenting more than others. Thus, this current study is important because identifying the stress associated with mothering a child with intellectual disability is an important prerequisite to the identification of appropriate strategies and intervention to help mothers to cope with the stress of raising their children with intellectual disability.

Adeniyi and Omigbodun (2016) found out that social skill interventions and classroom support are effective for pupils with intellectual disability. However, little or no studies have been done on maternal stress resulting from caring for them in Nigeria. The present study was therefore carried out to examine the effect of cognitive restructuring and reality therapies on stress management among mothers of pupils with intellectual disability in Ibadan, Oyo State, Nigeria. The moderating influence of maternal employment and socio-economic status was also investigated.

1.2 Statement of the Problem

Moderate stress is a normal aspect of parenting and it is intricately woven into every aspect of human existence. However, a high level of maternal stress is common in caring a child with intellectual disability. Mothers, being the primary caregivers of such children usually undergo excessive stress due to the unique requirement of the children. Unfortunately, the reality is that many mothers are ill-prepared to shoulder the burden of caring for these pupils. Consequently, they are caught unawares and are exposed to all sorts of stress because they have to attend to all the needs of their children. However, with proper information and understanding of the characteristics of this special population of children and factors that trigger stress, raising them can be a stress-free experience for the mothers.

Viewed critically, the extent of the challenges experienced by pupils with intellectual disability is such that they will require caregiving services often throughout life. Thus, the mothers are saddled with the unenviable role of prolonged caregiving with negative implications on their emotional, physical, psychological and social well-being. This by implication means that if this stress is not well managed, these mothers would be subjected to lifelong excessive stress which would in turn hinder their role-effectiveness as mothers. Research has identified sources of constant stress encountered by mothers in the process of raising children with intellectual disability to include the children's strange behavioural problems, the children's poor social and communication skills, the maternal negative perception of intellectual disability and maternal poor coping strategies among others. Furthermore, the adjustment process for these mothers becomes difficult as more demands are placed on them. The children may require hospitalization or extra medical care and they may also require more intense caregiving services beyond those provided for the typically developing children.

While there is a huge body of literature on children with intellectual disability in an effort to provide solutions to the problems these special population frequently encounter, to the best of the researcher's understanding, little or no study has been done on the maternal stress experienced in the process of caring for these pupils. It is interesting to note that maternal stress indirectly begins to affect the pupils with intellectual disability as the mothers are likely to become less effective in caregiving. This current study, therefore, attempted to fill this gap by examining the effect of

cognitive restructuring and reality therapy on stress management among a sample of mothers of pupils with intellectual disability in selected schools in Ibadan, Oyo State, Nigeria. The study also examined the moderating effects of maternal employment status and socio-economic status on maternal stress management.

1.3 Purpose of the Study

The purpose of the study was to determine the effect of cognitive restructuring and reality therapies on stress management among mothers of pupils with intellectual disabilities in Ibadan, Nigeria. Specifically, the study determined:

1. the main effects of treatments on stress management among mothers of pupils with intellectual disability in Ibadan, Nigeria.
2. the effect of maternal employment and stress management among mothers of pupils with intellectual disability in Ibadan, Nigeria.
3. the effect of socioeconomic status on stress management among mothers of pupils with intellectual disabilities in Ibadan,Nigeria.
4. the interaction effect of treatments and maternal employment on stress management among mothers of pupils with intellectual disabilities in Ibadan, Nigeria.
5. the interaction of treatments and socioeconomic status on stress management among mothers of pupils with intellectual disabilities in Ibadan, Nigeria.
6. the interaction effect of socioeconomic status and maternal employment on stress management among mothers of pupils with intellectual disabilities in Ibadan,Nigeria.
7. the interaction of treatments, maternal employment and socioeconomic status on stress management among mothers of pupils with intellectual disabilities in Ibadan,Nigeria.

1.4 Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

$Ho_{1:}$ There is no significant main effect of treatments on the management of stress among mothers of pupils with intellectual disabilities in Ibadan, Nigeria.

$Ho_{2:}$ There is no significant main effect of maternal employment on the management of stress among mothers of pupils with intellectual disabilities in

Ibadan, Nigeria.

Ho_3: There is no significant main effect of socioeconomic status on the management of stress among mothers of pupils with intellectual disabilities in Ibadan, Nigeria.

Ho_4: The interaction effect of treatments and maternal employment on the management of stress among mothers of pupils with intellectual disabilities in Ibadan, Nigeria will not be significant.

Ho_5: The interaction effect of treatments and socioeconomic status on the management of stress among mothers of pupils with intellectual disabilities in Ibadan, Nigeria will not be significant.

Ho_6: There will not be an interactive effect of maternal employment and socioeconomic status on the management of stress among mothers of pupils with intellectual disabilities in Ibadan, Nigeria.

Ho_7: The interactive effect of treatments, maternal employment and socio-economic status on the management of stress among mothers of pupils with intellectual disabilities in Ibadan, Nigeria will not be significant.

1.5 Significance of the Study

This research study would be beneficial to all tiers of government because it would generate data that can be used for policy formulation and implementation in the aspect of stress management among mothers of children with ID. The research would also benefit mothers of children with ID because it would enlighten them on the effective way of utilizing cognitive restructuring and reality therapies to enhance their parenting quality and to mitigate the negative impact of the constant stress, they experience in the process of raising the pupils.

The findings of the study would assist teachers, school administrators, social workers and other people involved in the handling of pupils with ID to identify specific part of the negative impact of intellectual disability on the affected pupils that often precipitate stress for their mothers so that holistic intervention packages for the families can be put in place. In addition, the findings from the present might be of importance to the pupils with ID as they could be used to develop useful skills for better adaptation to the home and school environments, thereby making them more educable and fully functional in the community.

The findings of the study would help to raise awareness of the stress issues that emanated from caring for pupils with ID. Likewise, the study, through its recommendations, would help to initiate a platform for mothers of pupils with ID where issues pertaining to the condition can be regularly discussed. By bringing the mothers together, the platform would help to facilitate effective and beneficial community ties, thus enabling mothers to share their burden together. Beyond that, the study would provide insight into the differing perspectives of mothers versus fathers in the management of the stress which can help guide interventions aimed at teaching couples how to better support one another.

The study would similarly provide useful recommendations to different levels of government and stakeholders in the educational career of pupils with ID that may culminate in the integration of parental counselling programme into the routine school curriculum. The findings of this study are expected to add to body of literature and leading to the establishment of a veritable template platform for researchers and scholars to engage in more studies to get at the root of the enigma called intellectual disability in order to demystify the condition for the benefit of all members of society.

1.6 Scope of the Study

The current research work examined the impact of cognitive restructuring and reality therapies on stress management among mothers of pupils with ID in Ibadan, Oyo State, Nigeria. The study was limited to only the mothers who have pupils with ID in the selected schools in Ibadan, Nigeria. The study was further restricted to the two moderating variables, namely maternal employment and socioeconomic status. The following schools were selected for the study: School for the Handicapped Ring Road State Hospital, Hizbullahi Al-qhalib School for the Handicapped, Agodi and Cheshire Home School, Eleyele, Ibadan, Nigeria.

1.7 Operational Definitions of Terms

The terms were defined operationally as follows:

Stress management: Stress management is an intervention method through which individuals cope with stressors and negative emotions, physiological arousal and health consequences that arise from these stressors by changing their cognitive and emotional responses to the trigger events.

Cognitive restructuring therapy: This refers to a structured, collaborative therapy aimed at helping mothers of pupils with intellectual disabilities to determine, assess and change their distorted thinking and incorrect beliefs that are responsible for their psychological disturbance.

Pupils with intellectual disability: These are pupils below 18 years of age with intelligence quotient (IQ) of 0-70% when screened, using the Slosson's Intelligence Test-Revised 3rd Edition (SIT-R3). Based on this test they are usually categorised into four groups viz, the severe, the profound, the moderate and the mild intellectually disabled.

Mothers of pupils with intellectual disability: This refers to the mothers of pupils with intellectual disability; meaning the female parent who is often the primary caregiver

Reality therapy: This is an intervention therapy aimed at helping mothers of pupils with intellectual disability to learn to choose better ways of fulfilling their needs towards their pupils.

Socioeconomic status: This refers to the combination of the social and economic levels of mothers of pupils with intellectual disabilities based on their incomes, qualifications, skills and social strata.

Stress: This is a state of mental or emotional strain, worry or anxiety experienced by mothers of pupils with intellectual disability as they struggle to raise their pupils.

Maternal Employment: It is the engagement of mothers of the pupils with intellectual disability in paid work, be it gainfully employed or merely employed with meagre payments.

CHAPTER TWO
REVIEW OF LITERATURE

2.1.1 Nature of Intellectual Disability

Intellectual impairment may commence in early childhood otherwise called mental retardation and that one that develops in late life otherwise called dementia. As described by Esquirol, over a century ago, mental retardation, regarded as idiocy is a condition in which there is inadequate or sub-optimal development of intellectual faculties making the idiot unable to acquire sufficient amount of age appropriate knowledge; in other words, idiocy is not a disease (Cowen, Harrison, and Burns, 2012). The (American Psychiatric Association, 2014) recognizes (ID) as being characterized by significantly inadequate general intellectual functioning as well as by significant reduction some parts of adaptive functioning and adaptive behaviour, the onset of which is before 18 years. The old terminology for ID is mental retardation (MR) and is generally described as a syndrome of sub-average or low intelligence and sub-optimal adaptive behaviour. The concept of the terminology MR was relevant when the World Health Organization (WHO) revised the International Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10) (World Health Organization, 1994). Today, the terminology Intellectual developmental disorders (IDDs) are often used instead of MR.

The prevalence of IDDs is higher in developing countries of the world (2%) than in the he developed countries (1%) (Sadock and Sadock 2007). IDDs are highly disabling, run a chronic course and often co-exist with other mental disorders. IDDs are often poorly recognized, creating a major barrier to health care service use and when there is service use is a source of high healthcare economic burden (Sadock and Sadock 2007. Unfortunately, limited attentions is given in the mental health sector, except in a few high income, primarily Western, countries (Nick and Geraldine, 2010). In the past fifteen years, the proper terminology for IDD has been controversial with the term MR replaced by “Intellectual Disability” (ID). This is for clinical

propose as well as for legal and administrative purposes as well as for policy development (Greenspan & Switzky, 2006). However, the WHO's International Classification of Functioning, Disability and Health (ICF) has a separate classification of impairments of intellectual functions in IDDs (Organization, 2001). The American Association on Intellectual and Developmental Disabilities (AAIDD) has a similar classification, consistent with the WHO model. The AAIDD definition of IDD also recognizes ID as being characterized by substantial reduction in intellectual functioning and various aspects of adaptive behaviour such as in the areas of concept formation, social interaction, and adaptive skills, with age of onset before 18 years (Sadock and Sadock 2007).

Unlike in the concept of Esquirol who regarded IDD as a condition and not a disease, the World Psychiatric Association considers ID as being analogous to dementia, in which cognitive deficit precedes skills acquisition through learning. The deficit is severe to the extent of interfering with the individual's functioning leading to limitations and restriction in activities and participation. The controversy regarding ID continued for years with agreements and disagreements by the American Psychiatric Association and the World Health Organization and the two psychiatric manuals from these two bodies generally suggested that if IDDs are classified within ICF framework as disability, they should be expunged from the ICD, justifying Esquirol's much earlier position that IDD is not a disease (Sadock and Sadock 2007). Despite the debate, it is the ICD, that allocates the provision of medical, educational and social services to individuals with ID. By implication, expunging IDD from ICD health conditions would tremendously reduce its visibility, leading to a negative impact on provision of health care and social services for the group, limit the development of health and educational policy on the group as well as availability of statistics both at the national and global health statistics for this vulnerable population (Sadock and Sadock 2007).

Nevertheless, an internationally adopted terminology for IDD is essential for proper classification of IDD either as a disease or disability any further classification of diseases and health condition (American Psychiatric Association, 2013). According to the authors, ID or IDD has health components and functional component. Thus, while health components of IDD should be classified under diseases and disorders, the functional part should be classified under functioning and disability.

The term "intellectual" remains internationally acceptable, widely used, favoured, well understood and is broadly acceptable for clinical purposes and for policy development. Despite this, "intelligence" when defined does not infer one characteristic but rather a conglomerate of characteristics. These are age-appropriate cognitive functioning, adaptive behaviour, and learning taking into consideration culture-appropriate substrates. The term "cognitive" though appears to the most suitable term for the basic pathology of IDD, has a broader interpretation in psychology and has an entirely different meaning when one considers schizophrenia or dementia. Yet another confusion is the definition of the word "disorder" in the WHO's ICD-10 (World Health Organization, 1994). The definition puts IDD at the same level with schizophrenia or dementia because the term disorder was described as clinically recognizable symptoms or behaviour leading to significant distress or interference with personal functions.

Based on the aforementioned, intelligence is not the only problem of IDD, IDD fits into multiple aetiologies, clinical presentation, comorbidities and variability of severity. Nevertheless, the way and manner IDDs are named and described clearly indicates that they a health condition, which is in line with the WPA Section on Psychiatry of Intellectual Disability. In their position paper, IDD should be approached from a polysemic-polynomial aspect. This implies that IDD may have several names and various interpretations, depending on the who, why and where IDD is discussed as long as the same construct is being referred to. However, disabilities should be regarded as the end-point of a continuum of IDD health conditions and disabilities. This is consistent with the Family of International Classifications by the WHO, in which IDD is classified despite their conceptual similarities. Thus, the term ID is used interchangeably with IDD without any conflict in meaning despite differing terms.

2.1.1.1 Features of Intellectual Disability (ID)

Mild Intellectual Disability (IQ 50-70): About 80% of people with ID has mild intellectual disability. Most persons with mild ID have normal physical and unremarkable appearance with a slight sensory or motor deficit. Such people have normal language development and social interactive behaviour during childhood and their ID rarely formally recognized until in mid-adult life, when they have limited

ability to cope with family responsibilities, employment and housing when faced with stress and or adversities.

Moderate Intellectual Disability (IQ 35-49): About 10% of people with ID have moderate ID with their IQ between 35 and 49%. Most people with moderate ID communicates or can learn some tasks or care for themselves with some supervision. Although many of them can undertake some routine work in adult life, the majority are incapable of independent life.

Severe Intellectual Disability (IQ 20-34): Of all cases of people with ID, about 3 to 4 % have severe ID. This group of ID have very slow cognitive development in the preschool years. However, some of them may be taught and assisted to look after themselves and communicate in simple ways with great scrutiny and close supervision.

Profound Intellectual Disability (IQ < 20): The prevalence of profound ID **i**s 1 to 2%. The majority of people in this group of ID are not trainable or educable. However, a few of them may learn self-care, achieve some simple speech and social behaviour.

2.1.1.2 Aetiology of Intellectual Disability

In most cases, aetiology of ID is multifactorial and due to an interaction between genetic and environmental factors, however, in certain instances, usually in genetic factors, aetiology may be due to the single cause. This is the case among the severely retarded, where physical causes are accountable in 55-75% of such individuals. The most common causes are prenatal causes, such as Down syndrome, idiopathic cerebral palsy and fragile X syndrome. In about 10%, other chromosomal anomalies such as cri-du-chat syndrome, Patau syndrome and single gene disorder are accountable for the cause. In another 10%, idiopathic epilepsy account for the cause of ID (Sadock & Sadock, 2007). Five groups may be recognized. They are dominant conditions, recessive conditions, sex-linked chromosomal abnormalities and autosomal chromosome abnormalities.

Dominant Conditions: These are rare. Examples are the phakomatoses, including ataxia telangiectasia, incontinentia pigmenti, tuberous sclerosis¸ von Hippel-Lindau disease and neurofibromatosis.

Recessive Condition: This constitutes a huge part of specific gene disorders;

examples are inborn error of protein metabolism such as phenylketonuria (the most prevalent inborn error of metabolism). Others are, homocystinuia, and galactosaemia

Chromosomal Abnormalities: ID due to sex-linked chromosomal abnormality is 25 percent more associated with male sex and female sex. Of all cases of ID in boys, research evidence shows that up to a fifth of them is due to has X-linked causes. This includes Glucose Dehydrogenease Deficiency (G6PD) and male Lesch –Nyhan syndrome. However, in most X-linked cases there is abnormality of metabolism, for example for fragile X syndrome. Other sex linked chromosomal abnormalities, such as Klinefelter's syndrome (XXY) and Turner's syndrome (XO), may also cause ID (Sadock and Sadock, 2007).

Autosomal Chromosome Abnormalities: Autosomal abnormalities such as Down's syndrome and condition with partial and complex inheritance such as anencephaly may also cause ID.

2.1.1.3 Prevalence of Intellectual Disability

The American Psychiatric Association defines ID as a neurodevelopmental disorder and as state of arrested growth of the intellectual capacity, with an intelligence quotient (IQ) of at most 70%, with associated impairment at least two behaviours related to adaptive functioning, with onset before age 18 years (American Psychiatric Association, 2014; Sadock and Sadock, 2007). Between 1 and 3% of the world population has ID (Sadock and Sadock, 2007). Despite the ubiquitous distribution of ID, ID is more prevalent among the lower socioeconomic group status and also in low-income countries, particularly for mild ID. The variation in the prevalence has been adduced to environmental factors. Especially for mild ID, the prevalence of ID is between 25% and 30% higher in males compared with females (Sadock and Sadock, 2007). However, this gender disparity may not be so for moderate and severe cases (American Psychiatric Association, 2014; Sadock and Sadock, 2007). In fact, there are indications that severe form of ID could be more common in females. However, the generalizability of this is a subject of concern, given that such studies were not cross-country studies to enable comparisons.

2.1.1.4 Classification of Intellectual Disability

ID can be classified into mild, moderate, severe profound or unclassified ID based on the IQ as determined by standard assessment tools (American Psychiatric Association, 2014). However, for epidemiological studies ID is usually dichotomized into two, mild (IQ50-70) and severe (IQ<50) ID (Ropers & Hamel, 2005). The prevalence of mild ID has a wide variation because it is affected by several environmental factors such as access to education by the child, maternal education and access to health care, age of the child, population studied and type of design. On the other hand, the prevalence of severe ID is relatively stable.

Although IQ is usually classified based on the severity or \IQ level, ID may also be classified into either syndromic intellectual disability (S-ID) and non-syndromic intellectual disability (NS-ID). S-ID is when ID is characterized by at one or many clinical symptoms or co-morbidities in addition to ID. On the other hand, in S-ID, though debatable, the ID is defined only by the presence of intellectual impairment (Ropers and Hamel, 2005). However, the challenge is that many of the S-ID have subtle neurological anomalies and psychiatric disorders usually undetected, or difficult to detect because of the presence of cognitive impairment, unless the features are critically explored or the individual is screened in the context of a known genetic defect that is known to be associated with these features (Ropers and Hamel, 2005). Thus, there is no clear distinction between S-ID and NS-ID. Intellectual disability is caused by either an environmental and/or genetic factor or an interaction between the two. However, for up to 60% of cases, there is no identifiable cause (Rauch et al., 2006).

Environmental exposure to teratogenic agents such as thalidomide or certain prescription and non-prescription medications, especially in the first trimester of pregnancy, are also associated with ID. Other causes include viral infections also in the first trimester of pregnancy during organogenesis. These viral infections include *Herpes Simplex Virus, Rubella Virus*, *Cytomegalovirus and Toxoplasmosis (protozoa).* Irradiation may also cause ID. Other causes of ID include trauma or injury to be brain of the new born, leading deficiency of oxygen in the brain (Sadock and Sadock, 2007).

About a quarter to a half of all people living with ID have genetic basis (Rauch et al., 2006). Trisomy of the autosomes and X-chromosome aneuploids often

leads to some level of ID, of which an example is trisomy 21, or Down syndrome, which is the commonest genetic cause of ID. Also, pathogenic copy number variants (CNV) is often a common cause of ID (Ropers and Hamel, 2005). Genetic studies have found that NS-ID may be caused by single genes, leading to S-ID, autistic spectrum disorders or other neurodevelopmental disorders. This suggests the need for a critical evaluation of the genotypes and phenotypes, which is a difficult task. Also, NS-ID may have polygenic aetiology, although, this is still controversial. The X-chromosome is responsible for most known NS-ID genes, nevertheless, there are indications that autosomes are also increasingly associated with NS-ID (Sadock and Sadock, 2007).

2.1.1.5 Consequences of Intellectual Disability

Pupils and adolescents with usually have a lot of medical comorbidities as well as social and occupational impairments, difficulties in interpersonal skill problems and academic performance and training, usually sufficient and significant enough, leading to enormous burden as well as tremendous stress for the parents or caregivers.

Comorbidities in Intellectual Disability: Individuals with ID suffer from concurrent comorbidities (McCarron et al., 2013). These include general medical health conditions, psychiatric comorbidities and personal stresses. The most common physical health problems in intellectual disability are sensory and motor deficits, seizure disorders, epilepsy and urinary or faecal incontinence. These physical health problems tend to be more severe with increasing age among those with mild and severe retardation. Seizure is commonly found in children with severe ID. Seizure is commonly present in ID, if the cause is cerebral or intracranial injury as opposed to if it is due to chromosomal abnormalities (Airaksinen et al., 2000). In terms of psychiatric comorbidities, despite their high prevalence, their symptoms are often masked by the presence of the low intelligence (Sadock and Sadock, 2007). Compared to the general population, psychiatric comorbidities in ID have a much higher rate. Very prevalent are mood disorders, psychosis, delirium, mannerism, head banging, autistic disorder, childhood disintegrative disorder, sleep disorders, maltreatment, abuse sexual problems and ADHD (Sadock and Sadock, 2007).

Social Issues and Intellectual Disability: A highly common social difficulties encountered by adults with ID is poor social network (Bakare, Ubochi, Ebigbo, and

Orovwigho, 2010). The social problem in ID has several causes. These include problem of housing, employment and difficultly in establishing a student-teacher relationship. This poor person-environmental interaction is often a significant source of psychological stress for those with ID because they have limited ability to handle interpersonal issues (Hartley and MacLean, 2009). Thus people with ID have substantial psychological distress (Hartley & MacLean, 2009). However, among those mild ID, their degree of psychological distress may not significantly differ from those without and ID (Hartley and MacLean, 2009).

The psychological stress experienced in adults with mild ID has been found to be worse-off when confronted by other negative events (Hartley and MacLean, 2005). Thus, the association between stress and how it is perceived and handled is an important determinant of psychological well-being. For example, studies have shown that the presence of lifetime major life events are strongly linked with the presence of psychiatric disorders in adults with ID. It has also been found that concurrently assessed perceptions of stress was positively associated psychopathologies (Hartley and MacLean, 2005), and a predictor of depressive symptoms, which persisted for six months after.

Results from previous studies have also demonstrated the deleterious consequences of experiencing negative life circumstances in ID (Hartley and MacLean, 2005). Results from such research work suggests that not being ignored, hearing the argument of others, and being teased or having others criticize someone receive high ratings of stress severity. The difficulty in handling traumatic experiences in ID is a major characteristic of ID. This is due to their inability to adapt, process and coordinate different stimuli at the same time (Ropers and Hamel, 2005).

Social Partners and Social Interactions: Studies have demonstrated that people with intellectual disability have problems of social network, specifically, that of partners. These studies do suggest that the most common form of social interactions in people with intellectual disability is the most common form of social interaction. This includes boyfriends/girlfriends and roommates). However, interactions with family members, teachers and other staff constitute the highest level of stress of terms of severity (Hartley and MacLean, 2005).

Interpersonal Skill Difficulties in Adults with Intellectual Disability: limited studies on interpersonal skills difficulties have been conducted among adults with ID.

Nevertheless, adults with intellectual disability experience significant difficulties in interpersonal and social skills, severe enough to be a source of distress for them (O'Reilly et al., 2004). One of the reasons why studies are limited on interpersonal skills and ID is that interpersonal skills are self-reported and individuals with ID may have difficulty in expressing themselves. Secondly the caregiver's rating of interpersonal skills may be seriously flawed with different bias as a result of the psychological distress and burden of caregiving.

Education, Training and Occupation of Pupils with Intellectual Disability: Research work has identified the need to bring schools, especially the public elementary school system closer to children with intellectual disability (O'Reilly et al., 2004). This should be presented to parents as a friendly construct rather than a humiliating one. These schools should also should also be regarded as an advantageous variation of an ordinary school mental retardation. Progress in achieving this aim has not been fast enough, but rather slow and here are considerable geographical variation and improvising. The idea is that most children with ID should be educated in main stream or ordinary schools either in normal classes or in special classes, but with social integration outsides the classroom. Thus, young ones with ID are to be identified by health and local authorities and educated as such. They are also expected to make written statements of their needs.

Research has consistently shown the value of an early start such a start can be made in a special preschool nursery class or playgroup, or occasionally in a paediatric day centre. When normal school age is reached, the least handicapped pupils can attend remedial classes in ordinary schools. Others need to attend special educational programmes for pupils with learning difficulties. It is still not certain which retarded pupils benefit from ordinary schooling, and particularly whether the severely retarded do so. Education in an ordinary school offers the advantages of more normal social surroundings and the expectation of progress, but may carry the disadvantage of lack of special teaching skill and equipment. There are advantages in having disable pupils in ordinary schools so that other pupils learn to accept their integration into society as the norm. Traditionally, education for the more severely retarded was based on the sensory training methods started by Itard and Seguin in 1956 (Ganguiolo, 2012). It is only recently that the content of the curriculum has been reconsidered. The first change was toward an approach similar to that of an ordinary primary school with an

emphasis on self-expression. However, method of this kind may be inappropriate.

Currently, there is a growing and a wide option for teaching language by specialists. Before pupils with intellectual disabilities leave school, they need reassessment and vocational guidance. Most mildly retarded young people are able to take normal jobs or enter sheltered employment. The severely retarded are likely to transfer to adult day centres, which should provide a wide range of activities if the abilities of each attainder are to be developed as much as possible. A minority of moderately and severely retarded people require intensive care programmes with input from a team of psychologists, occupational therapist, specialist nurses, speech therapist, physiotherapists, dieticians, and social workers.

2.1.2 An Overview of Stress

According to (Hartley and MacLean, 2005), the perception of the level of stress associated with an event is the major determinant of its impact. This is also the major determinant of the physiological and emotional reaction that follows. Cohen, Kessler and Gordon (1997) came up with the theory that associated the experience of significant environmental problems and life events with negative physiological and behavioural consequences. According to these authors, stress reaction is continuum that has either a simple or severe appraisal. In the first, there is no stress reaction. In the other case, the way the stress was perceived led to cynical physiological or behavioural response. Hence, the essential issue in this complex interaction is the way and manner the stress is appraised by the individual and the intrinsic robust and flexible characteristics as well as the individual's coping capacity. Put in another was, it the cognitive appraisal of a stress or stressor that determines the stress reaction and its psychological as well as its physiological responses (Cohen, Kessler, and Gordon, 1997). For example, variables such as personality, biology, gene, adaptability, coping methods, social support, presence of associated physical illnesses, family problems, presence of psychiatric disorders are bound to affect perception of stress and its physiological and behavioural consequences (León-Olea et al., 2014).

Currently, there is evidence that a stressor and exposure to stress leads to stress reaction perceptions of stress). Physical and emotional trauma can also result in stress, which may be temporary or permanent (McEwen, 2007). However, long standing and chronic stress destroy the physical and emotional health and all the

systems that are set in motion for adaptation and body equilibrium are distorted leading both physical and mental health problems (Kivimaki et al., 2002). These physical health problems are called psychosomatic disorders and include essential hypertension, diabetes mellitus, peptic ulcer disease, regional ileitis, angina pectoris, rheumatoid arthritis, migraines and other headaches.

Very crucial is the disequilibrium the immune system is set. The immune system is closely related to the nervous systems because there is neural connection between all endocrine glands and the central nervous system. Thus, chronic stress across life-span has a negative impact on the total health of the individual (Seo, Tsou, Ansell, Potenza, and Sinha, 2014). It should be emphasized that long-term stress has a deleterious effect on the physical, social and psychological health rather than an episode of isolated stressful event. Therefore, all biological entities require adaptation when faced with any stressful circumstance. However, nature has created man in such as a way that a complex interactive systems with positive and negative feedback do occur that always set the body thermostat at the level of equilibrium and homeostasis is always achieved through mobilization of innate resources (McEwen, 2007).

Following perceived stress, the sympathetic system (SAS) and the adrenomedullary system are activated within seconds of perceived stress. Excitation of the sympathetic nervous system leads to release of adrenaline which is a vasopressor agent, causing fight or flight response, increased pulse rate and blood pressure and mobilization of glucose stores in the liver. The hypothalamo-pituitary-adrenocortical (HPA) is also involved leading to release of glucocorticoid hormones into the blood stream to provide energy which is now redistribution to the vital organs (Stamper et al., 2015). Following perceived stress, a cognitive response is elicited which is interpreted based on genetic influence, environmental factors, early life experiences and the body's adaptive mechanisms.

From the aforementioned, the primary physiological response following stress is the activation of the innate inflammatory immune responses (S. Smith & Vale, 2006). Research reports have also shown that the neuroendocrine system interacts with this innate immune system as a fundamental process during the acute phase of stress reaction. It is therefore postulated that a complex mechanism exist which promotes communication between the immune system and the neuroendocrine system which regulates homeostasis, thereby producing regulation that accommodate changes

and fluctuations in the internal milieu of the body during the time the individual is adapting the psychological stress that enables the body maintains its physiologic integrity. Stress management is a set of techniques and strategies intended to assist individuals deal effectively with stress in their lives through analysing the precise stressors and taking positive actions to limit their effects. Stress management begins with figuring out the cause of stress. While it is straightforward to point out the major stressors such as moving from one city to another, loss of a loved one and changing jobs e.tc, singling out the cause of chronic stress can be more complex. It is quite easy not to realise how personal thoughts and behaviour can actually make a contribution on stress levels. Management of stress focuses on changing the dynamics of the situation, developing coping skills, treating conditions that could have originated from stress and coming up with useful therapeutic interventions.

2.1.2.1 Perceived Stress among Mothers of Pupils with Intellectual Disability

Parenting makes a high proportion of families have fulfilment, sense of happiness and sense of altruism. Parenting is also regarded as one of the methods of expressing social development and contribution to the expected roles after marriage. This is so when the child's development is congruent to the expected development for any specific age. Parenting is also rewarding when the child or children is free from any serious medical condition, psychiatric problem, academic difficulties, congenital or birth abnormality that could border on the parents financial capacity (Onyeaso, Fasola, and Arowojolu, 2002). However, child rearing can be tumultuous and unrewarding for most parents if the child suffers from severe behavioural problems, recurrent physical illnesses or worse still ID (Bakare et al., 2010). The concept of child rearing stress otherwise known as parenting stress may be more severe in mother compared with fathers and can be excruciating in mothers that are single, separated, widowed or divorced. Parenting stress is also more severe in the presence of another child with a chronic psychological or physical illness or even in the presence of another child with academic problems or any family member with social challenges (Bakare et al., 2010).

Apart from the presence of any chronic physical illness or emotional problems, factors such as dysfunctional family setting, presence of sensory impairment are other factors associated with parenting stress (Onyeaso et al., 2002).

There are no sociodemographic differences or correlates of parenting stress, so also is parenting stress present in various other contexts (Putnick et al., 2008). Child rearing stress can be prevented by having a good self-concept. Self-concept is a construct that consists of self-esteem as well as self-perceptions. Self-concept promotes well-being and satisfaction with life (Mahon and Yarcheski, 2002). Several other factors such poor school performance, inadequate classroom teaching, poor school quality, poor pupil-teacher relationship, have been found to be associated stress to both parents (Adeniyi and Omigbodun, 2016). Parents themselves play a significant role in the development of their children's poor performance which in turn creates stress for the parents. For example, when there is a lack of adequate child's evaluation at home or when the child is a victim of constant criticism, the child lacks sense of self-worth which creates stress for the parents. On the other hand, lack of parental acceptance of the child's limitation has been found to predict parenting stress in children with ID (Adeniyi and Omigbodun, 2016).

On the other hand, acceptability, love and affection from the parents, child rearing in a stimulating environment, good sibling relationship, marital stability, lack or limited quarrels between the parents, absence of marital skews, absence of family schism, low expressed emotions are important determinants of sense of worth academic performance, positive social interaction, successful negotiation of developmental stages, dexterity, and good physical appearance in child (Putnick et al., 2008). It goes to say that family dynamics, family instability and importantly, parental interaction with the child exert much influence on the child outcome and quality of life and this is so until child becomes an adolescent and gains independence. There are several ways and methods whereby parenting stress affect the child. Parenting stress affects psychological, social and biological growth of a child (Anthony et al., 2005).

The Parenting Stress Model (PSM) by Abidin in 1995 proposed that parenting stress, parenting behaviours and child outcomes are all strongly related (Abidin, 1995). Another model called The Family Stress Model (FSM) posits that financial insecurity is a determinant of parental psychological distress, unstable marriage, lack of good parenting, thereby leading to maladjustment in the child sooner or later (Conger, Rueter , and Conger, 2000).

Research findings indicate that parental personality and attitude mediate the

experience of stress by the parents and child adjustment (Conger et al., 2000). According to the authors, parents who know how to conceal difficult moments until things get better transfer better emotions to their children than parents who are too expressive as this creates sense of fear and panic as well as worry to the child, which in turn affect the outcome of the child.

Peer influence is recognized as having a strong impact on the relationship between parents and the child. However, in terms of child-parent relationship or bonding, adolescents are less attached to their parents than children. In another dimension, power usually shifts from older to younger children because younger children require more attention, support and are less independent than the older children. Nevertheless, power shift from older to younger children is a predictor of sibling rivalry leading to parental stress. Furthermore, these changes child rearing pattern and preferences also affect parental behaviour, its perception and self- concept of the older children. Also, child rearing stress has been found to be a strong determinant of good adolescent outcome (Seginer, Vermulst, and Gerris, 2002).

Since mothers are the primary caregivers and source of social support for children, it is conceivable that Thus, mothering a child with ID creates significant psychological burden capable of leading to diagnosable emotional disorders in them. Right for the birth of a child with ID, a huge traumatic feeling develops in the family ranging from acute stress reaction to depression. Some parents develop doubts as to whether it is real or not, while others start ruminating on what could have been responsible. Following this, the mother or father could develop a negative attitude towards the child creating stress for either or both parents, a scenario which could persist overtime, which the child could also recognize later in life (Blacher, Baker, and Kaladjian, 2013).

Studies have shown that the level of stress experienced by these mothers continues to grow, and in certain instances, the mother starts blaming the father or herself for being the cause of the ID. The studies also indicate that comparably, the stress mother develop while rearing a child with ID is greater than in other children (Hauser-Cram, Warfield, Shonkoff, & Krauss, 2001), which is often due to associate behavioural problems. Nevertheless, some families adapt well as fast as a result of high level of resilience despite these adversities. Given that resilience and adaptation are determined by varying factors and level also vary, it is crucial that determine or

make someone more prone to stress over time.

Factors that determine the development of stress are complex and interactive. They are the biology of the mother, process of adaptation based on previously learnt experience of stress, the mother's contextual ecological factors, as well as available coping strategies. When there is an equilibrium in these factors, the mother is less likely to develop a stress that will break her ego boundaries. But if there is disequilibrium, the mother's elastic limit is exceeded and in line with Hooke's law of elasticity, the mother breaks down (Blacher et al., 2013). Another conceptualized source of stress are the characteristics of the child. For example, a child with severe ID creates more stress than one with mild ID, so also will a child with additional physical deformity be a source of a higher degree of stress. Furthermore, a child with associated seizure disorder plus physical deformity be a much greater of stress. This is because, the more severe the ID, the greater the required care, the greater the burden of care. The case is gloomier if mother lacks social support of any form (Blacher et al., 2013). Emerging data indicate that even in developing countries of the world, where extended family system used by a source of social support, this progressively being eroded, because communal living is becoming extinct as a result of Western culture.

Beyond these, family resources play a huge role in the development or absence of child rearing stress. Except for children that attend public schools, the cost of educating a child with ID if a private school is sought is more expensive. The dynamics of the total family system is also an important determinant. These include the type of occupation both parents are doing, whether they have their own transportation system, the living circumstances in the house (Blacher et al., 2013). Considerable attention has been paid to the increased stress levels of families raising a child with ID. In addition to the stress associated with the diagnosis of ID and the problems of adjustment, another significant area that has overlapping boundaries with stress is caregiver's burden. Unfortunately, the longer the caregivers stays with the person that requires care, the greater the caregiver's burden. Caregiver's burden comprises of financial burden, disruption of family activities and interaction, effect of the condition on the physical health of the caregivers and effect of the child's condition on the mental health of family members (Hartley and MacLean, 2005).

It is less likely for families characterized by positive maternal and family traits, adequate social support system, high level of resilience, adequate coping methods and stable personality to have ID (Paczkowski and Baker, 2007). However, research findings that studied the moderating variables of stress in mothers of children with ID indicate that the primary source of stress for these mothers is the physical appearance of those children. Another important source of stress for these mothers is child's behavioural problems. Behavioural problems in ID include ADHD, restricted social interaction, compulsive behaviour such as head banging and stereotypies. On the other hand, there is a bidirectional relationship between maternal stress and behavioural problems in children with ID. Nevertheless, the extent of the maternal stress is directly proportional to the presence and number of behavioural problems in ID (Herring et al., 2006), indicating that behaviour problems are a more salient predictor of maternal stress than child intellectual ability.

Another important determinant of maternal stress is Social skill. Social skills can be defined as a set of learned behaviours that are socially acceptable and promotes social interaction, leading to favourable response from people (Neece and Baker, 2008). For example, when one helps, initiates good things, make requests when necessary, gives compliments, displays courtesy, is appreciate and says 'thank you', a good relationship is fostered because social skills have been displayed. In schools, unlike pupils with no ID, those pupils with ID do not engage in group play. They usually engage in solitary play, and rarely initiates skills that require group interaction. This is particularly so if the child has a comorbid autistic spectrum disorder where social withdrawal is a key symptom.

The period between middle childhood and early school years is the period when social skills are developed. This is the period when the school setting is expected to have shape the child. This is because school setting comprises of numerous pupils with heterogeneous background and behaviour. Also, the role of the teachers in the development of social skills is enormous. This is because the teachers are expected to be very instructive teaching the pupil's moral instructions and good manner. Social skills of the pupils have been found to predict school adjustment in future, good teacher-pupil relationship, academic performance, successful classroom interaction and participation and social acceptance (Neece and Baker, 2008). Eisenhower, Baker and Blacher 2007) reported that the poor pupil–teacher

relationships exhibited by pupils with ID is mediated via the pupil's poor social skills and in turn pupil-pupil and pupil teacher relationship are predictors of long term psychological and social wellbeing as well as academic performance of a child.

The association between the presence of behavioural problems and social skills may not be entirely linear because the mechanism behind pro-social behaviour and is far beyond social skills. A fundamental predictor are genetic factors. Genetic factors later interacts with environmental factors and the mix of the two are the stern determinants of pro-social behaviour (Silver et al., 2005). There are also reports that the effect of having a child with ID on mothers mental well-being has racial and ethnic variability (Magana & Smith, 2006). Yet within peculiar ethnicity, there is variability in the extent to which having child with ID has on the mother's mental health. To this end, the physical and psychosocial health of a mother with a child living with ID also has ethnic and geographical variability. However, contrary to this, a study found no difference in the level of caregiver's burden among sample of African American and White American mothers of children with ID (Silver et al., 2005). However, African American mothers were found to be more likely to curdle a child with disability. In a study conducted among African American mothers who have children living with disability found a higher rate of chronic physical health problems such as osteoarthritis and diabetes mellitus among children with ID compared with children with no ID (Magana and Smith, 2006).

Despite the advantages family and support from families brings to the child with ID, there are circumstances when family or social support or child-family interaction may have negative implications depending on the personality of the family member or friend (Silver et al., 2005). Cranford (2004) found that social interaction between the mother and family members and also between mother and friends tended to have a buffering effect on maternal stress. There are also reports that social interaction with mothers who also have children with ID also have a buffering effect on perceived stress. This is because such mothers are able to share experiences with each other.

2.1.2.2 Physiology of Stress

Following stress, a complex interaction of the neurons and the somatic cells occur involving the corticotropin-releasing hormone (CRH) and arginine-vasopressin

(AVP). Following an environmental stressor, both CRH and AVP are secreted are the key hormones that initiate stress response. CRH is produced in the hypothalamus and its primary function is to stimulate the production of corticotropin from the anterior pituitary, and AVP from the posterior pituitary (Scott, Melhorn, and Sakai, 2012). AVP is produced by the supraoptic and paraventricular nuclei of the posterior pituitary, while corticotropin stimulates the production of glucocorticoids from the adrenal gland. The primary glucocorticoid is cortisol, which is the most important hormone produced in response to stress. The primary physiological function of vasopressin, is that it leads to water conservation by the kidneys by vasoconstriction, this also elevates the blood pressure.

On the other hand, cortisol increased diuresis and also mobilizes glucose and glucose stores during stress, thereby supplying the vital organs with glucose, accounting for chronic stress induces diabetes (Scott et al., 2012). Thus, vasopressin and steroid hormones have antagonistic effects, however, both hormones activate the hypothalamic-pituitary-adrenal (HPA) axis. The HPA axis send information to each other, using a feedback mechanism. This axis is responsible for the entire immediate and long-term stress response including the development of psychosomatic disorders during chronic exposure to stress (Scott et al., 2012). These psychosomatic disorders include essential hypertension, ischaemic heart disease, peptic ulcer disease, ulcerative colitis, rheumatoid arthritis and migraines.

Most of the physiological changes that occur following stress are brought about by the sympathetic nervous system and the adreno-cortical system. The autonomic nervous system receives neuronal signals from the hypothalamus, these signals are then sent to the nuclei in the brain leading to stimulation of the sympathetic division of the system, leading to stimulation of the adrenal medulla to produce adrenaline and noradrenaline. Another hormone Thyroid stimulating hormones (TSH) is produced in the anterior pituitary. This hormone acts on the thyroid gland leading to the of thyroid hormones, whose primary action is to increase the metabolic rate which is required to take action, either of fight or flight in response to stress. Usually, when the source of stress persists, this leads to chronic stress which is deleterious to health. In Hans Seyle experiment, animals were exposed to varying types and levels of stress including exposure to poison or cold. Han Seyle observed differing physiological response to the stimuli they were exposed to. This is called

General Adaptation Syndrome (GAS).

2.1.3 Cognitive Restructuring Therapy

Cognitive restructuring therapy is mechanism of change in the schema of thinking which is found in cognitive therapy (CT). In cognitive therapy, a structured approach is used to make the client identify his distorted thoughts, assess and unwind the faulty thoughts that are responsible for the psychological distress (Hollon, Stewart, and Strunk, 2006). The key ingredients in cognitive therapy is the ability to identify the faulty thoughts, monitor these thoughts by self, ability to test the reality of the matter, identify external factors responsible, ability to gather evidence about the issue causing the psychological disturbance, examine its consequences, identify the cost/benefit of changing the thoughts, generating alternatives, and behavioural assignments that leads to change in the schema of thinking (Beck 2016). It was when Aaron Beck wrote his publication on the treatment of anxiety disorder that the description, cognitive restructuring therapy gained much attention. Since then, cognitive restructuring had gained various description as an effective psychological intervention for psychological distress such as anxiety or depression as well as other stress related disorders (Paul, 2010).

Cognitive restructuring therapy (CRT) focuses on identification of maladaptive thoughts that had dominated the schema of thinking of an individual, exploration of the thoughts, followed by substitution of the thoughts with those thoughts that are positive and that will oppose the maladaptive negative thoughts. Thus, CRT considers both previous experience and behaviour in addressing any psychological disturbance, leading to a change in the schema of thinking. By implication, the key to achieving a change in schema is what are the available and pre-existing schema. According to Beck and colleagues, a schema is expected to have structure, function and content. The process of schematic change uses a top to down approach in the process of selection, organization and prioritization of human cognition. By implication, there is an executive function in schema that directs the processing of information in a manner that prioritizes schema-congruent information over information that are schema-incongruent. Using depression as an example, the negative thoughts, thoughts of reproach, pessimism, dooms, failure, hopelessness and worthless are repressed, while a more positive cognitive thoughts predominate (Beck,

2016).

Thus, in CR, the main aim is to unwind and reverse the maladaptive cognitive distortion by putting the unconscious acceptance of automatic “unreasonable thought” and encouraging a well as accepting a positive schema of reasoning. CR teaches one to reject the repetitive maladaptive thoughts and acceptance a more adaptive schema. The measure used to determine whether a client is shifting from maladaptive cognition to an adaptive cognition is a change in belief ratings. For example, if a client has depression and believes very firmly that he is destined to fail in all his activities and that there is no hope at all that success will come at some point and the client is now subjected to CR, and the client thereafter claims that although he was destined to fail in all his activities but now he has a hope of achieving success one day, then there is a cognitive shift from maladaptive cognition to a more adaptive one, although client requires further CRT. However, according to Beck (2016), although belief ratings is a sensitive indicator of change for disorders such as depression, it is not so for some other disorders, such as anxiety, where maladaptive schema of thoughts is often all or none.

Usually, people oscillate between negative and positive cognition which is influenced by personality, pervading mood, type pf psychopathology, duration of psychopathology, concurrent use of psychotropic medications, duration of therapy and experience of the therapist. It is important to note that long duration of maladaptive schema is a huge challenge for therapist because of the tendency for these beliefs to have been fixed. When the maladaptive schema of thought is deeply entrenched, response to cognitive restructuring is usually difficulties (Beck, 2016).

Beck (2016) emphasized how rigid, unshakable and impermeable maladaptive schemas are. This is because often time, these maladaptive schemas would have existed in early childhood period and become reinforced or strengthened by negative life events. A good example is the case of obsessive-compulsive disorder in which the client has a recurrent thought leading to a compulsive act that will corroborate his/her belief such as “At all costs I must scrutinize something critically to avoid an error”. When the person in question repeatedly and continuously possess this maladaptive thought, such as though dominates the schema of thought of the individual. For example, studies on depression have shown that patients with depression have a series of huge and elaborate interwoven negative self-reference (Dozois and Dobson, 2001).

Even after going into remission, studies have shown individuals with clinical depression continue to exhibit tremendous negative self-appraisal for a good period of time (Dozois and Dobson, 2001).

Psychopathological schemas are complex and deep rooted. They are deeply ingrained and had been present during personality development that achieving a schematic change is like a mirage, difficult to untie. The major problem with cognitive restructuring is the difficulty encountered in recognizing that an information is schema-incongruent. Information is often difficult making acceptability of schema congruent information a big task. For example, an individual with anxiety disorder will be preoccupied with the thoughts that the rose red dot on his skin is cancerous. This thought despite the fact that the spot arose when the individua has bout of anxiety may remain deeply seated in the mind of the individual that he now develops series of related and interwoven thoughts about disease and death.

Therefore, the therapist must recognize that he is about to break an impermeable barrier and his intervention must be ready to confront these challenges. It is schematic content that is the primary focus of CR. The content and context of these cognitive distortions usually consist of series of negative, ill-defined ideas, preoccupations, beliefs, attitudes and ridiculous assumptions about self, both at present and in future. At times the maladaptive schemas may be extended to personal achievement or external world (Dozois and Dobson, 2001). Cognitive theory states that depression has its own cognitive state, while other psychopathologies have their own peculiar cognitive state. Even the absence of psychopathologies is also associated with its own cognitive and belief content. Specifically, while depression is characterized by cognitive themes of loss, nil or death, anxiety is characterized by threat and fear, personality disorders by pervasive nonconforming behaviour and psychosis by misinterpretation of real circumstances and experience (King and Zeng, 2002).

Since different psychopathologies have different triggers, the maladaptive schemas will also be different and will require different information processing. Therefore, the primary aim of cognitive restructuring is to re-shape these schematic distortions and their general interconnectedness, make it difficult for the client to have access or to activate it and promote access to logical beliefs and assumptions. In sum, the schematic change achieved by CR involves two fundamental processes. After

recognizing the different schemas in the different psychopathologies, the therapist now uses a diverse cognitive intervention approach to dwell and plunge into the available schemas. The therapist is expected to recognize the impermeable nature of these maladaptive schemas and should therefore, continue probing into the maladaptive schemas. The therapist needs to recognize that CR is not a one-off session therapy and even within each session, client will require probing and re-probing. Over time and with persistence, the interwoven schemas begin to disconnect and the automatic schema-congruent thoughts will be reduced. Also, CR seeks substituting more normal, positive-adaptive schemas. CR lowers the activation threshold of adaptive schemas and raises the threshold for maladaptive schemas. Thus, after a series of CR sessions, psychopathologies will be less elaborate and reasonable cognition and reasoning takes over.

2.1.3.1 Components of Cognitive Restructuring Therapy

For a change in schema of thought to change from maladaptive to adaptive thoughts, there are three critical components. They are collaborative empiricism, verbal intervention and empirical hypothesis testing. For CR to be effective, none of the three components should be missing. Although, each of these three components may have different intervention approaches, the three components put together constitute the treatment package for CR.

2.1.3.2 Collaborative Empiricism as a Component of Cognitive Restructuring Therapy

The term "collaborative empiricism" was used by to infer the therapeutic relationship that is routinely used in CR (Beck, 2016). Based on subsequent clinical research work, it had become evident that the effectiveness of CR depends largely on the concept of collaborative empiricism (Dozois and Dobson, 2001). In other words, a feedback mechanism where the client shares with the therapist their individual expertise to detect, describe, analyze, explain and resolve the client's problem is very critical. In collaborative empiricism, the therapist is regarded as expert in bringing about a change in human process, while the client, having lived long with his or her problems is also an "expert" in his problems. The two now work together in drawing treatment goals and approach in a way that they both share equal responsibility. By

using a feedback method, both therapist and client remain on the same page at all times during the entire course of the therapy.

Although, there is the need for the therapist to engage the client strongly and also build a strong therapeutic alliance, there are other components that determine the effectiveness of CR. For example, the client requires to be well educated on the model of CT, with a clear and succinct agreed rationale on why a change is being sought, (b) the client must be involved in identifying and approaching the treatment goals, (c) the agenda for each session should be collaborated by both therapist and client, (d) the sessions should be interactive with feedback (e) client should be given homework to do. Using depression as a model, cognitive theory of depression posits that depression is due to pessimism, inadequacy and hopelessness. Thus, patients with depression have negative inferential style in which they tend believe that everything about themselves, the world and all activities. The Cognitive Vulnerability to Depression (CVD) theory highlights that people with depression have always draw a negative inference, style and beliefs to every idea and action (Alloy, Abramson, Smith, Gibb, & Neeren, 2006). It is therefore fundamental that the therapist helps clients have an understanding of this fundamental dynamics and teaches them how identify factors that built up this negative ideations, with a view to addressing them (Alloy et al., 2006).

2.1.3.3 Verbal Intervention as a component of Cognitive Restructuring Therapy

An important concept in CT is reattribution, which is a form of verbal intervention that is applicable for depression (Alloy et al., 2006). Reattribution teaches positivity and reorientation in the positive direction and reattribution reencodes the cognition away from maladaptive thoughts to adaptive thoughts thereby enhancing the clients positive coping skills. What happens is that more positive, schema-incongruent information is poorly processed in people with cognitive distortion, while the less positive ones predominate. Thus, a key goal of CR is to train the client on purposeful encoding and retrieval of previous positive experiences.

Reattribution is highly required for unwinding the deep sense of negativity, loss, pessimism, helplessness and personal vulnerability and helplessness that is commonly associated with emotional problems. A person suffering from generalized anxiety disorder for example, would receive a training on how his previous failures

were handled. Subsequent sessions would focus on manners and methods of refuting any maladaptive thoughts and cognitions. This will continue for a pre-designated number of sessions until the client is reasonably strengthened, until the sessions are terminated.

Cognitive therapy is a very strong behavioural therapy implying that empirical hypothesis-testing is perhaps the most important part of CR. Other components are scheduling of activity, graded approach for task assignment, behavioural rehearsal, training in assertiveness, mastery and pleasure techniques, and roleplaying for depression (Hollis-Sawyer, 2014).

In the case of anxiety disorders, in-vitro behavioural modification in the form of systematic desensitization and gradual exposure to triggers of panic or fear, while preventing escape or avoidance is the rule (Clark and Beck, 2010). In personality disorder for example, behavioural interventions consists of consistently observing the effects of true life circumstances of long-held and exaggerated maladaptive thoughts, ideas and beliefs complemented with in-vitro methods such as reminiscence on childhood events and imagery (Skodol, 2005). Thus, CR draws on the strength of using behavioural in-vitro method to test the client's faulty method of interpreting reality. CR mobilizes the client's resources to adapt to positive coping skills.

2.1.3.4 Empirical Hypothesis Testing as a Component of Cognitive Restructuring Therapy

When certain activities that have been planned take place in-between sessions of CR therapy, they are called Empirical hypothesis-testing (Clark & Beck, 2010). Such behavioural experiments are based on the test whether schema construct is adaptive and whether the experiments tests the correctness of the various beliefs that are associated with various disorders. There is a difference between CT and the traditional behaviour therapy, is that behaviour change is the focus of behaviour therapy, in CT, behavioural experiences are used to change cognitive schema. This makes either empirical hypothesis-testing or behavioural experimentation the core of cognitive restructuring.

According to Clark and Beck (2010), the steps in behavioural experimentation are: first, discussing the aim of the behavioural experiment with the client. The case formulation is usually used to plan the experiment and what is done is that the

maladaptive belief leading to the disorder is tested using the experiment. An example is that a student who has anxiety disorder may believe that it is helpful to worry about having a bad result in her exams because this increases her level of motivation. Indeed, studies have shown that some degree of anxiety is required for one to pass or succeed in any venture (Clark and Beck, 2010). In this case, the aim of the behavioural experiment would be to determine the pros and cons of worrying for an exam. In the second step, the maladaptive belief or idea or preoccupation as well as the alternative is clearly stated. In this case, the maladaptive belief is stated as "it is very helpful for me to worry about my exams because it makes me more studious", while the alternative will be "studying more for my exams may be unhelpful to me because, I may develop brain fatigue".

During the third step, both the client and design the experiment in collaboration. It is best for parents to themselves design the experiment. When parents are not part of the experiment, it very likely that there will be non-compliance. This is because they wouldn't understand the reason why the experiment was designed and would not feel committed to its implementation. Thus, for this current experiment, both therapist and client agree to test the outcome of "exam worry" by using two class tests given to the student. The student will choose to worry about one and would not worry for the second one. She will now compare her performances in both exams.

During the fourth step, the experimental hypothesis will be clearly stated. Using the current example as an illustration, the number of hours spent preparing for the two courses and the student's level of motivated are rated and recorded. More study time is allocated to "worry course" if student spent more study time while more study time will be allocated to "non-worry" course if more study time is spent for the "non-worry course."

The fifth step is the homework assignment in-between session. The outcome of the homework is recorded. It is crucial that the details of the experiment, location, modality and time is clearly stated by the therapist to avoid any misinformation about the experiment so that the result of the experiment may not be contradict evidence regarding the maladaptive belief. It is advisable for parents to come up with an anticipated outcome of the experiment. This is very crucial and is an important determinant of the outcome of the experiment (Clark and Beck, 2010).

2.1.4 Reality Therapy

Reality therapy (RT) was developed by William Glasser as a form of psychological therapy over four decades ago (Glasser, 1965). Reality therapy is a unique psychological therapy and differs from other forms of psychological intervention or psychiatry because it focuses on reality, responsibility, and right versus wrong, rather than psychopathological symptoms. Reality therapy claims that the so-called mental disorders are a group of socially universal human condition. Reality therapy claims that unsuccessful or failure to secure the basic needs of life makes an individual move away from the normal. What reality therapy is about is achieving the necessary needs in life, therefore reality therapy focuses on the present of an individual rather than the past. Reality therapy does not also accommodate unconscious mental processes (Lane, 2001). Reality therapy focuses on what is the reasonable option when tackling a problem, with the view of not paying attention on the past, rather, focusing on creating a better future. Reality therapy addresses the current needs of a person and how to behave to achieve these needs. According to Glasser, people with psychological disorders have been so-labelled because only the biological aetiological component had been focused upon with little concern about the social aspects, all in a bid to hurriedly tag them as sick (Corey, 2009). Reality therapy further emphasizes that psychological distress does not equate illness. According to Glasser (1965) social problems are inevitable and no one is immune against it. Therefore, the presence of social distress in a client's life does not equate sickness. Importantly, his psychosocial needs must be met (Glasser, 1965).

Reality therapy as a form of treatment dates back to the Veterans Administration hospital in Los Angeles and was introduced by William Glasser in 1965 and by his teacher, Harrington, a psychiatrist. Since then, reality therapy had grown extensively in the United States and outside the United States as a form of psychological treatment in psychological distress. Glasser (1965) in his book on *Reality Therapy* emphasized that reality therapy does not imply punishment with reality, rather it meant client friendly, client centred choice of therapy. Glasser highlighted in his book the need to focus on client's current circumstances rather the past because it is the current circumstances that matters.

According to the author, that does not equate ignoring the past, but rather, look for ways to resolve the past, because the past predicts the future. This approach

will make the client live a rewarding life and fulfilment (Glasser, 1965). According to Glasser, there are four essential psychological needs, the first being survival (Glasser, 1965), second is belonging and love need. This needs create a sense of safety and being part of a larger society. Third is the need for power. This is because sociologist claim that power creates relevance. Power gives one a winning mentality and achievement. The fourth is the need for freedom and independence. Human beings are social animals who by their nature have the motivation to explore. This is one of the theories of motivation.

A major and central principle of reality therapy is that, people seek to meet these basic needs, either consciously or not, and all these needs must be reasonably met for optimal functioning and to achieve homeostasis. Unfortunately, most people generally have lackadaisical attitude towards achieving the goals. Belonging need can be achieved by social interaction. However, gaining attention and being loved is an unconscious process to acquire. The focus of reality therapy is that an individual's control is what he is currently doing in their lives to meet the four basic needs of life. Even if those needs ae not met, the focus is still on the current situation. Reality therapy maintains that what really drives human beings is their need to belong and to be loved.

The way and manner one think, feels and the physiological response to certain circumstances constitute the human behaviour. Although acting and thinking can be put under direct control, this is not the same with emotional feeling and physiological response. To exemplify this using a motor vehicle, the front two wheels are analogous to actions and thoughts, while the rear two wheels represent emotional reaction and physiological response. Nevertheless, for a vehicle to move both front and rear wheels have to interact. For example, if one changes the way one acts, emotional response could also change. Thus reality therapy works by the interacting effects of the way one feels, thinks, and emotional response as well as the physiological activities (Jahromi and Mosallanejad, 2014). Therefore, metacognition is the act of being aware of the entire self-cognition and the way and manner the body processes the entire physiological response under any circumstances. Reality therapy helps in allowing an individual face varying realities of life and makes one more amenable to life adversities (Baeness & Parish, 2006).

The Roles of Therapist in the Treatment

The main aim of reality therapy is to help those who have difficulty in interpersonal relationship work out a plan to tackle this. Therefore, the milestone in this psychological intervention is the formation of a treatment alliance between the patient and the therapist. It is critical for a bonding to be established between the therapist and the client. This is extremely crucial for the healing of the psychological trauma or stress. After the establishment of bonding, a fulfilling and satisfying connect is present, and the therapeutic environment is warm. This assists client in developing sense of confidence. It also strengthens relationship and sense of safety and wellbeing in the client.

Again, the client develops new skills and uses these newfound skills to tackle different life stresses. According to reality therapists, when clients develop new set of skills and apply them in their lives, they will be able to modify their actions, behaviour and attitudes and also develop new methods and approach of dealing with stressful situation. The client now develops how to apply these newfound skills to external relationships leading to a greater satisfaction with life.

2.1.4.1 Core Ideas about Reality Therapy

Action as a Core Idea in Reality Therapy

There are five basic needs in life: survival, love and belonging, power, freedom or independence, and fun. Reality therapy posits that the fundamental reason why man experiences pain is because there is a lack of one or more of these needs. Of all these needs, love and belonging need is believed to be the most important because man cannot live an independent life (Corey, 2009). Based on this proposition, in reality therapy, a therapeutic alliance that is built on trust and love is necessary as this will make the client apply this trusting relationship to real life outside reality therapy.

Since reality therapy assumes that the main cause of psychological distress is absence of at least one of the essential human needs, it implies that the therapist is expected to identify and address what is lacking and make the client take responsibility for their action. Reality therapy operates under the assumption that one learns to be responsible by integrating with those who are responsible themselves at all times (Lane, 2001).

In reality therapy, the therapist identifies realistic goals and pay attention to

them. Focusing on realistic goals is the only way a remedy could be brought to those real-life circumstances that are sources of distress for the client. William Glasser is the author of the choice theory. According to the theory, four components namely, thought, action, feeling, and physiology constitute life. Although we have control over our thoughts and our actions, we however lack control over our feelings and the physiological response of the body to circumstance. For example, we lack control over respiration, sweating, heart rate (Glasser, 1965). The first and most critical step is assessment of emotions or feelings. This is crucial for objective self-evaluation and elf-realization that a change is required and that reality must be sought leading to acceptance of the better choice and reality. The therapist assists the client develop a realistic plan to enable him achieve his goal. However, for the plan to germinate, the plan must originate from the client. The plan must be workable for ease of implementation by the client. Thus, the client must be in control of the plan. Reality therapy teaches one to develop power of control, power of action and power of doing things.

Behaviour as a Core Idea in Reality Therapy

Behaviour, is the outward characteristic of an individual, which gives an information about the person's mood, thoughts and fantasies. Behaviour is influenced by both internal and external factors, internal factors such as state of physical or psychological wellbeing and external factors such as environmental and social factors. Although behaviour and thoughts can be intentionally changed or influenced, it is difficult to exert direct influence on one's emotions. In reality therapy, a change in action is believed to result in a change of feeling. By implication, action leads emotional reactions. This concept is similar to the concept used in re-evaluation counselling and Carl Roger's person-centered psychotherapy, although re-evaluation counselling states that release of emotions heals and clears emotional injury.

Control as a Core Idea in Reality Therapy

The key idea in reality therapy is control. It is important for human beings to recognize the need to exercise control in all their activities if their needs ae to be met. Control be achieved by financial strength, through position or physically. Control may be deleterious by through major methods; one is by trying to unjustly control other

people, and also by the use of psychoactive substances to achieve a pseudo sense of control and power. What choice theory emphasizes is that an individual has the right to control only himself and an attempt to control others by force may be unfruitful. Also, the client should realize that allowing others to control him may lead to self-blame and frustration. However, the client cannot exist without experiencing negative life events. In such circumstances, the client must determine the best way of handling these. Reality therapy believes that the act of trying to control others is a fruitless effort that may bring no hope of change. The battle to control others continues for life and may make people avoid the client leading to unending pain and frustration. By implication, the client has control only on him and should stick to this and allow others control themselves to achieve their needs. Although the client can, may achieve a transient sense of control from brain altering substances, this is a maladaptive method of coping which may lead to addiction problems and also creates a false sense of control which does not last.

Focusing on the Present as a Core Idea in Reality Therapy

Reality therapy (RT) as well as choice therapy focuses on the future, unlike counselling or psychoanalysis that emphasizes previous events. Specialists in reality therapy makes inquiries about the past occurrences and do not dwell on them. Previous life events are recognized as being responsible for the psychological distress experienced by a client. However, reality therapy teaches the client to repress such distress and be preoccupied by the current. What the individual undergoing therapy perceives as his ideal world, that he wants to achieve in life is what reality therapy teaches. Moreover, individual attempts to accomplish those peculiar situations that have brought fulfilment to him in the past in his future endeavour. Individual's most fulfilling world is individual specific and not generalizable. What constitutes good life quality is also highly variable, for example, when one is in a new relationship, what gives each individual fulfilment and satisfaction is highly variable (Lane, 2001).

Reality therapy approaches counselling and solve problem by concentrating on the present experiences of the individual undergoing therapy and seeks methods of developing an improved future, while the past is ignored. What is emphasized is decisions making and taking actions to be in control of the person’s life. Ideally, the client should have a concrete idea of his expectation, how to achieve them, what are

the stumbling blocks, what will fast-track the achievements and what will slow them down. RT is a psychological intervention that focuses on helping client to be aware of his/her thoughts and actions so as to expedite the achievement of personal goal.
RT session starts through the establishment of a trusting bond with the client, continuing in the present, establishing a non-toxic and friendly alliance, evading compulsion and chastisement, conveying truthful empathy, and building a sense of success and hope (Wubbolding, 2006). After the development of a therapeutic alliance, the therapist presents the goals of the therapy, which are basically the contents of an ideal life.

Thereafter, steps are taken to facilitate the understanding of the concept of selecting all of their behaviours. W. Glaser (2009) opined that acceptance of the capability to control personal behaviour is the most challenging tenet of RT. By presenting this to the client, the belief system starts changing positively until the behaviour is modified.

2.1.4.2 Procedures Involved in Reality Therapy

Establishment of a therapeutic relationship with the client is of utmost importance in all forms of therapy. When this form of relationship is missing, desired result might not be visible. Mutual respect should always exist between the both the person administering the therapy and the recipient. There are instances when the client has ruptured social network making the therapist the only source of support for the client. In this circumstance, the therapist requires to be enduring because there is no other individual with whom the client shares his or her distress. The client may belong to many relationships, but just the need for the more consistently positive relationship is emphasised. According to Glasser, there is need for the client to feel that the counsellor is somebody that he would want in his good life (Glasser, 1965). The procedures include:

a. Evaluating Current Behaviour

The counsellor emphasises on the behaviours and ideas of the present-day. The therapist instructs the client to come up with a succinct statement regarding those presenting behaviours, that are the motivating factors responsible for seeking intervention. Often times, the client is reluctant to come up with these value statements so also is there reluctance on the part of the client to come up with the

negative impacts of the trauma on the client's life. Therefore, this makes the therapist spend more time trying to talk down the client before the client opens up. However, the judgement should be delivered by the client at all time Thus, the client should feel that all decisions are made by him, because he controls his own life (Glasser, 1965).

b. Behaviour Planning

Techniques of behavioural modification is planned with the client with specific recommendations and encouragement from the therapist. However, the plan must originate from the client. It is imperative that the preliminary steps are lessen to the extent that the client is practically assured of success, in order to build confidence. The focus of the therapy is on things the client can change. In cases, where the client is in unscrupulous relationship with someone, the therapist may have no option but spent little time with the client, leaving him/her operate with little support from the therapist making the client feel uncomfortable because the other client could dominate the time of the therapist. Usually, this is a passing phase and sooner or later, the situation calms down. Nevertheless, the therapist must ensure that the all clients remain connected with him and no one develops the feeling of abandonment (Glasser, 1965).

c. Execution of the Plan

The individual receiving the therapy should make an obligation to follow all instructions as agreed with the therapist. This is imperative since a lot of patients would want to satisfy the therapist at their own expense. For this reason, It is best to document all the actions to be taken by the client (Glasser, 1965).

d. Be Dedicated No Matter What

The therapist should assert that the plan is executed and if difficult to execute, suggest a more achievable activity. A trusting relationship with the client is germane to prevent the client from resisting to execute the planned work. If the plan is too ambiguous for the client to carry out, then the therapist and the client map out a different plan.

2.1.4.3 The Principles of Reality Therapy

These are rudimentary philosophies that need to be applied to make this technique a success (R. E. Wubbolding, 2000). The principles include

a. Emphasis should be placed over the current situation, rather than capitalizing on previous issues because all human problems are as a result of unsatisfying present relationships.

b. Circumvent conversing symptoms and complaints as they are the fruitless ways the client handles unproductive issues.

c. The individual should be taken as a whole.

d. Allocate limited time to things client are not capable of doing directly such as shifting their feelings and physiology.

e. Do not criticize or blame, neither should you be grouchy or encourage client to behave in a similar way. By doing so, they lose the capacity to gain a solid control over their behaviour, thereby, destroying the therapeutic bond. .

f. Avoid passing judgment or being conclusive, neither should you be forceful. It is essential to encourage clients do things as a matter of their personal choice. For example, what is currently happening to me is getting me more relaxed or moving me closer each day to being absolutely relaxed".

g. Communicate to the patient that excuses directly serves as obstacle in the way of their capability to form needed relationships.

h. Emphasis on essentials. Quickly identify those the client has become disconnected with and look for reasonable ways to assist them reconstruct the disconnected social network. One should kelp those who are absolutely disconnected them find a new relationship.

i. Assist them in making specific practicable strategies to connect with the people that are required, and then follow up on the plan by assisting them to appraise the level of success being made. The therapist may bring out suggestions about the work plans to be carried out if the client can nit come up with one, however, the client must execute the clear message so that he will be responsible at the end of the day for the fallout of the planned activities.

The therapist has to be patient and helpful while focusing on where the problem originated from. For those patients who had lost their connectedness with relevant people in their lives as a result of the psychological distress they are passing

through or as a mere coincidence, it is important that the therapist looks for means of developing the reconnection. However, the client should understand all activities carried out by him isa matter of his own personal choice.

2.1.4.4 Stress, Patients and the Therapist

In the field of school education, RT is frequently utilised for pupils and students and is a proven intervention that has been found efficacious in improving the academic performance of students in junior high schools (R. E. Wubbolding, 2000). Reality therapy can be utilised in assisting students who are suffering from emotional and behavioural disorders. It has been suggested that reality therapy procedures can also be useful in counselling programmes in schools (Mason and Duba, 2009). Utilisation of reality therapy techniques will be of assistance in helping school counsellors acquire helpful therapeutic relationships and enhance students' self-esteem (Mason and Duba, 2009). RT has also been established to be efficient in making the self-perception of primary school pupils better.

Many at risk individuals have applied reality therapy practices and approaches to enhance functioning and learning in schools and social settings (R. E. Wubbolding, 2000). Additional areas of use are athletic tutoring, Post-Traumatic Stress Disorder (PTSD), and childhood obesity. RT also assists in building friendship, positive interaction and thus useful in sporting activities. RT is also very applicable in the prevention or control childhood obesity and eating disorders. It is recommended that pragmatic reality therapy approaches may assist pupils in evaluating their food consumption pattern, set achievable goals and assimilate efficient self-evaluation (Holmes, 2008). An Israeli study carried out over a decade ago found that RT was useful in treating neurotic and stress-related disorders (Prenzlau, 2006).

2.1.4.5 Stress Management Using Cognitive-Behavioural Method

Hastings and Beck in their work on group intervention programme with the aim of abating anxiety among parent of children with mental retardation (R. Hastings and Beck, 2004). It is believed that parent of children with ID are progressively susceptible to stress and other variant of mental health disorders. Consequently, they are in need of interceptive programmes in order to reduce stress. The analysis of Hastings and Beck has revealed that among intervention programmes, the cognitive-

behavioural method have maximum actual impact in reducing stress. Cognitive stress management training helps the parent to acknowledged irrational views, unproductive, and other influences that arouse anxiety and depression, while making effort to help them to gain insight so as to substitute rational thoughts. This enhances their self-esteem and mental adequacy which ultimately will lead to achievement of more resources.

2.1.5 Socioeconomic Status of Patients of Pupils with Intellectual Disability

Socioeconomic status (SES) are factors that impedes upon the health of an individual. This includes wages and emoluments, financial strength, educational level, employment status, and profession. The American Psychological Association (2013) proclaimed that socio-economic standing is usually hypothesised as the category a person belongs to using economic and social class indices educational level, the person's wages and emoluments and type of employment. When the SES is examined, several intriguing revelations include inequalities in access to social, financial and health services, privilege, power and control. SES shows the fit of the persons into a larger group or community, all of which are important determinants of quality of life and wellbeing (Abbott and Wallace, 2012).

SES can either be high, middle or high which is based on financial strength, educational level, employment status, and type of employment.

a. *Wages and* remunerations, gains, allowances, retirement fund and benefits such as gratuity or pension, dividends or interest, financial support in any form. Usually income may be generated from employment or may come as regular gifts from someone, depending on the relationship that exists between the person receiving it and the person giving it. Income may also emanate from regular sales of landed properties, or lands or from interests generated from loans given out to people. In certain instances, such income is regular and can be used by the person receiving to plan regular domestic and other activities (Rickardsson and Mellander, 2017).

b. *Educational level* is an important determinant of wages and renumerations. Specifically the American Psychological Association (2013) reported that educational attainment has a direct correlation with wages and that the highest earners in the United States are those with the highest number of years of

college and professional training. This makes such people also belong to the highest SES. Examples are medical professionals. Even among medical professionals, medical specialists who spend additional years in training earn more than those with first degree. Other examples are nurses with doctoral qualification working as advances practice nurses. This group of nurses earn higher those with master degrees, while those with master degree earn more than those with bachelor degree.

c. ***Type Occupational*** also a very strong determinant of SES. Specifically, employment type and place of employment is a pointer to an individual's SES. For example, senators or top political officer holders are known to earn more than civil servants and leave in choice areas in different countries of the world. So also, are people working in oil and gas industries. Usually type of occupation is somewhat related to level of education which also reflects in the total emoluments and wages of the person. Usually, the more educated a person is, the higher the skills acquired by the person, justifying the higher level of income.

Among children, their SES is dependent on the total revenue of the family, level of education of the parents, the type of job parents is doing and the total social class of the parent. By implication, the social call of the parents is the social class of the children, unless among those children who because of conduct problems have assumed street life and are homeless or those who are living dilapidated lives because of reasons such as alcohol and drug abuse (Singh and Garima, 2015).

2.1.6 Maternal Employment of Mothers of Pupils with Intellectual Disability

Numerous researches have been conducted on maternal occupation and the health of a child with intellectual disability. For example, certain mothers also have intellectual disability themselves leaving them with restricted job opportunities. Meanwhile, the presence of an intellectually disabled child also possesses narrow employment opportunities for the mother. Many mothers have to jettison their employment or hold on to the job, but with limited work hours because they need to stay at home to give their heirs necessary care.

The situation is gloomier for mothers of children with intellectual disability because some of these children require assisted living in virtually all domains of

living. Consequently, it is extremely important to comprehend the influence of ID on the employment status of mothers, principally in families of low socioeconomic status, assuming that disability is much more prevailing between this segment of the society and the inadequate general attention to this group of population (S. Lee, Oh, Hartmann, and Gault, 2004). Moreover, most ID children have single mothers, who are challenged with the difficulties of taking care of these children, other children, family needs and also need to retain their employments because it is their chief source of care for the entire family.

There are many support groups in developed countries of the world which are of immense assistance in supporting low-income mothers, who have problems retaining their employment because of children with intellectual disability. Nevertheless, many support organizations are emerging that has the advantage of moderating the jobs of the mothers of children with ID. However, the re-definition of disability for children by the 'Work Reform' in 1996 has expunged the benefits for the less severe disabled children.

Though, stringent requirements of certain jobs could act as a motivating factor to encourage some low social class families remain on job but also have negative effect on such family members because this will be a source of stress for them (Powers, 2003).

Single mothers usually encounter untold difficulties particularly if they themselves have a personal disability or a child with any form of disability, it restricts their prospect of securing well-paid job and impair their capability to cope with the special care that the child needs.

According to past studies, the presence of any impairment in any of the family member reduces employment opportunity for such family member, further compounding the stress in the family (Porterfield, 2002). The influence of any impairment has somewhat swerving and unpredictable consequences on the family dynamics and how any affected member will fit into a payable employment.

2.2 Theoretical reviews

2.2.1 Theories of Emotion

The major theories of emotion can be grouped into three main categories: physiological, neurological, and cognitive.

Physiological theories suggest that responses within the body are responsible for emotions.

Neurological theories propose that activity within the brain leads to emotional responses.

Cognitive theories argue that thoughts and other mental activity play an essential role in forming emotions.

2.2.2 Evolutionary Theory of Emotion

It was naturalist Charles Darwin who proposed that emotions evolved because they were adaptive and allowed humans and animals to survive and reproduce. Feelings of love and affection lead people to seek mates and reproduce. Feelings of fear compel people to either fight or flee the source of danger (Myers, 2004). According to the evolutionary theory of emotion, our emotions exist because they serve an adaptive role. Emotions motivate people to respond quickly to stimuli in the environment, which helps improve the chances of success and survival. Understanding the emotions of other people and animals also plays a crucial role in safety and survival. If you encounter a hissing, spitting, and clawing animal, chances are you will quickly realize that the animal is frightened or defensive and leave it alone. By being able to interpret correctly the emotional displays of other people and animals, you can respond correctly and avoid danger (Myers, 2004)..

2.2.3 The James-Lange Theory of Emotion

The James-Lange theory is one of the best-known examples of a physiological theory of emotion. Independently proposed by psychologist William James and physiologist Carl Lange, the James-Lange theory of emotion suggests that emotions occur as a result of physiological reactions to events (James, 1884). This theory suggests that seeing an external stimulus leads to a physiological reaction. Your emotional reaction is dependent upon how you interpret those physical reactions.

For example, suppose you are walking in the woods and see a grizzly bear. You begin to tremble, and your heart begins to race. The James-Lange theory proposes that you will conclude that you are frightened ("I am trembling. Therefore, I

am afraid"). According to this theory of emotion, you are not trembling because you are frightened. Instead, you feel frightened because you are trembling (James, 1884). William James and Carl Lange came up with two independent but related theories of emotion which when fused together became the background theories explaining the physiological activities that is experienced when a person experiences a stress. Following a life threatening circumstance, the body responds in certain ways in response to the stressful event, which makes him prepared to face and adapt to the situation. These include increased respiration, increased heart rate and increased vigilance (Psychology Notes HQ, 2012). These activities are under the influence of the central nervous system, specifically the sympathetic nervous system, the adrenal glands and the thyroid glands.

2.2.4 The Cannon-Bard Theory of Emotion

Another well-known physiological theory is the Cannon-Bard theory of emotion. Walter Cannon disagreed with the James-Lange theory of emotion on several different grounds. First, he suggested, people can experience physiological reactions linked to emotions without actually feeling those emotions. For example, your heart might race because you have been exercising, not because you are afraid (Cannon, 1987).

Cannon also suggested that emotional responses occur much too quickly to be simply products of physical states. When you encounter a danger in the environment, you will often feel afraid before you start to experience the physical symptoms associated with fear, such as shaking hands, rapid breathing, and a racing heart. Cannon first proposed his theory in the 1920s, and his work was later expanded on by physiologist Philip Bard during the 1930s. According to the Cannon-Bard theory of emotion, we feel emotions and experience physiological reactions such as sweating, trembling, and muscle tension simultaneously (Cannon, 1987).

More specifically, the theory proposes that emotions result when the thalamus sends a message to the brain in response to a stimulus, resulting in a physiological reaction. At the same time, the brain also receives signals triggering the emotional experience. Cannon and Bard’s theory suggests that the physical and psychological experience of emotion happen at the same time and that one does not cause the other (Friedman, 2010).

2.2.5 Schachter-Singer Theory

Also known as the two-factor theory of emotion, the Schachter-Singer theory is an example of a cognitive theory of emotion. This theory suggests that the physiological arousal occurs first, and then the individual must identify the reason for this arousal to experience and label it as an emotion. A stimulus leads to a physiological response that is then cognitively interpreted and labeled, resulting in an emotion (Schachter and Singer, 1962).

Schachter and Singer's theory draws on both the James-Lange theory and the Cannon-Bard theory. Like the James-Lange theory, the Schachter-Singer theory proposes that people infer emotions based on physiological responses. The critical factor is the situation and the cognitive interpretation that people use to label that emotion (Schachter and Singer, 1962).

Like the Cannon-Bard theory, the Schachter-Singer theory also suggests that similar physiological responses can produce varying emotions. For example, if you experience a racing heart and sweating palms during an important exam, you will probably identify the emotion as anxiety. If you experience the same physical responses on a date, you might interpret those responses as love, affection, or arousal (Schachter and Singer, 1962).

2.2.6 Richard Lazarus Cognitive-Mediational/Appraisal Theory

Psychologist Richard Lazarus cognitive-mediational theory emphasises that the important determinant of emotional reaction is the way the stimuli is perceived. The whole process in involuntary. However, Richard Lazarus Cognitive-Mediational Theory seems to oppose the theory of emotions of Schachter–Singer which according to him emotion is midway between cognitive interpretation and physiological states. The theory highlights the role of cognition in mediating the response.

According to appraisal theories of emotion, thinking must occur first before experiencing emotion. Richard Lazarus was a pioneer in this area of emotion, and this theory is often referred to as the Lazarus theory of emotion.

According to this theory, the sequence of events first involves a stimulus, followed by thought, which then leads to the simultaneous experience of a physiological response and the emotion. For example, if you encounter a bear in the woods, you might immediately begin to think that you are in great danger. This then

leads to the emotional experience of fear and the physical reactions associated with the fight-or-flight response (Lazarus and Folkman, 1984).

Relevance of Richard Lazarus Cognitive Mediational Theory to the Current study given that cognitive appraisal determines physiological response and then response to a particular stress, by implication, the way and manner mothers view the condition of their children determines whether or not they will experience stress, caring for them.

For example, although studies have shown that mothers raising children with Intellectual Disability (ID) report poorer mental health than parents raising typically developing children, they also report feelings of positivity; both generally and specific to their child (Jess, Totsika, and Hastings, 2018).

Despite the difficulties and challenges, many parents of children with ID are able to thrive and express a positive attitude towards life because of positive cognitive appraisal of the situation. This group of parents report significant positive outcomes and positive well-being often to the same extent as do other parents without children with ID (Hastings, 2016).

On the other way, the way issues relating to the child with ID on the schema of the thinking of the mother determines her response to cognitive restructuring. In other words, cognitive restructuring is based on the Lazarus Cognitive Mediational Theory of Emotion. For example, the key goal of cognitive restructuring is to reverse a maladaptive schema-congruent processing bias by questioning the automatic acceptance of negative schema-congruent information and encouraging assimilation of more adaptive schema-incongruent data.

Traditionally, a change in belief ratings is considered a measure of the client's shift from maladaptive schematic processing to more normal, adaptive schema activation. If the laid-down schema is positive or not absolutely negative, then, schema-incongruent data will not be perceived as too negative, making change in thinking easier and faster.

2.3 Empirical Review

A blend of interventions approach of CBT, parent behavioural adjustment and other methods of support life services are more operative in the management of maternal stress related with intellectual disability. For example, complementary

behavioural intervention is synonymous to reality therapy. Reality therapy basically depend on the use of psychological engagement with emphases on development change and acceptable character n (Glaser, 2009).

2.3.1 Cognitive Restructuring (CR) Therapy and Stress Management

Studies have showed the efficacy of cognitive restructuring (CR) therapy in the management in personality disorders and in kleptomania (Obalowo, 2004), lateness to school (Anyamene, Chinyelu, and Chinyere, 2017) and violent behaviour (Bassey, Peter, and Omazagba, 2014). Aderanti and Hassan (2011) found that opined that CR therapy is effective in the management of conduct disorder and oppositional defiant behaviour among prisoners.

The authors also found that CR is of more benefit in females than in males who are manifesting rebelliousness, and it is equally effective in the management of prisoners who are rebellious. According to these authors, the brain plays an essential and well renowned role in people's thoughts and behaviour. Johnco, Wuthrich, and Rapee (2013) in their work found that CR was applicable and useful in treating PTSD, and improving skills acquisition. In another study by Umar, Abdullahi, Oliagba, Sambo, and Abdulwahid (2014) on the effect of CR therapy on smoking, CR therapy was found to be useful as smoking cessation therapy. Mankiewicz and Turner (2014) in their work on the effect of cognitive restructuring and systematic behavioural for psychotic symptoms and anxiety symptoms in patients with schizophrenia revealed a significant reduction in anxiety, paranoid delusion and auditory hallucination. Beyond this, this was a marked improvement in the patient social and occupational functioning.

2.3.2 Reality Therapy and Stress Management Among Parents of Pupils with Intellectuality Disability

Clapp (1992) have shown that reality therapy is an effective method for reducing psychological stress and increasing resilience in divorced women. Reality therapy has the strength of increasing resiliency and makes the individual have sense of responsibility for their actions, give appropriate judgment as well as accept reality of the circumstances. Using the case of a divorced woman as an example, reality therapy makes her resume a new identity and dimension. This will offer better coping,

improve sense independence, reduce anger, and enable such as person draw a plan for his or her future life. Reality therapy enables such as person sets rational goals and priorities, with a view to improving the person's beliefs, behaviour and quality of life. It helps in fortifying the individual change his life to a more satisfactory life style and enables him handle challenges, stress and traumatic events in a better way.

Reality therapy has also been found to be very effective in the control of mood disorder in a case of advanced cancer of the endometrium Wubbolding (2000). This and among other evidence made Wubbolding (2000) Ahmadian (n. d) conclude that reality therapy increases adaptability in people with stress either in emotional trauma or in physical illnesses. Reality therapy also increases sense of control, achievement leading to improved outcome of any health condition and good quality of life. Reality Therapy also makes people gain positive control over their behaviour and life in general. Reality therapy also improves emotions, behaviours and feelings (Kim, 2008). In another study in Libya, Byevapen (2013) found that reality therapy a high school student who had uncontrolled aggressive behaviour both in school and at home responded positively to reality therapy. She gained control over the cause of her aggression, came to terms with it and the aggressiveness went into remission.

Byevapen (2013) also found that reality therapy was an effective psychological intervention for students with behavioural indiscipline. According to the author, reality therapy package because of its client friendly nature helped students develop improved behaviour which made parents develop a sense of fulfilment and reduced parental stress. Reality therapy has also been reported to be applicable in a wide array of behavioural problems such as post-traumatic stress disorder, acute reaction to stress, adjustment disorder, depression and anxiety disorder (Esmaeilifar, Sheikhi, and Jafarpour, 2013). Reality therapy improves low self-esteem thereby promoting better interpersonal relationship and coping with stress (Kim, 2008). Reality Therapy makes an individual develop sense of being part of a larger society, achievement as well as altruism. Reality therapy makes people have improved life satisfaction and improved adjustment to the society (Kim, 2008).

2.3.3 Maternal Employment and Stress Management Among Mothers of Pupils with Intellectual Disability

When a child has health challenges, the mother has problem of employment because she has to take care of such a child. This is because mother are the primary caregivers of children, to whom many children are attached. The mother therefore has to strike a balance between her reservation wage and the wage offered by the market for her to remain relevant in the labour market. The burden of care of a child with any disability at all is huge, of which an important aspect is the financial burden (Wasi, den Berg, and Buchmueller, 2012). This together with other complex arrangements to deliver education and health services to the child with ID is a herculean task. Usually children with severe mental disorders, chronic physical illnesses and ID require a lot of financial support for them to be at par with other colleagues. In addition to frequent hospital visits required by such children, a working mother with a child suffering from ID will require flexible hours of work which may not go well with certain employments.

These factors, added to reservation wage, make mothers of children with ID, find it extremely difficult to be in employment because of the difficultly they will have in catering for the needs of their children except for those in self-employment (Wasi et al., 2012). Thus, a substantial financial burden is experienced by family of children with ID. Unfortunately, seeking succour via health insurance is not often successful because employment is necessary for health insurance. The situation is gloomier for mothers who are single, separated, divorced or widowed. Mothers, who source of earning is not enough to secure health insurance also have problems of accessing health service for their children with ID. However, in circumstances when the financial burden becomes unbearable, mothers may decide to join labour market irrespective of their marital status. Nevertheless, there are instances when there is commotion between financial resources of the mother as well as the need to work leading to an inconclusive decision on the part of mothers of children with ID regarding employment.

Research findings have demonstrated that maternal employment has serious impact on the health of the child. For example, it has been shown that single mothers are more likely to be affected psychologically, socially and physically by having a child with ID (Powers, 2003). There are indications, both direction and extent of

maternal employment status do affect the health of child with ID in two ways, they are what the definition of poor health is to the mother and what being in employment mean to the mother. For example, the work of Corman, Noonan, Reichman, and Dave (2005) conceptualized poor health as being qual to "low birth weight", while another research used "child development" as the indicative of poor health. Again, the term "disability" has various definitions, based on the extent of the limitation on different domains of functioning ((Powers, 2003). These domains include mobility, self-care, participation in community activities, domestic life activities, getting along with people and cognition. Thus, the definition of disability by Wasi et al. (2012) is similar in construct to that of Powers (2003).

Another research work that was based on Danish register-based population emphasized that those children with comorbid ADHD with ID constitute another group whose effects on the mother far outweighs those with only ID. The effect of comorbid ADHD and ID include greater maternal stress and more severe instability in the labour market (Kvist, Nielsen, and Simonsen, 2013). In the work of Gould (2004), using information derived from physician's data on health conditions of a sample of children, "time-intensive illness" was used to define poor health. The study found a direct correlation between "time-intensity illness", ID and maternal employment. Most researchers construe ID in children as an exogenous variable, ignoring the intrinsic endogeneity in ID. The significance of the intrinsic endogeneity in ID is reiterated by the irreversible nature of the condition, leading to the poor outcome of the caregivers in the labour market.

According to (Powers, 2003), parent's report of their children's health status is often flawed with report bias necessitating the use of structured instruments that will list various health conditions capable of affecting mother's employment opportunity in children with ID. (Johnston, Michael, Nicholls, and Michael, 2009) in 2009 used left-handedness as an index of child's development delay which of course is not a reliable way of accessing the health status of a child.

2.3.4 Socio-Economic Status (SES) and Management of Stress Among Mothers of Pupils with Intellectual Disability

Aneshensel and Sucoff (1996) emphasized the association between socioeconomic status (SES), perception of stress and response to stress. This

recognized association has been found to be more pronounced in the mother by her need to look for resources the child with ID requires for his or care, education and rehabilitation. Aneshensel and Sucoff (1996) discovered that in low SES individuals are very naïve to stress and stressful circumstances, because they have poor coping skills at their disposal. Low SES individuals often perceives their neighbours and living peers as dangerous, which has a deleterious effect on the them. This leads to poor mental health among individuals of low SES, which in turn leads to maladaptive and negative schema, stress and stress reaction, anxiety, depression as well as hi risk of suicidal behaviour. Similarly, Carr-Hill, Rice, and Roland (1996) found that conducts disorder was highly prevalent in the children of mothers of low SES, who were homeless, who were socially disadvantages, who lived in overcrowded residences, or were socially socio-economic status and experienced poverty. The study further showed that long duration of poverty especially in the first few years of life was strongly associated with conduct disorders.

Although, stress is not peculiar to any situation and various life circumstances could be associated with stress including marriage, work, finance, individuals with limited finance experience more stress given that finance is fundamentally required to run virtually every aspect of life (Kuruvilla and Jacob, 2007). Also, individuals living with mental illnesses who have financial problems find it difficult to be rehabilitated into the community. This is because of their ability to meet basic needs of food, clothes and personal needs. Thus, poverty is responsible for other social disadvantages experienced by such people, These social disadvantages include problems with social relationships, marriage, stigma, and participation in the society (Kuruvilla and Jacob, 2007).

On the other hand, individual who have poverty generally lack control over their life, lack satisfaction with life, report higher levels of hopelessness and generally have poorer quality of life. These characteristics are often inter-related and have multidimensional cause and effect relationship, making these characteristics very pervasive and difficult to erode, making it extremely difficult for them to change their socioeconomic status (Kuruvilla and Jacob, 2007). The trend is that inadequate resources make it extremely difficult to have education and if they do, education is inadequate. Low level of education or inadequate education makes them highly vulnerable to diseases, social insecurity, lack of access to health care, poor knowledge

of prevention of mental disorders. For example in the community study of mental disorders in Nigeria, which was a part of the World Mental Health Initiative, the prevalence of common mental disorders was found to be higher among community dwellers of low educational attainment (Gureje, Lasebikan, Kola, and Makanjuola, 2006). Another deleterious effect of poverty is that it is a determinant of the type of housing and choice of residence, which are also determinants of mental well-being. Chronic poverty also has a strong association with alcohol and drug abuse use, insecurity, polygamy and violence, overcrowding, noise and environmental pollution all of which are also associated with mental disorders (Kuruvilla and Jacob, 2007). There is evidence of the association between insecurity of income flow and common mental disorders.

Drop in family income and low family socioeconomic status have also been linked in boys with the emergence of externalized behaviours characterized by aggression, conduct disorder, impulsivity, oppositional defiant behaviour, hostility, defiance, defiance, impulsivity, aggression and anti-social behaviour and internalized behaviours such as social withdrawal, and anxiety) in girls. Mood disorders and increased suicidal behaviour has also been found to be associated with a sudden drop in an individual's socio-economic status (Kuruvilla and Jacob, 2007).

2.4 Conceptual Model for the Study

Figure 2.1 illustrates the concept behind this research work. The variables and the flows chat of the interaction are depicted. The flow chart shows both the independent and the dependent variable and how the independent variables were manipulated in stress management technique. These are: cognitive restructuring, reality therapy and control group. The moderating variables are maternal employment and parent's socioeconomic status.

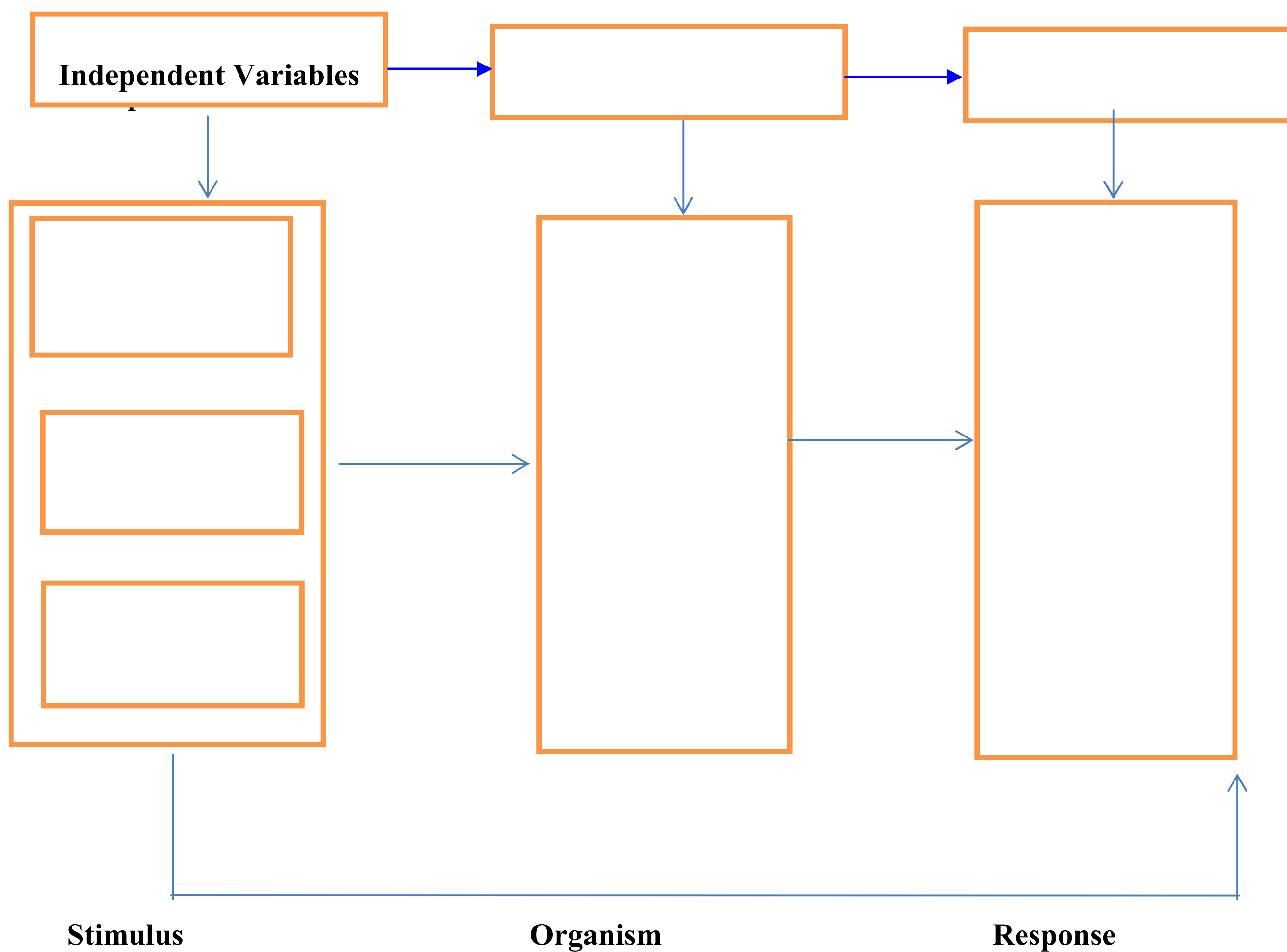

Figure 2.1 Models for the Study

This flow chart shows the stimulus–organism–response model where the stimulus refers the independent variables varied at three levels namely: cognitive restructuring, reality therapy and control group. The organism represents the moderating variables that consist of maternal employment and parent's socioeconomic status. The response is the same as the dependent variable and represents the finding or outcome of the study, in this case stress management.

CHAPTER THREE
METHODOLOGY

This chapter presents the methodology that was used for the study which includes: research design, selection of participants, instruments and procedure for data collection and methods of data analysis.

3.1 Research Design

The study adopted a pretest–posttest control group quasi experimental design. This design was adopted because there was no manipulation of independent variables. A 3x2x3 factorial matrix was employed with treatments varied at three levels (Cognitive Restructuring, Reality Therapy and Control Group). The treatments were cross-examined with parent's socioeconomic status varied at three levels (high, medium and low) and maternal employment varied at two levels (employed and unemployed).

Table 3.1: Factorial Matrix

Treatments	Maternal Employment B					
	Employed B1			Unemployed B2		
	Parents Socioeconomic Status C					
	HighC1	**Average C2**	**Low C3**	**HighC4**	**Average C5**	**Low C6**
Cognitive Restructuring A1	A1B1C1	A1B1C2	A1B1C3	A1B2C4	A1B2C5	A1B2 C6
Reality Therapy A2	A2B1C1	A2B1C2	A2B1C3	A2B2C4	A2B2C5	A2B2 C6
Control A3	A3B1C1	A3B1C2	A3B1C3	A3B2C4	A3B2C5	A3B2 C6

The research design can be presented as:

Treatment Group 1 (E1): O_1 X_1 O_4

Treatment Group 2 (E1): O_2 X_2 O_5

Control Group 3 (E1): O_3 O_6

O_1 O_2 and O_3 represent pretest scores of treatment group 1, 2 and the control group respectively.

O_4 O_5 and O_6 represent posttest scores of treatment group 1, 2 and the control group respectively.

X1 represents the treatment for treatment group (Cognitive restructuring)

X2 represents the treatment for the treatment group 2 (Reality therapy)

The layout of the design is given in Table 3.1.

3.2 Selection of Participants

The population for this study were mothers of pupils with intellectual disability in Ibadan, Nigeria. The study made use of sixty (60) mothers of pupils with intellectual disability in special schools in Ibadan, Nigeria as sample. Random sampling technique was adopted for the selection of three schools that were used for the study while purposive sampling technique was used in selecting the participants for the study

The three schools selected are: School for the handicapped Ring Road State Hospital Ibadan, Hizbullah Alqhalib (HLA) School for the handicapped, Agodi, Ibadan and Cheshire Home School, Ibadan, all in Oyo State

3.3 Inclusion Criteria

The criteria for inclusion in this study were:

i. Mothers that have children with intellectual disability that have been screened by the Researcher with Slosson Intelligence Test for Children and Adults.
ii. Children with intellectual disability that were registered in schools; and
iii. The mothers of children with intellectual disability who were willing to participate in the study.

3.4 Instrumentation

The following instruments were either adapted or adopted and utilised for the study. They are:

i. Slosson Intelligence Test for Children and Adults
ii. The Perceived Stress Scale (by Cohen)
iii. Socioeconomic Status Scale
iv. Maternal Employment Questionnaire

3.4.1 Slosson Intelligence Test for Children and Adult

Slosson introduced and also validated the Slosson Intelligence Test (SIT) in 1961 (Slosson, 1961). The test was introduced as measure of general intelligence. Despite the fact that the SIT was established within the Western culture, the test has been modified and used within the African culture, though some words were modified the content validity of the SIT was maintained. For example, Oyundoyin and Alo (2003), Olatoye and Oyundoyin (2007), Oyundoyin and Botwe (2010) used the SIT and they all confirmed its usefulness and suitability within the African culture. Specifically, in the work of Olatoye and Oyundoyin (2007), when the psychometric property of SIT was assessed, the correlation of SIT with Stanford – Binet test was 0.96, with Wechsler Intelligent Scale for Children was 0.96 and with other Achievement IQ Tests was 0.83

The validity of the SIT has also been tested using the Revised Version of the Stanford Binet (SB) Intelligence Test of 1960. The concurrent validity coefficients ranged from 0.90 to 0.98 for each age level, signifying significant correlations between the SIT and the SB. The content validity was also high, 0.92 with a test-retest reliability of 0.86 (Adediran, 2011). Thus, the validity and utility of the SIT is well established.

To validity and reliability of the SIT was established in a pilot study carried out among 10 students attending the School for the Mentally Handicapped, Sharp Corner, Ibadan. In the study, a high reliability coefficient of 0.97 (test-retest interval of two weeks) was obtained, while the concurrent validity coefficient ranged from 0.88 to 0.94 for each age level, when compared with the Stanford-Binet test..

In the current study, the Slosson Intelligence Test was used to access the Intelligence Quotient of the pupils in the selected schools to identify those with

intellectual disability. This instrument was used to screen all the pupils to confirm their intelligence quotient.

3.4.2 The Perceived Stress Scale

Cohen (1994) established the Perceived Stress Scale (PSS). This is a psychological instrument used to assess the perception of stress. The instrument comprises of 10 items that assess the extent to which life circumstances are regarded as constituting stress for an individual. The items assess the extent to which various life circumstances overload, control and predict respondents' lives. The instrument also asks questions regarding some issues pertaining to current degree of stress experienced by the individual. The contents of the questions asked are not specific to any sub-population or sub-culture, and as such are generally applicable to anyone. The questions of the Perceived Stress Scale are centred about the experience of stress in the last month.

When one is faced with a stressful life circumstance, the risk of a disease is heightened when one considers that the severity of the stress far outweighs the person's capacity to adapt. On the other hand, the way and manner stress is perceived is indeed a string determinant of the emergence of a disease process., either by the person's psychological reaction to the disease, leading to anxiety or depression or by the direct physiological effect of the stress on the risk of the disease (S. Cohen, Janicki-Deverts, and Miller, 2007). The Perceived Stress Scale (PSS) measures is able to assess the extent of the stress experienced by an individual irrespective of the person's demographic characteristics.

Scoring of the Perceived Stress Scale: The scale is rated on a 5-point Likert scale with 0 indicating never and 4 always. Those items that are worded positively are given reverse scores. For example, 0=4, 1=3, 2=2, and so on. Items 4, 5, 7, and 8 are the positively stated items. All items are added up, lower scores indicate low level of stress and higher scores high level of perceived stress.

The average score is 13, with score of 20 considered as high. Thus, individuals who score 20 are usually considered as requiring stress reduction programs and techniques such as cognitive restructuring or reality therapy. In some instances, thrice a week exercises are sufficient in reducing stress. People experiencing high psychological stress are at a elevated risk of cardiovascular diseases such as high

blood pressure, ischaemic heart disease, obesity, elevated cortisol level, diabetes, high body mass index, larger waist to hip ratio, short telomere length, lower immunity, sleep disorder such as primary insomnia, reduced sleep latency period, and alcohol abuse.

The Perceived Stress Scale (PSS) was found to have significant reliability with life-event scores (depression), r = 0.8, , physical symptomology r = 0.8, health service use r = 0.8, social problems r = 0.9 and anxiety, r = 0.8 (S. Cohen, 1994). The PSS is also a valid instrument and has been previously used and validated in Nigeria, where Fasoro, Oluwadare, Ojo, and Oni (2019) found the Cronbach's alpha to range from 0.74 to 0.81. Therefore, in the current study the PSS was adopted to assess the severity of stress experienced by mothers of pupils with ID. The PSS was used to access the participants before and after the administration of the treatments.

Reliability of the PSS was determined by a pilot test, using a test-re-test method using 10 mothers of pupils with ID attending School for the Mentally Handicapped, Sharp Corner, Ibadan, who were not part of the main study sample. A test-retest reliability coefficient of 0.92 was obtained.

3.4.3 Socio-economic Status Scale

Socioeconomic status of the participants was evaluated using the Socio-economic Status Scale (SESS) by Salami (2000) The SESS was adopted for this study. This scale was designed by Salami (2000) to evaluate socio-economic status of parents, using indices such as level of education, type of occupation, type of residence including types of equipment in the house. The SESS was used in the current study to assess the socioeconomic status of the mothers of the pupils attending the selected schools. There are 12 items on the scale. Information about the pupils constitute items 1 – 4, while information about the mothers/parents constitute items 5 – 12. Data on the parents are: level of education, type of occupation, type of residence including types of equipment in the house.

Scoring: Occupation is scored from 1-10 points, level of education is cored from 1-14 points, type of parent's residence is scored from 1-6 points, type of house is scored from 1-3 points, while equipment in the house is scored from 1-17 points. The maximum obtainable score is 60. Based on the scores generated, scores from 0 to 15 indicate low socio-economic status level, 16-40 indicate middle socio-economic

status, while 41-60 indicate high socio-economic status.

The SESS has been previously validated in Nigeria where the reliability coefficient was found to be 0.75. When the scale was revalidated, the reliability coefficient was found to be 0.70 Salami (2000).

For the purpose of the present study, a reliability assessment was carried out during a pilot study carried out among mothers of 10 pupils attending the School for the Mentally Handicapped, Sharp Corner, Ibadan, where the test-retest reliability carried out at two weeks was 0.90.

3.4.4 Maternal Employment Questionnaire

A maternal employment questionnaire was used to assess maternal employment in this study. This questionnaire was a self-designed objective method of assessing the wholistic contribution of employment status to socioeconomic class. During a pilot study carried out among mothers of 10 pupils attending the School for the Mentally Handicapped, Sharp Corner, Ibadan, the questionnaire was found to show a valid and reliable instrument for assessing employment status of individuals based on its positive correlation with the Socioeconomic Status Scale by Salami (2020), with a correlation coefficient of 0.87.

This refers to a six-item questionnaire that was administered to the mothers of pupils with intellectual disability. This questionnaire was adopted for use in the current study following a pilot study carried out among mothers of 10 pupils attending the School for the Mentally Handicapped, Sharp Corner, Ibadan, where the test-retest reliability carried out at two weeks was 0.96.

for the research. The questions included in the questionnaire are:

1. Are you employed? [ ] yes [ ] no
2. If no, what do you do for a living
3. If yes, write the name of your employer
4. How many days do you go to work?
5. If you are gainfully employed, state the month of the year when you observe your leave.
6. What is your financial contribution to the family?

For the purpose of the current study, item 1 of the 6 items is the most relevant question.

3.5 Procedure for Data Collection

The researcher obtained a letter of introduction from the Head of Department of the Department of Special Education, University of Ibadan before proceeding to the Ministry of Education, Ibadan, Oyo State where permission to carry out the research in the schools was obtained. The researcher visited the Head Teachers of the Schools to gain consent and was introduced to the teachers, who served as research assistants in the study, because of their wealth of experience and familiarity with the pupils and their parents. The procedure of this study was planned for the duration of eight weeks. The research assistants were briefed adequately on the purpose of the research and the appropriate procedural steps and guidelines to be followed for the success of the study. The first parent that was interviewed was randomly chosen and others consecutively until they were all interviewed.

Participants: Mothers of pupils with intellectual disability were the participants. Socio-demographic data were collected from the mothers of pupils with intellectual disability (participants). The maternal employment questionnaire and socioeconomic status scale were administered to the mothers of pupils with intellectual disability. The perceived stress scale was administered to the mothers of the pupils with intellectual disability, this was followed by the treatments, structured counselling for the subjects in the two experimental groups. Participants in the two experimental groups received treatment interventions sections of two times a week for eight weeks, the first and the last weeks were used for pre and post field administrations respectively while the control group was given no treatment but placebo.

3.5.1 Pre-treatment Session

The treatment programme lasted for eight weeks. The researcher introduced herself to the head teachers in the respective schools and the purpose of the study was duly explained to them. Sixty mothers of pupils with intellectual disability were purposively sampled for the study from three special education schools. The schools are: School for the handicapped Ring Road Hospital, Ibadan, Hizbullahi Al-qhalib (HLA) School for the handicapped, Agodi, Ibadan, and Cheshire Home School, Ibadan, Oyo State. The schools were block- randomized into two experimental groups and a control group. After this, baseline assessments of the participants' socio-

demographic characteristics, socioeconomic status, and maternal employment status were obtained. Also at baseline, using the Perceived Stress Scale, the level of stress of participants was assessed. The researcher administered two sessions of treatment per week.

(i) Experiment Group 1 (cognitive restructuring) = 1 hour – Tuesdays

(ii) Experimental Group II (reality therapy) = 1 hour – Thursdays

Subjects in the control group participated only in the pre and post-test, but received no treatment.

3.5.2 Treatment

In the present study, two treatments were tested. They were cognitive restructuring and reality therapy.

Cognitive Restructuring: The different therapeutic steps of cognitive restructuring (CR) are:

1. Automatic thoughts are identified. These maladaptive ego-dystonic thoughts and views about self, other and the external world.
2. One will develop rational corollary to the maladaptive thoughts
3. Maladaptive thoughts are rebuffed. In CR, we use (B) to denote our thoughts (B), (A) denotes the context in which the thoughts develop, while (C) denotes emotional consequences of A and B. (D) denotes our ability critically appraise our thoughts, whether they have been wrong and its analysis, (E) denotes rephrasing and restating our thoughts.

Details of the objective of the treatment, the process as well as the activities and full contents are described in Appendix I.

Reality Therapy: Essentially, the principle of reality therapy is that clients undergoing the therapy should avoid ruminating over past events, but be focused on the present. Through this, the past unpleasant thoughts are repressed because they are source of the unpleasant current problems. If the client is preoccupied with the unpleasant past experiences, this could lead to cognitive distortion. Therefore, the researcher would completely refuse discussing those previous thoughts and preoccupation with the client, since these were the maladaptive ways used by him that led to stress. The client is expected to have a holistic view of behaviour, meaning that the counselee should directly-act and think positively about the present and not the

past. Details of the objective of the treatment, the process as well as the activities and full contents are described in Appendix II.

3.6 Control of Extraneous Variables

In order to control the extraneous variables, the randomization selection into the groups was carried out by blind-randomization. Furthermore, the use of Analysis of Covariance (**ANCOVA)** was employed to control for variables and contaminants capable of acting as confounders in the present study. The block randomization of the experimental and control groups also minimized contamination of the study protocol. The treatment sessions were also carried out by the same therapist throughout the entire study in order to avoid problems of inter-rater reliability.

3.7 Ethical Approval

The Department of Research Planning and Statistics of the Oyo State Ministry of Health gave ethical approval for the study in accordance with the Helsinki declaration for any experiment involving human beings, no: AD 13/479/4386^{B} dated 4th July 2017.

3.8 Method of Data Analysis

Having drawn the research statistical hypotheses, inferential statistics was used in analysing the data. This enabled the researcher to make generalizations about the population from which data samples were drawn, by the testing of statistical hypotheses. Analysis of Covariance (ANCOVA) was used to analyse the stated null hypotheses at 0.05 level of significance. ANCOVA was used to test the significant difference between the means to take care of the interaction effect between treatments and the moderating variables. It determined for initial differences among the groups at the posttest level with the pretest performance. It reduces the effect of extraneous variations in the pre and posttest measure. Estimated marginassl means of participants was also computed. Multiple Comparisons was carried out in order to find out the impact of the performance of the different groups. Scheffe Post Hoc analysis was used to isolate the source of significant main effects of the variables depending on the number of participants. The magnitude of the intervention was represented by Partial Eta Squared, which is a measure of the Effect Size of the intervention (J. Cohen, 1992).

CHAPTER FOUR
RESULTS AND DISCUSSION

4.0 Results

This chapter presents the results of the study. Seven research hypotheses were tested. The demographic data were analysed using descriptive statistic while Analysis of Covariance (ANCOVA) was used to test the seven (7) hypotheses to determine the level of significant difference. The summary of data analysis is discussed as follows;

Table 4.1: Sociodemographic Characteristics of Respondents

Sociodemographic Characteristics	I Cognitive Restructuring		II Reality Therapy		Control		Total	
	N	%	N	%	n	%	n	%
Age (Years)								
< 30	1	5.0	1	5.0	1	5.0	3	5.0
31-40	10	50.0	10	50.0	10	50.0	30	50.0
41-50	8	40.0	8	40.0	8	40.0	24	40.0
51-60	1	5.0	1	5.0	1	5.0	3	5.0
Total	20	100.0	20	100.0	20	100.0	60	100.0
Marital Status								
Married	14	70.0	15	75.0	13	65.0	42	70.0
Single	2	10.0	2	10.0	5	25.0	9	15.0
Separated/Divorced	4	20.0	2	10.0	0	0.0	6	10.0
Widowed	0	0.0	1	5.0	2	10.0	3	5.0
Total	20	100.0	20	100.0	20	100.0	60	100.0
Years of Education								
0-6	2	10.0	0	0.0	2	10.0	4	6.7
7-11	15	75.0	7	35.0	8	40.0	30	50.0
12-16	3	15.0	12	60.0	7	35.0	22	36.7
>16	0	0.0	1	5.0	3	15.0	4	6.7
Total	20	100.0	20	100.0	20	100.0	60	100.0
Employment Status								
Employed	17	85.0	19	95.0	18	90.0	54	90.0
Unemployed	3	15.0	1	5.0	2	10.0	6	10.0
Total	20	100.0	20	100.0	20	100.0	60	100.0
Socioeconomic Status								
High	0	0.0	2	10.0	2	10.0	4	6.7
Medium	0	0.0	12	60.0	10	50.0	22	36.7
Low	20	100.0	16	30.0	8	40.0	4	6.7
Total	20	100.0	20	100.0	20	100.0	60	100.0
Total	20	100.0	20	100.0	20	100.0	60	100.0
Religion								
Christianity	6	30.0	11	55.0	4	70.0	31	51.7
Islam	14	70.0	9	45.0	6	30.0	29	48.3
Total	20	100.0	20	100.0	20	100.0	60	100.0
Ethnicity								
Yoruba	20	100.0	18	90.0	14	70.0	52	86.7
Igbo	0	0.0	2	10.0	4	20.0	6	10.0
Hausa/Fulani	0	0.0	0	0.0	2	2.0	2	3.3
Total	20	100.0	20	100.0	20	100.0	60	100.0

Table 4.1 shows that the highest proportion of the participants 30 (50.0%) were between 31 and 40 years, 24 (40.0%) were between 41 and 50 years, 3 (5.0%) were less than 30 years, 3 (5.0%) were also more than 51 years. The mean age of all the respondents was 39.92± 6.85 years, 54 (90.0%) were employed, 37 (61.7%) were of low socio-economic status, 19 (31.7%) were of middle socio-economic status, while 4 (6.6%) were of high socioeconomic status.

4.2 Hypotheses

Table 4.2: ANCOVA: Effect of Treatment on management of stress and control group on Pre and Post Test

	Experimental Sum of Square	df	Mean Square	F	Sig	Partial Eta^2
Main Effect (Combined)	1238.626	5	247.724	64.883	.000	.869
Treatment	203.468	1	203.468	53.291	.000	.521
Maternal Employment	14.423	1	18.423	4.825	.033	0.090
SES	1.665	1	1.665	.436	.512	.009
Error	187.083	49	3.818			
2.Way Interaction (Combined						
Treatment * Maternal Employment	1.805	1	1.805	.520	.474	,011
Treatment * SES	11.794	1	11.794	3.400	.071	,066
Maternal Employment * SES	19.871	1	19.871	5.728	.021	.107
3.Way Interaction (Combined)						
Treatment * Maternal Employment * SES	.030	1	.030	.009	.926	.000
Model	1259.204	6	2.9.867	60.500	.000	.883
Error	166.505	48	3.469			
Total	1425.709	54				

Sig level < 0.05

Hypothesis 1: There is no significant main effect of treatments on management of stress among mothers of pupils with ID in Ibadan, Nigeria.

The results presented in (Table 4.2) indicated that there was a significant main effect of treatment on management of stress among mothers of pupils with ID ($F_{(2,49)}$= 53.291, $p < 0.05$, $\eta2=0 .521$). Based on this premise, the null hypothesis is rejected. It is therefore concluded that there was a significant main effect of treatment on management of stress among mothers of pupils with intellectual disability. This implies that participants in both experimental groups I (Cognitive restructuring Therapy) and II (Reality Therapy) experienced reduced stress but experimental group I experienced lower levels of stress compared to experimental group II while Control group remained constant.

Dependent Variable: Post-test Perceived Stress

Group	Mean	Std. Error	95% Confidence Interval		F	*P*
			Lower Bound	Upper Bound		
Experimental I (Cognitive RestructuringTherapy)	13.068	.507	12.049	14.087	100.297	0.000
Experimental II(Reality Therapy)	18.059	.453	17.149	18.969		
Control	23.753	.529	22.689	24.816		

Table 4.3 shows the Estimated Means Scores for the three groups. According to the table, the post-treatment mean score of the experimental group I (Cognitive restructuring Therapy) is 13.068, for experimental group II (Reality therapy) is 18.059, while the mean score for the control group is 23.753. The difference is significant, $F = 100.297$, $p < 0.001$. The sources of this significant difference are shown using Scheffe Post-hoc test in Table 4.4. By implication, there was significant reduction in the stress of participants after the treatment was administered.

Table 4.4: Scheffe Post-hoc Test on Effect of Treatment on Stress

Treatment	N	Subset		
		1	**2**	**3**
Control	17	23.753		23.753
Experiment II	19	18.059	18.059	
Experiment I	19		13.068	13.068
Sig.		.000	.000	.000

*** Significant difference at $p < 0.05$ level of significance**

Expt I Vs Control = .000

Expt II Vs control =.000

Expt I Vs Expt II = .000

Table 4.4 shows the means score of the three groups, Experiment group I ($\bar{\chi}$ = 13.068), Experiment group II ($\bar{\chi}$ = 18.059), and control group ($\bar{\chi}$ = 23.753). Post-hoc Scheffe tests indicate that there was a significant difference in the mean scores between Experimental group I and Experimental group II, p = 0.000, between Experimental I and control, p = 0.000 and also between Experimental II and control, p = 0.000.

Hypothesis 2: There is no significant main effect of maternal employment status on management of stress among mothers of pupils with intellectual disability in Ibadan Nigeria.

According to Table 4.2, there was a significant main effect of maternal employment status on management of stress among mothers of pupils with intellectual disability, ($F_{(2,49)} = 4.825$, $p < 0.05$, η2=0.09) Premised on this, the null hypothesis is rejected. It is therefore concluded that there was a significant effect of maternal employment status on management of stress among mothers of pupils with intellectual disability.

Hypothesis 3: The main effect of socioeconomic status on management of stress among mothers of pupils with intellectual disability was not significant.

According to Table 4.2, the main effect of socioeconomic status on management of stress among mothers of pupils with intellectual disability was not significant, ($F_{(2,49)} = 0.436$, $p > 0.05$, η2=0.009). Prem ised on this, the null hypothesis is accepted. It is therefore concluded that there was no significant effect of socioeconomic status on management of stress among mothers of pupils with intellectual disability.

Hypothesis 4: The interaction effect of treatment and maternal employment status on management of stress among mothers of pupils with intellectual disability was not significant.

According to Table 4.2, there was no significant interaction effect of treatment and maternal employment status on management of stress among mothers of pupils with intellectual disability, [$F_{(2,49)}$= 0.520, $p > 0.05$, η21= 0.11]. Premised on this, the null hypothesis is accepted. This implies that there was no significant interaction

effect of treatment and maternal employment status on management of stress among mothers of pupils with intellectual disability.

Hypothesis 5: The interaction effect of treatment and socioeconomic status on management of stress among mothers of pupils with ID in Ibadan Nigeria is not significant

Table 4.2 illustrates that the interaction effect of treatment and socioeconomic status on management of stress among mothers of pupils with ID was not significant, ($F_{(2,49)} = 3.400$, $p > 0.05$, $\eta 2=0.066$). Premised on this, the null hypothesis is accepted. This implies that there was no interaction effect of treatment and socioeconomic status on management of stress among mothers of pupils with intellectual disability.

Hypothesis 6: The interaction effect of maternal employment and socioeconomic status on management of stress among mothers of pupils with ID in Ibadan Nigeria is not significant.

The results presented in (Table 4.2) shows that that there was a significant interaction effect of maternal employment and socioeconomic status on management of stress among mothers of pupils with ID, ($F_{(2,49)} = 5.728$, $p< 0.05$, $\eta 2=0.27$). Premised on this, the null hypothesis is rejected. This implies that there was a significant interaction effect of maternal employment and socioeconomic status on management of stress among mothers of pupils with intellectual disability.

Research hypothesis 7: The interaction effect of treatment, maternal employment and socioeconomic status on management of stress among mothers of pupils with ID in Ibadan Nigeria is not significant.

Table 4.2 shows that there was no significant interaction effect of treatment, maternal employment and socioeconomic status on management of stress among mothers of pupils with intellectual disability in Ibadan. ($F_{(4,49)} = 3.3400$, $p> 0.05$, $\eta 2=0.066$). Premised on this, the null hypothesis is accepted. This implies that there was no significant interaction effect of treatment, maternal employment and socioeconomic status on management of stress among mothers of pupils with intellectual disability in Ibadan.

4.3 Discussion of Findings

This study examines the effects of cognitive restructuring and reality therapies in the management of stress among mothers of pupils with intellectual disability.

4.3.1 Effect of Treatment on Management of Stress among Participants

According to the results, the main effect of treatments on management of stress among the respondents was significant. The estimated marginal mean indicated that respondents who received cognitive restructuring Therapy had the lowest mean scores, followed by those who received reality therapy, while those who received no treatment (control group) recorded the lowest mean scores.

Post-hoc multiple pairwise comparisons further showed relationship between cognitive restructuring Therapy and control group as well as reality therapy and control group. The higher performance recorded by participants in the cognitive restructuring group Therapy can be adduced to the ability of the therapy to lead to significant reduction in the level of stress among the participants. The findings of this study corroborates that of (Khamis, 2007) among different categories of participants that found a reduction in stress and frustration levels of caregivers and parents of children with developmental disabilities. Peterson, Park, Hall and Seligman (2009) in a review of a study deduced that women who were exposed to reality training therapy were later satisfied with their perceived needs, increased hopefulness with enhanced compatibility and reduction in perceived stress.

Similarly, (Haidarabadi, 2014) found cognitive-behavioural method to have been found to improve peoples' well-being with significant reduction in stress levels. Particularly in relation to the findings in this study, Haidarabadi (2014) deduces that from the perspective of reality therapy, problems of depression and no satisfaction of basic needs especially fun and entertainment (laughing and happiness) among mothers whose children are blind are reduced to the minimum. However, this study is not in line with the 2009 study by Peterson, Park, Hall, and Seligman (2009) who shows that both reality therapy and mixed method increased the happiness of the mothers of children with developmental disabilities. However, that the effectiveness of mixed method on increasing the happiness of the mothers is more than reality therapy. The finding is in support of Kahrzaei, Danesh, and Heydarzadegan (2011), who shows that cognitive-behavioural therapy can affect the level of stress among patients.

Cognitive-behavioural therapy has been found to be superior to other treatments because it focuses on ways and styles of thinking or behaviour of individuals. Cognitive-behaviour therapy changes the schema of thoughts of an individual in a way that one unlearns the previous maladaptive ways of thinking. The result of this research is in line with the observations of Hassan and Okatahi (1990) who found cognitive restructuring as one of the significant main effect in reducing anxiety and academic performance.

In this current research, post-hoc analysis also showed that reality therapy was significantly more effective than control in the management of stress in the mothers of pupils with intellectual disability. This finding is in support of results from previous studies. For example, Cato-Sheman (2000) found that reality therapy was effective in the management of chronic pains and stress and increasing the coping skills. Reality therapy has also been found to be effective in the management of stress in a wide array of chronic illnesses.R. Wubbolding (2000) demonstrated in his work the effectiveness of reality therapy on mothers undergoing stressful life circumstances. Similarly, Powers, (2003) in his study found reality therapy effective and applicable in the management of stress. Reality therapy was found effective in increasing the adaptability of people with psychological stress. Madukwe, Echeme, Njoku, Omagamne, and Nwufo (2016) similarly found reality therapy to be effective in the management of psychological problems. A similar observation was reported by (Sheryl, 2006).

4.3.2 Effect of Maternal Employment Status on Management of Stress among Participants

The results showed that there was a significant main effect of maternal employment status on management of stress among participants. This implies that maternal employment positively influences management of stress among mothers of pupils with intellectual disability. One might expect that being employed would bring about additional stress to the mothers, however, this is not the case as employment seems to help mothers of pupils with intellectual disability to find better ways of managing the stress associated with caring for pupils with intellectual disability. The potential explanation for this is that studies have reported that the social network of individuals living with chronic mental health problems in developing countries, in this

instance, Nigeria is dominated by siblings, other family members and friends (Lasebikan, Owoaje, and Asuzu, 2012). Thus, this cultural aggregation has the potential of acting as buffers and succour in the care of patients living with long term mental health problems, in this instance ID. Mothers of pupils with ID who are in employment can easily tap on such social network resources when required. That is, generally speaking, despite the additional demands that may be required of a paid employment, maternal employment was found to have a positive effect on stress management in mothers of pupils with intellectual disability.

These findings are consistent with (Powers, 2003), who found that being in employment acted as buffer and reduced the level of stress among parents of children with intellectual disability. Contrarily, more recently. Ejiri and Matsuzawa (2019) highlighted the desire for paid job among Japanese mothers of children with intellectual disability because of the stress associated with unemployment. The association found between maternal unemployment and perceived stress in the current study also corroborates the work of Ejiri and Matsuzawa (2019) who found that unemployment was associated with poor quality of life and adaptation difficulties in mothers of children with intellectual disability.

4.3.3 Effect of Socioeconomic Status on Management of Stress among Respondents

The result shows that there was no significant main effect of socioeconomic status on management of stress among mothers of pupils with intellectual disability. The finding is inconsistent with that of Ejiri and Matsuzawa (2019) who found an association between lower socioeconomic class and maternal stress in mothers of children with ID. The lack of association between socioeconomic status and management of stress as reported in the current study is also contrary to the report of Powers (2003), who noted that the mothers of pupils with intellectual disability were more likely to be of low socioeconomic status. The lack of association between socioeconomic status and stress management reported herein is also contrary to that of (Olsson and Hwang, 2008) who found an association between socioeconomic disadvantage and maternal distress in mothers of pupils with intellectual disability. In that study, mothers of low socioeconomic status were found to have high level of stress. Usually low socioeconomic characteristics such as inability to meet essential

requirements for life and poverty usually significantly hampers ability to build and sustain social relationship thereby leading to emotional distress (Lorant et al., 2003).

This finding is important given research findings indicating how certain sociodemographic factors influence stress in mothers of pupils with ID. Specifically, SES had received great attention, because it is a strong determinant of income, education, and quality of life. SES also includes parental educational level and values. All these intrinsic components of SES have been shown to be associated with stress among those with low SES (Glasscock, Andersen, Labriola, Rasmussen, & Hansen, 2018). For example, low levels of maternal or paternal educations has been shown to be positively correlated with difficulty in rearing children with ID. These research findings may explain why the SES had no significant effect on stress management among the mother.

Indeed, low levels of maternal or maternal education is often associated with precarious and difficult economic situation, difficult parenting and stress, the level of which is heightened in children with ID. The associations between stress and SES could be regarded as being in the form of a social gradient in health whereby with each increase in social position, such as improved education or higher wages, there is a reduced odds of developing a stress reaction. In other words, as social status increases or improves, the more the individual has reduced stress and healthier, a construct referred to as the status syndrome. This phenomenon has been described by Gallo and Mathews as being due to the roles played by cognitive-emotional factors in the course of life in linking SES with health, in this instance, maternal stress. According to this model, environments that are of low SES are stressful, making those individuals living there have restricted repertoire of reserve capacity that will manage stress, leading increasing likelihood of developing to negative emotions and cognitions. By implication, a person with low SES that is exposed to sufficient exposure to stressful events and adversities for long enough a period may experience depletion of the person's reserve capacity and this erodes the individual's coping ability.

Based on the aforementioned, one wonders why SES will not have a significant effect of maternal stress as demonstrated in the current study. There are several potential explanations to this. One is that the change in the level of stress experienced by mothers of pupils with ID is strictly a measure of the effectiveness of

the treatment given and not due to the interactive or moderating effect of SES.

To corroborate this, the is evidence indicating the adolescent period is the time when social characteristics such as SES develop and are linked to other aspects of life, most especially health (Goodman, McEwen, Dolan, Schafer-Kalkhoff, & Adler, 2016; Sigfusdottir, Kristjansson, Thorlindsson, & Allegrante, 2016). The authors presented analyses highlighting that perceived stress from lower SES families are usually mostly experienced by adolescents. The authors further noted that the association between low SES families and adolescent perceived stress is relevant when parental education was used as the indicator of SES, which was not the case when family income was used. Given that the sample recruited into the current study were between ages 29 years and 65 years, with the majority between ages 31and 50 years, it is justifiable to posit that, SES has little role to play during these age groups according to (Goodman et al., 2016) and is why SES in the current study had no effect on the intervention given in the current study.

To corroborate this, Finkelstein, Kubzansky, Capitman, and Goodman (2017) identified psychological resources from SES mediating the development of stress and found that adolescents of low SES parents exhibited more pessimistic leading to the development of high level of stress. Another reason for higher level of perceived stress in this age group is greater substance use among adolescents. Indeed, low SES in the area of low parental education has been found to be associated with greater psychoactive substance use and more life adversities. Furthermore, psychoactive substance use has been reported to be mediated by stress (Chaplin, Niehaus, & Gonçalves, 2018).

On the contrary and in line with the current study, among a Danish adolescent population, Nielsen, Vinther-Larsen, Nielsen, and Grønbæk (2007) found that there was no clear association between SES and stress. A major drawback in studies on the association between SES and stress is the great difficulty in conceptualizing and measuring SES (Glasscock et al., 2018). There are numerous ways of measuring SES and there is a general lack of consensus of opinion regarding the components of SES. For example, measures such as occupation status, education, income are all constructs contained within each other with a lack of clear-cut boundaries, or they are the same construct presented in numerous ways. The potential explanation for mixed research findings on the association between SES and stress could be the use of different SES

measures believed to measure the same construct. For example, research findings indicate that different measures of SES, e.g. income and education, affect stress via dissimilar pathways, therefore, merging them should not occur (Vliegenthart et al., 2016). For example, the work of Peverill et al. (2021) showed that while income is associated to the presence of psychopathology, parental education was not so also was occupation not associated.

Studies have discovered that the degree to which income correlate with parental education is largely due other variables such as ethnicity. For example, Christiansen, Hansen, Glasscock, and Andersen (2010) in Denmark, found in their research that while parental education correlated with obesity, income was not. These findings suggest that economic capital as depicted by income and cultural capital as represented by parental education are two independent constructs with SES, forcibly combined together. These two independent constructs are now linked to health such as perceived stress as in the present study in various ways: such as low income could make an individual more vulnerable to experience adversities and stressful life events and living in situations, while lower levels of education makes an individual less likely to utilize good health services or receive adequate information that will be useful in influencing the ability to make correct choices or use better coping skills during period of adversities (Glasscock et al., 2018)..

4.3.4 Interactive Effect of Treatment and Maternal Employment on Management of Stress among Participants

Results showed that the interaction effect of treatments and maternal employment status in the management of stress among participants was not significant. Although there was a significant relationship between maternal employment status and stress management in the current study, this relationship was neutralized when these variables interacted with treatments. This suggests that the treatments given were the strongest factors in the association rather than the maternal employment status of the respondents. Considering the findings by Ejiri and Matsuzawa, (2019) that mothers of pupils with ID were not quite as engaged in terms of employment as they wanted to be, it seems quite advantageous that the major influencing factor in the management of stress in these mothers is treatment and not maternal employment.

The issue of employment statuses of mothers of children with ID is a subject of much debate and controversies. Specifically, research reports form the Western countries have demonstrated that these mothers usually are less likely to employed or exhibit active workforce participation when compared with mothers of children without ID (Bourke-Taylor, Howie, and Law, 2011; Brown and Clark, 2017; Ejiri & Matsuzawa, 2017; S. Hope, Pearce, Whitehead, and Law, 2017). In Taiwan, East Asia. Chou, Pu, Kröger, and Fu (2010) found that the rate of employment among caregivers of children living with ID was lower than others of the same age group. In another study, in South Korea, J. K. Lee and Chiang (2018) found that mothers of children with ID had a significantly lower employment rate, 30% versus mothers of children without ID, 60%. Similar reports have been given in studies conducted in Japan. Specifically, when Tanaka (2018) analysed data from about 500 mothers of children with ID, he found an employment rate 42% among working-age mothers, compared with 62% average employment rate in women. In another study, also in Japan, Haruki (2015) found that mothers of children with ID who less than 18 years of age had an employment rate of only 49% compared with the 62% employment rate of mothers of children of the same age group, but without ID.

There are several reasons for this high unemployment rate among mothers caring for children with ID (Bourke-Taylor et al., 2011; Chou et al., 2010; Derigne & Porterfield, 2016; Kuhlthau and Perrin, 2015; Loprest and Davidoff, 2004; Montes & Halterman, 2018). While some researchers reported that mothers or caregivers of children living with ID were more likely to discontinue working or reduce their hours of work (DeRigne, 2016; Hauge et al., 2013; Kuhlthau and Perrin, 2019; Looman, O'Conner-Von, Ferski, and Hildenbrand, 2019). On the other hand, mothers of children living with ID are also more likely to have difficulty in working as employees than those with mothers whose children do not have ID (Kogan et al., 2008; Montes and Halterman, 2018).

Nevertheless, a study in the United States found that factors such as the presence of childcare service, presence of family or social support, and being married were factors that supported mothers' employment in children with ID (Thyen, Kuhlthau, and Perrin, 2019). Another study in Taiwan found that good health status, 'higher educational level and presence of social support system were predictive of being in employment among mothers of children with ID (Chou et al., 2010).

Contrarily, the data presented in the current study indicates that the vast majority of the mothers were in employment. The potential explanation for this is that it has been reported that in developing countries such as Nigeria, in times of adversities or psychological distress, there are numerous sources of social support based on the extended family system, which is one of the major reasons the outcome of mental disorders are better in developing countries than in developed ones (Lasebikan et al., 2012). Based on this, it is unlikely that employment status will be a source of distress for mother of pupils with ID, justifying the lack of significant association between maternal employment and stress management in the mothers.

4.3.5 Interaction between Treatment and Socioeconomic Status on Management of Stress among Participants

The results presented in Table 4.12 showed that there was no significant interaction effect of treatment and socioeconomic status on the management of stress among mothers of pupils with ID. This is may be adduced to the absence of a main effect of socioeconomic status on the management of stress reported in the current study. These findings suggest that the effectiveness of the treatment in the management of stress among the participants were not related to the participants' socioeconomic status.

This is similar to lack of significant main effect of SES on treatment earlier reported. This finding is also contrary to that of Ejiri and Matsuzawa (2019) and Olsson and Hwang (2008) who found that lower SES was associated with stress in mothers of children with ID. The major pathway in the development of stress among individuals of low socioeconomic status is multifactorial of which poverty and difficulty in meeting basic life needs predominate, making it difficult to establish meaningful social relationship, thereby leading to emotional problems and stress (Lorant et al., 2003).

As also reported earlier for absence of significant association during main effect, the lack of significant association during the interactive effects could be adduced to the complex nature of the construct of SES. SES means different things to different researchers (Darin-Mattsson, Fors, and Kåreholt, 2017). Given, that the construct of SES centres around educational level, social class, or income, these three factors themselves are complex to classify (Darin-Mattsson et al., 2017).

Since socioeconomic status is complex and multidimensional in nature and characteristics, consisting of objective areas such as income and education. Socioeconomic status comprises of subjective ratings by people, placing people in different social ladder, making it more complex, with each factor confounding for others in its relationship with stress (Navarro-Carrillo, Alonso-Ferres, Moya, and Valor-Segura, 2020).

Studies have shown that the differing components of SES have differing relationship with stress (Glasscock et al., 2018). As highlighted above, using adolescent period when social characteristics such as SES develop and linking this to health, in this instance stress, while parental education, a component of SES has been reportedly linked with stress, family income another component of SES is not (Goodman et al., 2016; Sigfusdottir et al., 2016). This may be the reason why SES was not associated with stress in the current study. In studies where SES has been found to be associated with stress, this could be due to "status syndrome" where high level of education or high wages leads to reduced stress level, a phenomenon mediated by cognitive-emotional factors, where low SES is associated with a depletion of immunological and psychological reserve leading to stress.

On the other hand, the research evidence indicating the adolescent period is very critical to the development of social characteristics such as SES (Goodman et al., 2016; Sigfusdottir et al., 2016) is crucial to the understanding of the lack of significant interaction effect of SES on stress management as reported in the present study for the reason mentioned when the effect of SES on main effect of stress was discussed. This is because the majority of the sample drawn for the current study are between ages 31 and 50 years, a period when an individual would have developed sufficient resilience and coping skills to being in the low SES status (Goodman et al., 2016).

As identified by Finkelstein et al. (2017), another reason low SES may not be associated with stress in the older age group is their lower tendency of substance use. This is because psychoactive substance use has been reported to be mediated by stress and may be precipitated by stress or lead to significant stress-related disorders (Chaplin et al., 2018). As also mentioned above, the ways by which SES affects stress is contextually different in the different components of SES leading to lack of clear association as some components may be associated with unemployment and some being in employment. This was the finding of Nielsen et al. (2007) among mothers of

children with ID in a study in Denmark. This finding was corroborated by a more recent research finding by Peverill et al. (2021) who discovered that income was associated with psychological distress in the mothers of children with ID, while parental education was not. Some other studies did further noted that the association between income and parental education was due the effect of another demographic variable, ethnicity.

These findings have made some social scientists suggest not to merge these components together in studies to avoid obtaining spurious results (Vliegenthart et al., 2016). Thus, the results of the current study indicate that the reduction in stress was the effect of the psychological intervention and was not mediated via SES. Specifically, cognitive restructuring therapy has been reported to be the most effective therapy in the treatment of anxiety and stress-related disorders (Hofmann, 2007).

4.3.6 Interactive Effect of Maternal Employment and Socioeconomic Status on Management of Stress among Mothers of Pupils with Intellectual Disability

The results showed that there was significant interaction effect of maternal employment and socioeconomic status on management of stress among mothers of pupils with ID. Maternal employment had significant main effect on the management of stress among mothers of pupils with ID, however, when it interacted with socio-economic status there was significant interaction effect. This finding is somewhat expected since maternal employment is a component of socioeconomic status. Usually, SES analysis includes the household income, earners' education, and occupation.

This implies that although socioeconomic status consists of several indices such as housing, occupation, residential area and extent of furnishing a house, there is often a direct relationship between the socioeconomic status and maternal employment status of an individual. Hence, the interaction between maternal employment and socioeconomic status on management of stress in mothers of pupils with ID. The interaction between employment and SES in the management of stress according to the present study could be adduced to the effect of occupational stress. The issue of workplace stress became a public health issue in the past four decades, when being in employment was noted to be associated with stress (Quick &

Henderson, 2016). Employment-related stress is a major cause of cardiovascular disease and other physical and psychological problems in both men and women and its development can be divided into three stages, the risk factors, the stress response and the consequences such as psychological or physical health consequences.

A broad range of workplace factors could lead to the stress response. Usually, work-family conflicts which present as family to work and work to family have been found to be associated with the emergence of stress (Hammer, Kossek, Anger, Bodner, and Zimmerman, 2011).

Quick and Henderson (2016) noted that workload, job insecurity, career progression and insecurity were four major sources of stress in workplace of which factors such as role conflicts, physical demands such as ergonometric nature of the workplace and interpersonal issues such as person to person conflicts and leadership style mediate. The fight or flight response to stress though occurs in both genders, Taylor et al. (2000) found that females tend to exhibit a behavioral response to stress that can be described as "tend and befriend" response. This response has been described as life-giving because it makes women outpace men in terms of performance, when subjected to stressful life events which may account for why employment had a significant interaction effect on stress management as found in the present study.

Despite the observation that females exhibit better behavioural response to stress, Quick and Henderson (2016) emphasized that it is important to consider individual vulnerability factors of which one is lower SES. Low SES exposes an individual to broad array of disease conditions and death. Another vulnerability factor is a coronary personality characterized by competitiveness, deep urgency and quantification of success and the third being ostracism. These are intrinsic factors that may lead to stress while in employment.

4.3.7 Effect of the Interaction between Maternal Employment and Socioeconomic Status on Management of Stress among Participants

The results showed that there was no significant interaction effect of treatment, maternal employment and socioeconomic status on management of stress among mothers of pupils with intellectual disability in Ibadan. This implies that there was no significant interaction effect of treatment, maternal employment and

socioeconomic status on management of stress among participants. The finding negates the reports that considered the possibility of maternal stress in a child with intellectual disability being mediated via unemployment or low socioeconomic class (Powers, 2003).

Although maternal employment had significant main effect on the management of stress among mothers of pupils with ID, however, when it interacted with socio-economic status there was significant interaction effect. In addition to the confounding effect of maternal employment on SES, with maternal employment being a component of SES. This could be because the main effect of maternal employment and the interactive effect of both interaction effect of maternal employment and SES had small effect sizes, 0.033 and 0.107 respectively, with the main effect of treatment being 0.0521, effect size or Partial Eta Square ($\eta 2$) being a measure of magnitude of an intervention. Despite these significant associations, the effect size of treatment given had the highest magnitude. 000 justifying why there was no significant association in the interactive effect of treatment, maternal employment and SES.

According to Cohen, an effect size of 0.1 is regarded as small, 0.3 as moderate and 0.5 and above as high. By implication, the treatment given was responsible for the significant reduction in the level of stress with little contribution from SES or maternal employment either by main effect or interaction effect.

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter presented the summary of the research, conclusion and recommendations. Limitation of the study, contribution to knowledge and suggestion for further studies are presented in this chapter.

5.1 Summary

In this study, the effect of cognitive restructuring and reality therapist on stress management among mothers of pupils with ID was compared with a control group who received no treatment. The moderating effect of maternal employment and socioeconomic status was also assessed. The methodology was a quasi-experimental study-design which adopted a pretest-posttest control group. A multistage sampling technique was used to select 60 participants from three schools in Ibadan, Nigeria. The participants were assigned to three groups (two experimental and one control groups). This study was borne out of the need to empirically investigate effective techniques to manage stress among mothers of children with ID. Data were obtained at baseline and after treatment using both self-designed and standardized scales were subjected to analysis using inferential statistics.

Seven hypotheses were formulated and tested. Three of the hypotheses were accepted, while four were rejected. The findings revealed that treatments (cognitive restructuring and reality therapy) were effective in stress management among the participants. The interaction effect of maternal employment and socioeconomic were significant in stress management. Parental socio-economic status which was a moderating variable had insignificant main effect on stress management among the participants. The interaction of treatments and socioeconomic status, treatments and maternal employment on the management of stress was not significant.

The implication of this is that treatments were effective in the management of stress among mothers of pupils with ID. Although maternal employment

independently was associated with maternal stress in the participants, it had no interactive effects on stress management; neither did socioeconomic status have any interactive effect on stress management among mothers of pupils with ID.

5.2 Implications of Findings

The results of this study have several implications. This study has demonstrated that although both cognitive restructuring therapy and reality therapy were effective in stress management among mothers of pupils with intellectual disability, cognitive restructuring therapy was more effective than reality therapy. This implies that mothers of pupils with intellectual disability would better cope and manage their stress levels if subjected to either of these therapies, however, cognitive restructuring therapy is more potent.

The results of this study showed that there was a significant main effect of maternal employment on management of stress among participants. This implies that providing gainful employment for mothers of pupils with intellectual disability would positively influence their management of stress. The absence of significant main effect of socioeconomic status on management of stress among mothers of pupils with intellectual disability and the presence of significant interaction effect of maternal employment and socioeconomic status on management of stress among mothers of pupils with intellectual disability as shown by this study implies that attempting to raise the socioeconomic status of these mothers independent of gainful employment would not positively influence stress management among them.

Counsellors as advisers can utilise these therapies in the management of stress of among mothers of pupils with intellectual disability to reduce stress. With the observation that the interaction effect of treatment and maternal employment status in the management of stress among participants was not significant, the relationship between maternal employment status and stress management which was significant was neutralized when these variable interacted with treatment, suggesting that the treatment given were the strongest factors in the association rather than the maternal employment status of the respondents. This implies that the said therapies are applicable to mothers of pupils with ID irrespective of their employment status.

Also, there was no significant interaction effect of treatment and socioeconomic status on the management of stress among mother of pupils with

intellectual disability. These findings suggest that the effectiveness of the treatment in the management of stress among the participants were not related to the participants' socioeconomic status. This implies that the therapies are applicable to mothers of pupils with ID irrespective of their socioeconomic status. The study will enlighten mothers of pupils with ID in making use of these therapies in reducing the stress experienced in caring for their special children with intellectual disability.

5.3 Conclusion

In this research, the impact of cognitive restructuring and reality therapies on stress management among mothers of pupils with ID in Ibadan, Nigeria was evaluated. This was done to establish which of the two therapies is more effective. Cognitive restructuring or reality therapies in the reduction of stress of mothers of pupils with intellectual disability. Although, both treatments were found to be effective in addressing maternal stress, however, cognitive restructuring therapy proved to be the more effective of the two intervention therapies. The effect of the two moderating variables were also investigated and discovered that maternal employment has significant effect on the stress among the participants while socioeconomic status did not have any significant effect on the stress among the participants. So, by implication, the socioeconomic status of the mother has little or no effect on whether the mother is employed or not.

The study found that the interaction effect of treatment and socioeconomic status on management of stress among mothers of pupils with intellectual disability was not significant. This implies that the treatment (cognitive restructuring and reality therapies) and the socioeconomic status (high SES and low SES) have no effect on the management of stress among mothers of pupils with intellectual disability, even though the maternal employment as part of socioeconomic status was significant, the treatment when compared with other components of socioeconomic status had no interaction effect. It was also revealed in the study that the interaction effect of treatments, maternal employment and socioeconomic status on maternal stress was not significant.

5.4 Recommendations

Having observed the effectiveness of the cognitive restructuring and reality therapies in the management of stress among mothers of pupils with intellectual disability, it is recommended that a constant meeting point be organized where mothers of pupils with ID in these schools can meet to undergo these therapies consistently. More so, in order not to break the networking effect of the therapies on mothers who participated in the cognitive restructuring and reality therapies programmes, there should be continuous follow-up to support and boost their coping strategies. It is equally recommended that teachers and counsellors should go for in service trainings, seminars and workshops to enrich their knowledge on these psychotherapies that will enhance the parents' psychology and promote their parental quality. Better parental quality on the part of the parents would in turn positively influence the pupils, making them more productive in the society.

Stress management workshops should be organized in the schools for pupils with intellectual disability from time to time and cognitive restructuring therapy and reality therapies training programmes should be implemented to help mothers improve their mental health.

Though the mothers tend to experience more stress compared to the fathers in the process of caring for the pupils with intellectual disability, some fathers are not left out of the stress. The researcher therefore suggests that both parents should be involved in the intervention programmes. School guardians and counsellors should make use of cognitive restructuring and reality therapies to enhance parent self-esteem and lift their spirits. Policy makers and curriculum planners should include in the curriculum the use of cognitive restructuring and Reality therapies in the management of stress among parents of pupils with intellectual disability. Government should provide financial support to assist the school to implement the policy recommended. It is recommended that further research centred on the management of stress among caregivers of pupils with intellectual disability be carried out so as to make more data available. This would make more data available so as to further understand the stress undergone by these caregivers in diverse locations and on several levels; and consequently, better ways to manage their stress can be developed.

5.5 What the Study Contributes to Knowledge

This research has added to existing body of literature in the following ways:

1. It has established the efficacy and efficiency of cognitive restructuring in alleviating stress among mothers of pupils with intellectual disability.
2. It has shown reality therapy as an effective way of managing stress in mothers of pupils with intellectual disability.
3. It also identified that cognitive restructuring therapy was a more effective method than reality therapy in stress management among mothers of pupils with intellectual disability.
4. The study had been able to discover that the treatment did not significantly interact with socioeconomic status in management of stress among mothers of pupils with intellectual disability.
5. The study was able to reveal that the treatment significantly interacted with maternal employment in management of stress among mothers of pupils with intellectual disability. This means that unlike socioeconomic status, maternal employment had relevant contribution on stress management of mothers of pupils with intellectual disability.
6. The study was able to reveal that maternal employment significantly interacted with socioeconomic status in stress management among mothers of pupils with intellectual disability.
7. The study also contributed to knowledge by revealing the treatment given in both experimental groups did not significantly interact with maternal employment and socioeconomic status in management of stress among mothers of pupils with intellectual disability

Nevertheless, the present research had proffered two effective ways of managing their stress viz cognitive restructuring and reality therapies. The study also added to the body of knowledge in that it identified maternal employment as a variable that positively influences stress management among the mothers and socioeconomic status as a variable that has no effect on the management of stress among them.

5.6 Limitations of the study

A major limitation of the study is that only pupils with mild ID were the primary subjects whose mothers were interviewed. If the scope of the study had been extended to mothers of pupils those with more severe forms of ID, it is possible that the results would have been more informative. The scope of the sample selected was mothers of pupils with mild intellectual disability in Ibadan, Nigeria. It would have been more desirable to expand the scope to mothers of pupils with more severe ID.

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APPENDIX I

TREATMENT PACKAGE FOR COGNITIVE RESTRUCTURING

Experimental Group 1- Cognitive Restructuring Therapy

Session 1

Topic: Introduction

Objectives

i) Introduction of selves by both the counsellor and the parents;

ii) Explain the mission of the counsellor to the parents.

iii) Establish a counselling relationship with the parents

Activity:

Step 1: Introduction and Pretest administration

I. The counsellor introduced herself to the parents

II. The counsellor introduced the mission to the parents what relationship they are both to enter, which is counsellor/parents relationship

III. The counsellor explained to the parents the counsellor‘s responsibilities and that of the parents for the course of the treatment package.

IV. The counsellor then emphasized the importance of developing a collaborative relationship for the success of the counselling process.

V. The counsellor then asked the parents to respond to those points by accepting the commencement of the process or otherwise

VI. The counsellor then requested the parents to ask any questions on what has been discussed in the session.

VII. The counsellor then informed the parents about coming that the session has ended.

VIII. The researcher appreciated the participants for attending and gave transport package as

a. incentives.

Session 2

Topic: The Concept of Stress

Objectives: By the time the session ends, the participants will be able to:

I. Give an explanation of what stress means with regard to a child with ID.

II. discuss the effects of stress on their lives.

Activity:

Step 1

I. The participants were welcome warmly.

II. The researcher explained the meaning of stress, as pertaining to a child with ID

Stress is the individual's experience to emotional tension. Parents cannot do without experiencing stress over their children. The stress experienced by mother starts during pregnancy, continues during labour and during child rearing. During the early childhood period, both parents experience different types of stress in order to care for their children and also rear them. Although the stress experienced by mother is different from the one experienced by father, both parents are possible victims of stress. In mothers, sources of stress include breast feeding, nursing the child at night and following up the developmental progress of the child. However, in fathers, the stress includes having to provide for the family, instilling discipline in the older children and ensuring that the family dynamic remain intact. However, when the ability to cope is stretched beyond elastic limit, the parent develops stress which again becomes deleterious to the children.

Parenting a child with ID will even be more stressful, as it usually affects the dynamics of the entire family. Specifically, the issue of intellectual disability in pupils is serious because families with these pupils feel that their expectation for such child might not be achieved. Consequently, the birth of the child with ID might lead to severe family disruption. It also affects the social interaction with friends, family, neighbours and school. The stress experienced by parents, who respond to their children's disability is ongoing, running through childhood and later into adulthood, because many of these pupils have behavioural issues such as head banging, autistic disorder, sleep disorders and Attention Deficit Hyperactivity Disorder (ADHD), the effect of such condition can increase the level of parental stress.

Parents can however learn to apply cognitive restructuring therapy so that negative thoughts and experiences underlying the stress can be replaced with more logical and adaptive thinking.

Step 2: The researcher entertains questions and contributions from the participants.

`The home work will be that participants will require to explain the meaning of stress, as pertaining to having a child with intellectual disability.

Step 3: Closing Remarks.

I. Participants were applauded for being cooperative.
II. Reminders were sent to participants regarding their homework.
III. The fixture of the following session was communicated to participants

Session 3

Topic: The Cognitive Restructuring Therapy

Objectives: Participants had developed skills at the end of the session in the following areas to:

I. explain the meaning of Cognitive Restructuring Therapy
II. point out its relevance to the management of stress.

Step 1: The concept of cognitive restructuring therapy.

Cognitive restructuring therapy is mechanism of change in the schema of thinking which is found in cognitive therapy (CT). In cognitive therapy, a structured approach is used to make the client identify his distorted thoughts, assess and unwind the faulty thoughts that are responsible for the psychological distress.

The key ingredients in cognitive therapy is the ability to identify the faulty thoughts, monitor these thoughts by self, ability to test the reality of the matter, identify external factors responsible, ability to gather evidence about the issue causing the psychological disturbance, examine its consequences, identify the cost/benefit of changing the thoughts, generating alternatives, and behavioural assignments that leads to change in the schema of thinking.

Cognitive restructuring therapy (CRT) focuses on identification of maladaptive thoughts that had dominated the schema of thinking of an individual, exploration of the thoughts, followed by substitution of the thoughts with those thoughts that are positive and that will oppose the maladaptive negative thoughts.

Step 2: Identify the different therapeutic steps of cognitive restructuring (CR).

The different therapeutic steps of CR are:

I. Automatic thoughts are identified. These maladaptive ego-dystonic thoughts and views about self, other and the external world.

II. One will develop rational corollary to the maladaptive thoughts

III. Maladaptive thoughts are rebuffed.

a. In CR, we use (B) to denote our thoughts (B), (A) denotes the context in which the thoughts develop, while (C) denotes emotional consequences of A and B. (D) denotes our ability critically appraise our thoughts, whether they have been wrong and its analysis, (E) denotes rephrasing and restating our thoughts.

Step 3: Its relevance to the management of stress

Cognitive restructuring therapy has been used to help individuals experiencing a variety of anxiety disorders when utilizing cognitive restructuring therapy, the emphasis is on two central notions:

I. Thoughts have effects on emotion and behaviour.

II. Maladaptive beliefs are strongly linked with psychological disorders.

The rationale used in cognitive restructuring therapy attempts to strengthen the client's belief that (1) Talking to self can influence stress and (2) most especially, thoughts that defeat one or negative self-statement can cause additional stress. It has been used to treat a wide range of conditions

Step 4: Closing Remark

I. The researcher appreciated participants for their cooperation.

II. The next session was scheduled.

Session 4

Topic: Identification of problematic cognitions known as "automatic thoughts" are maladaptive.

Objectives: At the end of the session, the participants were able to:

I. Identify the types of automatic thoughts.

II. make a list of negative self-talks

Activity:

Step 1: Identification of automatic thoughts.

I. This is to establish the components of negative thoughts. Types of automatic thoughts:

II. Thoughts that evaluates self.

III. Thoughts that evaluate others.

IV. Thoughts that evaluates other with whom one has a relationship.
V. Thoughts regarding methods of coping and plans regarding how to behave.
VI. Thoughts about how to avoid the source of stress.
VII. Other thoughts not listed above.

List the way you naturally react with automatic thoughts about your child when you are under stress. In cognitive restructuring, firstly, we use (B) to denote our thoughts (B), (A) denotes the context in which the thoughts develop, while (C) denotes emotional consequences of A .

These should be listed in pencil and paper.

Step 2: Closing Remarks.

I. Participants were commended for their commitment.
II. An assignment was given to the participants to write what "identification of automatic thoughts" mean.
III. The researcher asked the participants to raise questions and contribute.
IV. The next meeting was scheduled.

Session 5

Topic: Identification of irrational beliefs.

Objective(s): At the end of the session, the participants will be able to identify irrational beliefs.

Activity:

Step 1:

I. Participants were welcome warmly.
II. The home work of the participants was assessed.
III. The researcher also explained the identification of irrational beliefs to the participants.

Step 2: The cognitive distortions in the automatic thoughts should be identified

In CR, maladaptive cognitive distortions are reversed by putting the unconscious acceptance of automatic "unreasonable thought" and encouraging a well as accepting a positive schema of reasoning. CR teaches one to reject the repetitive maladaptive thoughts and acceptance a more adaptive schema.

The content and context of these cognitive distortions usually consist of series of negative, ill-defined ideas, preoccupations, beliefs, attitudes and ridiculous

assumptions about self, both at present and in future. At times the maladaptive schemas may be extended to personal achievement or external world

What are the triggers for these negative thoughts about your child?

Do you have a Yes or No answer regarding certain circumstances about your child?

Do you feel angry or depressed when stressed?

Critically evaluate the negative thoughts you have regarding your child and record, under the disputing column or field.

When thoughts are being disputed, the following questions could be helpful:

i. Do I have correct thoughts about my child?
ii. Do I have objective evidence to corroborate my opinion?
iii. Which options do I have at my disposal?
iv. Do I underestimate my cope ability with regard to my child's condition?
v. What could the worst-case scenario be if I am correct about my view of my child's condition?
vi. Are there possible antidotes?
vii. What is the worst implication of this on me or my family?

Step 3: Closing Remarks.

I. The participants were commended for their commitment.
II. The researcher reminded them to do their assignment.
III. As an assignment, the participants were asked to explain what irrational beliefs mean.

Session 6

Topic: Rational disputation of automatic thoughts.

Objectives: By the end of the present session, the following objectives should have been met:

I. The participants will be able to explain the meaning of rational disputation of automatic thoughts.
II. They will also able to develop coping statements.

Activity

Step 1

The participants were welcome and their assignment assessed.

Step 2

Rational disputation of automatic thoughts is a way of developing coping statement that will counteract the previous distorted beliefs so that they are more realigned and more reasonable distorted. A way of doing this is by creating 2 columns, the distorted column and the reasonable column. The distorted beliefs are written first, while the rebuffed is written beside it, in the reasonable column. The participants are then instructed to identify the events that led to the automatic thoughts and then encouraged to look at both columns and find a balanced view.

Step 3: Six ways to change our thinking:

i. By practicing noticing when one is having a cognitive distortion that is, negative thoughts.
ii. Tracking the accuracy of the thought
iii. Behaviourally testing the thoughts
iv. Evaluating the evidence for against the thought
v. By mindfulness meditation
vi. Self-compassion

Step 4: Closing Remarks

As an assignment, participants were asked to identify and list ways of changing our thinking

i. Participants were applauded for their commitment and were reminded to do their assignments before following session.
ii. The next session was scheduled.

Session 7

Topic: Development of a rational rebuttal to the automatic thoughts

Objectives: At the end of the session, the following will be attained:

i. The participants will be able to explain the rational rebuttal to the automatic thoughts

Activity

Step 1

The researcher appreciated and reviewed the home assignments of the participants.

Step 2

The researcher explained the development of rational rebuttal to the automatic thoughts as way of practising coping statements. The participants were asked to compose a positive statement to replace the negative thoughts.

Step 3: Closing Remarks

I. The participants were given homework to write out positive statements to replace their negative thoughts.
II. The researcher appreciated the commitment of the participants
III. The participants encouraged to do their assignment before next session.
IV. The next session was scheduled to the participants.

Session 8

Topic: Reciting statements on the process of **c**oping Statement and summarize all previously learnt skills, as well as post-experiment test.

Objectives: By the time the session ends, the participants would have acquired the following skills:

I. Come up with a summary of what they had learnt as well as the skills acquired in the course of the programme.
II. Have a good post-test performance.

Activity

Step 1

The participants went through the practice of the coping statements, to see if the anxieties and fears were still there. They practised replacement of thoughts again and went through the six ways of changing thinking again.

Step 2: Closing Remarks

I. The researcher applauded the participants for their cooperation.
II. The participants were encouraged to practise more at their leisure time
III. The treatment programme was highly interactive. The researcher had a quick review of previous lessons, assignments, and commend and appreciate the

participants for their cooperation throughout the session and administer the posttest to them.

IV. The participants were urged to practice and use very well the various skills learnt by them in the course of the intervention programme.

APPENDIX II

TREATMENT PACKAGE FOR REALITY THERAPY

TREATMENT GROUP ONE

REALITY THERAPY PACKAGE

Session 1: General introduction

I. The researcher introduced herself and the mission of the research.
II. She welcomed participants to the commencement treatment session.
III. Fixing of date, venue, rules and regulation that would guide the session.
IV. Administration of test instrument that is pretest and marking.
V. Grouping of participants into treatment groups, with consideration for conveniences and interest of participants.
VI. The researcher thanked participants for coming and gave transport package.

Session 2: Reasons why having a child with intellectual disability causes stress.

Objectives:

I. To properly explain to the parents what stress is.
II. To introduce to the parents what counselling treatment can do to change behaviour;
III. To introduce reality therapy counselling technique to the participants.

Activity:

Step 1

I. The counsellor welcomed the parents to the second session of the programme;
II. The counsellor introduced to the parents what relationship they were about to enter, which is counsellor/participant relationship;
III. The counsellor explained to the parents the counsellor's responsibilities while counselling sessions last;
IV. The counsellor also explained to the parents their own responsibilities For example. punctuality, follow counsellor's instructions, indicate when an event makes you fear, and indicate when fear reduces or disappears and so on.
V. The counsellor then explained to the parents the importance of adopting a collaborative relationship for the success of the sessions.
VI. The counsellor then asked the parents to respond at these points by accepting the commencement of the process or otherwise;

VII. The counsellor then explained to the parents what reality therapy technique is and how it can be used to reduce or eradicate stress.

VIII. The goal for the treatment was then be set collectively between the counsellor and the parents.

IX. The counsellor gave the parents homework which formed part of the session to come. They are to list ten stress factors in raising pupils with intellectual disability.

Step2: Closing Remark

Participants will be thanked for their cooperation and served light refreshment.

Session 3: Understanding of stress associated with having a child with ID and the desire to manage it appropriately.

Objective: At the end of the session participant should be able to display to some extents an understanding of the stress associated with having a child with ID and the desire to manage it appropriately.

Activity:

The researcher explained to the participants that stress is the body's method of reacting to a challenge. Stress is an inevitable aspect of parenting and it begins in pregnancy, or even earlier for people with reproductive issues. By the time a child is born, parents are not immune from the stress irrespective of the parenting experience. Parenting a child with ID will even be more stressful, as it usually affects the dynamics and interaction among family members; therefore parents can learn to apply the principle of reality therapy to reduce the stress involved in managing pupils with ID.

The researcher will discuss the process of reality therapy

Involvement

Similar to other forms of therapy, the important part of involvement is creating a relationship with the client. This is the panacea to other segments of the therapy and is fundamental to the overall success. This can also be described as creating meaningful support for the client. In some extreme circumstances, the researcher may remain only person who still remains glued to the participant, requiring that the researchers will need to exhibit more patience with the client. In other circumstances, the social network of the client is still intact and what the researcher just requires is to use more

positive approach for the client.

Present behaviour and its evaluation

The researcher focused on the participants on present behaviour/ believes rather than past experiences. The researcher asked the participant to assess his or her present behaviour to managing stress associated with having a child with ID. In the training, the participant was asked to examine the consequences of stress on their lives and fashion out frantic and frankly moral ways to live their lives.

Planning possible behaviour

The participants are implored to plan some behaviour that is likely to be more beneficial at enhancing their confidence so as to combat the stress consequent upon having a child with ID. At this point, the researcher requires to suggest or prompt the client, however, the plan is expected to originate from the client/participant. It is crucial that a graded is approach is used, with the initial steps likely to make the client certainly succeed. This develops confidence in the client. In this training case, the participant's issue is the fallout of having a child with ID and since the issue is unchangeable, the researcher had to focus on things the participant can do unilaterally.

Commitment to the Plan

The participants must be committed to implement the plan and should not deceive themselves by trying to impress the researcher by doing things for them and not themselves. Therefore, commitment to themselves is crucial for themselves for the success of the therapy.

Principles

The participants avoided ruminating over past events and focused on the present. Through this, the past unpleasant thoughts are repressed because they are source of the unpleasant current problems. The client was preoccupied with the unpleasant past experiences, leading to cognitive distortion, therefore, the researcher completely refused discussing those previous thoughts and preoccupation with the client, since these were the maladaptive ways used by him that led to stress. The client is expected to have a holistic view of behaviour, meaning that the counselee should directly-act

and think positively about the present and not the past. Things that the counselee cannot do directly should be given less time because an assistance will be required which may not be reliable and this may change or affect the client emotionally or physiologically. The researcher employed empathy and did not criticize, blame or complain about the counselees. These techniques made the clients learn avoided the previous unhealthy ways of thinking and behaving.

Focus on specifics.

The researcher found out as soon as possible the extent of distress experienced by the participants and focus on helping them finds a new approach to dealing with stress. The researcher helped client prepare certain helpful guidelines to dealing with specific stressors and ensure the entire guidelines are followed up and evaluated. The researcher suggested plans and other possible options. A plan is always open to revision or rejection by the participant. The researcher was patient and supportive but keep focusing on the stressors.

The participants' understanding of stress associated with having a child with intellectual disability was reviewed and discussed and they were allowed to express their reactions to stress and the power or impact of self-esteem were discussed.

Their understanding of the subject discussed was ascertained.

A short-written test was given to ensure this.

Closing Remark:

The participants were appreciated for their cooperation and light refreshment were served.

Session 4: Core principles and benefits of reality therapy in stress management.

Objective: By the time the session ends, mothers are expected to understand the core principle and benefits of reality counselling in managing stress associated with having a child with ID.

Activity:

Step1:

Training on core principles of reality counselling therapy was carried out.

Core ideas of Reality Therapy

Develop an agenda of what to be done

Very crucial here is that the participant requires carry out a self-assessment. This is very important because the participant requires to understand that a change is required and feasible. The counsellor helped the participant to get a feasible agenda to achieve a reasonable goal. It must be the participant's plan, not the counsellor's. This is to ensure that implementation will not be difficult for the participant. For example:

Although, it is tough to for you to make your wife smile at you following an argument, you may initiate it by smiling at her first. Although it is difficult to make your child greet you first early in the morning because you beat him the previous night, but you could greet him first. In reality therapy, the emphasis is that people can be empowered by focusing on those activities that are directly under their control and abandoning those things that require someone else's support.

Behaviour

In reality therapy, behaviour has four domains. For example, behaviour is based on thinking, because one cannot behave without having a pre-planned thought of what one wants to do. Doing something also requires an action. Therefore, action is also a component of behaviour. Also, behaviour is based on feeling, that is, one behaves based on the feeling one has for a particular situation. Finally, physiological activities precede or follow behaviour. That is why the heart rate and the respiratory rate increase following a frightful event. While we change our thoughts or thinking with ease, this is not the case with our emotions. However, when we focus on what we can achieve on our own with little or no external influence, the emotion is kept stable.

Control

Reality therapy focuses on control of self and non-control of others. For example, a participant wants to hold a zoom meeting at 8 pm, wants to attend to a friend at 8 pm and also wants to clean the room at 8pm. It is the participant who will have to reschedule his activities in a way that he will be able to do those three things that day. He should expect the zoom meeting to change based on somebody else's recommendation. By implication, the outcome of a situation is in the hand of the victim.

Focus on the present.

Unlike the usual psychoanalytic psychotherapy that dwells on the past, reality therapy emphasizes today and tomorrow, that is the present and the future. This is because it is the way we currently feel that we will use to plan for tomorrow.

Step 2

I. Summary of the reasons for the application of reality counselling therapy as contained in the literature review on managing stress was discussed.
II. Participants were be allowed to ask question.
III. Assignment was given on what is their understanding of reality counselling therapy in reducing fear of negative evaluation was reviewed.

Step 3: Closing Remark.

Participants were appreciated for their dedication and served refreshment.

Session 5: How to evaluate stress

Objective: It is expected that participants would be capable of handling stress associated with having a child with ID at the end of the session.

Activity

Step 1

Review of the assignment was done and participants were allowed to express their own ways of managing stress.

The essence of being realistic about stress was explained.

Their cooperation since the beginning of this treatment was acknowledged and appreciated.

Step 2: Closing Remark.

Take home gifts were given to all the participants.

Light refreshment was served.

Session 6: Learning to challenge unhelpful thoughts.

It is expected that participants would be capable of handling stress by their application of principles of reality counselling therapy to combat unhelpful thoughts.

Activity

Step 1

A crucial way of overcoming stress is to learn not to accommodate unreasonable thoughts. The tendency is for one to overestimate a fearful situation and underestimate one's coping ability.

Usually, the triggers that precipitate fears are unhelpful and maladaptive thoughts. Perhaps, one should attempt testing this by noting these maladaptive ways of thinking. They are usually one of he following:

I. Predicting the future: For example," Everybody is failing the exam"," The whole world will collapse"," I will be inside the car when it explodes"

II. Overgeneralization: " I collapsed once when I heard the loud bang. There is never a way I won't collapse if I hear such loud noise again"," That goat sneezed at me. All goats should be avoided",

III. Catastrophizing: The chief examiner said, the exam was bad. I am going to fail. My son coughed. Maybe it is Covid 19 infection. I will definitely be affected!

After identifying one's maladaptive thoughts, one should access them using the following prototype:

Negative thought: Everybody is failing the exam","

What is the evidence against this?

I. "I could see some people went to check the results of the exam and smiled after checking the results"

II. "Although it is rare to get a distinction in the exam, people rarely fail it"

III. "My score in the course work was 58 out of 60 and course work carries 40% of the final exam"

IV. "I am the best student in the class and the examiner still smiled at me after the results came out"

Do you have any control over the marks if you fail?

I. "I suspect scoring 58 out of 60 has made me pass since the course work carries 40 of the final marks"

Is your thinking correct?

I. "Yes, I can predict the future, as there is no evidence that anybody will get an F."

What are your comments to someone else who thinks like you do?

"What I will say is that although getting an A in the exam is not likely, but you cannot get an F."

Approach

Reality therapy is centred on five basic needs which are:

Survival: Having it in mind that you will not die and you will provide sufficiently for your needs.

Freedom: Get yourself sufficiently occupied to ensure your freedom in all spheres of your life.

Fun: Make yourself happy, do your work effectively, efficiently and avoid laziness. Refuse to depend on anybody for fund if your health is able.

An assignment on their understanding of the impact of the treatment package on their lives was reviewed.

Closing remark

The participants were commended for their cooperation since then beginning of the sessions. Light refreshment was served and transport fare was given.

Session VII: Managing Fears

Objective: It is expected that all other things being equal the participants need to adapt the principles of reality counselling therapy to their fear of negative evaluation behaviour.

Activities:

Do not Avoid the Anxiety Provoking Situation

The tendency is to avoid the anxiety provoking situation. However, the best way to tackle anxiety is not by avoiding it. Although avoidance brings a temporary relief, it prevents one from learning that the anxiety provoking situation is not as bad as it was thought. Avoiding prevents one from developing a proper coping method to

face the situation. This makes the anxiety provoking situation to grow disproportionately until it overwhelms the person, making the person subsequently avoid the situation and may make the person house bound.

Exposure: Systematically and Continuously Face your Fears

The best way to handle fear is by continuously expose oneself to the situation. This graded exposure makes one learn the process of overcoming fear until the whole situation is put under control.

Continuous exposure makes you realise that it is not as bad as thought and this builds one's confidence with time. The approach could be helpful:

Climbing the "anxiety ladder"

If in the past you had been exposed and the anxiety still remains, perhaps, you started with too high an anxiety provoking situation. The rule of thumb is that you should start with a simple task and increase it systematically until your confidence is built and coping skills developed. This could be termed as systematic desensitization.

Facing a fear of a crowd: A simple fear ladder.

I. **Step 1:** Look for pictures showing a crowd and group of people.

II. **Step 2:** Take time watching a film with crowd and people in it.

III. **Step 3:** Look at a speaker addressing a group teacher, pastor, imam and so on.

IV. **Step 4:** Stand five feet away from a crowd.

V. **Step 5:** Stand beside a speaker. Teacher

VI. **Step 6:** Greet the teacher.

VII. **Step 7:** Ask the teacher a question.

VIII. **Step 8:** Ask or answer a question in class

IX. **Make a list**. Compile the profile of fear-provoking circumstances. If the fear-provoking circumstance is driving on a highway, the list should be comprehensive including receiving a meeting circular that a meeting will hold and you will be required to drive 30 kilometres on a highway. The list should include purchasing fuel at a gas station on the highway or needing to branch to carry your wife somewhere along the highway.

X. **Build your fear ladder**. Prepare the items using hierarchy from the least

provoking to the most provoking.

XI. It is very essential to have a clear objective and goal while the hierarchy is being constructed.

XII. **Start from the first ladder and climb up**. Commence the journey from step number one, ensuring that the first step is climbed without any anxiety. Should in case some anxiety develops, relax until you overcome the initial anxiety. One should endeavour to do this every time, that is continuous exposure until one gets accustomed to it.

XIII. After this is achieved, one should move to the next step using the same graded approach until the entire ladder is climbed.

XIV. **Practise**. There should be regular practice. The more one practices it, the better for the client. Nevertheless, there should not be any rushing. If there are moments of anxiety, perceive it as temporary, the anxiety will fade away with time.

If you start to feel overwhelmed….

Although anxiety or fear is a normal response to certain circumstances, one should prevent being overwhelmed. The trick is that one should learn to gradually get used to the solution and learn certain relaxation methods.

Evaluation.

The take home assignment of last session was discussed.

They were informed that the last session would be held the following next week.

Revision of all the sessions above was done by the researcher.

Forum for questions and contributions was created.

Session VIII: Post-test Administration

Activities:

The researcher thanked the participants for their efforts and cooperation throughout the period of the treatment.

Posttest was administered.

Results were collated for computation and analysis.

Group photograph with the participants and the staff of the unit was taken.

APPENDIX III

COHEN PERCEIVED STRESS

The following questions ask about your feelings and thoughts during THE PAST MONTH. Each of the questions asks you HOW OFTEN you felt or thought a certain way. These questions, though similar, have subtle differences. The most practicable approach to answering the questions is to choose the first and fastest answers that come to your mind without counting the number of occurrences of the event.

For each statement, please tell me if you have had these thoughts or feelings: never, almost never, sometimes, fairly often, or very often. (Read all answer choices each time) Never, Almost, Never Sometimes, Fairly, Often, Very Often. (0, 1, 2, 3, 4)

B.1. In the past month, how often have you been upset because of something that happened unexpectedly?

B.2. In the past month, how often have you felt unable to control the important things in your life?

B.3. In the past month, how often have you felt nervous or stressed?

B.4. In the past month, how often have you felt confident about your ability to handle personal problems?

B.5. In the past month, how often have you felt that things were going your way?

B.6. In the past month, how often have you found that you could not cope with all the things you had to do?

B.7. In the past month, how often have you been able to control irritations in your life?

B.8. In the past month, how often have you felt that you were on top of things?

B.9. In the past month, how often have you been angry because of things that happened that were outside of your control?

B.10. In the past month, how often have you felt that difficulties were piling up so high that you could not overcome them?

Perceived Stress Scale Scoring. Each item is rated on a 5-point scale ranging from never (0) to almost always (4).

Positively worded items are reverse scored, and the ratings are summed, with higher scores indicating more perceived stress.

PSS-10 scores are obtained by reversing the scores on the four positive items: For example, 0=4, 1=3, 2=2, etc. and then summing across all 10 items.

Items 4, 5, 7, and 8 are the positively stated items.

Your Perceived Stress Level was ________

The average score is 13, with scores around 20 considered as high. Thus, individuals who score around 20 are usually considered as requiring stress reduction programs and techniques such as cognitive restructuring or reality therapy. In some instances, thrice a week exercises are sufficient in reducing stress. People experiencing high psychological stress are a an elevated risk of cardiovascular diseases such as high blood pressure, ischaemic heart disease, obesity, elevated cortisol level, diabetes, high body mass index, larger waist to hip ratio, short telomere length, lower immunity, sleep disorder such as primary insomnia, reduced sleep latency period, and alcohol abuse.

APPENDIX IV

MATERNAL EMPLOYMENT QUESTIONNAIRE

1. Are you employed? [ ] yes [ ] no
2. If no what do you do for a living?
3. If yes write the name of your employer
4. How many days do you go to work?
5. If you are gainfully employed, state the month of the year you observe your leave.
6. What is your financial contribution to the family?

APPENDIX V

PARENTS SOCIO-ECONOMIC STATUS SCALE

Dear Respondent,

This instrument is designed to elicit your sincere responses on the following as it applies to your parents or caregivers. It will be appreciated if all statements are responded to accordingly as listed. The purpose for this exercise is purely for research and your answers will be treated with utmost confidentiality.

There are two sections in the inventory, Section A and B. There is no right or wrong, please be sure not to omit any items listed.

I look forward to your overall impression regarding each statement.

Section A: Personal Data

Kindly tick using this sign (√) to the appropriate spaces in the following items;

1. School: ………………………………………
2. Name of pupil: ______________________
2. Sex: Female ( ) Male ( )
3. Religion: Christianity ( ) Islam ( )

5a. How many cars does your parents have? ________________

b. Do they have: – motor cycle ( ) bicycle ( ) Tricycle ( )

Section B

6. Parents' Occupation: Tick as appropriate (one tick each for each parent)

Instructions: Please circle the option that best applies to you and your parents.

Strongly Agree (SA)

Agree (A)

Disagree (D)

Strongly Disagree (SD)

Please tick √ the appropriate box

A	B	C	D	E
Professional's e.g.	Clerk	Trade	Craftsman	Farmer
Lawyer, Engineer,	Office Worker	Business man	Artisan	Taxi Driver
Medical doctor,	Nurse,		Security	Messenger
Civil servant	Teacher			
Professor, Lecturer,	Police			
Manager, Senior Army	Soldier,			
Senior Civil Servant,	Religious Worker			
Bishop, Priest				
5	4	3	2	1

7. Educational levels of parents (please (√) the appropriate)

Educational level	Father	Mother	Guardians	
No schooling				1
Elementary school				2
Secondary school or teacher training				3
Professional training – clergy, trade school				4
Higher than a- d but not university graduate				5
University graduate (1st degree)				6
Above 1st degree				7

8. Parents' Residence: (please (√) the appropriate)

Parents	Own House	Company/Government/University Quarters	Rented House
Father			
Mother			
Guardians			
	3	2	1

9. Put an X in appropriate space. If in rented house, state whether it is

(a) A flat (3) (b) Two rooms (2) (c) One room (2)

10. Do your parents have the following? Put X in appropriate space

Radio ( ) Stereo set ( ) A Television ( ) A Refrigerator ( )

Gas/Electric cooker ( ) Freezer ( ) Video Player ( )

11. Do your parents have the following? Put X in appropriate space

Executive furniture (5) Cushion (4) Wooden furniture (3) Iron chair (2)

Mat (1)

12. Do your parents have the following? Put X in appropriate space

Library (3) Book shelf (2) Periodicals (1) newspapers (1)

Nothing related to books (0)

Total Score: ------------------

1-15 Low, 16-25 Medium, 25 > High

LIST OF PLATES

PLATE I

PLATE II

Plate III

PLATE IV

PLATE V

TELEGRAMS................ TELEPHONE................

MINISTRY OF HEALTH

DEPARTMENT OF PLANNING, RESEARCH & STATISTICS DIVISION

PRIVATE MAIL BAG NO. 5027, OYO STATE OF NIGERIA

Your Ref. No. ....
All communications should be addressed to
the Honorable Commissioner quoting
Our Ref. No.AD 13/479/ 4386

4th July, 2017

The Principal Investigator,
Department of Special Education,
Faculty of Education,
University of Ibadan,
Ibadan, Nigeria.

Attention: Lasebikan Abiola

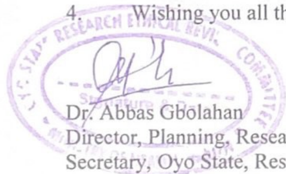
ETHICS APPROVAL FOR THE IMPLEMENTATION
OF YOUR RESEARCH PROPOSAL IN OYO STATE

This is to acknowledge that your Research Proposal titled: "Effects of Cognitive Restructuring and Reality Therapy in the Management of Stress among Parents of Pupils with Intellectual Disability in Oyo State, Nigeria." has been reviewed by the Oyo State Ethics Review Committee.

2. The committee has noted your compliance. In the light of this, I am pleased to convey to you the full approval by the committee for the implementation of the Research Proposal in Oyo State, Nigeria.

3. Please note that the National Code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations, in line with this, the Committee will monitor closely and follow up the implementation of the research study. However, the Ministry of Health would like to have a copy of the results and conclusions of findings as this will help in policy making in the health sector.

4. Wishing you all the best.



Dr. Abbas Gbolahan
Director, Planning, Research & Statistics
Secretary, Oyo State, Research Ethics Review Committee