EXAMINING THE ASSOCIATION OF INCLUSION SETTING ON ACADEMIC PERFORMANCE, SOCIAL INTERACTION, AND SELF- ESTEEM AMONG STUDENTS WITH HEARING IMPAIRMENT IN SAUDI ARABIA

ALSHUTWI SULAIMAN MOHAMMED

UNIVERSITI SAINS MALAYSIA

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by

ALSHUTWI SULAIMAN MOHAMMED

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TABLE OF CONTENTS

LIST OF TABLES

Page

LIST OF FIGURES

Page

LIST OF ABBREVIATIONS

DHH	Deaf & Hard of Hearing
KSA	Kingdom of Saudi Arabia
SEND	Special educational needs and disabilities
CRPD	Convention for Rights of Persons with Disabilities
ASDC	The American Society for Deaf Children
NAD	National Association of the Deaf
LD	Learning Disability
SEN	Special Educational Needs
NCES	National Centre for Education Statistics
EST	Ecological systems theory
RSES	Rosenberg Self-Esteem Scale
SIT	Social Identity Theory
IEP	Individual Educational Plans

LIST OF APPENDICES

MENGKAJI PERKAITAN PENDEKATAN INKLUSIF KE ATAS PRESTASI AKADEMIK, INTERAKSI SOSIAL, DAN ESTEM KENDIRI DALAM KALANGAN MURID MASALAH PENDENGARAN DI ARAB SAUDI

ABSTRAK

Sejak konsep inklusif diperkenalkan, terdapat perdebatan dalam kalangan profesional dan ibu bapa mengenai persekitaran pendidikan yang sesuai untuk pelajar kurang upaya pendengaran. Berdasarkan bukti empirikal yang ada serta menunjukkan kekurangan penyelidikan dalam konteks negara Arab Saudi, kajian ini menyelidiki kesan persekitaran inklusif terhadap prestasi akademik, interaksi sosial dan harga diri dalam kalangan murid masalah pendenagran di negara Arab Saudi. Lebih-lebih lagi, apabila jantina dijadikan sebagai moderator kajian di mana perempuan belajar secara berasingan dengan lelaki. Kajian ini menggunakan kaedah kuantitatif. Populasi kajian adalah merupakan murid darjah empat hingga enam, yang tergolong dalam kumpulan umur 9-12 tahun yang belajar di program pendidikan inklusif dan juga sekolah khas untuk murid masalah pendengaran. Seramai 130 murid masalah pendengaran telah terlibat dalam kajian ini. Kajian ini telah menggunakan instrumen kajian berbeza untuk pengukuran prestasi akademik dan kemahiran interaksi sosial responden. Pemilihan responden kajian ini adalah dengan memberi fokus kepada keputusan semester akhir yang melibatkan kemahiran membaca, menulis, sains dan kemahiran mengira dalam mata pelajaran matematik, sains, dan bahasa Arab. Pengukuran interaksi sosial dilakukan dengan menggunakan skala kemahiran sosial yang digunakan oleh Danielson dan Phelps (2003). Skala Harga Diri Rosenberg (RSES) pula digunakan untuk mengukur harga diri responden. Penemuan analisis SEM-PLS membuktikan kesan positif sekolah arus perdana dengan persekitaran inklusif terhadap prestasi akademik murid-murid masalah pendengaran. Selain itu, untuk kesan program

pendidikan inklusif tidak inklusif terhadap kemampuan interaksi sosial pelajar DHH, penemuan menunjukkan hasil yang positif dan signifikan di semua peringkat, berbanding prestasi akademik yang mempunyai hubungan positif bagi persekitaran inklusif di sekolah arus perdana. Walau bagaimanapun, hubungan antara interaksi sosial dan sekolah khas didapati lebih rendah berbanding harga diri. Analisis empirikal dalam kajian ini menunjukkan kesan yang signifikan bagi sekolah khas terhadap harga diri murid masalah pendengaran yang didapati mempunyai potensi untuk memahami dan meningkatkan harga diri mereka. Dapatan kajian bagi moderator jantina pula menunjukkan terdapat kesan positif yang mempengaruhi hubungan program pendidikan inklusif dengan perkembangan kognitif dan psiko-sosial murid-murid masalah pendengaran. Dapatan kajian ini memberikan implikasi penting dalam penyelidikan dan pandangan praktikal kepada pembuat dasar, pihak berkuasa sekolah, guru-guru dan ibu bapa.

EXAMINING THE ASSOCIATION OF INCLUSION SETTING ON ACADEMIC PERFORMANCE, SOCIAL INTERACTION, AND SELF-ESTEEM AMONG STUDENTS WITH HEARING IMPAIRMENT IN SAUDI ARABIA

ABSTRACT

Since the inclusion concept started, there were debates amongst professionals and parents regarding the appropriate educational setting for deaf and hard of hearing (DHH) students. Based on the existing empirical evidence which show that there is a substantial lack of research in the Saudi Arabian context, this study investigated the impact of inclusion settings on academic performance, social interaction and self-esteem of DHH children in Saudi Arabia. This study also considering gender as a moderator where female studies separately on males. The study used a quantitative research approach. The population targeted were students of grades 4 to 6, belonging to the age group of 9-12 years. A total of 130 DHH students were surveyed. The researcher collected data from 8 elementary schools in Riyadh. The elementary schools were self-mainstream schools (inclusion setting) and separate institutes (special schools for DHH). Research instrument varied for the measurement of academic performance and social interaction skills of the DHH students. Among these subjects, the researcher considered the final semester grades of mathematics, science, and Arabic language as academic performance measures. Measurement of social interaction was carried out by applying the social skills scale developed by Danielson and Phelps (2003). The Rosenberg Self-Esteem Scale (RSES) was used to measure the self-esteem of the sample population. Findings of the SEM-PLS analysis established the positive impact of mainstream schools with inclusion setting on the DHH

children’s academic performance. Besides, concerning the impact of the special schools (non-inclusive setting) on the social interaction capabilities of the DHH students, the findings showed a positive and significant result, across grades, unlike academic performance, which had a positive relationship with inclusion setting in the mainstream schools. However, the relationship between social interaction and special schools is lower than self-esteem. The empirical analysis in the present study showed the significant impact of special schools (Deaf school) on DHH students' self-esteem, having the potential resources to understand and boost their self-esteem. Adding to that, the findings showed that males outperform their female’s counterparts concerning social interaction. This study's findings provide important implications in research and practice insights to policymakers, school authority, teachers, and parents.

CHAPTER 1

INTRODUCTION

1.1 Introduction

This section provided the study's background, followed by the problem statement, research objectives, research questions, and significance of the study. Later the chapter briefly described the study's scope and the key terms used in this study.

1.2 Background of Study

Losing the ability to hear certain high-pitched sounds may occur in one ear or both ears at different degrees of severity. Globally, hearing loss is one of the most predominant disabilities, where approximately 460 million people (5.3% of the global population) are affected (World Health Organisation, 2018). Fortunately, the percentage of deaf and hard of hearing (from now on termed abbreviated as DHH) people (1%) has remained constant over the past decade, making it a low-incident disability (National Centre for Education Statistics, 2012). Nevertheless, the quality of life for those who experience a higher degree of severity of the hearing loss is greatly affected, resulting in cases of isolation, reduced social interaction, and even depression (Plucker, & Peters, 2016; Olsson, Dag, & Kullberg, 2018). So, at some point, DHH children would demonstrate low participation in social activities, resulting in their social exclusion (Coster, Law, Bedell, Liljenquist, Kao, Khetani, & Teplicky, 2013; Verjans-Janssen, van de Kolk, Van Kann, Kremers, & Gerards, 2018). This disability may even affect their educational opportunities and the capability to have an independent career path according to their potential. There have been numerous efforts to create opportunities to include the DHH people in the social and economic

mainstreams across nations. As part of such efforts, DHH people from their childhood must receive the appropriate education to prepare themselves to be part of the future productive workforce (Danermark, Antonson, & Lundström, 2001; Smith, Robb, West, & Tyler, 2010; Hettiarachchi, de Silva, Wijesinghe, Susantha, Amila, Sarani, & Rasak, 2019).

Considering the need, the inclusion of DHH students in mainstream schools has increased significantly over the past 20 years (Eriks-Brophy & Whittingham, 2013). Placing DHH students in mainstream schools— which has transformed the overall structure of public education— is no longer a stigma (Knoors & Marschark, 2012). However, whether these students would benefit in the mainstream classrooms and to what extent they should be included remain unaddressed (Shaver, Marschark, Newman, & Marder, 2013). Empirical research has noted several advantages of enrolling DHH students in mainstream schools, such as higher academic performance and social interaction following the increased social interaction with their peers and teachers (Shaver et al., 2013). A mainstream school offers more opportunities for the DHH students to make friends than what a special school offers since the latter often has fewer students in a classroom (Angelides & Aravi, 2007; Olsson et al., 2018). The education system in mainstream schools is more advanced, providing better opportunities to acquire knowledge for DHH students compared to special schools (Frederickson & Cline, 2009).

At the same time, though, the inclusion of DHH students in mainstream schools poses several concerns. As Coster et al. (2013) noted, students with disabilities enrolled in the mainstream schools demonstrated similar behaviours, such as not taking part in the daily activities, as their counterparts enrolled in special schools. Further research has established that most DHH students showed lower academic achievement

and fewer friends despite feeling accepted compared to students without disabilities (Roberson & Serwatka 2000; Byrnes & Sigafoos 2001; McCain & Antia 2005). A study conducted by Leigh (1999) also showed that DHH students belonging to mainstream schools felt insecure and isolated with poor self-esteem. In other words, despite the successful inclusion of DHH students in mainstream schools, cases of social isolation, lack of belongingness, low participation in daily activities, and inability to make friends continue to occur among DHH students (Alasim, 2018).

The persistent issue of unclarity on the particular type of school is most conducive to the DHH children lingers among existing research and public debates amongst professionals, parents, and children of such nature (Angelides & Aravi 2007). Ramos and Hayashi (2018) established the criteria of inclusion and exclusion after analysing 62 Master's theses and eight Doctoral dissertations in detail by using a bibliometric approach. The results indicated an analogous percentage of studies considered both mainstream and specific schools or classrooms as the most appropriate place for their schooling, revealing a dichotomous perspective on the issue of the place of the education of the DHH children.

Nevertheless, on the practical front, implementing inclusion settings for DHH students in mainstream schools are not widely accepted, especially among teachers. Not all teachers agree that such a move lowers the community's stigma and marginalisation (Al-Musa, 2007). Besides, while there are empirical research based in the Saudi Arabia stressing on the need of inclusive education for special children (for example, Al-Abdulgabar and Massud, 2002; Jummah, 2007; Al-Samade, 2008), studies specific to DHH children is still largely absent, which makes investigation on the selected issue, imperative for identification of core factors concerning DHH students' participation and interaction in the mainstream education setting.

Previous studies stressed the preparation of the mainstream schools and teachers to support the needs of DHH students and ensure that these students are not socially isolated and receive adequate education in an inclusive setting (Gibb, Tunbridge, Chua, & Frederickson, 2007). The good relationship between DHH students and their teachers also provides a solid foundation for these students to explore classroom and school settings, thereby facilitating their academic and socio-emotional development (Hamre & Pianta, 2001). Furthermore, such a positive relationship between DHH students and teachers positively influences peer acceptance of the former, including the students without disability (Hughes, Cavell, & Willson, 2001).

Over the years, the inclusion of DHH students in mainstream schools has received growing attention from the government and various concerned organisations globally. The attention has propelled numerous emerging concepts acknowledging the concerned students' rights to obtain adequate education— similar to their peers without disabilities in the mainstream schools (Osgood, 2005; Powell, Hyde, & Punch, 2013; Hyde, Nikolaraizi, Powell, & Stinson, 2016), such as "integration", "inclusion", "normalisation", and "deinstitutionalisation". As declared by the International Community of Special Education in 2014, "inclusion education" has been considered one of the best practices to educate students with disabilities, such as DHH students (Al-Mousa, 2010; Shields, & Bolton, 2019). Consequently, numerous countries have attempted to develop the necessary policies, legislations, and relevant programmes to promote equal educational access and opportunities for all students, regardless of background and needs, in the mainstream schools (Thompson, Walker, Shogren, & Wehmeyer, 2018; Los Santos, Bain, Kupczynski, & Mundy, 2019).

Saudi Arabia started integrating DHH students in mainstream schools with self-contained classrooms since the 1990s with the introduction of special inclusive programmes (Aturky, 2005). Following that move, numerous inclusive programmes were widely implemented in mainstream schools across the country, focussing on academic performance and minimising the linguistic gap between DHH students and students without disabilities. These intensive measures were taken to facilitate the learning performance of DHH students in the existing education system (Al-Mousa, 2008; Al-Omari, 2009).

Despite these measures, the process of improving the related policies for special education needs, and the service quality for special needs has been taxing. Moreover, students with special needs constitute a large population in Saudi Arabia; therefore, providing the means for effective education of these students at the national level, especially the implementation of inclusive setting in mainstream schools, remains a major concern (Raheem, 2010). The current inclusion setting in the mainstream schools in Saudi Arabia for DHH students is present only in its partial form with special classes with fewer opportunities for inclusive activities and peer interaction (Al-Mousa, 2008). Nonetheless, this form of inclusion has influenced a large population of DHH students— irrespective of genders (90 per cent male and 65 per cent female) across the country to enrol in mainstream schools (Al-Musa, 2010). Despite social acceptance of mainstream inclusion setting of DHH students, including the teachers, continues to remain a concern(Al-Musa, 2007), along with the academic gap on the inclusion setting's impact on the communication skills and social performance of Saudi Arabian DHH students (AlZahrani, 2005).

Furthermore, research has established that the attitude and behaviour of DHH students also significantly influence the opportunities to receive assistance from their teachers. Vermeulen, Denessen, and Knoors (2012) found that teachers perceived DHH students with disruptive attitude in the classroom can influence their peers in the form of developing negative attitudes, thereby challenging the inclusion of the concerned students in mainstream schools. In other words, teachers are more readily available to assist DHH students demonstrating affirmative and strong attitude and work ethics. Overall, along with lacunae in effective and complete inclusive education implementation in the Saudi Arabian mainstream schools marred with teachers' reluctance, there exist varying views on the impact of such educational setting on the academic, psychological and social aspects of the DHH students as well as on their peers without disabilities.

1.3 Problem Statement

Some studies claimed that inclusion educational setting profoundly impact DHH children's academic achievement (Abu Shaira, 2013). Through inclusion, DHH children may re-evaluate the balance of justice and equality between students (with and without disabilities), thereby transforming their perceived negative image of self through increased self-esteem and motivation and exerting greater social and academic effort. Moreover, inclusion contributes to the development of awareness of belongingness to the society among the DHH children as well as their feelings, encourages them to appreciate diversity, and simultaneously educates the society to acknowledge individual differences and minority groups' rights (Majeed, 2008).

More precisely, though, decades of research have shown that the score of students at deaf schools (non-inclusion), on average, are at higher levels than their peers in public schools (inclusion). The studies concluded so by drawing on two large-scale, nationally representative databases. However, such difference in academic score is more explained by the socio-economic demographic difference—private school (non-inclusion) students largely come from more privileged backgrounds and hence obtaining greater educational support than theirs marginalised peers attending public schools (Harris, et al., 2017; Adoyo & Maina, 2019; Van Kann, et al., 2019). On the other hand, some research indicated DHH students attending mainstream schools achieve higher academic scores over their special school peers. Nonetheless, achievement variance can be attributed to the student characteristics than their educational placement (Alasim, 2019; Froman, & Froman, 2019).

In Saudi Arabia, parents can choose between deaf and mainstream school regardless of their child's hearing loss level. The choice is based on DHH student individual needs. Both special and mainstream schools have the same curriculum and grades systems. However, students spending increased time in heterogenous classrooms in mainstream schools had relatively increased academic achievement (Hyde, et al., 2016; Lissi, Sebastián, Vergara, & Iturriaga, 2019). Simultaneously though, several DHH students in these mainstream schools fail to develop meaningful relationships with their hearing peers (Butler, Trager, & Behm, 2019; Abera, & Negassa, 2019) thereby experiencing feelings of loneliness. Therefore, despite the mainstream schools being advantageous to DHH students' academic performance, the psycho-social challnegs they face have concerned educators to consider the segregated andself-containedschool setting to be the ideal education environment (Most, & Ingber, 2016; Mulat, Lehtomäki, & Savolainen, 2019). Mainstream schools widen the

social gap between DHH students and their hearing peers, thereby contributing tothe former's insecurity and instability within the school environment (Kurdistani, 2008). Besides, special schools meet the cultural and linguistic needs of DHH students (Toe, Paatsch, & Szarkowski, 2019).

Considering the dichotomous perspective on the type of educational setting, providing the means to deliver effective education for these students at the national level, especially the implementation of inclusive settings in mainstream schools, remains a major concern (Raheem, 2010). Besides, as (Kristensen, Omagos-Loican & Onen, 2003) opined, inclusion setting implementation in mainstream schools is a tedious process (Hung & Paul, 2006), transforming into a complex one when accommodating DHH students owing to their specific needs for psycho-social, cognitive and behavioural development.

Saudi Arabia has witnessed considerable improvement in every aspect of education, but in the provision of an inclusive environment to DHH students (Alothman, 2014). Such lacunae in an effective educational facility for the DHH students does little help to their inability to hear, which in turn, negatively influences their language development, subsequently affecting their academic performance and social performance as well as self-esteem or confidence (Zureikat, 2007; Yoshinaga-Itano, Sedey, Wiggin, & Chung, 2017; McGarrigle, Gustafson, Hornsby, & Bess, 2019). The linkage between the inability to hear and the psycho-social development of students with disabilities has prompted numerous studies to explore alternative approaches to enhance the abilities and academic performance of DHH students (Issa, 2011; Hrastinski, & Wilbur, 2016; Rijal, & Shrestha, 2019). Nonetheless, the impact of an inclusion setting on DHH students' communication skills and social performance in Saudi Arabia were not adequately explored (AlZahrani, 2005). Besides, only a few

academic performance studies cover DHH students in mainstream education (Most, 2006; Power & Hyde, 2002). Abu Shaira (2013) suggested that studies should be conducted on the effects of inclusion on the academic performance of DHH students in Saudi Arabia. However, despite there have been numerous studies on the impact of the social inclusion setting on the students deaf or hard of hearing (DHH), none of these studies has examined the impact of the social inclusion setting on the three various consequences such as academic performance, social interaction and self-esteem.

In essence, considering the above discussion on the difference in impact of inclusion setting on the DHH students in both deaf and mainstream schools, this study would investigate the impact of the independent variable (inclusion setting) on the dependent variables (students' academic performance, social interaction and self-esteem) within Saudi schools' system. Further, due to the lack of national and international studies on the impact of inclusion educational systems on the DHH children's academic, and psycho-social, understanding the parameters were deemed imperative to further the knowledge on the otherwise limited area of DHH students. In other words, this research attempted to investigate the contribution of inclusion educational setting on the prediction of DHH students' academic performance, social interaction and self-esteem in Saudi private and public schools. Furthermore, the research also attempted to examine whether gender difference moderate the relationship of inclusion setting with the prediction of students' academic performance, social interaction and self-esteem of Saudi DHH students at both public and special schools.

1.3 Research Objectives

The proposed specific objectives of this study are as follows.

i. To investigate the impact of inclusion setting on academic performance of deaf or hard-of-hearing (DHH) students.
ii. To examine the impact of inclusion setting on social interaction of deaf or hard-of-hearing (DHH) students.
iii. To investigate the impact of inclusion setting on self-esteem of deaf or hard-of-hearing (DHH) students.
iv. To explore the moderating role of gender difference on the relationship between inclusion setting and academic performance of the deaf or hard-of-hearing (DHH) students.
v. To analyse the moderating role of gender difference on the relationship between inclusion setting and social interaction of the deaf or hard-of-hearing (DHH) students.
vi. To examine the moderating role of gender difference on the relationship between inclusion setting and self-esteem of the deaf or hard-of-hearing (DHH) students.

1.4 Research Questions

The primary goal of the current study was to investigate the impact of the inclusion setting on DHH students in primary schools of Saudi Arabia, across both special and mainstream institutions. From a precise perspective, this research purported to investigate the direct impact of the inclusion setting on the academic performance, social interaction and self-esteem of DHH students. Another significant

focus was to determine the moderating role of gender difference on the relationship of inclusion setting with the academic performance, social interaction and self-esteem. Based on the two core questions posed above in the problem statement, the following research questions that have guided this study are:

i. What is the impact of the inclusion setting on the academic performance of deaf or hard-of-hearing (DHH) students?
ii. What is the impact of the inclusion setting on the social interaction of deaf or hard-of-hearing (DHH) students?
iii. What is the impact of the inclusion setting on the self-esteem of deaf or hard-of-hearing (DHH) students?
iv. What is the moderating role of gender difference on the relationship of the inclusion setting and academic performance among deaf or hard-of-hearing (DHH) students?
v. What is the moderating role of gender difference on the relationship of the inclusion setting and social interaction among deaf or hard-of-hearing (DHH) students?
vi. What is the moderating role of gender difference on the relationship of the inclusion setting and self-esteem among deaf or hard-of-hearing (DHH) students?

1.6 Research Hypotheses

This study's hypotheses were constructed based on the research problem, research questions, and the review of past literature conducted following the study objectives. The rationale and justification for these hypothesized relationships are explained in greater detail in Chapter 2. The hypotheses of this study included the

direct relationship between inclusion setting (IV) and DHH students' academic and psych-social developments (academic performance, social interaction and self-esteem) (DVs). Besides, the hypotheses involved the moderating role of gender difference on the relationship between the dependent and independent variables.

H_{O1}: The inclusion setting has a positive impact on the academic performance among deaf or hard-of-hearing (DHH) students.

H_{O2}: The inclusion setting has a negative impact on social interaction among deaf or hard-of-hearing (DHH) students.

H_{O3}: The inclusion setting has a negative impact on self-esteem among deaf or hard-of-hearing (DHH) students.

H_{O4}: Gender moderates the relationship between inclusion setting and academic performance among deaf or hard-of-hearing (DHH) students such as the relationship is stronger for female than male.

H_{O5}: Gender moderates the relationship between non-inclusion setting and social interaction among deaf or hard-of-hearing (DHH) students such as the relationship is stronger for male than female.

H_{O6}: Gender moderates the relationship between inclusive setting and self-esteem among deaf or hard-of-hearing (DHH) students such as the relationship is stronger for males than females.

1.7 Significance of the Study

One of Saudi Vision 2030 goals is to adequately support people with disabilities through education and job opportunities, thereby ensuring their independence, productivity, and sense of belongingness in society. Concerning the vision, the obtained findings are expected to assist policymakers and related

organisations in Saudi Arabia to optimise the existing educational practices for students with disabilities, especially DHH students. Besides that, this study is expected to provide solid recommendations to effectively implement an inclusion setting in the mainstream primary schools for students with special needs in Saudi Arabia.

In recent times, the Saudi education policy attempts as much as possible to adopt theories and practices that are applicable in other developed countries such as the USA (Asiri, 2019). This study's findings will also enhance the overall understanding of the impact of an inclusion setting on the DHH students' academic performance, social interaction, and self-esteem. Moreover, the obtained findings are expected to extend the existing knowledge on special education needs, especially in Saudi Arabia. Finally, the research has recommended a model for the impact of inclusion on the DHH students' academic performance, social interaction, and self-esteem studying in an inclusion setting within mainstream schools and special schools (non-inclusion) in Saudi Arabia.

1.8 Scope of the Study

The current study attempted to explore the educational setting's influence on deaf or hard-of-hearing students' (academic performance, social interaction and self-esteem) within the Saudi Arabian context where these relationships have not yet been discovered. This study used the quantitative approach where the research design, which involves a series of rational decision-making choices on the research process, was used as a guide for the researcher in the over-all research procedure. In general, the research design is formulated based on the study's objective, which enabled the researcher to decide the research place to be conducted. Regarding the sample and data in this study, this study's sampling frame involves Deaf or Hard-of-Hearing (DHH)

students in the mainstream primary schools and special schools (for the deaf) in Riyadh city Saudi Arabia. The study focused on the cases of students who experience moderate to severe loss of hearing— the information collected from the school records with due permission.

1.9 Conceptual Framework

The conceptual framework (Figure 1.1) depicts the direct relationships between the independent variable (i.e., inclusion setting) and the dependent variables (i.e., the academic performance of DHH students, social interaction of DHH students, and self-esteem of DHH students). It is hypothesised that the inclusion setting impacts the academic performance, social interaction, and self-esteem of DHH students. Thus, the gender of students was employed as a moderator in the current study. Figure 1.1 shows how inclusion setting impactsthe academic performance, social interaction, and self-esteem of DHH students.

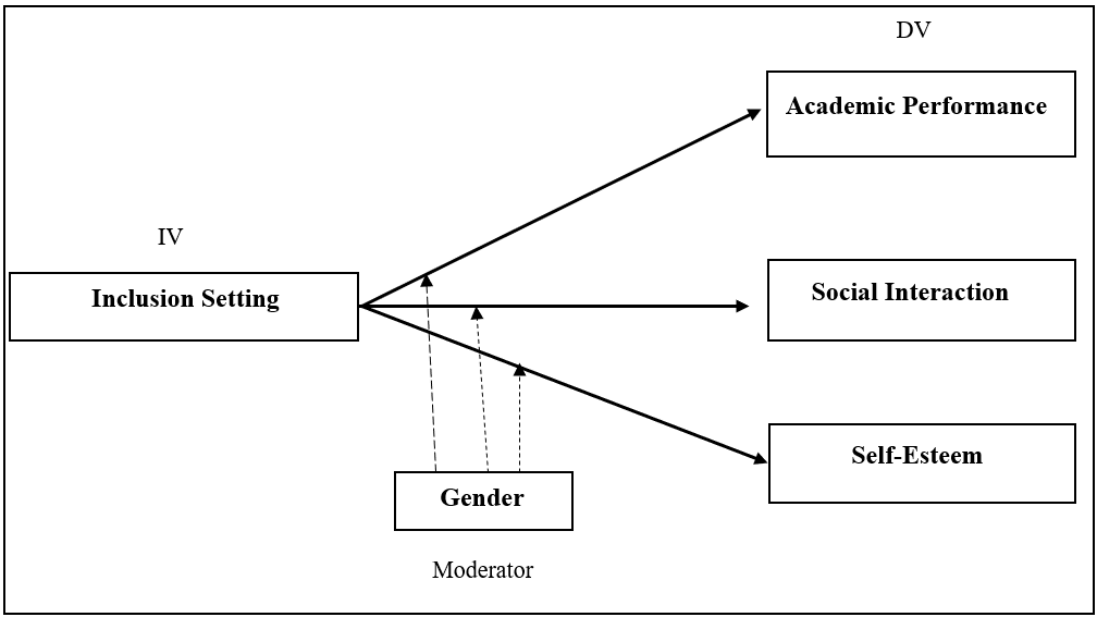

Figure 1.1. Conceptual framework

1.10 Operational Definition

The operational terms of this study are defined below.

1.10.1 Inclusion

Inclusion is described as moving away from separating students with disabilities (Frederickson & Cline, 2009). Inclusion can also be considered as an equipment addressing bias, prejudice, and inequality. The National Childcare Strategy (2006, p.46) defines inclusion as "a process involving a programme, curriculum, or educational environment where each child is welcomed and included on equal terms, can feel they belong and can progress to his/her potential in all areas of development".

Thus, in the context of this study, inclusion refers to allowing deaf or hard-of-hearing (DHH) students to learn in a mainstream school with self-contained classroom; to participate along with their peers in the mainstream school; and to have access to the similar curriculum, but with modification. However, the non-inclusion setting refers to the special schools of the DHH.

1.10.2 Academic Performance

Academic performance is defined as the observable and measurable behaviour of students in a specific situation (Yusuf, 2002), such as students' achievement in standardised tests. According to Niebuhr (1995), students' academic performance is typically assessed by ratings, tests, or examinations at any point during the academic semester for evaluation. For instance, the students' observed behaviour or achievement concerning the course's learning outcomes reflect academic performance (Kyoshaba, 2009).

Hence, in the context of this study, the academic performance refers to the accomplishments of DHH students, especially the final grades that they achieved at the end of their academic semester in maths, reading, and science.

1.10.3 Social Interaction

According to Rubin, Bukowski, Parker, and Bowker (2008) social interaction can be defined as "the social exchange between two individuals, which can be of some duration and where the participants' actions are interdependent". Additionally, the concept of interaction may also refer to any attempt to gain a listener's attention (Kreimeyer, Crooke, Drye, Egbert, & Klein, 2000). It describes the process of communication using linguistic and non-linguistic means (Antia & Kreimeyer, 2003).

Therefore, in this study, social interaction refers to the social behaviour and social skills of the DHH students, such as verbal and non-verbal skills with a focus on social Rules, likeability, and social ingenuousness.

1.10.4 Self-Esteem

Self-esteem refers to an individual's subjective self-evaluation (Crowe, 2003), which largely affects the individual cognition, motivation, emotion, and behaviour (Lamovec, 1994; Erol & Orth, 2011). Self-esteem is significantly associated with coping with unfavourable circumstances (Kobal-Grum, 1997; Hintermair, 2006).

In this study, self-esteem refers to how DHH students a positive or negative attitude toward themselves. Also, how they evaluate their inner thoughts and feelings overall.

1.10.5 Deaf or Hard of Hearing (DHH)

According to the Individuals with Disabilities Education act (2004), deafness is defined as a severe hearing impairment that restricts the opportunity to process linguistic information through the sense of hearing with or without a hearing aid (Kirk, Gallagher, Coleman, & Anastasiow, 2012). Meanwhile, hard of hearing refers to the difficulty to hear, but it does not affect one's understanding of speech using ears, with or without a hearing aid (Moores, 2001).

Therefore, in the study's context, deaf or hard-of-hearing (DHH) refers to a permanent moderate to a severe loss of hearing. Those students had a hearing loss range (40 - 91dB HL), and they study in 4th, 5th, and 6th grades at the elementary level.

1.11 Chapter Summary

This chapter presented the background of the study. This chapter also presented and described the problem statement and the problem validity supported by the recent literature followed by the research questions, research objectives and research hypothesis. Subsequently, the study's significance and the operational definitions were presented in detail in the chapter's concluding part.

Table 1.1

Mapping of Research Objectives, Questions, and Hypotheses

Research Objectives	Research Questions	Hypothesis
RO1: To examine whether there is any impact of the inclusion setting on academic performance of deaf or hard-of-hearing (DHH) students.	**RQ1:** Is there any impact of the inclusion setting on academic performance of deaf of hard-of-hearing (DHH) students?	**HO_1:** There is a positive impact of the inclusion setting on academic performance of deaf or hard-of-hearing (DHH) students.
RO2: To examine whether there is any impact of inclusion setting on social interaction of deaf or hard-of-hearing (DHH) students.	**RQ2:** Is there any impact of the inclusion setting on the social interaction of deaf or hard-of-hearing (DHH) students?	**HO_2:** There is a negative impact of the inclusion setting on the social interaction of deaf or hard-of-hearing (DHH) students.
RO3: To examine whether there is any impact of inclusion setting on self-esteem of deaf or hard-of-hearing (DHH) students.	**RQ3:** Is there any impact of inclusion setting on self-esteem of deaf or hard-of-hearing (DHH) students?	**HO_3:** There is a negative impact of inclusion setting on self-esteem of deaf or hard-of-hearing (DHH) students.
RO4: To investigate the moderating role of gender differences on the relationship between inclusion setting and academic performance of the deaf or hard-of-hearing (DHH) students.	**RQ4:** What is the moderating role of gender difference in the relationship of the inclusion setting and academic performance among deaf or hard-of-hearing (DHH) students?	**HO_4:** Gender moderates the relationship between inclusion setting and academic performance among deaf or hard-of-hearing (DHH) students such as the relationship is stronger for female than male.
RO_5: To investigate the moderating role of gender difference in the relationship between the inclusion and social interaction of the deaf or hard-of-hearing (DHH) students.	**RQ5:** What is the moderating role of gender difference in the inclusion setting and social interaction among deaf or hard-of-hearing (DHH) students?	**HO_5:** Gender moderates the relationship between inclusion setting and social interaction among deaf or hard-of-hearing (DHH) students such as the relationship is stronger for male than female.
RO_6: To investigate the moderating role of gender difference in the relationship between inclusion setting and self-esteem of the deaf or hard-of-hearing (DHH) students.	**RQ6:** What is the moderating role of gender difference in the relationship of the inclusion setting and self-esteem among deaf or hard-of-hearing (DHH) students?	**HO_6:** Gender moderates the relationship between inclusion setting and self-esteem among deaf or hard-of-hearing (DHH) students such as the relationship is stronger for male than female.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The literature review for the impact of inclusion on the academic performance, social interaction, and self-esteem of DHH students was fundamentally conducted to support the hypothetical models used in the prior existing research works. This chapter details the available literature while critically reviewing and identifying the existing gaps. This chapter also identified the theories that underpinned the research model of this study, which further helped develop the conceptual framework followed by the study hypotheses.

2.2 Situational Context

The introduction of policies and programmes that promote inclusion education across Arab countries started in 1984, where the KSA was the first to do so (Al-Mousa, 2010). The Saudi Ministry of Education launched an educational plan in 1996, comprising ten major items, including mainstream schools' key role in teaching students with disabilities. In 2002, a document of rules and regulations for special education institutes and programmes was issued in Saudi Arabia, which emphasised mainstream schools' suitability for students with disabilities (The Ministry of Education, 2002).

The Saudi Ministry of Education recently reported that the number of students with disabilities in mainstream schools exceeded the special schools. The former's preference over the latter was the benefits 1,629 DHH students in the mainstream schools received from special programmes specifically designed for them in 2013 than

DHH students who attended special schools (Ministry of Education, 2013). Further, the upsurge in admission in mainstream schools over special schools demonstrated DHH students' willingness to be part of former and the government's intensive efforts to promote inclusion education for all students with disabilities. Moreover, the enrolment distribution of the DHH students in the mainstream (78%) and special schools (22%) in Saudi Arabia (Ministry of Education, 2013) highlighted similar patterns as the U.S. where nearly 86% of DHH students receive education in the mainstream schools. Only 14% receive education in special schools and residential schools for students with hearing impairment (National Centre for Education Statistics, 2012).

Considering the increasing trend of DHH students in mainstream schools, the impact of inclusion setting on the academic performance, social interaction, and self-esteem of DHH students need to be comprehensively explored. Therefore, this study aimed to explore how an inclusion setting influenced the academic performance, social interaction, and self-esteem of DHH students in Saudi Arabia. Under the Ministry of Education, the education system in Saudi Arabia, earlier, was primarily based on the Islamic religion and involved the separation of gender at all levels. Therefore, while the Ministry of Education in Saudi Arabia was initially responsible for the education of male students, the General Presidency of Girls was responsible for female students' education, with both these authorities following different curricula for both the genders (Ministry of Education, 2008). However, in 2002, the General Presidency of Girls and the Ministry of Education were integrated where students of both genders followed one form of curriculum, teaching methods and instruction, and assessment procedures.

There are four levels to the existing education system in Saudi Arabia, specifically kindergartens, primary schools, intermediate schools, and secondary schools (Ministry of Education, 2008). Children of age three to five years attend the first level (kindergarten), but their attendance is not a requirement of enrolment into the next level. As these children reach the age of six, they attend primary schools in Saudi Arabia. The six years of learning in primary schools equip these students with basic knowledge and skills in mathematics, arts, science, religion, health, and social science. Thereupon, these students attend intermediate schools— consisting of three grades— for three yearsfollowing which, they must sit for the General Secondary Test (GST) to obtain the high school certificate before enrolling into universities or other higher education institutions (Ministry of Education, 2008). Typically, these students' complete high school at the age of 19.

2.2.1 Special Education in Saudi Arabia

The special education sector has demonstrated significant transformation globally over the past century (Brownell et al., 2005), especially from a segregation trend to an integration trend (Nougaret et al., 2005). Unlike the implementation trend in many other countries, the education system for children with disabilities in Saudi Arabia began as a mainstream school before introducing a separate school or special institute. Al-Ajmi (2006) highlighted, there was no special education for children with disabilities before 1958. In most cases, these children were kept at home and educated under parental guidance.

In 1958, the Saudi government introduced special education services, within which, the visually impaired students, were the first to receive special education in a school or special institute. Since then, special education has spread across the country

with an increasing number of institutes for students with disabilities (Al-Mousa, 1999). In 1960, Al-Noor Institute for the Blind was the first to acknowledge students with visual impairment (Al-Ajmi, 2006). After two years, the Saudi government founded the Department of Special Learning under the Ministry of Education to improve learning and offer rehabilitation services for students with disabilities (Al-Salloom, 1995) such as visual impairment, hearing impairment, and mental disabilities (Al-Mousa, 2004) which further prompted the establishment of three institutes for children with visual impairment across Mecca, Alhofouf, and Aneaza (Al-Mousa, 1999). The institutes for children with hearing impairment and mental disabilities were established in 1972 in Saudi Arabia (Al-Mousa, 1999).

Additionally, the increasing number of children with disabilities in mainstream schools over time prompted the Saudi government, among the first nations in the world, to formally include students with disabilities within the mainstream education system based on the scientific concept (Al-Mousa et al., 2008). The first successful attempt of mainstreaming students with disabilities was implemented in Hufuf city in 1984 (Al-Mousa et al., 2008). Besides that, a kindergarten for children with disabilities was also established in 1989 at King Saud University (Al-Mousa et al., 2008). In 1990, the Ministry of Education started to implement the mainstream teaching approach for students with disabilities across public schools in the country andon a limited scale. Following in 1996, the Ministry of Education demonstrated significant success in implementing a specific educational approach where one of the ten strategies highlighted the role of public schools in providing special education to promote students' enrollment with disabilities into mainstream public schools.

Furthermore, the Ministry of Education, Ministry of Health, and Ministry of Social Affairs in Saudi Arabia have joined efforts to further develop bylaws and policies to enhance students' educational process with disabilities. For example, back in 2000, the Provision Code for Persons with Disabilities was introduced, which outlined people with disabilities' rights, including free and appropriate education (Al-Mousa, 2010). In particular, a supreme council addressing the issues that affect people with disabilities, including developing policies and supervision of related activities, was established (PCPD, 2000). Moreover, in 2008, the Saudi government signed the Convention on the Rights of Persons with Disabilities and its Optional Protocol and subsequently organised a regional convention to assist Arab countries in 2009 for the formulation of a work plan in implementing the Arab Decade of Disabled Persons and the Convention on the Rights of Persons with Disabilities (Al-Mousa, 2010).

Special education in contemporary Saudi Arabia ushered into a transformational era with educational policies and programmes that emphasise students with disabilities in an inclusion learning environment across the region. Under the present circumstances, a heterogenous classroom with children with varied abilities/disabilities is a reality for these students with disabilities to have the opportunity to learn in mainstream schools. So much so that the number of students with disabilities in mainstream schools had exceeded the number of students with disabilities in special learning institutes (Al-Mousa, 2010). Consequently, the current circumstance had presented valuable opportunities for both typically developing students and students with disabilities to learn together and fully realise their potentials.

2.2.2 Education System for Deaf or Hard of Hearing Students in Saudi Arabia

Essentially, the hearing ability is one of the most important form of communication and an important factor in learning spoken languages. The hearing process facilitates intellectual, psychological, and social developments; hence, losing the ability to hear poses certain life challenges with special educational needs. According to the World Health Organisation (2018), there are approximately 460 million people with hearing impairment globally, of which 17 million belong to the Arab world, with 720,000 people inhabiting Saudi Arabia. Abu Shaira (2013) highlightedSaudi Arabian disabled students' right to several services (Disabled Care System in Saudi Arabia No/37, dated 12/20/2000), including educational services. Among the people with disabilities residing in the country, there are as many as 100,000 people with hearing impairment (Allen, 2008). Of these, approximately 11.9% are students enrolled in conventional schools, thereby representing the third-largest category of students with disabilities in Saudi Arabia (Al-Khashrami, 2004).

The Al-Amal Institute for DHH students in 1972 (Al Mousa, 1999) demonstrated the segregation trend towards hearing impairment (Abu Shaira, 2013). Since then, the education system for DHH students in Saudi Arabia has continued to develop remarkably, where the number of schools (of both special institutes and mainstream public schools) for DHH students has increased to more than 230 schools with modern teaching methods, such as bilingual and inclusive programmes (as opposed to the conventional segregation system) (Abu Shaira, 2013). In 1990, the increasing public pressure to include students with disabilities in the mainstream public schools intensified the efforts to implement an inclusive setting for DHH students in Saudi Arabia (Abu Shaira, 2013). The Ministry of Education subsequently put forward the generalisation of the inclusive learning experience in the mainstream