AGGRESSIVE BEHAVIOURS AND ASSOCIATED FACTORS AMONG DEAF AND HARD-OF-HEARING LEARNERS

CASE STUDY: A DEAF CHILDREN'S SCHOOL IN KAMPALA-UGANDA

A dissertation presented to

FACULTY OF HEALTH SCIENCES

in partial fulfillment of the requirements for the award of the degree

Master of Public Health - Health Promotion

UGANDA MARTYRS UNIVERSITY

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2017-M282-20063

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OCTOBER 2019

DEDICATION

To all caretakers and teachers who do their best to bring upright the deaf and hard of hearing children amidst many challenges. You always try your best to bring forth a healthy and safe environment for these special individuals. Thank you very much.

ACKNOWLEDGEMENTS

First and foremost, I would like to praise and extend my utmost gratitude to the Almighty God for guiding and protecting me in all aspects during my stay at Uganda Martyrs University and throughout my life. Glory and honour I give to Him.

Greatest thanks to my beloved parents, brothers and sisters for their endless guidance, support and love that gave me strength and patience to resist difficulties in the journey of my life, as well as their special care and support since my childhood. I also appreciate my other relatives for the encouragement and support throughout this course.

I express my endless thanks and gratefulness to my lecturers who were more than generous with their expertise and precious time. Special thanks go to Mr. Isaac Wonyima Okello, my supervisor for his countless hours of reflecting, reading, encouragement and perseverance throughout the entire research process. Thank you very much for all the wonderful ideas and untiring help.

Endless gratitude goes to my colleagues and friends notably; Olive Apok, Olivia Kitimbo, Frederick Wanale, Mathias Lwenge, Hope Nakazibwe, Isaac Kagimu, Joseph Kabanda, Alex Ochedikol, Bonny Desales Okello (Hon.), Denis Ddumba, Daniel Oyom, Winfred Ongom, Jonathan Musaana, Bonny Natukunda and all those whose names are not mentioned for their contribution throughout the entire course.

Lastly I remain thankful to the community of Mulago School for the deaf for their time and cooperation.

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LIST OF ACRONYMS

APQ - Alabama Parenting Questionnaire

BPAQ - Buss-Perry Aggressiveness Questionnaire

BRIEF - Behavior Rating Inventory of Executive Functions

DHH - Deaf and hard of hearing

KI - Key Informant

MoESTS - Ministry of Education, Science, Technology and Sports

MoH - Ministry of Health

SCT - Social Cognitive Theory

SPSS - Statistical Packages for Social Scientists

TSRQ - Teacher Student Relationship Questionnaire

UNAD - Uganda National Association of the Deaf

WHO - World Health Organization

ABSTRACT

Introduction

This study focused on aggressive behaviours and its associates among the Deaf and Hard of Hearing (DHH) learners at a deaf children's school in Kampala-Uganda. Aggressive behaviours in the DHH are a significant mental health concern as their social-emotional development may be negatively impacted by behavioural difficulties which in turn compromise safety and health at school.

Study objectives

The study examined the factors (individual, parent-learner interactions, and teacher-learner interactions) associated with aggressive behaviours among the deaf or hard of hearing learners in a deaf children's school in Kampala-Uganda.

Methodology

A descriptive and analytical cross-sectional study design was used. Purposive and simple random sampling methods were used to select teachers and learners respectively. A total of 53 respondents (45 learners and 8 teachers) participated in the study. The qualitative data was analyzed using a narrative approach and then presented in form of text depicting participants' views whereas quantitative data was entered into Statistical Package for Social Scientists (SPSS) version 25 for analysis and then results presented in tabular forms including percentages of responses.

Results

Overall, results indicate that the DHH learners exhibit average levels of behavioral aggression (Mean = 3.33, SD = 1.29). The study revealed that aggressive behaviour in the DHH learners significantly differ by sex ($p = 0.014$) with males (22) being more aggressive than the females (13), and by age ($p = 0.002$) with the 14-17 (25) being more aggressive than the 11-13 (12), and by use of hearing ($p = 0.023$) with more DHH learners (27) that used a hearing device exhibiting more aggressive behaviour than those that did not use a hearing device (6). The results show that parent-learner interactions account for 42.4% of the learners aggressive behaviours (adjusted $R^2 = 0.424$) while the 57.6% is accounted for by other factors. Two indicators of parent-learner interactions namely; the parents' involvement ($\beta = -0.341$, $p = 0.004$) and positive parenting ($\beta = -0.317$, $p = 0.014$) had a negative effect and significant prediction on aggressive behaviours in the DHH learners. On the other hand, poor monitoring/supervision ($\beta = 0.511$, $p = 0.001$) and inconsistent discipline ($\beta = 0.652$, $p = 0.031$) had a positive effect and significant prediction on aggressive behaviours in the DHH learners. The results show that teacher-learner interactions account for 12.3% of the DHH learners aggressive behaviours (adjusted $R^2 = 0.123$). All the indicators teacher-learner interactions had a negative effect and significant prediction on aggressive behaviours of the DHH learners'. More so, the views of the key informants were in support of these findings.

Conclusions

The study concludes that the DHH learners exhibit moderate levels of behavioral aggression thanks to the work done by the teachers in promoting and developing the DHH learners' behaviours. The study also concludes that aggressive behaviours in the DHH learners tend to increase with age and differ with gender and use of hearing device. The study further concludes that levels of teacher-learner interactions are high which has a significant impact on promoting non-aggressive behaviours of learners. The study further concludes that among the DHH children, parent-child interactions are at moderate yet positive parenting is the most fulfilling job that can enhance child behaviours.

CHAPTER ONE

INTRODUCTION AND BACKGROUND TO THE STUDY

1.0 General Introduction

This chapter focused on the following substantive topics: background to the study; statement of the problem; research question; conceptual model and theoretical framework; the goal and aim; the objectives, scope of the study and significance of the study. This study was an exploration of the associates of aggressive behaviors among the deaf and hard of hearing learners at a deaf children's school in Kampala-Uganda. The associated factors as the independent variables while aggressive behaviours as the dependent variables.

1.1 Introduction

Deafness refers to the degree of loss whereby an individual is unable to understand speech even in the presence of amplification while hard of hearing is a term usually used for those individuals who have relative inability to hear sound in the speech frequencies (Elzouki, 2012). At the same time, hearing problems in children can in turn be detrimental affecting their ability to learn spoken language and in adulthood it has the potential to create difficulties with social interaction (Lasak et al., 2014).

A range of mental health problems have been found to be associated with deafness for instance; aggression, depression, defiant and conduct disorder and less consistently anxiety, somatization, and delinquency (Theunissen et al., 2014). The mental health of the deaf and hard of hearing (DHH) children is of great concern as their social-emotional development may be negatively impacted by difficulties in communication doubled with co-occurring cognitive and physical impairments as additional risk factors for many of the DHH (Stevenson et al., 2015). These mental health risks may also be exacerbated by experiences within families and in the school

setting (Stevenson et al., 2010). However, the focus of this study was on aggressive behaviours and associated factors in the DHH learners.

Sigmund Freud (1930) defines aggression as directing one's destructive inclinations towards the objects in the external world, while another theorist Alfred Adler (1908) defines aggression as a drive stemming from the need of an individual to meet his/her own needs and which is resorted to as a result of prevention. Hearing impairment and aggressive behavior in the deaf and hard of hearing has been examined in various studies (Brown and Cornes, 2014; Sommers, 2014; Nunes et al., 2013) that have further marked the deaf and hard of hearing a unique group of individuals characterized with higher burden of behavioural challenges.

Globally, the World Health Organization (2015) estimates over 5% of the world's population which is an equivalent of 466 million people to have hearing loss (432 million adults and 34 million children) which significantly impacts on individual functional ability to engage in everyday activities that facilitate learning; social and emotional impact leading to loneliness, isolation and frustration including economic impact to the concerned sectors in the country.

In Africa the occurrence of hearing loss appears to be more common in sub-Saharan Africa with 15.7% prevalence in adults above 15 years and 1.9% for children aged between 5 to 14 years (Mulwafu et al., 2016). Children are a unique group of individuals. Hearing loss profoundly has grave consequences in regards to individual interpersonal communication, psychosocial well-being and quality of life.

While in Uganda, it is estimated by the Uganda National Association of the Deaf (UNAD) that there are currently around 700, 000 deaf people in Uganda (UNAD, 2018), of these about 160,444 are children with special needs who were enrolled in primary school in 2014, of which

29 percent had hearing impairment. According to the Boanerges Deaf Initiative (2019), a non-government organization that provides basic services to the deaf individuals in Uganda state that the deaf are deprived of their rights due to the negative attitude of hearing people, these special group of individuals are called ‘’*kasiru’’* meaning a fool or stupid and they are more so often victims of injustices such as rape, torture, mob justice along with other tragedies.

Hearing provides access to sound, enabling children to overhear and develop listening and spoken language skills for communication with peers yet on the other hand, hearing associated problems experienced by the deaf and hard of hearing children are prevalent and span across development hence becoming detrimental to social interactions and subsequent social and emotional development (Norman and Jamieson, 2015).

However, Marschark and Wauters (2011), in the study on cognitive development and functioning show that deaf and hard of hearing (DHH) children face special challenges as these children are more impulsive than their hearing counterparts due to developmental delay resulting from early language deprivation. In addition, research into socio-emotional development (Calderon and Greenberg, 2011) reveals that reduced auditory perception influences many processes that are significant for children’s effective interaction with the world.

The aggressive behaviors exhibited among the DHH children remains difficult to establish for a number of reasons such as the heterogeneous nature of students with hearing loss relating to the degree and type of hearing loss, age of onset, time of diagnosis, communication, and cultural identification. Other significant issues are the appropriateness of instruments used and the informants who provide the data (Brown and Cornes, 2014).

On the other hand, schools have a holistic influence on learners, hence foster intellectual, social, emotional, and physical development thereby offering great efficiency in creating health-promoting environments and programs (Leeman et al., 2018). In line with this, Fuller et al., (2014) asserts that school health focuses on series of factors and effective ways of engaging with learners to increase levels of physical activity and to enhance health knowledge, improve understanding of health risk factors and to provide guidance on prevention strategies for diseases or injury.

Therefore, much attention should be given when assessing the factors associated with aggressive behaviors among DHH children as they compromise health and safety at school which according to CDC (2015) is a major component of a coordinated school health approach. Hence, this study was set to investigate aggressive behaviours and associated factors among the DHH learners in Uganda which to the researcher's knowledge, these factors were yet to be studied.

1.2 Background to the study

During the development process of individuals, life experiences during childhood and adolescence have an effective role on the development of personality (Most et al., 2010). Any situations of miscellaneous insufficiency, disability and traumatic incidents experienced in these periods lead to significant interruptions on the psycho-social development of individuals.

Hearing loss not only affects the individual directly but also affects the environment and the family, gaining a social aspect. Hearing, language and speaking are the fundamental elements of communication and are the most important components which a human uses within the socialization process being a social being (Most et al., 2010). Thus individual tries to find their place within the social structure (Sarikardasoglu, 2010).

Notwithstanding, aggressiveness is a well-known concept, but it is hard to be defined and its limits are broad. Buss (2011) examines aggressiveness in three dimensions; physical – verbal, passive and direct-indirect. Behaviors like pushing, pressuring, pulling, hitting, biting are examples of physical aggressiveness while offending or harming a person psychologically by verbal communication is an example of verbal aggressiveness.

While examining the studies on this subject, the deaf and hard of hearing children have more behaviour problems ranging from emotional, relational, hyperactivity and peer relationship among others than their hearing peers (Hindley et al., 2012). Considering the language skills of these children, hearing disability has had great deal of negative impact on their behaviour and the problems are clearly evident (Barker et al., 2009).

In addition, Dodge and Price (2009) assert that the deaf and hard of hearing children are to some extent deprived the skills of understanding what is spoken and expressing what they think, depending on the degree of hear loss. Consequently, the deprivation of communication becomes influential on the development and emotional harmony of child with hearing impaired and isolation starts as the child grows. In this case, children with hearing impairment may increase their tendency to aggression.

On the other hand, Stevenson et al., (2010), states that isolation of a child because of their impairment influences social environment and attitude towards the environment and they may extremely be angry, bad tempered and aggressive due to difficulty in expressing wishes feelings and thoughts. However, despite the insufficient communication skills of these children, some results were obtained to point out that the cause of behavioural and emotional problems is not insufficient communication skills but rather early parent-child engagement (Paatsch and Toe, 2013).

For all the causes, this study sought to explore the factors associated with aggressive behavior among the deaf or hard of hearing learners.

1.3 Problem statement

Hearing loss is a significant public health issue given its negative influence on individuals' lives over different quality of life measures including mental health (Tsimpida et al., 2018) hence the deaf and hard of hearing remain underserved and vulnerable groups of people at a distinct disadvantage in virtually all aspects of life (Monteiro, 2017). Hearing impairment is associated with numerous psychological or behavioural problems such as; depression, fear and isolation, aggression, violence, and anxiety (Stevenson et al., 2015), and the prevalence of these problems is 2-3% higher in children and adolescents with moderate or severe hearing impairment compared to their hearing counterparts (Lier, 2013).

Aggressive and rule breaking behaviours are one of the most important behavioural problems associated with the classification of externalizing behaviors which are the most common reasons with which children with hearing loss are referred to mental health clinics (Movallali et al., 2017). Despite having special schools for the deaf and hard of hearing children in Uganda, these individuals experience aggressive behavioural problems which are presumed to be associated with parenting practices, interactions with teachers and child individual factors. If left unattended to, aggression and in the DHH children ultimately compromises health and safety at school as well as their learning outcomes.

In addition, use of maladaptive actions by parents and teachers to control behaviour in the DHH such as applying excessive control strategies aggravates these children's condition, consequently leading to parent/teacher-child struggles and exacerbation of the aggression symptoms in children (Movallali et al., 2017). This pattern does not differ from that of Mulago school for the

deaf, where the DHH children present with a lot of behavioural or psychological manifestations such as; quarrelling, hitting each other with dangerous objects, pushing each other among others. All these are likely to cause trauma either psychologically or physically to these children which in turn lead to unfavorable environment for learning to take place due to fears and worries harbored inside them. Therefore, much attention should be placed on thorough assessment and understanding of aggressive behaviour and associated factors in the DHH hence the reason why this study was conducted.

1.4. Research question

What are the factors associated with aggressive behaviours among the deaf and hard of hearing learners in the deaf children's school?

1.5 Conceptual framework

There is data available that suggests that aggressive behaviours in the deaf and hard of hearing is triggered and influenced by a number of individual, teacher-learner and parental-child factors. The factors are listed in the conceptual framework below (figure 1). The conceptual framework is the researcher's understanding of how the different study variables connect with each other (Regoniel, 2015).

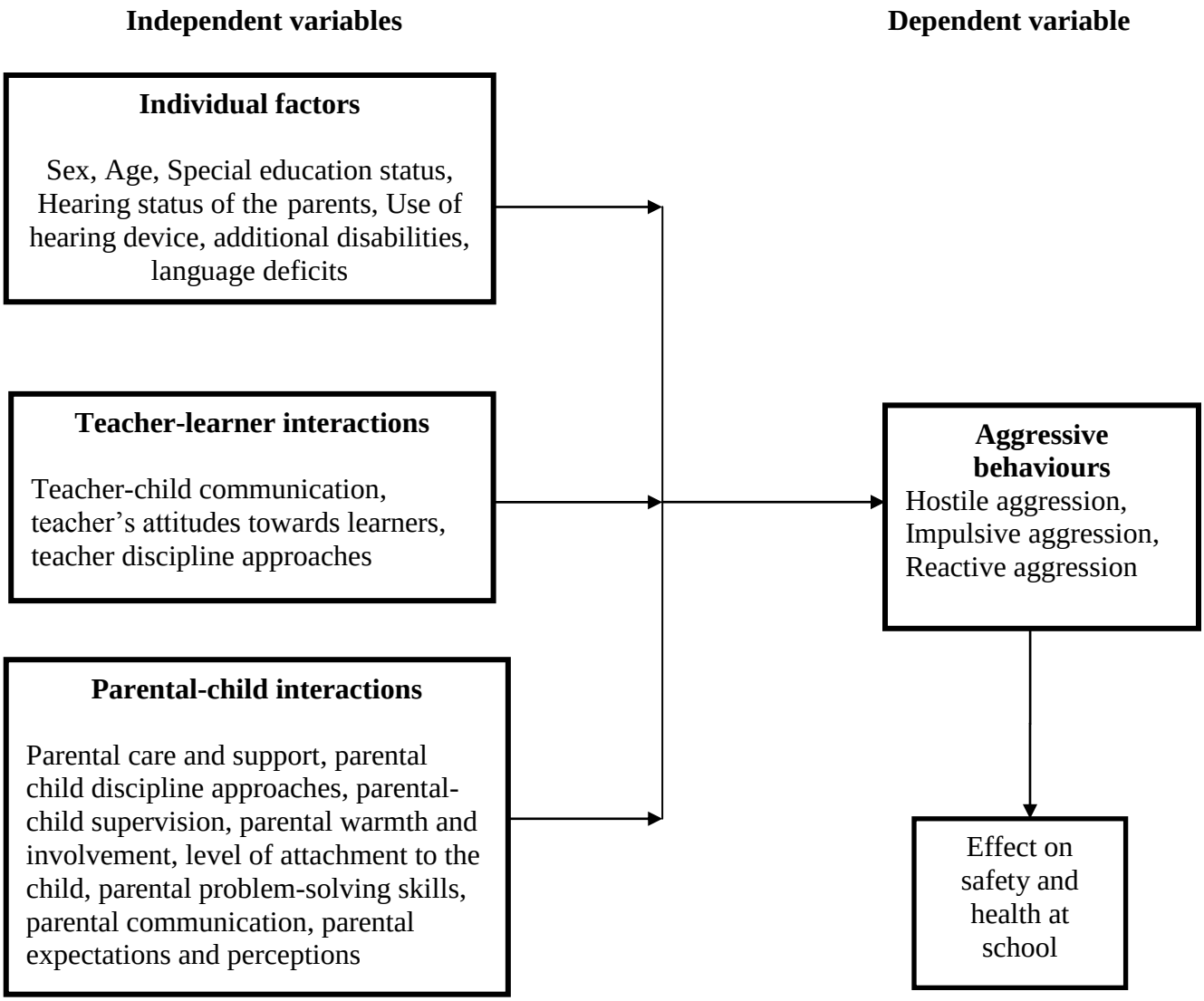

Figure 1: Conceptual Framework

Source: P. A. Regoniel, 2015

The conceptual framework illustrates that sex, age, special education status, hearing status of the parents, use of hearing device, additional disabilities, and language deficits are significant factors in initiating aggressive behaviours in the deaf and hard of hearing learners and subsequently affect safety and health at school.

Besides the triggering factors of the aggressive behaviour, the framework illustrates other associates of aggressive behaviour in the DHH learners under the constructs of; Teacher-learner interactions to include factors such as teacher-child communication, teacher's attitude towards learners, and teacher discipline approaches.

Other factors are under parental-child interactions an associate measured by elements such as parental care and support, parental child discipline approaches, parental-child supervision, parental warmth and involvement, level of attachment to the child, parental problem-solving skills, parental communication, parental expectations and perceptions. Generally, the above conceptual framework validates a close link between the triggering (individual) factors, teacher-learner interactions and parental-child interactions to bring forth aggressive behaviour in the learners and ultimately causing an effect on safety and health at school.

1.6 Theoretical framework

The study adopted the Social Cognitive Theory (SCT) which has two major constructs namely; individual and environmental factors that contribute to a form of behavior (Bandura, 1986). In this study, the SCT demonstrated the concept that helps understand the triggers of aggressive behaviours and better still how it can be changed or controlled while interconnecting the behaviour with the different social settings in which the deaf and hard of hearing live, interact and learn.

The cognitive formulation of social learning theory that has been best articulated by Bandura (1986), explains human behavior in relation to the Social Cognitive Theory in a three-way dimension, dynamic and reciprocal model in which personal factors, environmental influences, and behaviour continually interact as demonstrated in the conceptual framework (Figure 1) above.

The SCT synthesizes concepts and processes from cognitive, behaviouristic and emotional models of behaviour change hence it can be readily applied to counseling interventions for disease or injury prevention and management. The basic premise of SCT is that people learn not only through their own experiences but also by observing the actions of others and the results of those actions. Furthermore, the key constructs of SCT were related to the study conceptual framework as explained below;

Individual factors; in relation to SCT and the conceptual framework, this construct describes factors such as sex, age, special education status, hearing status of parents, use of hearing device, language deficits, and additional disabilities among the deaf and hard of hearing children as these factors are capable of affecting the behaviors of learners either positively or negatively. Child development is a life- long process (Baltes and Reese, 1984), and the analysis is concerned with changes in the psychosocial functioning of adults as well as with those that occur during childhood.

This theory emphasizes that what people think, believe, and feel ultimately affects how they behave either aggressively or calmly (Bandura, 1986; Neisser, 1976; Bower, 1975). In other words, the natural and extrinsic effects of their actions in turn partly regulate their thought patterns and emotional reactions in various situations. The personal factor also encompasses the biological properties of an individual. More so, the physical structure, sensory and neural

systems tend to affect behaviour and impose constraints on capabilities. Notwithstanding, sensory systems and brain structures can be modified by behavioural experiences (Greenough et al., 1987).

Environmental factors; this comprehends the two important areas or settings as per the study, namely; the school environment and home environment. The first concept looks at how a teacher interacts with children at school as well as their relationships with fellow children at school and points out factors such as teacher-child communication, teacher's attitude towards learners and teacher discipline approaches. The second concept looks at how deaf children interact with parents and relatives at home and points out factors such as parental care and support, parental child discipline approaches, parental-child supervision, parental warmth and involvement, level of attachment to the child, parental problem-solving skills, parental communication and parental expectations and perceptions to bring forth the aggressive behaviours.

It is imperative to note that, SCT guided the study in exploring and understanding aggressive behaviour and its associates in the deaf and hard to hearing individuals. This made it feasible to predict aggression including other internalizing and externalizing behavioural problems such as violence, social withdrawal, anxiety and depression among others. Addressing behavioral related challenges in special groups and communities within the settings in which they live, learn, work and play must be given a central role in health-promoting initiatives for deaf and hard of hearing school children if they are well planned and applied.

In addition, the key constructs of SCT that are relevant to health behaviour change interventions include**;** observational learning, reinforcement, self-control and self-efficacy. For these constructs to be able to bring about the behavioral change they should base on; goal-setting, self-monitoring and behavioural contracting.

Self-efficacy: This is taken as a person's confidence in his or her ability to take action and to persist in that action despite obstacles or challenges is especially important for influencing health behavior change efforts (Bandura, 1997).

Reciprocal Determinism*:* This key SCT construct means that a person can be both an agent for change and a responder to change. Therefore, changes in the environment, the examples of role models and reinforcements can be used to promote behavioral modification in such a school setting for the deaf (Greenough et al., 1987).

1.7 Goal

To create a friendly and enabling environment that protects and promotes good health and well-being of the deaf and hard of hearing learners at school.

1.8 Aim

To understand, build knowledge and commitment in identifying, managing and preventing factors that compromise health and safety of the deaf and hard of hearing learners at school

1.8 Objectives

1.8.1 Main objective

The main objective of the study was to explore the factors associated with aggressive behaviours among the deaf or hard of hearing learners at Mulago School for the Deaf.

1.8.2 Specific Objectives

The specific objectives were:

i. To explore the individual factors that influence aggressive behaviours among the deaf or hard of hearing learners at Mulago School for the deaf
ii. To establish the relationship between teacher-learner interactions and aggressive behaviours among the deaf or hard of hearing learners at Mulago School for the deaf

iii. To establish the relationship between parental-child interactions and aggressive behaviours among the deaf or hard of hearing learners at Mulago School for the deaf

1.9 Scope of the study

The scope of the study was a threefold that is; content scope, geographical scope and time scope.

1.9.1 Content scope

The study focused on aggressive behaviours and associated factors among the deaf and hard of hearing learners at a deaf children's school in Kampala, Uganda. The fundamental basis of the study was on the triggers of the aggressive behaviour, the relationship between teacher-learner interactions and parental-child interactions so as to further understand aggressive behaviour in this special group of individuals and ultimately improve health and safety outcomes at school.

1.9.2 Geographical scope

The study was conducted in Mulago School for the deaf which is one of the few settings for the deaf and hard of hearing learners in Kampala district. The school is located in Kampala district, Mulago catholic parish, Mulago 11 zone and in Kawempe division hence making it easily accessible to the general population. The uniqueness and central location of this setting attracts learners from different parts of Uganda in search for formal education for the special groups.

1.9.3 Time scope

Upon approval of the research proposal, data on aggressive behaviours among the deaf and hard of hearing learners at Mulago School for the deaf was then collected for a period of 10 school/working days.

1.10 Significance of the study

The deaf and hard of hearing remain a unique and vulnerable group in the community susceptible to practical and social problems beyond those experienced by their hearing counterparts and this extra burden in turn increases risk to aggression. Healthy and safe school

environment is a component of coordinated school health that advocates for promotion of a good psychological environment to include physical, emotional and social conditions that affect the well-being of learners and staff. However, aggressive behaviours in different forms continuously exists in the deaf and hard of hearing community because less attention has been paid to tackle the underlying issues associated to it.

The study sought to make significant contribution to behavioural challenges in the deaf and hard of hearing learners. The study explored the associates of aggressive behaviours as a pertinent issue in the deaf and hard of hearing learners which go a long way in augmenting teachers' interventions in ensuring the DHH learners are restrained from harmful behaviour. The factors associated with aggressive behaviours among the deaf and hard of hearing learners will suggest recommendations to be adopted by the Ministry of Education, Science, Technology and Sports (MoESTS), Ministry of Health (MoH) to design school health programs that promote health, safety, engagement and support in education of the deaf and hard of hearing learners.

The study explored relevant information on aggressive behaviours among the DHH. This will provide important information to the administration of Mulago School for deaf as well as provide reference for training of frontline stakeholders concerned with health and safety of special groups.

1.10 Operational Definitions

Aggression: Feelings of anger resulting in violent behaviour with readiness to attack or confront

Behaviour: The way in which a person or conducts oneself especially towards others

Cognition: Mental action or process of acquiring knowledge and understanding through thought, experience and the senses

Deafness: Complete loss of the ability to hear from one or both ears

Externalizing behaviour: A negative behaviour that is focused outward towards others

Hard of hearing: Inability to hear well

Health: A state of complete physical, mental and social well-being of an individual and not merely the absence of disease or infirmity

Hearing impairment: Is the partial or total inability to hear

Interaction: Communication or direct involvement with someone

Internalizing behaviour: A negative behaviour that is focused inward

Key Informant: An individual who is more knowledgeable about the setting and is able to give vital information

Learners: A student or pupil

Mental Health: A state of cognitive, behavioral and emotional well-being of an individual

Safety: Is the condition of being protected from harm or undesirable outcomes

Setting: Social context or place or environment within which people live, work and play

Special group: Is one with special needs

Underserved: Imperfectly provided with a service or a facility

Vulnerable: The need of special care, support or protection because of age, disability or risk of abuse or neglect

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter reviews the related literature on aggressive behaviours and associated factors among the deaf and hard of hearing learners and provides a discussion of the relevant research on the subject. However, some sentinel articles with relevant literature on this topic have been cited in the work given that current published research is scanty. The review of literature is aligned in accordance with the study objectives.

2.1 Executive functions in the deaf and hard of hearing

Executive functions is a collective term to describe regulatory and controlling mechanisms that are essential if an individual is to perform goal-oriented and situation-oriented actions (Konrad, 2011). Adele (2013) further explains executive functions as the set of cognitive processes that make possible for one to mentally play with ideas, to think before acting, to meet new and unanticipated challenges, to resist temptations in an act of self-control as well as staying focused. This study further explored what triggers the executive functions to bring about aggression in the deaf and hard of hearing learners.

A Behavior Rating Inventory of Executive Functions (BRIEF) rating scales by Gioia et al., (2003) has been one of the approaches to determining executive functions. Hintermair (2013) adds that behavior inventories are compiled through asking parents and teachers or the children themselves for the relevant information such as emotional control and problem-solving capabilities among others so as establish the state of their executive functions. However, quantitative study designs (Petersen et al., 2014; Kain and Perner, 2007; Yiyuan et al., 2006) on

executive functions using questionnaires reveal differences between hearing and DHH. Although, this study majorly focused on aggressive beahaviour and its associates in the DHH

2.2 The individual factors that influence aggressive behaviours among the deaf or hard of hearing learners

Aggressive behaviour varies according to age. Derman-Taner (2013) reveals in the study to determine the relationship between aggressiveness and hearing impairment among children of 10-11 years, the males are found to be more aggressive than the females. The study further reports that testosterone hormone may be influential in aggressive behaviors and on the other hand, aggressiveness diminishes with the growing age supports this thought, although there are no certain data supporting such view. However, this study sought to further investigate the triggers of aggressive behaviours among the DHH learners.

Deaf and hard of hearing children show more antisocial behaviors than their hearing counterparts (Theunissen et al., 2014) and a number of associates have been hypothesized to establish relationship with aggressive behaviour. For instance, Coll et al., (2009) reveal that total aggressiveness of children at different ages statistically differ by age following an explanatory study of psychosocial risk behaviors of DHH adolescents were the highest score in the physical aggressiveness was found in children at the age of 16 (25.42), verbal aggressiveness highest in 13 years old (16.37) while anger was highest in the age group of 11 (4.28). Therefore, the DHH encounter struggle with the issues brought by impairment.

While Babaroglu (2014) in the study conducted on 81 students between the ages of 10 and 17 years and attending a public Seyhan School for children with hearing impairment in the province of Adana, south of Turkey, established that while the total aggressiveness scores of children differ statistically depending on whether they received special education. However, children who

had been exposed to special education had a higher score of 101.88 in total aggressiveness than those who had not with a 90.93 score. Exposing the DHH to special education before they are enrolled into the special schools for the deaf for formal education receipt of special education did not suppress the aggressive behaviour.

In addition to the above, Babaroglu (2014) further measured the relationship between receipt of special education with the different forms of aggression. Findings reveal verbal aggressiveness differs in receipt of special education or not ($t=-2.758$; $p=0.007$) with a greater number of children receiving special education (15.81) with a higher score in verbal aggression than those that did not receive (13.96) this kind of education. On measuring hostility, an important statistical difference was derived ($t=-2.245$; $p=0.028$) with children that received special education (19.35) scoring higher that those who did not (17.90). Furthermore, a statistical difference was also derived ($t=-4.013$; $p=0.000$) for the parameter on indirect aggressiveness with children receiving special education (18.13) scoring higher than those who did not. Therefore, there is an association between receipt of special education and aggressive behaviour in the DHH children.

Furthermore, DHH learners have been shown to exhibit a reduced range of strategies for initiating and maintaining social interaction with peers probably because of the prolongation of such difficulties including misinterpreting social information and a lack of access to incidental learning (Roberts et al, 2013). Attributes to this effect remain to be investigated. However, Brown and Cornes (2014) claim that language deficits may contribute to behavior problems through interfering with understanding and communication of requests and needs to others as well as interfering with emotional and behavioral regulation.

Hearing impaired individuals are prone to developing behavioral problems, with significantly higher levels of aggression, psychopathic symptoms, attention deficit or hyperactivity, oppositional defiant disorder and behavioural disorder (Theunissen et al., 2014). On the other hand, Stevenson et al., (2010) reveals that hearing impaired children receiving special education after 5 years old experience a lot more emotional and behavioral problems like aggressiveness, than their normal hearing peers hence the importance of starting education at an early age.

Additionally, Stevenson et al., (2015) reveal significant associates of behavioural difficulties in the deaf and hard of hearing children and adolescents to include; age at detection and intervention of hearing loss, the presence of additional disabilities, communication skills, intelligence, and type of school among others. Dwelling more on communication, Sipal (2010) emphasizes that the deaf and hard of hearing children are more inclined to experience behavioral problems such as aggressiveness due to insufficiencies in their communication skills regardless of receiving special education. Therefore, the study justified the need to further understand the various triggers of aggressive behaviours in the DHH learners.

Furthermore, Peterson (2013) assumed that hearing impaired children using a hearing device would hear better and thereby express themselves more efficiently. However, findings revealed that use of a hearing device had no effect on level of aggressiveness as physical aggressiveness was higher in non-device use (24.42) than in device use (23.79). Whereas, in verbal aggressiveness, anger, hostility and indirect aggressiveness, device use was higher that is; 15.27, 3.52, IS, 18.98, 17.34 respectively than in non-device use.

Theunissen et al., (2014) further examines behavioral problems in school aged hearing-impaired children across different parameters in comparison with their hearing counterparts. In the study, six forms of aggressive behavior were presented to children namely: kicking, pushing, hitting,

name calling, arguing and gossiping. Hearing-impaired children showed significantly more proactive aggression, hyperactivity disorder and conduct disorder than their hearing peers and even more behavioural problems were associated with special schools for the deaf, sign language, use of hearing aids, higher age and male gender among others. According to Fellinger et al., (2015) identification of behavioural problems in children with hearing impairment could enhance in tackling the problems experienced by these children.

Contrary to the findings by Theunissen et al., (2013), the use of hearing device did not make any difference among the deaf and hard of hearing children who used the device and those that did not use given the assumption that the hearing impaired using a device would hear better and hence express themselves more efficiently (Sarikardasoglu, 2010) in the study to establish the relationship between the social cognitive understanding and aggressive behaviours in children with hearing loss. However, this study further investigated the correlation of hearing device and aggressive behaviour in the DHH learners.

2.3 The relationship between teacher-learner interactions and aggressive behaviors among the deaf or hard of hearing learners

According to Pwokah (2016), a good individually based relationship between the various employees in the school environment is believed to erect a suitable arena for teaching and learning and more so enable and promote the academic interest of the students. However, according to Mwaniki (2008), teachers in special schools have a freedom either to impact the learners self-concept positively by formulating an environment of dual support and caring or on contrary via an environment of sarcasm and prejudice hence self-concept and behaviours comprehend that self-concept is connected to non-aggressive behaviours whilst self-

concept/attitudes to and viewing of oneself is closely connected to how one acquires knowledge and responds.

Strong and thoughtful teacher-learner interactions have been shown to mediate the effects of aggression in the deaf and hard of hearing children (Norman, 2016). Chedzoy and Burden (2007) scrutinize teacher's competence in teacher-pupil interaction and use of teaching time; however, the researchers assert that teacher's competence is characterized by possession of knowledge, abilities and beliefs which they transfer to class. On the other hand, when the learners perceive to competences of the teachers it subsequently formulates behavioural attitudes with a lot of effect when it comes to learning which could either be negative or positive (Chedzoy and Burden, 2007).

Additionally, Frymark (2010) reports that learners with hearing impairment face challenges in self-expression which in turn affects their interaction with teachers and fellow learners in and out of the learning environment. Yet learners need to freely ask questions, answer questions and contribute to learning during class time. Gomez Arai and Lowe (2014) argue that participation of learners in classroom activities is important in order for effective learning to take place and instill non-aggressive behaviours. Therefore, teachers should understand learners and also be aware of the risk of developing behavioral problems in order to prevent or manage anomalies in real time.

Besides, Chickering and Gawson (2011) opine that effective teacher-learner interactions stimulate non-aggressive behaviours among the learners through creation of emotional support, classroom organization and instructional support. Constructive teachers-learners relationships and among peers build up emotional support to learners which reduces aggressive behaviors. In addition, well managed classrooms engage learners with learning activities whereas instructional

support from teachers educates learners to think, provide ongoing feedback and support including facilitation of language and vocabulary.

Notably, Johnson and Morasky (2015) caution individuals interacting with learners with special needs to notify the possible outcomes of neglecting timely advice. According to these two researchers, these special children are prone to a low self-confidence, high frustration level, lack of self-esteem, anxiety, depression and despair. Even though these learners present themselves in class does not guarantee success in academics and development but rather more efforts should be focused towards integrating them both socially and functionally.

Bashir et al., (2014) realize a small difference in school social behavior company in adolescents with disabilities of public and private schools. Harmonious existence among the members of the school community at all levels will create a suitable environment for teaching or learning. This good and relationship cultivates and maintains the academic urge of the learners. Although, how well the deaf and hard of hearing learners will succeed academically is determined by the school setting's social behaviour (Horner, 2009).

In addition, Frostad and Ahlberg (2010) single out the indicators that impact on the social behavior of the DHH learners to include background of the learner, past deeds, parental factors, teachers and school. In a situation where the DHH learners had to attend school in the elementary level and high classes, they responded well through demonstrating a healthier psychosocial adjustment. Additionally, the use of devices and gargets such as hearing aids modes of communications academic progress and the surrounding factors helped in shaping psychosocial alignment among DHH learners.

As affirmed by Liberante (2012), teacher-learner relationship cannot be measured by any degree and have impacts on learners learning and schooling experience. This type of relationships happens to be among the most powerful element in the learning process that affects learner's development, school engagement and academic motivation and ultimately forms the basis of the social context in which learning takes place (Hughes and Chen, 2011).

More so, Olaleye (2010) highlights teachers' characteristics as predictors of learners' aggressive behaviours from the study that was conducted in a secondary school in Osun state, Nigeria. The researcher purposively selected 1600 senior III learners from 16 rural and urban schools to respond to teachers' characteristics and learners' aggression (TCSAP) questionnaire. Findings reveal a significant relationship between teachers' characteristics on learner aggression. In line this this, Hughes and Chen (2011) affirm that interactions between teacher-learner are influenced by a number of aspects like gender which consequently do influence learners' aggressive behaviours, sense of school belonging and an encouragement to participate supportively as a result of supportive and positive teacher-learner relationships.

Additionally, in some circles learners may prioritize classroom environment and a warm teacher-learner interaction as they may quickly judge the situation and conclude their success due to this factor and not their expertise and knowledge (Hughes and Chen, 2011). For the sake of this study, focus was on learner's aggressive behaviors. Although, Chedzoy and Burden (2007) anticipate that learners show a positive attitude towards their teachers which ultimately lessens on manifestation of aggressive behaviours among the learners.

In a more related development study, Connel and Wellborn (2011) note that children who enjoy positive and supportive relationships with their teachers exhibit more positive attitudes towards

education and fully involve academically. More so, these children are great achievers and easily accepted by peers unlike the opposite cases of learners that are characterized by conflict.

Birch and Ladd (2015) report that teacher-learner relationship predicts on child gender behaviours emphasizing that females are to greater extent more likely to enjoy close relationship with teachers than the young men. In line with this, Silver et al., (2014) observe the dimensions of teacher-learner relationships that are most predictive of the learner's future school course to vary from girls to boys. The case with girls is that relational support is more predictive of adjustment in the future years (Hanre and Piata, 2011). However, the focus of this study was relationship of teacher-learner interactions on aggressive behaviour in the DHH learners in Uganda.

More so, the communication skills for deaf and hard of hearing children have key consequences for the quantity and quality of their interactions with hearing counterparts plus teachers (Antia et al., 2011). The teacher–learner relationship is regarded as the second type of relationship predictive of well-being in the learning environment as it can have a healthy emotional aspect, can open communication and instructional support as well as affect a child's emotional, behavioural and mental health (Wolters et al., 2012). In addition, Nordenbo et al., (2008) assert that the teacher must acquire competence needed to create a mutual understanding as pertaining to the learner and equally must be capable of communicating teaching work of the class into the instructing and teaching system.

On the other hand, Williams (2007) reports that disabled children build in them good habits of citizenship and survival guides through organized curriculum activities by means of which such habits can be nurtured. Williams (2007) pays attention to the perception of learners with hearing impairment and teachers' approach towards building good habits of citizenship and survival

guides during curriculum implementation. However, the major focus of this study was on the relationship of teacher-learner interactions and aggressive behaviour in the DHH.

In the study by Wekesa (2010) to establish relationship between self-concept and academic excellence among the physically challenged learners in Kenya, reveals negative self-concept and that there lacked significance between the relationship of learners' perceptions of their teachers' attitude towards them and their self-concept; hence proposed that the special schools settings should endeavor to create a conducive environment to develop a self-concept as according to the result from the study majority of the learners with disabilities portrayed a low self-concept which ultimately affected behaviour.

In a nutshell, it is imperative to acknowledge teachers for the deaf and hard of hearing learners as the visible beings that not only participate in teaching but also delegate some of their responsibilities through allowing learners to make rules and regulations that govern conduct in the classroom. This kind of treatment to learners helps them realize their ultimate goals and is also a way of motivation to pupils and independence essential in enhancing normal behaviours.

2.3 The relationship between parent-child interactions and aggressive behaviors among the deaf or hard of hearing learners

It is also noteworthy to know about the dysfunctional family environments when it comes to identifying challenges in children with hearing impairment. Across the different aspects of mental, social and cognitive problems a number of these issues are associated to parental and child interactions (Movallali and Poorseyed, 2015). Notwithstanding, Sommers (2014) asserts that understanding the kinds of behaviour concerns that prevail among hearing impaired learners could be informative about what sort of challenges should be looked out for to ensure good health.

Approximately 90–95% of deaf children are born to hearing parents. Frequently, there are significant difficulties with parent–child interaction as parents adjust to the knowledge of their child's deafness and find the most effective way to communicate with their child (Hintermair et al., 2013). Moreover, for deaf and hard of hearing children, access to incidental learning within school and family contexts is often restricted because of difficulties in communication and the hearing loss per se. It is imperative to note that the quality of a child's upbringing is essential for their future development with greater emphasis on the importance of parents' role in the emergence of problems that affect children and adolescents (Pino et al., 2017)

It is worth to note that family is the first and most unique social institution (Movallali and Poorseyed, 2015) although, children who are deaf and hard of hearing are at risk of psychosocial problems (Fellinger et al., 2008) associated to language impairments, communication problems, hence the role of parents and the community's beliefs and attitudes regarding hearing impairment is critical risk factors for behavioral problems in deaf populations (Movallali et al., 2017). Deaf communities as a cultural minority group and disability group as they are considered by the broader hearing community face a unique set of challenges (Jones et al., 2015) which are detrimental to safety and health.

In a study by Nunes et al., (2012) attributes to behaviour problems are discussed and these include infant attachment system and parenting practices system like rejection, and ineffective strategies to behavioural control among others which precipitate the signs of behaviour problems in childhood particularly the externalizing problems. The deaf and hard to hearing are a special group of individuals (Sommers, 2014) therefore, understanding and identifying the precipitating factors to behavioural problems in this population can mitigate behavioural challenges. Henceforward, Movallali and Poorseyed (2015) propose education for parents on parenting

styles and giving proper instructions to families on how to raise healthy individuals who will be less prone to behavioural problems in the society.

Furthermore, Ferrell et al., (2014) describe limited opportunities for incidental learning to include; strangeness of parents, families and caregivers who are deaf or hard of hearing as it is wise for experts to proactively focus on promoting their healthy growth and development of social, emotional, and behavioral knowledge and skills. According to Paatsch and Toe (2013), despite the insufficient communication skills of these children, some findings point out the cause of behavioural and emotional problems not related to insufficient communication skills in the DHH, but rather to early parent-child engagement. However, dominant parents-children affective relationships can significantly develop a secure attachment style in children hence protect them from behavioural disorders (Movallali and Poorseyed, 2015).

While Babaroglu (2014) points out the interactions between the hearing impaired children and their parents, especially when the child suffers from hearing loss which situation seriously and negatively affects the communication styles used by parents towards the child. In the light of this discovery, Stevenson et al. (2010); Sunal and Cam (2005) in their studies reason that the lack of efficient communication skills in children stem from failure to establish a healthy parent-child relationship rather than the method of communicating. Thus, the DHH should be included within the education efforts so as to ensure an efficient communication and interaction between them and their parents.

Aggressive behaviours just like other behavioural disorders such as depression, oppositional defiant disorder and conduct disorder, and less consistently anxiety, somatization, and delinquency are a range of mental health problems that have been found to be associated with hearing impairment (Theunissen, 2014). Notably, co-occurring cognitive and physical

impairments are hypothesized to be additional risk factors to behavioural challenges for many children with hearing impairment (Stevenson, 2015) which are thought to be aggravated by experiences within their families and the education system (Stevenson, 2010).

In a study focusing on the parenting practices adopted by parents of children with hearing impairment, and how those practices may affect externalizing behaviour problems such as aggression, hyperactivity and other forms of dishonest behaviour like transgressing social norms and delinquency, Pino et al., (2017) reveals that parenting styles significantly contributes to a higher likelihood of externalizing behavior problems with high scores among children with hearing impairment than their hearing counterparts. However, this study further investigated the relationship between parental-child interaction and aggressive behaviour in the DHH.

The above discoveries are consistent with Brubaker and Szakowski (2008) study on parenting practices and behavior problems among deaf children that reveal children's behavioural problems is influenced by parent's attitudes which is an important implication for the treatment of deaf children with behaviour problems as parenting practices are hypothesized associates of the problems in hearing children. Hence this study further investigated the correlation between parental-child interactions and aggressive behaviours among the deaf or hard of hearing.

Furthermore, Babaroglu (2016) affirms that hearing-impaired children experience negativities when entering socialization process without the chance to choose differ from their peers which negativities are considered as distant limitations to despair them ultimately aggressive behaviors, low self-esteem, worthlessness and the feelings of anger and frustration arise in these children. While in the Barker et al., (2009) study to predict behaviour problems in deaf and hearing children, observations indicate that parents of hearing impaired children used less verbal

reinforces compared to parents with the hearing children, and this precipitated behavioural problems.

In addition, Laugen (2017) argues that the parent's regulating behavior towards the children is inclined to how easy or difficult it is to calm the child and temperament of the child determines how the child reacts to the parent's behaviour. Hence the characteristics manifested by both the child and parent are outcomes of their interactions as the presence of a hearing loss is likely to affect the interactions between the child and its environment thereby changing their expectations of future interactions.

Likewise to the above assertion, Lam and Kitamura (2010) argue that the child's hearing loss is likely to influence parent-child interaction patterns as well as the quality and content of conversations. This study further investigated the relationship between parent-child interactions as an influence on the DHH aggressive behaviour.

Kentish (2014) posits that deprivation in psychological, social and emotional development by parents leads to deaf individuals' personalities being less structured, more immature and egocentric in perceptions and socialization and less empathic. In addition, Bachara et al., (2014) laments that poor parental empathic ability may contribute to social isolation, withdrawal, attention deficit in social skills and interpersonal relationships. However, more recently these pathologies of deafness have been rejected on the grounds that assumptions were based on findings from selective groups and therefore cannot be generalized to all deaf people (Monteiro, 2017). This study therefore sought to examine the above assertions.

In addition, Young et al., (2015) point out that deprivation experienced by deaf children with hearing parents impacts negatively on the individual's ability to understand moral reasoning and

the consequences of their behaviours. As emphasized by Austen et al., (2014), some deaf individuals never get the chance to learn what constitutes appropriate behaviour. While Kentish (2014) notes that deprivation might affect the deaf children's ability to understand other people's inner worlds so as to reflect upon one's own thoughts and feelings hence the lack of understanding relating to these factors may bring about aggressive behavioural problems in the deaf population.

Additionally, O'Rourke (2014) presents an argument that theoretically, deaf individuals might be at an increased risk of demonstrating violence and aggression because of some etiologies in deafness which lead to brain damage affect the self-regulatory system and cause acts of disinhibited aggression. In addition, due to the common experience of communication problems, deaf individuals' lives might be inherently more stressful particularly in relation to interpersonal relationships and their restricted access to information and learning in a predominantly hearing environment. Therefore, parents have a primary impact on their children's lives despite their hearing status as they always have insights regarding the behavioural manifestation and needs of the DHH children (Oladejo and Oladejo, 2011).

Nevertheless, the wide arrayof children having various kinds of hearing loss, parents and caregiversought to choose a type of modality in which to communicate with the children (Crowe, 2014). Brubaker and Szakowski (2008) found that parental discipline techniques significantly affected parental perceptions of child behavioural problems yet inconsistent discipline and corporal punishment were related to increased perceptions of the problems.

It is significant to note that parenting deaf or hard of hearing children is a very demanding and challenging task to an individual amidst dealing with behavioural problems of these children. There exists increased extent of physical, emotional and psychological demands by parents of the

DHH. Therefore, parents ought to devise means and employ coping strategies to master, tolerate or minimize these unhealthy events.

2.4 Research gaps

The literature review above generally provides proof that hearing impairment is associated with aggressive behaviours. However, none of the above studies had been carried out in Uganda which provided a research gap on examining aggressive behaviours and the associated factors among the DHH learners.

There is also scarcity of current literature on the subject which is why sentinel papers have been cited thus calling for current studies to be conducted. However, this study provided both qualitative and quantitative reports on the topic.

2.5 Conclusion

It is important that teachers and parents are supported to alleviate behaviour challenges in the education of the deaf and hard of hearing groups who are viewed as a unique and vulnerable population prone to developing mental health challenges which may hindering education attainment as well as jeopardize health and safety in the community. Therefore, a lot should be done to avert the problem and the related negative consequences.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter describes the methodology that was adopted to conduct the study. It is presented under different sub sections with brief details on the study design, the study area, study population, inclusion criteria, sample size estimation, and the sampling technique to be used. It further gives details on the study variables, data collection methods and instruments, data management and processing, data analysis and presentation methods, data quality control methods, ethical consideration, limitations to the study and the plan of disseminating findings.

3.2 Study design

A descriptive and an analytical cross-sectional study design with a mixture of both qualitative and quantitative research approaches were used. The main function of a study design is to explain how the researcher finds answers to their research questions and sets out the specific details of the researcher's enquiry (Kumar, 2011). The descriptive design was adopted because of its strength at describing the state of view as it existed at present (Bhojanna, 2012) and cross sectional design because of its ability to measure the exposure and effect at the same time (Bonita et al., 2006). Hence, using a descriptive cross-sectional design enhanced quick and cheap data collection.

On the other hand, the mixed methodology or multi-method was used because of its capacity to provide a stronger understanding of the research problem or question through comparing different perspectives drawn from quantitative and qualitative data and more so explaining the quantitative results with a qualitative follow-up data collection and analysis (Creswell, 2014)

3.3 Study area

The study was conducted in Mulago School for the deaf located at Mulago catholic parish, Mulago 11, Kawempe division, Kampala district. It is one of the few settings in Uganda where special groups of children receive formal education. This school is mandated to run primary education and it is registered with Ministry of Education and Sports. The uniqueness of this setting as a result of communication challenges has left this special group in some way neglected yet they too face similar challenges like their hearing counterparts though in varying degrees. Therefore, the researcher chose this school to be representative of the special needs communities.

3.4 Study population

The study targeted the deaf and hard of hearing group in Uganda but was limited to individuals at Mulago School for the deaf hence making up the study population.

3.4.1 Study participants

The study participants were the deaf and hard of hearing learners receiving formal education at Mulago School for the deaf, including the teachers as they have a stake in promoting children's well-being at the school premises. Therefore, participants were both learners and teachers at the school.

3.4.2 Inclusion criteria

- Assent was obtained for the DHH learners in the top classes of primary five to primary seven, however those who opted not to participate were not enrolled into the study
- Enrolment into the study was for teachers at Mulago School for the deaf who had consented to participate.

3.4.3 Exclusion criteria

- The DHH learners in the lower classes of primary one to primary four were left out to participate in the study

- Individuals who worked at Mulago School for the deaf but not involved in teaching of the learners were left out to participate in the study

3.5 Sample size estimation

The sample size for the simple random sampling method was determined using the formula developed by Cochran (1977) as follows;

$$n = \frac{Z^2 P(1-P)}{d^2}$$

Where; n is the sample size required

Z is the score corresponding to 95% confidence interval = 1.96

P is estimated prevalence of behavioural problems among the DHH and is 3% (Lier, 2013)

d is the marginal error = 0.05 (5%).

Therefore, from the formula;

$$n = \frac{1.96^{2x}0.03(1-0.03)}{0.05^2}$$

n = 44.7 Approximately 45 from Cochran's formula

On the other hand, a total of 8 teachers were selected by purposive sampling as the researcher required specific and expert information from them. Hence, n= 53 where n refers to the number of participants that were considered for the study. More so, the sample size of 53 participants was good enough which according to Kish (1965), a sample size of 30-200 elements are sufficient when the attribute is present 20-80% of the time or if the distribution approaches normality.

Table 1: Sample size for the study

Study population	Population	Sample size	Sampling method
Teachers	10	8	Purposive
Learners	202	45	Simple random
Total	**212**	**53**	

3.6 Sampling Techniques

Simple random sampling was used to select the 45 learners at Mulago School for the deaf. A simple random sample is a subset of a statistical population in which each member of the subset has an equal probability of being chosen. Upon briefing and soliciting support from the head teacher of Mulago School for the deaf, the head teacher then introduced the research team to the class teachers of primary five, six and seven who were also briefed and requested to support in data collection.

The research team of three (3) was then led to these classes to obtain at most 15 participants from each class, the DHH learners were briefed by the teachers and then names of pupils in each class were written down on papers, then rolled and randomly picked 15 names and these were the pupils who were assented to participate in the study. Each learner was chosen randomly and entirely by chance to give responses to the quantitative thread of the study. Simple random sampling was adopted because it enabled in the generalization of the findings.

On the other hand, the head teacher introduced the research team to the teaching staff at Mulago School for the deaf and further assisted in the selection of the 8 teachers using a purposive non-probabilistic sampling technique. This technique was used because the researcher needed to obtain specific and expert information held by the teachers on the topic of study. Teachers selected were able to provide detailed information through key informant interviews for in-depth analysis of the qualitative thread of the study.

3.7 Study variables

3.7.1 Dependent variable: This is also known as the outcome which according to the study was development of aggressive behaviors in the deaf and hard of hearing learners and it was measured using a standard tool for measuring various parameters on aggression known as the

Buss Perry Aggression Questionnaire (BPAQ). It has got 29 items of assessing learner aggression (as explained in 3.8.1).

3.7.2 Independent variables: These are also known as the exposures which according to the study were; the individual factors that influence aggressive behaviours, teacher-learner interactions and parental-child interactions.

Individual factors that influence aggressive behaviour: A general information form was used to capture information on demographics and background characteristics like age, sex, degree of hearing loss, hearing status of parents, receipt of special education, and preferred mode of communication, use of hearing device and duration of use.

Teacher-learner interactions: This was measured using a standard tool for measuring teacher-learner relationship across various indicators. This tool is known as the Teacher Student Relationship Questionnaire (TSRQ) which has got 36 items that were used to measure the relationship between teacher-learner interaction (as explained in 3.8.1) and aggressive behaviour in the deaf and hard of hearing learners.

Parental-child interactions: This was measured using a standard tool for measuring parent-child interaction across different indicators. This tool is known as the Alabama Parenting Questionnaire which has got 32 items that were used to measure the relationship between parent-child interaction (as explained in 3.8.1) and aggressive behaviour in the deaf and hard of hearing learners.

3.8 Data collection methods and study instruments

The study involved collection of both qualitative and quantitative data. Key informant interviews and self-administered questionnaires respectively were the methods of data collection used. A

self-administered questionnaire was used for quantitative strand and key informant interview guide for qualitative strand.

3.8.1 Self-administered questionnaire

This constituted of questions on general information about the DHH learners, questions on assessment of learners' aggressiveness, questions on teacher-learner interactions including those on parental-child interactions (see Appendice II). Standard tools or questionnaires were adopted and combined in sections to form one tool for answering the questions on aggressiveness. The tools adopted were; the Buss Perry Aggressiveness Questionnaire (Buss and Perry, 1992), Alabama Parenting Questionnaire (Frick, 1991) and the Teacher Student Relationship Questionnaire.

The Buss Perry Aggressiveness Questionnaire (BPAQ) is an aggressiveness questionnaire developed by Buss and Perry (1992) for the purpose of measuring aggressiveness. BPAQ is among the most frequently used aggressiveness questionnaires in global literature and it is a kind of 5 point likert scale. It has 29 items, subdivided in four factors (which resulted from factor analysis): Physical aggression (9 items), Verbal aggression (5 items), Anger (8 items), Hostility (8 items). .

While the Alabama Parenting Questionnaire (APQ) was adopted in assessing the parenting behaviour and practices relevant to the etiology and management of children's externalizing behavioural challenges (Frick, 1991). The APQ is a widely used assessment tool with basis on its four supported factors namely; Involvement, Positive parenting, Inconsistent discipline and Poor supervision. It has got 32 items measuring the dimensions of parenting style. Independent investigations reveal that the APQ is an informative assessment tool (Colder et al., (1997).

Whereas the Teacher Student Relationship Questionnaire (TSRQ) was adopted and modified by the researcher to measuring the teacher-learner interactions, which has 36 items of measurement

More so, research assistants who were well conversant with sign language were oriented and trained to collect data for the study. Upon assenting and briefing the selected DHH learners by simple random sampling, the research assistants administered the questionnaires to them and further explained any unclear questions to the participants. Answering was by ticking at the appropriate response for the each item in an effort to conserve time as well as making it easy for data analysis. The process of data collection took on a period of 10 days as the study team had to handle one section at a time and according to the pace of the participants.

3.8.2 Key informant interviews

Key informant interviews with the teachers enabled in collection of qualitative data using a key informant interview guide developed by the researcher (see Appendice III). The interviews involved face-to-face discussions with each of the selected teachers. The interviews allowed teachers to express their thoughts and views to the researcher and as a result meaningful information was obtained and later was analyzed. The interviews were conducted during non-class hours (break and lunch time) in order to avoid undue interruptions and most importantly a relaxed atmosphere where teachers were free to talk and be listened to.

Table 2: Study design as per objectives

Objectives	Study design	Type of data	Method of data collection	Tool for data collection
Objective 1: To explore the individual factors that influence aggressive behaviours among the deaf or hard of hearing learners at Mulago School for the deaf	Descriptive	Quantitative	Administration of Questionnaires	Self-administered Questionnaire
Objective 2: To establish the relationship between teacher-learner interactions and aggressive behaviours among the deaf or hard of hearing learners at Mulago School for the deaf	Analytical	Quantitative and Qualitative	Administration of Questionnaires Interviews	Self-administered Questionnaire Key Informant Interview guide
Objective 3: To establish the relationship between parental-child interactions and aggressive behaviours among the deaf or hard of hearing learners at Mulago School for the deaf	Analytical	Quantitative and Qualitative	Administration of Questionnaires Interviews	Self-administered Questionnaire Key Informant Interview guide

3.9 Data quality control methods

The study involved reliability and validity of the findings as a measure of data quality control.

3.9.1 Reliability

Creswell (2014) defines reliability as a measure of whether scores to items on an instrument are internally consistent across constructs, stable over time and whether there is consistency in test administration and scoring. Additionally, Gibbs (2007) describes reliability as an indicator that the study approach is consistent across different researchers and different projects. Therefore, the

following procedures were adopted as suggested by Gibbs (2007) to ensure reliability of the study findings;

- Cross checking transcripts to make sure that they did not contain noticeable errors made during the process of transcription.
- Continuous comparison of data with the codes and by writing notes about the codes and their definitions so that there is no shift in the meaning of the codes during the process of coding.
- Cross checking codes developed by other researchers through comparing results derived independently

3.9.2 Validity

Gibbs (2007) describes validity as a measure that checks for the accuracy of the findings by employing certain procedures. It is based on ascertaining accuracy of findings from the viewpoint of the researcher, the participant, or the readers of an account (Creswell, 2009). Therefore, the following procedures were adopted as described by Creswell (2009) to ensure validity of the findings;

- Taking parts of the polished product that is the narratives and specific descriptions back to the participants to determine if the participants felt that the findings were accurate. A follow-up interview was conducted with participants, hence allowed them to comment on the findings.
- Through peer debriefing; the researcher identified colleagues who reviewed, interpreted and asked questions about the study so that the viewpoint resonated with people other than the researcher. The observations made enabled the researcher to identify mistakes and corrected them in real time.

3.10 Data collection procedure

Permission was sought from the administration of Mulago School for the deaf. Through the head teacher as the point of entry to the study participants, the teachers were contacted and later on the learners were informed about the study. However, prior to the data collection exercise, two (2) research assistants who were well vast with communication using sign language were obtained and oriented about the study, the tools and methods for data collection. The research assistants were equipped with the guidelines for collecting data and with assistance from the class teachers of the participating classes, the team explained to the learners the questions, the scale and answering mode in the different sections of the questionnaire using sign language.

Given that the researcher and research assistants had thoroughly read through the questionnaire, the questions that had complex grammar and seemed hard to read and comprehend by the DHH learners were explained by the research assistants using sign language to the simplest and clear grammar. For any inquiries from the participants, the research team readily availed themselves to support. There was no time limitation set for the DHH learners while filling out the form; however, the maximum time spent for filling out each section on the form was 20 minutes. However, required disclosures were made for the complex expression and statements.

On the side of teachers, face to face interviews were held between the researcher and teachers. Each interview schedule took a maximum of 15 minutes and conversations were recorded in both writing and audio forms. The data collection process took a period of 10 school/working days whereby the researcher regularly visited the study area on particular days and at a convenient and scheduled time so as to capture vast responses to study questions.

3.11 Data Management and analysis

3.11.1 Quantitative analysis

The data was properly handled and managed before analysis. The management process involved; collecting data pieces (questionnaires and interview scripts) for all the respondents then serially numbering and keeping them separately basing on the category of respondents. The data was then grouped and summarized by tallying. Data collected was then entered into the Statistical Procedures for Social Scientists (SPSS) version 25, for analysis. Both the independent variables (individual factors, teacher-learner interaction and parental-child interaction) and dependent variables (learners' aggression) were measured.

Descriptive statistics was then summarized and described in quantitative information in the form of frequency distribution and measures of central tendency and mean whereas inferential statistics were used to make conclusions with the help of the logistic regression model which is used to measure the direction and strength of the relationship between the research variables.

Data results were then presented in tabular forms, percentages including narratives of responses obtained from the field according to the different variables of study.

3.11.2 Qualitative analysis

According to Burns and Grove (1999) qualitative data analysis occurs in three phases: description, analysis and interpretation. The researcher transcribed the interviews verbatim and analysis of the transcripts while utilizing Colaizzi's (1978) (see Appendice IV) seven step approach to descriptive data analysis. In order to achieve complete data saturation, thorough reading and re-reading was necessary to ensure all recurring information and variations were identified and only when no new information could be obtained.

Volumes of data gathered throughout during the data collection process required the researcher to complete a reduction in data through categorizing and identifying similar views (narratives). This process enabled the researcher to easily interpret the findings. The findings were then presented in form of text depicting respondents' expressed views and somewhere with the use of direct verbatim words or quotations from the respondents.

3.12 Ethical Considerations on this study

Upon approval of the research proposal, an introductory letter was obtained introducing the researcher to the study area. At the study area, the researcher introduced herself to the school authority, explained the purpose of the study and sought for approval to conduct the study. Upon receipt of permission from the school authority, the researcher explained and sought consent and assent from the participants/respondents. Those who had consented and assented to participate in the study were selected by purposive and simple random sampling. Participants/respondents were made to know that participation was voluntary and does not attract any form of incentives. Any attempts to opt out or refusal from participating in the study had no consequences and so participants/respondents were free to withdraw from the study at any time if they so wished to.

3.13 Limitations of the study

The limitations of the study refer to the challenges that could affect the study findings/results. Firstly, the researcher had limited knowledge and skills in communicating with sign language to the DHH learners. To this challenge, the research had to orient and train research assistants who were well conversant in communicating using sign language in order to support in conducting the research.

Secondly, the researcher did not have an opportunity to discuss with the parents/guardians of the DHH learners to get their views about the topic.

3.14 Dissemination of results

Approved copies of the study findings will be availed to:

- Faculty of Health Sciences, Uganda Martyrs University
- Mulago school for the deaf, Office of the head teacher
- Publication at a peer review journal
- Presentation in conferences and seminars

CHAPTER FOUR

RESULTS AND ANALYSIS

4.0 Introduction

This study consisted of both qualitative and quantitative strands given that it was a mixed method. The key findings from the discussion from the key informant interviews (qualitative strand) with teachers and the findings from self-administered questionnaires (quantitative strand) to the DHH learners were analyzed, interpreted and presented in this chapter. Results have been presented basing on the study objectives.

4.1 Respondents characteristics

The study results on the respondents characteristics indicate that majority of the learners the DHH learners were males (57.8%) as compared to 42.2% who were females. Findings also show that the majority of the DHH learners were aged between 14 – 17 years old (60%) this is attributed to the fact that unlike the hearing children, the DHH children join school when they are older as compared to their hearing counterparts.

Furthermore, the findings show that few (15.6%) children have received early special education as compared to those who did not receive early special education (84.4%). On the other hand, majority of the learners (82.2%) used a hearing device while a few (17.8%) did not use a hearing device. Moreover, for those that used the hearing device, majority (48.6%) of the DHH learners had been using the device for more than five years. Additionally, majority (82.2%) of the DHH learners are children of hearing parents with a few (17.8%) learners being children of hearing impaired parents.

The results from the above respondents (the DHH learners') characteristic examined are presented in the table 3 below;

Table 3: Respondents characteristics

Characteristics	Indicators	Number	Percentage
Sex	Male	26	57.8
	Female	19	42.2
Age	11 - 13	18	40.0
	14 - 17	27	60.0
Special education status	I receive	7	15.6
	I did not receive	38	84.4
Hearing status of parents	Hearing	37	82.2
	Hearing Impaired	8	17.8
Use of the device	Use	37	82.2
	Not use	8	17.8
Use of the device time	1-2 year	8	21.6
	3-4 year	11	29.7
	5 year and above	18	48.6
Preferred mode of communication	Sing language	34	75.6
	Oral	11	24.4

Source: Primary data

4.2 Level of behavioral aggression among the DHH learners

The level of behavioral aggression among the DHH learners was measured by the "Buss-Perry Aggressiveness Questionnaire (BPAQ)". The results of the BPAQ scale yielded scores on four indicators of child aggressiveness which were: Anger, Physical aggression, Verbal aggression, and Hostility. The aggressive behaviour scores were categorized into 3 groups (Low, Average, and High) with 1.0 - 2.9 being low; 3.0 -3.49 being average; and 3.5 - 5.0 being high.

The results are presented in the table 4 below;

Table 4: Level of behavioral aggression among the DHH learners

Anger	**Mean**	**Std. deviation**
Some of my friends think I am a hothead	3.57	1.60
I am an even-tempered person.	3.90	1.21
I have trouble controlling my temper.	3.08	1.08
When frustrated, I let my irritation show.	3.14	0.96
Sometimes I fly off the handle for no good reason.	2.06	0.77
I sometimes feel like a powder keg ready to explode.	4.90	1.50
	3.44	**1.23**
Physical Aggression		
If I have to resort to violence to protect my rights, I will.	3.92	1.39
I have become so mad that I have broken things.	2.01	1.42
Once in a while, I can't control the urge to strike another person.	3.27	0.92
I have threatened people I know.	4.33	0.78
Given enough provocation, I may hit another person.	3.04	1.60
I can think of no good reason for ever hitting a person.	3.18	1.49
If somebody hits me, I hit back.	3.41	1.22
There are people who pushed me so far that we came to blows.	3.70	1.48
I get into fights a little more than the average person.	2.57	1.60
	3.27	**1.32**
Verbal Aggression		
I tell my friends openly when I disagree with them.	4.14	0.96
I can't help getting into arguments when people disagree with me.	4.06	0.77
When people annoy me, I may tell them what I think of them.	2.90	1.50
I often find myself disagreeing with people.	3.51	1.46
My friends say that I'm somewhat argumentative.	3.77	1.35
	3.68	**1.21**
Hostility		
When people are especially nice to me, I wonder what they want.	2.27	0.92
I wonder why sometimes I feel so bitter about things.	2.33	0.78
I am suspicious of overly friendly strangers.	3.04	1.60
I am sometimes eaten up with jealousy.	3.18	1.49
At times I feel I have gotten a raw deal out of life.	3.41	1.22
I sometimes feel that people are laughing at me behind my back.	2.70	1.48
Other people always seem to get the breaks.	3.57	1.60
I know that "friends" talk about me behind my back.	2.90	1.21
	2.93	**1.29**
Overall scores	**3.33**	**1.26**

Source: Primary data

The results in table 4 above show that the DHH learners manifest high levels of verbal aggression (Mean = 3.67, SD = 1.21). Verbal aggression normally includes cases of uncontrollable arguments. These arguments may arise from any cases of disagreements. The study findings also revealed that the DHH learners exhibit moderate levels of physical aggression (M = 3.33, SD = 1.32) and anger (Mean = 3.44, SD = 1.23). Cases of physical aggression measured included fighting, breaking up things, throwing stones, hitting others and striking others among others. On the other hand, the cases of anger included being irrigative, hot tempered, and showing signs of ready to burst out.

Additionally, the study results also revealed that the DHH learners manifested lower levels of hostility (M = 2.93, SD = 1.9). The cases of hostility measured included not associating with other people, feeling so bitter about certain things, being suspicious of overly friendly strangers, being eaten up with jealousy, having feelings of being laughed at and feelings of being talked about by friends.

Overall, results indicate that the DHH learners exhibited average levels of behavioral aggression (Mean = 3.33, SD = 1.29). Much as it was earlier anticipated that the DHH learners exhibit very high or high levels of aggressiveness, on the contrary, the study findings revealed that these learners actually show moderate levels of aggression given the controlled environment they are put in which might be different from those who are not in school. In support of this assertion, a one key informant during the interview reported:

> […] *Most of our learners are well behaved, though in my class (P.7) I have a case of boy who easily becomes irritated, whenever his friends say something that he cannot understand he goes ballistic and becomes angry with everybody thinking that they are plotting something evil against him. I always calm him down and inform him that they are his friends as such they cannot harm him at all* ***(KI 5)***

Additionally, another key informant during the interview had this to say:

> […] *We have few cases of learners who have defying behaviours, they refuses to obey most of what you ask them to do but as a teacher we find ways of bringing them to order and do what is expected of them* ***(KI 3)***

It is evident that the above statements indicated that there were moderate levels of aggressive behaviours among the DHH learners in addition to the quantitative findings from the self-administered questionnaires to the DHH learners.

4.3 Levels of parent-child interactions

The study examined the levels of parent-child interactions in regards to aggressive behaviour among the DHH learners at Mulago School for the deaf and the results are presented below.

The parenting-child interactions were measured by the Global Parent Report Form of the Alabama Parenting Questionnaire (APQ).

The instrument yielded scores on four scales reflecting parental involvement in children's activities (Involvement), the use of positive behavior-management techniques (Positive Parenting), parental monitoring of children's behavior (Poor Monitoring/Supervision), and inconsistent/lax use of discipline with the children (Inconsistent Discipline). The level of interactions scores were categorized into 3 groups (Low, Average, and High) with 1.0 - 2.9 being low; 3.0 -3.49 being average; and 3.5 - 5.0 being high.

The results are presented in table 5 below;

Table 5: Levels of parent-child interactions

Parameters	Mean	Std. Deviation
Involvement		
My parents have friendly talk with me	2.57	1.60
My parents volunteer to help me with special activities	2.91	1.21
My parents play games/do fun things with me	3.08	1.08
My parents ask me about day in school	3.14	0.96
My parents help child with homework	2.06	0.77
My parents ask me what plans are for day	2.9	1.50
My parents drive/take me to special activity	3.51	1.46
My parents talk to me about friends	3.77	1.35
I help my parents to plan family activities	2.92	1.39
My parents attend meetings at my school	2.01	1.42
	2.89	**1.27**
Positive parenting		
My parents let me know when I do a good job	3.27	0.92
My parents reward or give me extra for obeying	3.33	0.78
My parents compliment me when I do things well	2.04	1.60
My parents praise me if I behaves well	3.18	1.49
My parents hug or kiss me when i do well	2.41	1.22
My parents like it when help them out	2.70	1.48
	2.82	**1.25**
Poor monitoring/supervision		
I fail to leave a note when going	3.65	0.66
I stay out past time to be home	4.31	1.05
I go out with friends when my parents do not know	4.93	1.11
I go out without set time to be back home	3.16	0.94
I go out after dark without an adult	4.82	1.17
My parents are not bothered about my whereabouts and what am doing	3.73	1.17
My parents do not check that I come home when supposed to	3.20	1.52
My parents do not tell me where they are going	3.83	1.10
Am always at home more than hour past time expected	4.29	1.03
Am always at home without adult supervision	4.99	1.29
	4.09	**1.10**
Inconsistent discipline		
My parents threaten to punish me then they do not	4.38	0.97
I talk to my parents about being punished	4.65	0.79
My parents obey more trouble than worth	4.67	0.80
Am let out of punishment early	2.70	1.37
Am not punished when I do wrong	4.31	0.92
Punishment depends on my parents mood	3.34	1.54
	4.01	**1.07**
Overall Mean scores	**3.45**	**1.17**

Source: Primary data

The study results in the table 5 above display that the parent-learner interactions measures manifested high levels of poor monitoring/supervision (Mean = 4.09, SD = 1.10) and inconsistent discipline (Mean = 4.01, SD = 1.07). High cases of poor monitoring/supervision included a child leaving home without the parents notice, a child staying out of home till late, parents not being bothered about the child's whereabouts and what he or she is doing including the other cases of the lack of parental monitoring of children's behavior. Whereas high cases of inconsistent use of discipline with children included parents threatening to punish the child, parents obeying more trouble than worth, failure to punish a child when in a wrong doing and use of corporal punishments among others.

On the other hand, the study findings revealed low levels of parental involvement (Mean = 2.89, SD = 1.27) and positive parenting of children (Mean = 2.82, SD = 1.25). Cases of parental involvement in the child's activities included having friendly communication with the child, parents volunteering to help the child with special activities, parents playing games or making fun with the child, helping the child with homework, and parents attending school meetings among others. Though, the study findings revealed low levels of parent involvement in such crucial activities.

While the parameters measured in terms of positive parenting included; my parents let me know when I do a good job, my parents reward or give me extra for obeying, my parents compliment me when I do things well, my parents praise me if I behaves well, my parents hug or kiss me when I do well, my parents like it when I help them out. It was however noted that parents of the DHH learners did not pay much attention to these positive attributes of parenting.

Overall findings show that there were moderate levels of parent-child interactions (Mean = 3.45, SD = 1.17). Yet still, these moderate levels of parent-child interactions are not enough to shape the behaviours of DHH children who in a special way require much attention.

Furthermore, in support of the above statement, a key informant reported:

> […] *It is every parents dream to have his or her child grow up into a responsible person. Even though every parent wishes the best for his or her child, at times bad parenting gets in the way of achieving this. Bad parenting has lots of negative effects in the life of your child. It is therefore important for each and every parent to evaluate his or her parenting skills so as to know the effects of such parenting on the child* ***(KI 2)***

In addition to the above, another key informant had this to say:

> […] *While it is impossible to be an all-round perfect parent, it is never wrong to try and be the best that you can be. Since a parent guides the child, molding him or her into the person they ultimately become and also acts as a role model, bad parenting can spell destruction for your child. The most common parenting mistakes made include neglecting the child and not correcting him or her. This leads to a number of problems in the children* ***(KI 1)***

The above views of the key informant (teachers) revealed that indeed there were low levels of parent-child interactions which can have negative effects on the child's beahaviours.

4.4 Levels of teacher-learner interactions among the DHH learners of Mulago school of the deaf

The study further examined the levels of teacher-learner interactions in regards to aggressive behaviour among the DHH learners at Mulago School for the deaf. The levels of interactions scores were categorized into 3 groups (Low, Average, and High) with 1.0 - 2.9 being low; 3.0 - 3.49 being average; and 3.5 - 5.0 being high and the results are presented in table 6 below.

Table 6: Levels of teacher-learner interactions among the DHH learners of Mulago school of the deaf

Items	Mean	Std. Deviation
Teacher support		
My teacher provides support for all students	4.04	1.61
My teacher presents the information in a way that is easy to understand	4.23	1.21
My teacher cares about my academic and social well-being	4.22	1.08
My teacher provides high and clear expectations for academic performance	3.11	0.96
My teacher takes the time to assist individual students that need help	4.03	0.77
My teacher motivates students through inspiring teaching	4.22	1.50
My teacher is accepting to all student's cultures	4.43	1.46
I am able to take risks in the classroom without feeling embarrassed	4.38	1.35
My teacher's classroom is structured with routines and procedures	4.65	1.39
	4.15	**1.26**
Teacher attitude and conduct		
My teacher has a positive attitude on a daily basis	4.70	0.78
My teacher acknowledges student effort through recognition and praise	3.34	1.49
My teacher is sensitive to all students	2.60	1.22
My teacher views me as an important part of the classroom	2.45	1.26
My teacher motivates me to give my best effort.	3.71	1.60
My teacher expects me to succeed	4.04	1.21
My teacher's expectations are high, clear, and fair for all students	4.23	1.08
My teacher makes positive comments about the student's abilities to learn	3.11	0.77
	3.52	**1.18**
Teacher involvement		
My teacher encourages student feedback	4.22	1.35
I am able to ask for assistance without fear of rejection or embarrassment	4.43	1.39
My teacher calls upon students in the decision-making process	4.38	1.42
My teacher consistently engages students in meaningful classroom activities that are connected to real-world experiences	4.65	0.92
My teacher makes teaching attractive by showing how theory is implemented in the real world	4.67	0.78
My teacher lets students take risks in classroom learning activities	2.70	1.60

My teacher conducts him/herself professionally	4.31	1.49
	4.19	**1.28**
Teacher counseling and guidance		
I view my teacher as a good person and I feel that my teacher is a coach, mentor, or partner	3.60	1.26
My teacher guides students in a positive direction for their personal growth	3.03	1.60
My teacher focuses on stopping unwanted behavior for the majority of the class period	4.45	1.21
My teacher uses various strategies to promote unity, order, satisfaction, and less conflict in the classroom	3.71	1.08
My teacher connects emotionally with the students	4.04	0.96
My teacher is patient with students when directing them to learn appropriate behaviors	4.23	0.77
	3.84	**1.15**
Overall Mean	**3.93**	**1.22**

Source: Primary data

The results of the study in table 6 above show that teachers exhibit high levels of positive teacher-learner interactions in form of teacher support (Mean = 4.15, SD=1.26), positive teacher attitude and conduct (Mean = 3.52, SD = 1.18), teacher involvement (Mean = 4.19, SD = 1.28), and teacher guidance and counseling (Mean = 3.84, SD = 1.15). Positive teacher-learner interactions in most cases ultimately result in good behaviours among the DHH learners. The positive outcomes of the teacher-learner interactions could be attributed to the fact that the teachers are professional who are trained to handle the DHH children unlike the parents who lack professional training.

Along the same line, a key informant during the interview stated that:

> […] *If a teacher is invested in their pupils' lives, it is easy to know if a pupil is going through a difficult time. This is because the teacher can easily tell when the student is not behaving normally, or the student confides in the teacher because they trust them. The problem is then addressed instead of letting it grow and stressing the child* ***(KI 8)***

The above quantitative and qualitative statements provide evidence that teachers are more than concerned with the academic lives of their pupils but also about their social lives which shapes the behaviours of these children with hearing impairment.

4.5 Relationship between the individual characteristics and behavioral aggressiveness among the DHH learners at Mulago School of the Deaf

A chi square test was used to establish the relationship between the demographic and background characteristics and behavioral aggressiveness among the DHH learners at Mulago School of the Deaf. Total aggressiveness levels of the DHH learners significantly differ by sex ($p = 0.014$). The study findings show that aggressiveness scores of males (48.9%) were higher than the aggressiveness scores of females (28.9%). Thus the study findings reveal that male children are more aggressive than the female children.

The study findings indicate that the DHH learners' aggressiveness statistically differ by age ($p = 0.002$). The findings show that levels of aggressiveness in the DHH children increases with the increasing age. The total aggressiveness scores by the age groups show that the highest scores belong to children at the age group between 14 – 17 years old (55.6%) as compared to those in the group of 11 – 13 years old (26.7%).

Notably, the study findings showed that statistically aggressiveness of the DHH learners is not significantly associated with special education status ($p = 0.167$). This could be attributed to the fact that much as early special education supports the hearing impaired children in terms of hearing and language, the DHH children are more inclined to experience behavioral problems such as aggressiveness due to insufficiencies in their communication skills and that having

received special education did not have any effect on the aggressive behaviors and executive functions of school-age children.

Furthermore, the study results reveal that the DHH learners' aggressive scores do not significantly differ with the hearing status of the parents ($p = 0.064$). Much us it be expected that the DHH learners with hearing impaired parents would be less aggressive as the communication is between the child and parents is easy, on the contrary, the study findings show that there were no remarkable differences in the aggressive behaviours exhibited by DHH children of both the hearing and the hearing impaired parents.

Additionally, the study findings reveal that the aggressiveness among the DHH learners significantly differs between the children who used device and who did not ($p = 0.023$). Prior to the study, it was also expected that the hearing impaired children using device would hear better and therefore would express themselves more efficiently. The study results also proved the expectations to be true. More so, even the duration of using the device did not have any effect on behavioral aggressiveness among the DHH learners. This implies that the aggressiveness scores did not change depending on the duration of using device ($p = 0.452$). The above findings are further presented in the table 7 below;

Table 7: Relationship between the individual characteristics and behavioral aggressiveness among the DHH learners at Mulago School of the Deaf

Demographic and background Characteristics		Exhibiting behavioral aggressiveness			
	Indicators	**Yes N (%)**	**No N (%)**	**Total N (%)**	***p* Value**
Sex	Male	22 (48.9)	4 (8.9)	26 (57.8)	0.014
	Female	13 (28.9)	6 (13.3)	19 (42.2)	
Age	11 – 13	12 (26.7)	6 (13.3)	18 (40.0)	0.002
	14 – 17	25 (55.6)	2 (4.4)	27 (60.0)	
Special Education status	I receive	6 (13.3)	1 (2.2)	7 (15.6)	0.167
	I didn't receive	35 (77.8)	3 (6.7)	38 (84.4)	
Hearing status of parents	Hearing	35 (82.2)	2 (4.4)	37 (86.7)	0.064
	Hearing Impaired	7 (15.6)	1 (2.2)	8 (17.8)	
Use of the device	Use	27 (60.0)	10 (22.2)	37 (82.2)	0.023
	Not Using	6 (13.3)	2 (4.4)	8 (17.8)	
Duration of using the device	1-2 year	5 (25.0)	3 (11.1)	8 (21.7)	0.452
	3-4 year	10 (25.0)	1 (2.2)	11 (30.7)	
	5 year and above	14 (12.5)	4 (0.0)	18 (48.6)	

Source: Primary data

4.6 Relationship between parent-child interactions and aggressive behaviors among the deaf or hard of hearing learners at Mulago School for the deaf

Of particular importance was to ascertain the relationship between parent-child interactions and aggressive behaviors among the deaf or hard of hearing learners at Mulago School for the deaf. As such the results of the univariate analysis were subjected to multivariate analysis using the Logistic Regression model so as to establish the statistical relationship between parent-child interactions and aggressive behaviors. The results were as in Table 8 below.

Table 8: Logistic Regression model with results for parent-child interactions and aggressive behaviors among deaf or hard of hearing learners at Mulago School for the deaf

Parent-child interactions	Standardised Coefficients Beta (β)	Significance (p)
Involvement	-0.341	0.004
Positive parenting	-0.317	0.014
Poor monitoring/supervision	0.511	0.001
Inconsistent discipline	0.652	0.031
R = 0.6899 [a] R Square (R^2) = 0.476 Adjusted R Square = 0.424 Std. Error of the Estimate = .331.142 Sig = 0.000[a] F = 48.264 a. Dependent Variable: DHH learners aggressive behaviors		

Source: Primary data

The logistic regression model focused on the parent-teacher interactions influence on learners' aggressive behaviors as measured by: parents' involvement, positive parenting, poor monitoring/supervision, and inconsistent monitoring indicators adopted from the Alabama Parenting Questionnaire (APQ). The results in table 8 show that positive parent-learner interactions account for 42.4% of the learners aggressive behaviours (adjusted $R^2 = 0.424$), this means that 57.6% of the contribution to aggressive behaviour in the DHH learners is accounted for by other factors.

More so, two indicators of parent-learner interactions namely; the parents' involvement ($\beta = -0.341$, $p = 0.004$) and positive parenting ($\beta = -0.317$, $p = 0.014$) had a negative effect and significant prediction on aggressive behaviours of the DHH learners. This means that positive parenting and parents' involvement reduced the likelihood of developing aggressive behaviours among the DHH learners. While, poor monitoring or supervision ($\beta = 0.511$, $p = 0.001$) and

inconsistent discipline ($\beta = 0.652$, $p = 0.031$) had a positive effect and significant prediction on the DHH learners aggressive behaviours. This implies that poor monitoring or supervision and inconsistent discipline increased the likelihood of developing aggressive behaviours of the DHH learners.

In support of the above, a key informant had this to say:

> […] *Much as we teachers do our work, we have noted however that the children's physical and emotional status, as well as their social and cognitive development, greatly depends on their family dynamics. The rising incidence of behavioural problems among children could suggest that some families are struggling to cope with the increasing stresses they are experiencing* ***(KI 6)***

In a related development, another key informant asserted:

> […] *Good parent-child relationships are very important; the emotional and social outcomes are significantly improved for DHH children whose parents play a visible and nurturing role in their upbringing. Parental involvement and positive parenting are associated with positive cognitive, developmental and socio-behavioral child outcomes, such as higher receptive language skills and non-aggressive behaviours* ***(KI 7)***.

It is clear from the above statements to support the view that poor parent-child interaction in form of inconsistent discipline and poor monitoring are associated with aggressive behaviours among the DHH children while parent involvement and positive parenting reduce the levels of aggressiveness among the DHH learners.

4.7 Relationship between teacher-learner interactions and aggressive behaviors among the deaf or hard of hearing learners at Mulago School for the deaf

The study was meant to ascertain the relationship between teacher-learner interactions and aggressive behaviors among the deaf or hard of hearing learners at Mulago School for the deaf. Thus, the results of the univariate analysis were subjected to multivariate analysis using the Logistic regression model so as to establish the statistical relationship between exposure (teacher-learner interaction) and aggressive behaviour in the deaf and hard of hearing learners.

The results were as in Table 9 below.

Table 9: Logistic Regression model with results for teacher-learner interactions and aggressive behaviors among the deaf or hard of hearing learners at Mulago School for the deaf

Teacher-learner interactions	Standardised Coefficients Beta (β)	Significance (p)
Teacher support	-0.578	0.004
Teacher attitude and conduct	-0.323	0.014
Teacher involvement	-0.613	0.001
Teacher counseling and guidance	-0.386	0.031
R = 0.54211[a] R Square (R^2) = 0.2938 Adjusted R Square = 0.123 Std. Error of the Estimate = .331.142 Sig = 0.000[a] F = 22.665 a. Dependent Variable: DHH learners aggressive behaviors		

Source: Primary data

The logistic regression model focused on teacher-learner interactions influence on DHH learners' aggressive behaviours as measured by teacher support, teacher attitude and conduct, teacher involvement, teacher counseling and guidance. The results in table 9 show that teacher-learner interactions account for 12.3% of the DHH learners aggressive behaviours (adjusted R^2 = 0.123), implying that 87.6% of the contribution is accounted for by other factors. All the indicators on teacher-learner interactions; Teacher support (β = -0.578, p = 0.004), attitude and conduct (β = -0.323, p = 0.014), involvement, (β = -0.613, p = 0.001), and counseling and guidance (β = -0.386, p = 0.031), had a negative effect and statistically significant prediction on aggressive behaviours for the DHH learners'. This implies that teacher-learner interactions in form of

teacher support, positive teacher attitude and conduct, teacher involvement, and teacher counseling and guidance reduce on the DHH learners aggressive behaviours.

The same view was aired out by of the school teachers who reported that:

> […]*Developing positive relationships between teachers and students has a positive, significant, and long-lasting impact on the students' lives, both academically and socially. A pupil would work better in class if they felt that their teacher valued and cared for them. We all would want to feel loved and cared for, and so do these pupils. They feel valued if the teacher not only cares about their grades but also their well-being and social life* ***(KI 4)***

In a nutshell, the above statements summarize the positive contribution of teachers in shaping the DHH learners behaviours.

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter contains the discussion of the study findings in accordance with the specific objectives. Study findings were compared with similar studies reviewed in the literature. Furthermore, conclusions and recommendations were drawn from the study findings. It also provides areas for further studies.

5.1 Discussion

5.1.1 Level of behavioral aggression among the DHH learners

The level of behavioral aggression among the DHH learners was measured by the "Buss-Perry Aggressiveness Questionnaire (BPAQ)". The results of the BPAQ scale yielded scores on four indicators of child aggressiveness which were: anger, physical aggression, verbal aggression, and hostility.

Overall, findings indicate that the DHH learners exhibit average levels of behavioral aggression (Mean = 3.33, SD = 1.29) which is in contrary with Theunissen et al., (2014) who opines that higher levels of aggression are bought to develop in hearing impaired individuals. Therefore, as it was earlier anticipated before the study findings revealed that indeed aggression exists among learners but at moderate levels attributed to the controlled environment they are put in which might be different from those who are not in school.

Additionally in line with the above study findings, similar findings have been found by Turton et al., (2007) who applied the Functional Behavior Assessment on 10 to 16-year-old DHH pupils with behavioral disorders displaying disruptive behaviors in a self-contained classroom to gain attention from staff and escape assigned tasks. The findings concluded that there are moderate

levels of child aggressive behaviours. Similarly, Barker et al. (2009) found out that a young age, many DHH children find communication difficult, and as a result, they may display socially inappropriate behaviors but at moderate levels.

5.1.2 Levels of parent-child interactions

Parenting-child interactions were measured by the Global Parent Report Form of the Alabama Parenting Questionnaire (APQ). The instrument yielded scores on four scales reflecting parental involvement in children's activities (Involvement), the use of positive behavior-management techniques (Positive Parenting), parental monitoring of children's behavior (Poor Monitoring/Supervision), and inconsistent/lax use of discipline with children (Inconsistent Discipline).

Generally, findings indicated moderate levels of parent-child interactions (Mean = 3.45, SD = 1.17). The moderate levels of parent teacher interactions is not enough to shape the behaviours of DHH children who require much attention yet Movallali et al., (2017) associates parent role to behavioural problems in the deaf population. In agreement with this, Movallali and Poorseyed (2015) reported that much as the family is the first and most unique social institution, the DHH children are at risk of psychosocial problems due to limited interactions with their parents.

Furthermore, the study findings revealed that high levels of parent-learner interactions manifested in poor monitoring/supervision (Mean = 4.09, SD = 1.10) and inconsistent discipline (Mean = 4.01, SD = 1.07). The high cases of poor monitoring/supervision included; a child leaving home without the parents notice, a child staying out of home till late, parents not being bothered about the child's whereabouts and what they are doing among others which Movallali and Poorseyed, (2015) associated these cases to parental and child interactions.

Moreover, the high cases of inconsistent use of discipline with children include parents threatening to punish the child, parents obeying more trouble than worth, failure to punish a child when in wrong doing, and use of corporal punishments among others. In agreement with this Jones et al., (2015) reported that deaf are ignored in terms of discipline as parents or caregivers render them useless. Still in agreement with the study findings, Nunes et al., (2012) reported that ineffective strategies to behaviour control among the DHH precipitated signs of behaviour problems in childhood.

On the other hand, the study findings revealed low levels of parental involvement and positive parenting of children (Mean = 2.89, SD = 1.27 and Mean = 2.82, SD = 1.25 respectively) which is significant in manifestation of aggressive behaviour. This is in agreement with Kentish (2014) who stated that deprivation in physiological, social and emotional development by parents leads to deaf individual's personalities being less structured, more immature and egocentric in perceptions, socialization and less empathetic. More so, these findings were not far from what Sommers (2014) found out.

5.1.3 Levels of teacher-learner interactions

The results of the study show that teachers exhibit high levels of positive teacher-learner interactions in form of teacher support (Mean = 4.15, SD=1.26), positive teacher attitude and conduct (Mean = 3.52, SD = 1.18), teacher involvement (Mean = 4.19, SD = 1.28) and teacher guidance and counseling (Mean = 3.84, SD = 1.15). Positive teacher-learner interactions in most cases result in desirable behaviours among the learners. This is in agreement with Norman (2016) who stated that strong and thoughtful teacher-learner interactions have been shown to mediate the effects of aggression behaviours in the DHH children.

In addition to the positive teacher-learner interactions, Liberante (2012) also affirmed that much as teacher-learner relationship cannot be measured, teachers of the DHH learners are very positive and portray high levels of involvement with their learners. Similarly, Hughes and Chen (2011) noted that the DHH learners' development, school engagement and academic motivation ultimately forms the basis of the social context in which learning takes place where teachers play an important role. Therefore, it is imperative to note that teacher play a key role in mitigating incidences of aggressive behaviour in school.

5.1.4 Relationship between the individual characteristics and behavioral aggressiveness among the DHH learners at Mulago School for the Deaf

Furthermore, a chi square test was used to establish the relationship between the individual characteristics and behavioral aggressiveness among the DHH learners at Mulago School for the deaf. Findings revealed that aggression levels in the DHH learners significantly differ by sex and age. By age males were found to be more aggressive (57.8%) than the females (42.2%) which is in line with Derman-Taner (2013) who reported aggressiveness to be more in males than the females in the study conducted among the hearing impaired children of 10-11 years.

The study findings however, indicated statistically that the aggressiveness of the DHH learners is not significantly associated with early special education status ($p = 0.167$). On the contrary, Babaroglu (2014) showed that there is a significant relationship between special education with levels of agression and revealed that children who received special education had a higher score of 101.88 in total aggressiveness than those who did not with a 90.93 score. Yet, Stevenson et al., (2010) revealed that hearing impaired children receiving special education after 5 years of age experience a lot more behavioural problems like aggressiveness. Hence, deviations still exist in literature, indicating the need to conduct further research to establish the relationship.

Notably, the study did not find a significant relationship between the hearing status of the parent and the learners' aggressive behaviours (p= 0.064). This is in contradiction with Hintermair et al., (2013) who reported that much as hearing approximately 90–95% of deaf children are born to hearing parents, frequently there are significant difficulties with parent–child interaction as parents adjust to the knowledge of their child's deafness and find the most effective way to communicate with their child.

Furthermore, the study findings did not establish any significant relationship with the use of device (p= 0.023) and duration of the device use (p= 0.452) with the DHH learners aggressive levels. This was in agreement with Sarikardasoglu (2010) who argued that use of hearing device did not make any difference among the DHH who used them. Similarly in agreement, Peterson (2013) reported that use of a hearing device had no effect on level of aggressiveness as physical aggressiveness was higher in children who did not use a device (24.42) than those who used the device (23.79).

5.1.5 Relationship between parent-child interactions and aggressive behaviors among the deaf or hard of hearing learners at Mulago School for the deaf

The results of the logistic regression established that positive parent-learner interactions accounted for 42.4% of the learners' aggressive behaviours. A negative and significant contribution on the DHH learners' aggressive behaviours was reported in parent involvement (β = -0.341, p = 0.004) and positive parenting (β = -0.317, p = 0.014). This is in agreement with Pino et al., (2017) who stated that the quality of a child's upbringing is associated with parent's role in regards to emergence of problems. In line with this, Laugen (2017) also reported that the temperament of the child determines how the child reacts to the parent's behaviour.

On the other hand, poor monitoring/supervision and inconsistent discipline had a positive and significant relationship ($\beta = 0.511$, $p = 0.001$; $\beta = 0.652$, $p = 0.031$ respectively) with the DHH learners' aggressive behaviours. This is in agreement with Pino et al., (2017) who reported that parenting styles significantly contributed to externalizing problems among the DHH children. This study believes that parents tend to underestimate the influence they have on their hearing impaired children. In agreement to this, Stevenson (2015) stated that behavioural problems in the hearing impaired children are aggravated by experiences with their families and education system. Therefore, inconsistent disciplinary approaches, poor supervision and physical punishment are poor parenting attributes that can negatively affect children, regardless of their ethnicity and socioeconomic status.

Parenting styles that could lead to this type of behavior include permissive, coercive, and negative and had critical attitudes are more likely to have children with antisocial tendencies. However, Paatsch and Toe (2013) stated that dominant parent-child affective relationships can significantly develop a secure attachment style in children hence protect them from behaviour disorders. Furthermore, Brubaker and Szakowski (2008) indicated that behavioural problems in the DHH children are influenced by the parent's attitude.

It emerged from the study that poor parenting during infancy contributed to childhood aggression among the hearing impaired children. This is line with the study by Nunes et al., (2013) who discussed attributes to behavioural problems to include infancy attachment system and parenting practices systems like rejection and ineffective measures to behavioural control as precipitates of behavioural problems in childhood.

5.1.6 Relationship between teacher-learner interactions and aggressive behaviors among the deaf or hard of hearing learners at Mulago School for the deaf

The logistic regression results on the statistical relationship between teacher-learner interactions and learners' aggressive behaviors revealed that teacher-learner interactions accounts for 12.3% of the DHH learners' aggressive behaviours.

Overall, all the indicators on teacher-learner interactions had a negative and statistically significant contribution on DHH learners' aggressive behaviours that is; Teacher support (β= -0.578), Teacher attitude and conduct (β= -0.323), Teacher involvement (β= -0.613) and Teacher counseling and guidance (β= -0.386). This implies that an improvement in teacher-learner interactions in form of teacher support, positive teacher attitude and conduct, teacher involvement and teacher counseling and guidance reduces on the manifestation of aggressive behaviours in the DHH learners. This is in agreement with Chickering and Gawson (2013) who found out that effective teacher-learner interaction promote non aggressive behaviours through creation of emotional support, classroom organization and instructional support.

Furthermore, in the study by Olaleye (2010) who highlighted teachers' characteristics as a predictor of learners' aggressive behaviours. This is in agreement with the study findings revealed a significant relationship between teachers' characteristics and learner's aggression. Similarly, Hughes and Chens (2011) reported that teacher-learner relationship is among the most powerful element for learners' development and school engagement. Hence, positive relationship between teachers and learners has an attribute to behavioural disorders among the DHH learners.

5.2 Conclusions

From the above discussion, this study concludes that the DHH learners exhibit moderate levels of behavioral aggression which from the findings revealed high scores of teacher-learner interactions as a significant impact on promoting non-aggressive behaviours of the learners. Much appreciation goes to the teachers who tirelessly work to promote and develop the DHH learners' behaviours in an effort to create a safe and healthy school environment.

The aggressive behaviours among DHH learners tend to increase with age and differ with gender hence building a stronger relationship with the learners; teachers can overcome many behavioural consequences by helping the DHH learners feel they are part of the community. While teachers are different than friends, a familial relationship can be beneficial for many DHH learners who experience challenges with behaviour.

However, the parent-child interactions were at moderate levels among the DHH learners. Parenting is the most fulfilling job that an individual will ever have. Modern family life can be stressful and with various pressures on families with the DHH children it is not always easy. Ultimately, parents want what is best for their children and a strong parent-child relationship can help lead to better outcomes for children.

Nonetheless, positive parent-child relationships are important for all dimensions in children's development. Spending quality time and showing warmth, care and respect can strengthen the relationship with the DHH children.

5.3 Recommendations

From the above conclusions, the researcher recommends the following;

i. To Ministry of Education, Science, Technology and Sports

Organise and conduct appropriate refresher programs for teachers in schools for the deaf and hard of hearing learners so as to continue enlightening, sensitizing and empowering them on communication approaches in sign language so as to suppress any behavioural disorders that may arise.

ii. To Parents/Guardians

Seek for training from professionally trained personnel in early childhood care and education. Such assistance could be in the form of case work, counseling and visitation work. This may help parents adjust to the managing a child with hearing impairment.

Parents should develop the zeal and enthusiasm to accept, love and care for their hearing impaired children notwithstanding the impact that the behaviours of the children caused to the family.

Parents of the DHH children should take on complete responsibility by consulting professional counselors and not rally around in search of unnecessary advice or assistance from anybody as their initial response.

iii. To teachers

Since it is largely the teachers who interact with the DHH on a daily basis, there is greater need to supplement on the teachers actions in observing the challenges they encounter firsthand so as to provide ways to overcome the behavioural challenges.

Aggressive behaviour among the DHH children is a matter hampering the social harmony of individuals; therefore, social skills education would be beneficial towards building on communication skills.

Opening up communication channels to offer counseling as well as conflict resolution measures and practices to the DHH learners.

iv. To the community

Since it was found out that aggressiveness increases with increasing age. There is need to put an end to the gender discrimination in terms of child-rearing attitudes as this will yield positive results in regards to behaviour of the DHH children.

5.4 Areas for further studies

- A comprehensive study should be conducted among parents or guardians to further understand the factors associated with aggressive behaviours among the DHH learners
- There is need for a comparative study to understand the variations in aggressive behaviours in the hearing impaired learners with the hearing learners.

References

Adele, D., 2013. Executive Functions. *Annual review of psychology*, Vol. 64:135-168. Retrieved from http://www.annualreviews.org/doi/10.1146/annurev-psych-113011-143750

Antia, S. D., Kreimeyer, K. h., Metz, K. K. and Spolsky, S., 2011. Peer interactions of deaf and hard-of-hearing children. In M. Marschark& P.E. Spencer (Eds.), *The Oxford handbook of deaf studies, language, and education*, Vol.1, 2ed.,pp.173–187. New York: Oxford University Press.

Babaroglu, A., 2016. Aggression Behaviors in Children with and without Hearing Impairment. *International Journal of Psychological Studies*, Vol. 8, No. 2; ISSN 1918-7211 E-ISSN 1918-722X

Babaroglu, A., 2014. Effect of Hearing Impaired on Children's Aggressive Behavior. *International Journal of Psychology and Behavioral Sciences*, 4(5): 179-188

Bachara, G. H., Raphael, M. S. and Phelan, W. J., 2014. Empathy development in deaf preadolescents. *American Annals of the Deaf*, 125, 38-41.

Baltes, P. B. and Reese, H. W., 1984. The life-span perspective in developmental psychology. InM. H. Bornstein & M. E. Lamb (Eds.), *Developmental psychology: An advanced textbook*

Bandura, A., 1986. Social Foundations of Thought and Action: A Social Cognitive Theory. *Englewood Cliffs NJ*, Prentice-Hall

Bandura, A., 1997. Self-Efficacy*: The exercise of control*. New York, NY: WH Freeman and Company

Barker, D. H., Quittner, A. L., Fink, N. E., Eisenberg, L. S., Tobey, E. A. and Niparko, J. K., 2009. Predicting behavior problems in deaf and hearing children: The influences of language, attention, and parent-child communication. *Development and Psychopatology*, 21, 373-392.

Bashir, H., Riaz, S.R., Shujaat, K. and Saqib, H., 2014. Hearing and deafness. (4 ed). New York: Holt, Rinehart & Winston

Birch, S. H. and Ladd, G. W., 2015. The teacher–child relationship and children's early school adjustment. *Journal of School Psychology.*35:61–79. 83

Brown, P. M. and Cornes, A., 2014. Mental Health of Deaf and Hard-of- Hearing Adolescents: *What the Students Say*, 20(1), pp. 75-81.

Brubaker, R.G. and Szakowski, A., 2008. Parenting practices and behavior problems among deaf children.

Buss, A., 2011. The Psychology of Aggression. *John Wiley & Sons, Inc.* New York

Buss, A.H. and Perry, M., (1992). The Aggression Questionnaire. Journal of Personality and Social Psychology, 63(3), 452-459.

Calderon, R. and Greenberg, M. , 2011. Social and emotional development of deaf children: Family, school and program effects. In M. Marschark, & P. E. Spencer (Eds.), Oxford handbook of deaf studies, language. *International Journal of Psychological Studies,* Vol. 8, No. 2.

Chedzoy, S. M. and Burden, R. l., 2015. Marking time or moving on. *Research in Education,* 77, pp.31-45.

Chickering, F. and Gawson, L., 2013. Language and Deafness. University of IIIinois, *College Hill Press.*

Cochran, W.G. (1977). Sampling techniques (3rd ed.). New York: John Wiley& Sons.

Coll, K. M., Cutler, M. M., Thobro, P., Haas, R. and Powell, S., 2009. An exploratory study of psychosocial risk behaviors of adolescents who are deaf or hard of hearing: Comparisons and recommendations.

Connell, J. P. and Wellborn, J.G., 2011. Competence, autonomy and relatedness: A motivational analysis of self-system processes. In: Gunnar M, Sroufe LA, editors. *Minnesota symposium on child psychology*, Hillsdale, NJ: Lawrence Erlbaum Associates. pp. 43–77.

Creswell, J.W., 2014. *Research Design: Qualitative, Quantitative and Mixed Methods Approaches.* Fouth Edition ed. Lincoln: SAGE Publications.Inc.

Creswell, J.W., 2009. *Research Design: Qualitative, Quantitative and Mixed Methods Approaches.* Third Edition ed. Lincoln: SAGE Publications.Inc.

Crowe, K., McLeod, S., McKinnon, D.and Ching, T. (2014). Speech, sign, ormultilingualism for childrn with hearing loss: quantitative insights intocaregivers' decision making. *Language, Speec h, and Hearing Services in Schools*, 45, 234-247. DOI: 10.1044/2014_LSHSS-12-0106

Derman-Taner, M. (2013). Determining the relationship between aggressiveness and hopelessness levels of 10-11 years of children. International Journal of Social Science, 6(2), 879-889.

Dodge, K. A. and Price, J. M., 2009. On the relation between social information processing and socially competent behavior in early school-aged children.*Child Development*, 65(5), 1385-1397.

Elzouki, A.Y., 2012. *Textbook of clinical pediatrics*. (2 ed.). Berlin: Springer. , p. 602.

Felliger, M. J., Holzinger, D., Aigner, M., Beitel, C. and Fellinger,J., 2015. Motor performance and correlates of mental health in children who are deaf or hard of hearing.
doi: 10.1111/dmcn.12814

Ferrell, K. A., Bruce, S. and Luckner, J. L., 2014. Evidence-based practices for students with sensory impairments (Document No. IC-4). Retrieved from University of Florida, Collaboration for Effective Educator, Development, Accountability, and Reform Center http://ceedar.education.ufl.edu/tools/innovation-configurations/

Frick, P. J. (1991). The Alabama Parenting Questionnaire. University of Alabama.

Frostad, S. and Alhberg, S., 2010. Communication as Social Engagement: implications for interaction between deaf and hearing person. *Scandinavian Audiologist,*27, 116- 124.

Frymark, P., 2010. The challenges facing speech impairment students in classroom. Retrieved from: http:/www.academia.edu/498/711.

Gibbs, G. R. Analyzing qualitative data. In U. Flick (Ed.), *The Sage qualitative research kit.* London: Sage.

Gioia, G. A., Isquith, P. K., Guy, S. C. and Kenworthy, L., 2003. BRIEF: Behavior Rating Inventory of Executive Function .Lutz, FL: Psychological Assessment Resources.

Greenough, W. T., Black, J. E. and Wallace, C. S., 1987. Experience and brain development. *Child Development, 58*, 539-559.

Hindley, P., Hill, P., McGuigan, S. and Kitson, N., 2012. Psychiatric disorder in Deaf and hearing impaired children and young people. *Journal of Psychology and Psychiatry,* 35, 917-934.

Hintermair, M., 2013. Executive functions and behavioral problems in deaf and hard-of-hearing students at general and special schools. *Journal of Deaf Studies and Deaf Education*, 18(3), 344-359

Horner, R., 2009. Implementing inclusive education practices through partnerships. *South African Journal of Higher Education,* 16(3):31-37.

Hughes, H. and Chen, O., 2011. Promoting effective working with parents with learning disabilities. Child abuse review, 13, 31-41.

Kain, W. and Perner, J. 2007. Theory of Mind. In: Kaufmann, L, Nuerk, H. C, Konrad, K, Willmes K(Hrsg.), *Kognitive Entwicklungsneuropsychologie* , (pp. 344–361). Göttingen, Germany: Hogrefe.

Kentish, R., 2014. Challenging behaviour in the young deaf child. In S. Austen & D. Jeffrey (Eds.), *Deafness and challenging behaviour* (pp. 75-88). Chichester. Wiley

Kish, L., 1965. Survey Sampling. New York: John Wiley and Sons, Inc.

Konrad, K. 2011., 2011. Development of executive functions and working memory efforts. In Kaufmann, L Nuerk H. C. Konrad, K, Willmes, K. (Hrsg.), *Kognitive Entwicklungsneuropsychologie* , (pp. 300–320). Göttingen, Germany: Hogrefe.

Lam, C. and Kitamura, C., 2010. Maternal interactions with a hearing and hearing-impaired twin: similarities and differences in speech input, interaction quality, and word production, *Journal of Speech Language and Hearing Research*, 53(3), 543-555. doi:10.1044/1092-4388(2010/09-0126)

Lasak, J.M., Allen, P., McVay, T. and Lewis, D., 2014. Hearing loss: diagnosis and management. *Primary Care,* 41(1): 19–31.

Laugen, N.J., 2017. Psychosocial functioning, emotion understanding and social skills in hard of hearing preschool children, PhD thesis, Norwegian University of Science and Technology.

Leeman .J., Wiecha. J.L., Vu. M., Blitstein. J.L., Allgood. S., Lee, S. and Merlo, C. 2018 School health implementation tools: a mixed methods evaluation of factors influencing their use. *Implement Sci*. 20;13(1):48.

Liberante, L., 2012. The importance of teacher–student relationships, as explored through the lens of the NSW Quality Teaching Model. *Journal of Student Engagement: Education matters,* 2 (1), 2–9.

Marschark, M. and Wauters, L., 2011. Cognitive functioning in deaf adults and children. In Marschark.M. Spencer P. E (Eds.), *Oxford handbook of deaf studies, language, and education,* (2nd ed., Vol. 1, pp. 486–499). New York

Monteiro, B. T., 2017. The tutorial: Deafness and Mental Health. In B. Monteiro *Deafness and Mental Health Academic Meeting* (pp 1-18). Manchester: St George Healthcare Group.

Most, T., Shinga-August, E. and Meilijson, S. 2010. Pragmatic abilities of children with hearing loss using cochlear implants and hearing aids compared to hearing children. *Journal of Deaf Studies and Deaf Education,* 15, 422-437.

Movallali, G., Amiri, M., Nesayan, A. and Gandomani, R.A., 2017. Parental training and externalizing behaviors of children with severe hearing loss, *Med J Islam Repub Iran.*, 31.111.

Movallali, G. and Poorseyed, S.R., 2015. Attachment Styles and Perceived Parenting Styles: A Comparison of Hearing Impaired Adolescents and Normal Adolescents, *Journal of Social Sciences and Humanity Studies* ISSN 2356-8852

Mulwafu, W., Kuper, H. and Esnik, R.J.H., 2016. Prevalence and causes of hearing impairment in Africa: Systematic review. *Tropical Medicine and International Health*, Vol. 21 no 2,pp. 158-165.

Mwaniki, M. K., 2008. The relationship between self-concept and academic Achievement in Kenya. Unpublished Phd thesis, Stratford University, Stratford UK.

Nordenbo,S. E., Larsen, M. S., Neriman,T., Wendt, R. E. and Ostergaard, S., 2008. Teacher competence and pupils achievement in Pri-school. A technical review carried out for the ministry of Education and research, Oslo.

Norman, N. A., 2016. Narratives of teacher-student relationships: How itinerant teachers of the deaf and hard of hearing support their students' social and emotional development, University of British Columbia, Vancour

Nunes, S. A. N., Faraco, A. M. X., Vieira, M.L. and Rubin, K.H., 2012. Externalizing and Internalizing Problems: Contributions of Attachment and Parental Practices. *Psicologia: Reflexão e Crítica*, 26(3), pp. 617-625.

Olaleye, F. O., 2010. Teachers characteristics as a predictor of academic performance of students in secondary schools in Osun state-Nigeria. *European journal of educational studies* 3(3).

O'Rourke, S., 2014. Risk assessment and risk management with deaf people. In S. Austen & D. Jeffrey (Eds.), *Deafness and challenging behaviour*, pp. 292-309. Chichester. Wiley.

Paatsch, L.E. and Toe, D.M., 2013. A comparison of pragmatic abilities of children who are deaf or hard of hearing and their hearing peers. *Journal of Deaf Studies and Education*, 19(1), 1-19.

Petersen, I., Bates, J. and Staples, A. , 2015. The role of language ability and self-regulation in the development of inattentive–hyperactive behavior problems. *Development and Psychopathology*, *27*(1), 221-237. doi:10.1017/S0954579414000698

Peterson, C. C., 2013. Theory-of-mind development in oral deaf children with cochlear implants or conventional hearing aids. *Journal of Child Psychology and Psychiatry*, 45(6), 1096-1106

Pino, M. J., Castillo, R. A., Raya, A. and Herruzo, J., 2018. Can parenting practices predict externalizing behavior problems among children with hearing impairment? *Revista Brasileira de Psiquiatria*, *40*(2), 138-144.

Regoniel, P. A., 2015. Conceptual Framework: A Step by Step Guide on How to Make One. In *SimplyEducate.Me*. Retrieved from https://simplyeducate.me/2015/01/05/conceptual-framework-guide/

Roberts, S. B., Brown, P. M. and Rickards, F. W., 2013. Social pretend play entry behaviors of pre-schoolers with and without impaired hearing. *Journal of Early Intervention* , 20, 52–64, doi:10.1177/105381519602000106.

Sarikardasoglu, A., 2010. The relationship between the social cognitive understanding and aggressive behaviors in children with hearing loss (Unpublished masters thesis). Middle East Technical University, Department of Psychology, Ankara.

Silver, R. B., Measelle, J. R., Armstrong, J. M. and Essex, M. J., 2014. Trajectories of classroom externalizing behavior: Contributions of child characteristics, family characteristics, and teacher–child relationship during the school transition. *Journal of School Psychology.* 43:39–60.

Sipal, F. R., 2010. Assessing the link between executive functions and aggressive behaviors of children who are deaf: impact of early special education. *Electronic Journal of Research in Educational Psyhchology*, 8(3), 991-1014- ISSN:1696-2095

Sommers, J., 2014. The mental health status of deaf and hard of hearing children in the mainstream education system. *Undergraduate Honors Theses*. Paper 5

Stevenson, J., Kreppner, J., Pimperton, H., Worsfold, S. and Kennedy, C., 2015. Emotional and behavioural difficulties in children and adolescents with hearing impairment: a systematic review and meta-analysis, *Eur Child Adolesc Psychiatry,* 24:477–496.

Stevenson,J., McCann, D., Watkin, P., Worsfold, S. and Kennedy, C. 2010. The relationship between language development and behaviour problems in children with hearing loss. *Journal of Child Psychology and Psychiatry*, 5, 77–83. 246.

Sunal, S. and Cam, O., 2005. The research on the psychological adaptation level of the hearing impaired children in preschool period. *Turkish Journal of Child and Adolescent Mental Health*, 12(1), 11-18.

Theunissen, S. C. P. M., Rieffe, C., Kouwenberg, M., De Raeve, L. J. I., Soede, W., Briaire, J. J. and Frijns, J. H. M., 2014. Behavioral problems in school-aged hearing-impaired children: The influence of socio demographic, linguistic, and medical factors, *European Child & Adolescent Psychiatry*, 23, 187-196. doi:10.1007/s00787-013-0444-4

Tsimpida, D., Kaitelidou., D. and Galanis, P. 2018. Determinants of health- related quality of life among deaf and hard of hearing adults in Greece: a cross-sectional study. *Archives of Public Health*, 76:55.

Wekesa, A. N., 2010. Bending the private-public gender norms: Negotiating schooling for young mothers from low income households in Kenya. MA thesis.

Williams, C. E., 2007. Early diagnosis of Deafness and its relation to speech in Deaf maladjusted children. *Developmental Medicine and Neurology,* 11, 777-782.

Wolters, N., Knoors, H. and Cillessen, A.H. N., 2012. Impact of Peer and Teacher Relations on Deaf Early Adolescents' Well-being: Comparisons Before and After a Major School Transition, *Journal of Deaf Studies and Deaf Education.*

World Health Organization. 2015. Estimates of hearing impairment. Retrieved from http://www.who.int/pbd/deafness/hearing_impairment

Yiyuan, L. I., Ruiming, W. U., Xingwang, H. U., Hong, L. I. and Zelazo, P. D. 2006. The development of executive function in deaf children: Comparing with normal children , *Acta Psychologica Sinica* , 38, 356–364.

Young, A., Monteiro, B. and Ridgeway, S., 2015. Deaf people with mental health needs in the criminal justice system: A review of the literature. *The Journal of Forensic Psychiatry*, 11, 3, 556-570.

APPENDICES

APPENDIX 1: CONSENT/ASSENT FORM

My name is NAKASUMBA MARIA ANGELA **a student at Uganda Martyrs University conducting a research on** aggressive behaviors and associated factors among the deaf and hard of hearing learners at a deaf children's school in Kampala-Uganda. **Therefore I am requesting you to take part in this research. You will be asked some questions and the whole process will be private. All information will be kept confidential. Participation is entirely voluntary and you may withdraw your participation without affecting any of your rights.**

STATEMENT OF CONSENT

I…… do agree that I have been explained all the intentions and procedures of the study. I therefore voluntarily accept/decline to participate in the study.

Signature/thumbprint …… Date ……

(Participant)

APPENDIX II: QUESTIONNAIRE FOR DHH LEARNERS

Section A: Socio-Demographic characteristics

A. 3 – 4 years
B. 5 years and above

1. Sex
   A. Male
   B. Female
2. Age in full years……..

3. Degree of Hearing Loss
   A. **Mild** (Typically placed in regular education program, may benefit from a speech reading program).

   B. **Moderate** (Has the ability to understand conversational speech at distance of 3 to 5 feet. Can benefit from a hearing aid, auditory training and speech therapy. Group activities can be challenging).

   C. **Moderately Severe** (Conversation will not be heard unless it is loud. The person will benefit from all of the above and should also receive enhanced language instruction).

   D. **Severe** (May identify environmental noises and loud sounds. May be able to distinguish vowels but not consonants, special education classes designed for deaf children may be beneficial. Speech is not always intelligible).

   E. **Profound** (Does not rely on hearing for primary means of communication, may hear some loud sounds, special education services are beneficial. Speech may be difficult to understand, or may not be developed)

4. Hearing status of the parents
   A. Hearing
   B. Hearing impaired

5. Special education status
   A. Received
   B. Not received

6. Preferred mode of communication
   A. Sign language
   B. Oral
   C. Total

7. Use the device status
   A. Use

B. Not use

8. Use the device duration status
   C. 1 – 2 years

Section B: Parenting practices

Using the 5 point scale shown below, indicate how you agree or disagree with each of the following statements about the interactions with your parents. Place your rating in the box to the right of the statement.

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

Parameters	**1**	**2**	**3**	**4**	**5**
Scale: Involvement					
1) my parents have friendly talk with me					
4) My parents volunteer to help me with special activities					
7) My parents play games/do fun things with me					
9) My parents ask me about day in school					
11) My parents help child with homework					
14) My parents ask me what plans are for day					
15) My parents drive/take me to special activity					
20) My parents talk to me about friends					
23) I help my parents to plan family activities					
26) My parents attend meetings at my school school					
Scale: Positive parenting					
2) My parents let me know when I do a good job					
5) My parents reward or give me extra for obeying					

13) My parents compliment me when I do things well					
16) My parents praise me if I behaves well					
18) My parents hug or kiss me when i do well					
27) My parents like it when help them out					
Scale: Poor monitoring/supervision					
6) I fail to leave note when going					
10) I stay out past time to be home					
17) I go out with friends when my parents do not know					
19) I go out without set time to be back home					
21) I go out after dark without an adult					
24) My parents are not bothered about my whereabouts and what am doing					
28) My parents do not check that I come home when supposed to					
29) My parents do not tell me where they are going					
30) Am always at home more than hour past time expected					
32) Am always at home without adult supervision					
Scale: Inconsistent discipline					
3) My parents threaten to punish me then they do not					
8) I talk to my parents about being punished					
12) My parents obey more trouble than worth					
22) Am let out of punishment early					
25) Am not punished when I do wrong					
31) Punishment depends on my parents mood					

Section C: Teacher-Learner interaction/Relationship

Using the 5 point scale shown below, indicate how you agree or disagree with each of the following statements about your interaction with your teacher. Place your rating in the box to the right of the statement.

1 = strongly disagree
2 = disagree
3 = not sure
4 = agree
5 = strongly agree

No.	Parameters	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
1	My teacher provides support for all students					
2	My teacher has a positive attitude on a daily basis					
3	My teacher presents the information in a way that is easy to understand					
4	My teacher cares about my academic and social well-being					
5	My teacher is sensitive to all students					
6	My teacher views me as an important part of the classroom					
7	My teacher motivates me to give my best effort.					
8	I admire my teacher					
9	My teacher uses various cultural activities in the lessons, like experimentation , case studies ,live examples etc.					
10	My teacher guides students in a positive direction for their personal growth					
11	My teacher encourages student feedback					
12	My teacher acknowledges student effort through recognition and praise					
13	My teacher calls upon students in the decision-making process					
14	My teacher uses examples of student background experiences, beliefs, and knowledge					
15	My teacher provides high and clear expectations for academic performance					

16	My teacher lets students take risks in classroom learning activities					
17	My teacher takes the time to assist individual students that need help					
18	My teacher motivates students through inspiring teaching					
19	My teacher consistently engages students in meaningful classroom activities that are connected to real-world experiences					
20	My teacher makes teaching attractive by showing how theory is implemented in the real world					
21	I have a positive view of my teacher					
22	My teacher focuses on stopping unwanted behavior for the majority of the class period					
23	My teacher is accepting to all student's cultures					
24	I am able to take risks in the classroom without feeling embarrassed					
25	I enjoy coming to my teacher's classroom					
26	I view my teacher as a good person and I feel that my teacher is a coach, mentor, or partner					
27	I am able to ask for assistance without fear of rejection or embarrassment					
28	My teacher's expectations are high, clear, and fair for all students					
29	My teacher uses various strategies to promote unity, order, satisfaction, and less conflict in the classroom					
30	My teacher connects emotionally with the students					
31	My teacher expects me to succeed					
32	My teacher is patient with students when directing them to learn appropriate behaviors					
33	My teacher has a good attitude					
34	My teacher makes positive comments about the student's abilities to learn					
35	My teacher's classroom is structured with routines and procedures					
36	My teacher conducts him/herself professionally					

Section C: Learner Aggression

Using the 5 point scale shown below, indicate how uncharacteristic or characteristic each of the following statements is in describing you. Place your rating in the box to the right of the statement.

1 = extremely uncharacteristic of me

2 = somewhat uncharacteristic of me

3 = neither uncharacteristic nor characteristic of me

4 = somewhat characteristic of me

5 = extremely characteristic of me

No.	**Aggression category**	**Statement**	**Response**				
1	A	Some of my friends think I am a hothead	1	2	3	4	5
2	PA	If I have to resort to violence to protect my rights, I will.					
3	H	When people are especially nice to me, I wonder what they want.					
4	VA	I tell my friends openly when I disagree with them.					
5	PA	I have become so mad that I have broken things.					
6	VA	I can't help getting into arguments when people disagree with me.					
7	H	I wonder why sometimes I feel so bitter about things.					
8	PA	Once in a while, I can't control the urge to strike another person.					
9	A	I am an even-tempered person.					
10	H	I am suspicious of overly friendly strangers.					
11	PA	I have threatened people I know.					
12	A	I flare up quickly but get over it quickly.					
13	PA	Given enough provocation, I may hit another person.					

14	VA	When people annoy me, I may tell them what I think of them.					
15	H	I am sometimes eaten up with jealousy.					
16	PA	I can think of no good reason for ever hitting a person.					
17	H	At times I feel I have gotten a raw deal out of life.					
18	A	I have trouble controlling my temper.					
19	A	When frustrated, I let my irritation show.					
20.	H	I sometimes feel that people are laughing at me behind my back.					
21	VA	I often find myself disagreeing with people.					
22	PA	If somebody hits me, I hit back.					
23	A	I sometimes feel like a powder keg ready to explode.					
24	H	Other people always seem to get the breaks.					
25	PA	There are people who pushed me so far that we came to blows.					
26	H	I know that "friends" talk about me behind my back.					
27	VA	My friends say that I'm somewhat argumentative.					
28	A	Sometimes I fly off the handle for no good reason.					
29	PA	I get into fights a little more than the average person.					

P = Physical aggression, V = Verbal aggression, A = Anger, H = Hostility

Thank you for your time and cooperation

APPENDIX III: INTERVIEW GUIDE FOR TEACHERS

1. What do you know about aggressive behaviours?

_____

_____

2. In your field of service you have been interacting with these children, based on that experience, please tell me about the rating of aggressive behaviours.

_____

_____

3. Based on your observation, how would you rate the level of aggressive behaviours?

_____

4. Which are the most observable aggressive behaviours?

_____

_____

5. Do find the level of aggressiveness associated with any particular characteristics of the learners? If yes, please explain how these characteristics are linked to the aggressive behaviours.

_____

_____

6. As a teacher, may you please describe your interactions with these children

_____

_____

7. May you please explain to me further the outcomes of your interactions with these learners and how it affects both you the teacher and the learner.

_____

_____

8. Do you in any way interact with the parents of these children?

_____

_____

9. Do you notice any parenting practices that may affect the behaviors of these children? If Yes, please explain to me further the parenting practices that may affect the behaviours of these learners. If No, Why?

_____

_____

10. During your interaction with the parents, please tell me how best you can aggressive behaviors of these children be managed?

_____

_____

11. What advice would you give the parents, teachers and other stakeholders on how best they can manage these children?

_____

_____

Thank you for your time and cooperation

APPENDIX IV: COLAIZZI'S (1978) SEVEN STEP APPROACH TO DATA ANALYSIS

1. Read all descriptions to acquire a feeling for them.
2. Extract phrases or sentences that directly pertain to the phenomenon.
3. Formulate the meaning of each significant statement.
4. Organize the aggregate formulated meanings into clusters of themes;

   a. Validate these clusters with the original descriptions.

   b. Note discrepancies; some themes may be contradictory or unrelated; proceed with the conviction that what is inexplicable may be existentially real and valid.
5. Integrate the results in an exhaustive description.
6. Formulate an exhaustive description that is unequivocally a statement of the essential structure of the phenomenon.
7. Return to the subjects to validate the descriptions formulated

APPENDIX V: BUDGET FOR THE STUDY

No.	Item	Quantity	Unit Cost	Total cost
A	**Stationary**			
1.	File	3	5000/=	15,000/=
2.	Ream of paper	1	20,000/=	20,000/=
3.	Pens	1 box	10,000/=	10,000/=
4.	Compact Disc (CD)	1	5000/=	5,000/=
5.	Photocopying	250	100/=	25,000/=
6.	Printing & Binding (draft copies)	3	20,000/=	60,000/=
7.	Printing & Binding (Final copies)	2	30,000/=	60,000/=
B	**Human resource**			
1.	Research assistants (Translators)	2	200,000/=	400,000/=
2.	Statistician	1	300,000/=	300,000/=
	Total			**895,000**/=

APPENDIX VI: STUDY WORK PLAN

Activities	Year/Month															Responsible person
	2018					2019										
	A	**S**	**O**	**N**	**D**	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	
Concept presentation , Ethics approval	x															Researcher, UMU-FHS
Writing literature review & methodology						x	x	X								Researcher
Proposal writing editing & Proof reading									x							Researcher, UMU-FHS
Data collection, analysis and presentation										x	x	x				Researcher, research assistant and statistician
Defending														x		Researcher, UMU-FHS
Final thesis submission															X	Researcher

APPENDIX VIII: INTRODUCTORY LETTER

Faculty of Health Sciences
Email: health@umu.ac.ug
18th June, 2019

The Responsible Officer

RE: INTRODUCING MS. NAKASUMBA MARIA ANGELA

This is to introduce to you **MS. NAKASUMBA MARIA ANGELA Reg. No. 2017-M282-20063** who is a postgraduate student in the Faculty of Health Sciences at Uganda Martyrs University. She is pursuing a programme leading to the award of Master of Public Health-Health Promotion. She is currently on research for her dissertation on the topic:

"AGGRESSIVE BEHAVIOURS AND ASSOCIATED FACTORS AMONG THE DEAF AND HARD OF HEARING LEARNERS AT A DEAF CHILDRENS SCHOOL IN KAMPALA-UGANDA"

The topic and protocol have been approved by the relevant university authorities.

Any assistance rendered to her in this respect will be highly appreciated by the university.

Yours sincerely,

Ndibazza

Dr. Juliet Ndibazza
Dean,
Faculty of Health Sciences,
Uganda Martyrs University

MULAGO SCHOOL FOR THE DEAF (MSD)
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