

## Resilience among students with health, gender and developmental attributes

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### Abstract

This study describes deaf and hearing female adolescents' resilience with their respective counterparts using the Connor–Davidson Resilience Scale. The study was conducted on 160 adolescent [80 deaf (40 females) and 80 hearing (40 females)] students who were randomly selected. Quantitative and qualitative data collections were made through the questionnaire and interviews. The study mainly used descriptive and inferential statistics for data analysis. The results revealed that hearing adolescent students' average resilience score was significantly greater than deaf students. Female adolescent students' score level was also found to be significantly lesser than their counterparts. The results further revealed that there was a significant difference in scores among deaf female, deaf male, hearing female and hearing male adolescent students in which deaf female adolescent students' resilience scores were the lowest. The findings call for health and psychological professionals and families to provide adequate support for deaf and female adolescents to develop resilience.

Keywords: Adolescence, deaf, disability, gender, hearing, resilience;

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## 1. Introduction

Adolescence is a developmentally important, yet difficult, transitional period in which teenagers and youth experience various changes and challenges (Blackekmore & Mills, 2014; Crone & Dahl, 2012; Pepr & Dahl, 2013). During adolescence, physiological changes, including the brain, are high as compared to later ages. This makes adolescents highly disposed of stress-inducing adjustments and vulnerable to adversities (Aoki, Romeo, & Smith, 2017; Fuhrmann, Knoll, & Blakemore, 2015). This period is more challenging for deaf teenagers and adolescents since life challenges related to developmental changes are additional adversities (Maxey & Beckert, 2017) that deaf children face as they need to cope with the challenges of deafness.

Hearing loss is one of the adolescents' adversities that affects millions of people around the world and was estimated to be the fourth leading cause of disability globally (Bhatta et al., 2018; Cunningham & Tucci, 2017; WHO, 2015) and seems to be more phenomenal in sub-Saharan Africa (including Ethiopia) than in wealthier continents (WHO, 2015). This report aimed to highlight the changing profile of worldwide hearing loss over the next century, and summarise the actions required to prevent hearing loss where possible, if not mitigate its adverse impact. However, adolescents with disabilities (including hearing loss) have remained largely invisible (Jones, Presler-Marshall, & Stavropoulou, 2018).

Researchers found that adolescents with disabilities focus on the stressors that they face and the negative impacts that stressors have on them (Bhatta et al., 2018; Groce & Kett, 2014; World Bank, 2017). A research conducted in Israel revealed that higher levels of test stress and terror-related stress symptoms were found in adolescents with hearing impairment, which is an indication of a low level of resilience (Miri, 2016). Adolescents who are deaf tend to have the least emotional support at home due to communication barriers with parents and those with intellectual impairments often face the most intimidation (Groce & Kett, 2014). They experience high rates of social isolation and often feel stigmatised and unsupported even within their households, and as a result, they are more prone to depression, loneliness and low self-esteem than their peers without disabilities (Groce & Kett, 2014).

If children with hearing loss are not adequately supported to develop competencies to cope with adversities and school demands, then they can experience with low academic achievement, which can also bring about less competence in creating jobs and getting employment opportunities (Olusanya, Neumann, & Saunders, 2014). On the contrary, supporting deaf adolescents to develop resilience is indispensable in coping with language, academic, social and behavioural struggles in the general education and social environments (Miccuci, 2015). According to Miri (2016), they use more avoidance coping and less active coping than the hearing adolescents. Writers, who focus on human development, conceptualise resilience as protective psychological hazards that enhance our positive developmental outcomes and well-defined personality set ups, and this helps for better adaptation with new environments and coping with adversity (Bonanno, 2008; Greene & Conrad, 2002).

Therefore, identifying and targeting the factors related to developing protective coping styles by adolescents with hearing impairment could help them implement more efficient coping strategies. This improving of resilience is equivalently understood as the ability to cope, adapt and persist with problems (Greene & Conrad, 2002). Moreno, García-Moya, Rivera, and Ramos (2016) found that resilience is an important factor in school adaptation among vulnerable school children, including

children with disabilities. This shows that understanding the resilience status of school children with disabilities in general and deaf adolescents, in particular, significantly influences their school adaptations and capabilities of coping with difficulties (Narayanan, 2015). Teachers, mentors and school leaders are expected to pursue individual level assets and to create a conducive environment whereby adolescents (including disabled and female adolescents) practice strategies to safeguard practice to protect risk factors and cope with academic demands (Olsson et al., 2003). Adolescents earn knowledge, skills and protective strategies (Masten, Best, & Garmezy, 1990, cited in Punjani & Mevawala, 2019).

In Ethiopia, adolescents with disabilities such as hearing impaired can be both shamed and blamed for their impairments (Mekonnen, 2018). From the researcher's life time observation, teenagers and adolescents who are deaf in Ethiopia are neglected citizens who are not still believed to have good abilities in school learning. They usually stay at home serving the parents in ploughing or caring for children in the homes. However, in recent years, schooling for deaf and hard of hearing (DHH) students in Ethiopia has increased little as part of the Equal Education for All and inclusive education movement. In the year 2016, for example, the number of DHH students registered in schools was 10,379 (Federal Democratic Republic of Ethiopia (EFDRE), 2016). The government also has referred to international conventions, declarations and statements related to inclusive education after ratifying the United Nations (UN) Convention on the rights of the child in 1991 and the UN Convention on the rights of persons with disabilities in 2010.

The Ethiopian Constitution (Article 9) affirms that all international agreements ratified by Ethiopia are an integral part of the law (FDRE, 1995). Within this legal framework, the government, along with other stakeholders, has been trying to address the educational needs of DHH children, although full access to education is not realised. However, deaf people who are at school seem to be at risk for psychological conditions due to the difficult situations they experience because of their impairment, which needs attention. Young people with disabilities (hearing, visual and physical) face intersecting barriers to inclusive education, heightened vulnerability to gender- and age-based violence and increased psychosocial distress compared to peers without disabilities (Jones, Muz, & Workneh, 2021). In this study, therefore, it is argued that bringing deaf children and youth to school without deep consideration of their capabilities of coping with psychosocial challenges and adversities, which is resilience, could not bring about changes in their quality of future life.

The other area of concern that could be understood well from the social and traditional challenges is gender. Gender is diversity as well as adversity that come from social naming, cultural practices, historical contexts and political compositions and beliefs (Momsen, 2010). In this arena again, Ethiopian girls and women have been oppressed for a long period of time since the history of Ethiopia, and so they were subjected to a high level of difficulties in life. To the researcher's witness within the family, girls are required to accomplish all possible household activities, regardless of their school demands. The community believes that females (women or girls) are 'born to serve males'. To minimise these psychological and physical hardships, the Ethiopian government proposed Article 35 in the country's constitution (FDRE constitution-1995) that mandates affirmative action as a remedy for historical discrimination against girls and women and notes the state's obligation to eliminate traditional customs that harm women's minds or bodies (UNICEF, 2017/18). It was believed that being male was being blessed, while being femaleness was being unblessed. This sociocultural dichotomy brought about the gender-biased treatment of boys and girls who are prone to adversities

and challenges. Would this bring about difference in capabilities to adapt and cope with life challenges and psychological harms? This was an input that triggered the researcher to go through understanding the status of female and male adolescents' resilience in the Ethiopian context, which has been an undisclosed issue in the study province of Dangila.

Researches show that men, women, boys and girls develop a different level of resilience because of differences in adversity with cultural practices, societal influences and political engagements (Momsen, 2010). Studies on the impact of resilience on gender provide mixed results. Some researchers reported higher resilience in females than males (Edwin, 2004; Mousavi & Askari, 2010), while others reported higher resilience among males than females (Lees, 2009). Some others did not establish any gender differences in resilience (Katyal, 2014; Sreehari & Nair, 2015; Tefera & Mulatie, 2014), whereas an Indian study by Prabhu and Shekhar (2017) showed meaningful gender disparities in resilience.

In summary, the above-mentioned variations in the research results showed that resilience studies across gender and adolescents with hearing loss remain undigested. Some of the reports depicted that males are better than females in a certain dimension of resilience and females are better resilient than their counterparts in other dimensions. Other researchers still argue that there is no significant difference between males and females in the resilience of any dimensions.

Thus, it was found important to understand adolescent students' resilience across genders and hearing statuses to develop contingent and pragmatic intervention strategies based on the following research questions:

- To what extent are adolescent students resilient to adversity?
- To what extent adolescent students' resilience varies due to their gender and dis/ability to hear?

### *1.1. Theoretical models and frameworks of resilience*

Resilience is not a stable and irreversible attribute that exists or disappears, rather it is a developmental attribute that develops in the presence of adversities or trauma (Reed, Fazel, Jones, Panter-Brick, & Stein, 2012). Many scholars have agreed that resilience is an inevitable dynamic factor associated with human developmental ladders, in which there is an intertwining of environmental, emotional and cognitive means that help to cope with adversities (Melillo & Suárez, 2001; Torres, 2010). Hence, related to disability, resilience is understood as individuals' capacity to learn and improve skills and character after the occurrence of difficulties that help to cope with disabilities. The skills and character of disabled people show their resilience in many aspects of the life challenges they face in their developmental ladders (Stuntzner & Hartley, 2014).

In many research results, there are three major models to explain the features of resilience, namely the protective model, compensatory model and challenge model (Garmezy, Masten, & Tellegen, 1984; O'Leary, 1998). According to the compensatory model, resilience is seen as the ability to solve problems and manage risk factors. This model focuses on psychological constructs such as self-esteem, determination and perseverance, and intellectual competence as a means to deal with challenges and new environments (Ungar, 2004; Werner & Smith, 2001). This approach focuses on conceptualising resilience as an individual's belief that they provide meaning to skills, potential or

resources they have to cope and adapt with hardships, as well as new environments, respectively. Resilience is the result of interaction between people and their environmental resources, such as access to material resources, identity, relationships, cultural adherence, social justice and cohesion, to claim that they are healthy against adversities (Ungar, 2004, 2005, 2007).

The notion of the challenge model considers risk factors and challenges as learning experiences to get ready for the next challenges and risk factors (O'Leary, 1998). The challenge model asserts that stressors and life hassles, at their optimum level, function as medications to get the person to develop tools or strategies to cope with similar problematic situations for the rest of their life (Garmezy et al., 1984).

The 'protective' factor model views resilience as the immunisation of risk factors and challenges before negative impacts surface over the abilities to cope. Through the process of protecting challenges, individuals develop fundamental skills over time for a further protective character (Bonanno, 2008; Ungar, 2004). In this model, resilience is identified in emotional management skills, intrapersonal reflective, planning, problem-solving, life and academic skills (Ungar, 2004). Furthermore, the protective model focuses on the outcomes that arise from the interaction between stressors and personal coping qualities, which are defined by the level of attribution to adversities (Garmezy et al., 1984).

In this research, the Connor–Davidson Resilience Scale (CD-RISC-25) was used to describe disable and female adolescents against their counterparts. The CD-RISC-25 was used based on the notion of the protective model as it was supposed to measure the dynamic nature of resilience which alters and develops because of learning and experiences (Alvord & Grados, 2005; Madewell & PonceGarcía, 2016). According to the protective model and CD-RISC-25 scale, resilience allows us to thrive in the face of adversity. It is a dynamic process, which gradually develops and varies across age, gender and circumstances (Connor & Davidson, 2003; Leys et al., 2018).

Therefore, the protective model is used to describe the status of the resilience of deaf and hearing male and female adolescents. The resilient measure is used in this study by addressing psychological traits that help to cope with difficulties and learning capabilities that come from social interactions among peers, teachers, families and personal experiences of adversities. These factors are can be map out into protective models. Moreover, because resilience can be cultivated and has positive effects on negative feelings such as anxiety, studying resilience based on the notion of the protective model helps us to design appropriate methods for preventing psychological harm and other negative consequences among adolescents with disabilities and gender disparities.

## **2. Methods**

### *2.1. Design of the study*

The research attempted to describe the existing resilience status of adolescent students. This study also compared hearing and deaf/hard of hearing adolescent students as well as male and female adolescent students. This study was, therefore, fundamentally designed based on the notion of descriptive research design. Descriptive research is an appropriate choice when the research aims at identifying characteristics, frequencies, trends and categories (Cresswell, 2012). The researcher followed a mixed approach in which a quantitative approach was mainly applied because the main focus of this study was describing adolescents with hearing loss and females

against their counterparts by using the CD-RISC-25. Since the researcher assumed that deaf adolescent students might not express all that they feel about their capabilities and ways of coping with adversities, a qualitative approach was applied to get supportive information from key informants through semi-structured interviews.

## *2.2. Participants*

This study was conducted on 160 adolescent (80 deaf and 80 hearing) adolescent students. In Danglia Province, Ethiopia, there is a centre for children with special needs, particularly children with hearing loss. Since this study focused on adolescent students with hearing disabilities, 102 deaf adolescents (40 female and 62 male) students were selected based on their age range. Accordingly, deaf adolescent students aged 15–19 were selected comprehensively. They were enrolled in grades 7–12. Their counter peers were selected based on their equivalent age ranges and grade levels. To compare the resilience status of deaf adolescents with hearing peers, 80 hearing adolescents (40 male and 40 female) students were selected from the same grade level in which deaf students were enrolled. Gender proportion was considered so that 40 deaf female adolescent participants were considered totally and the rest 40 deaf male students were selected using a simple random sampling technique. In Dangila Province special centre, five special needs teachers were professionals in sign language. They were selected purposely as participants of the study and as key informants since they could understand deaf students' limitations, capabilities, challenges and adversities better than any other people around deaf adolescents.

## *2.3. Instruments*

Recently, researchers used to measure adolescents' psychosocial capabilities in general and resilience in particular, which enable adolescents to adapt to adversities and new environments. They used measure of resilience by the framework that advocated resilience as a 'trainable and adaptive skill', for which the well-known scale is the CD-RISC (Connor & Davidson, 2003) that has been used and validated in various countries and population (Madewell & Ponce García, 2016). The CD-RISC-25 consisted of 25 items rated on a 5-point Likert scale. Different scholars adopted and administered it for different populations so that the most recent reliability of the scale ranges from  $r = 0.86$  to  $0.90$ . The CD-RISC has previously acceptable psychometric properties. It was reported that the scale has a Cronbach's alpha value =  $0.89$ , test–retest reliability and intra-class correlation coefficient =  $0.87$  (Gras et al., 2019).

Hence, considering resilience as a progressive growing result, resilience could be understood as learned, progressive commutations of protective factors that enable a person to adjust to life's hazards and difficulties (Alvord & Grados, 2005). The Connor–Davison Resilience questionnaire was adapted and applied for this study. The usual average score of resilience ranges from a generalised anxiety measure of  $62.4$  ( $2.49 \times 25$ ) to the US general population measure of  $80.7$  ( $3.23 \times 25$ ).

The CD-RISC-25 is closed-ended with a 5-point Likert scale rating. It assesses individual characteristics of adolescents such as self-efficacy, sense of humour, patience, optimism, faith, interactive skills and coping skills which are constructs of resilience. A semi-structured interview was also conducted to solicit about deaf students' psychosocial well-being and how these students react to challenges and life stressors in school settings.

#### 2.4. Procedures

The instrument was adapted into educational settings. Since the instrument was previously used in different sociocultural contexts and administered for different groups of participants, it has been a must to understand the instruments dependability, consistency and clarity for the participants in the Ethiopian context. Therefore, before administering to the study population, a reliability check was made through pilot analysis. The questionnaire was piloted by administering the questionnaire to 20 hearing and 16 deaf adolescent students who were randomly selected from the population in the study area. Then, the split-half reliability test computed and showed a correlation coefficient of  $r = 0.87$ .

Since participants were non-English speakers, lower graders and with hearing loss, the questionnaire was translated into the local language and official language of Ethiopia (Amharic) and sign language to minimise ambiguities, enhance clarity and check internal reliability. The Amharic version was also given to English majors and Amharic minor professionals for reverse translation to check if the instrument can give similar essence to the original questionnaire. To enhance the reliability and dependability of the data, the instrument was further given for expertise teachers. There were some ambiguities, vague statements, technical words and long sentences in the Amharic version of the instrument. These ambiguities in the phrasing of questions, inappropriate wordings and uncommon language use were edited, substituted and revised, respectively. At the end of the questionnaire, one general question was added to get some insights about what sort of difficulties they face and how they used to cope with their adversities.

To optimise the response rate, orientation was given to respondents about the purpose of the study and how they could complete the questionnaire. Professional teachers in special needs were enrolled to translate the questionnaire into sign language so that deaf students could complete it easily. This was carried out with careful supervision and the support of the researcher for 2 days. On the third day, the same questionnaire was administered to selected hearing students. This was completed within 1 day with the full support of homeroom teachers. In two of the cases, the questionnaire was administered and collected upon the presence of the data collector and sign language teachers.

The completed questionnaire was checked and arranged for data sorting. The data used for pilot study was not included for data analysis. Since the questionnaire was completed with close support from administrators, there was no missing data. After the data were sorted, they were coded and analysed using Statistical Package for the Social Sciences (SPSS-20). After Kolmogorov–Smirnov test was used to examine the normality, mean ( $M$ ), standard deviation ( $SD$ ), independent samples  $t$ -test and analysis of variance (ANOVA) were the analysis techniques applied in this study. Since one of the purposes of this study was to describe resilience differences among groups of adolescents (hearing males, hearing females, deaf females and deaf males), ANOVA was used as an analysis technique.

The research used semi-structured interviews, which has similar content with the questionnaire given to the adolescents. The interview was conducted with key informants in their respective offices in which interviewees were free to respond to every question without disturbances. It took 40 minutes in average for each participant to complete the interview. It was conducted in the Amharic language which is the participants' first language. The sessions were recorded in text and with an audio recorder. The collected data from the text and audio records were summarised and translated in English language.

## 2.5. Compliance with ethical standards

The researcher maintained informed consent by making the research objectives clear to the participants, teachers, parent representatives, counsellors and school administrators. To ensure the safe running of the study, a permission letter was obtained from the district education office and a consensus was reached with the Parent–Teacher Association (PTA) to keep the ethical guidelines of child protection in the school. The PTA is a special committee that involves parent and teacher representatives, school counsellors and school principals. According to the school PTA guideline, by the time the research projects are due in schools, discussions shall be put in tables so that consensus shall be reached before conducting the research process. Hence, this research was conducted getting all these discussions done with the committee. The general objective, nature of the research and how long it takes to complete the questionnaires were explained to the participant students, teachers, counsellors and director of the school. All information collected from participants of the study was cleared by all concerned bodies as it was confidential.

In the Ethiopian context, in general, and in the study area, in particular, it is the PTA who provides the permission to research human participants in schools. There is no specific ethical and standard committee that approves the research process in relation to ethics.

## 3. Results and discussion

### 3.1. Resilience in adolescents

Table 1. Groups of adolescent students' resilience status ( $N = 160$ )

Groups	$N$	Mean ( $X$ )	Std. dev.
Deaf females	40	51.75	7.75
Hearing females	40	61.00	9.50
Deaf males	40	65.00	9.75
Hearing males	40	72.75	11.00
Average resilience status of adolescents	160	62.50	9.25

In Table 1, adolescents' resilience status was found to be  $X = 62.5$ ,  $SD = 9.25$ . In this case, if an individual scores 100, then they have high resilience and if they score below or equal to 75, then they have a lower level of resilience (Katherine & Dan, 2012). This shows that the resilience status of adolescents was below the expected level of resilience as per the measuring scale. Many resilience research and theories about resilience have confirmed that adolescents have a greater tendency to develop higher resilience as they experience adversity in many dimensions (Yates, Egeland, & Sroufe, 2003).

However, the result of this study does not support the notion given by resilience theorists. This might be because participants have been developmentally exposed to high levels of the risk factor, which result in negative outcomes. Based on the Ethiopian social structure where female adolescents have a lot of responsibilities to be undertaken in homes, females would be potentially the victims of sociocultural pressure in addition to age and disability adversities. Thus, it might be because of this that the result of this study was found contrary to the previous researches and theorists.



### 3.2. The resilience of deaf and hearing adolescents

An independent sample *t*-test analysis was conducted to understand the resilience difference between disabled and abled adolescents.

Table 2. Resilience in hearing and hearing-impaired adolescents

Groups	N	X	SD	MD	df	t-test	Sig. (2-tailed)
Hearing adolescents	80	67.00	11.50	8.75	158	2.931	0.03
Deaf adolescents	80	58.25	11.00				

Table 2 revealed that there was a significant difference between hearing and deaf respondents in the status of resilience. Hearing adolescents have higher levels of resilience ( $X = 67.00$ ,  $SD = 11.50$ ) than hearing-impaired adolescent students ( $X = 58.25$ ,  $SD = 11.00$ ) [ $t(158) = 2.931$ ;  $p < 0.05$ ]. Hearing-impaired adolescents experience trauma more frequently than their hearing peers. Impaired and hard of hearing adolescents appear to be abused and this abuse often happens in homes, buses or residential school settings. Like others who have encountered maltreatment and other types of harm or stressors, impaired and hard of hearing children often need trauma-specific mental health services to ensure their health and to provide them with skills they need to cope with their painful experiences.

The results of this study are similar to previous researches in that hearing and deaf youth are different in many life aspects. For example, impaired youth reported that they have more mental health problems or symptoms than their hearing peers (Fellinger, 2008). Similarly, it was found that hearing youth reported more positive satisfaction and coping with daily hassles than deaf youth (Gilman, 2014). Deafness in youth is linked developmentally with a greater likelihood of a host of less than optimum outcomes, be they in the domains of literacy, mental health, social and cognitive functioning, educational achievement and vulnerability to abuse, which in sum develop a low level of resilience (Sullivan, Brookhouser, & Scanlan, 2000). Deaf individuals face unique challenges and opportunities to develop resilience, particularly in the face of adversity. Understanding adversity is an important piece of the resilience puzzle. Deaf individuals face double times as compare to other able individuals (Harrell, 2011; Pollard, Sutter, & Cerulli, 2014). The adversity they face may include neglect, psychological, emotional and physical abuse as well as educational exclusion including higher rates of child maltreatment. This result indicates that deaf adolescents have got a lower level of resilience implying that they do not have protective resources that they use to protect from risk factors in this stage of development.

### 3.3. Gender and resilience

Table 3. Gender difference in resilience

Groups	N	X	SD	MD	df	t-test	Sig. (2-tailed)
Female adolescents	80	56.50	9.00	-12.5	158	-4.404	0.00
Male adolescents	80	69.00	10.25				

In Table 3, comparison between female and male adolescents' resilience status also shows that males have higher levels of resilience ( $X = 69.00$ ,  $SD = 10.25$ ) than females ( $X = 56.50$ ,  $SD = 9.00$ ) [ $t(158) = -4.404$ ;  $p < 0.05$ ]. This result reveals that male adolescents' level of resilience was found to be greater than female adolescents. Contrary to this result, research conducted in Kenya showed that female students have greater academic resilience scores than male students (Cecilia & Anthony, 2017). Similar to Cecilia and Anthony's (2017) study, a study conducted on Australia teenagers and adolescents showed that females had higher resilience scores than their counterparts. Female students report a high level of resilience in communication, empathy, goal-setting, help-seeking and connectedness with people around them that signal better resilience (Sun & Stewart, 2007).

Gender differences in resilience found in this study indicated the emergence of gender-specific behavioural characteristics at high school age, such as boys having a more positive level of socio-emotional development (communication, empathy, help-seeking and autonomy experience) and a higher level of compassionate relationships with others and social maintenance than girls. The gender difference in resilience is contextual (Graber, Pichon, & Carabion, 2015). Since this study was conducted in Ethiopia, the social structure that oppresses females more than males may cause the females to report that they were less resilient than males. When adversities and life challenges include socialisation problems and academic difficulties, males are able to cope with problems through contextual strategies more than females (Stratta et al, 2012), which shows that boys are better in protective factors than girls.

### 3.4. Gender, health and resilience

Table 4. Resilience among groups of adolescents based on hearing status and gender

groups	Groups	MD	Sign.	F	Sign.
	Hearing males	-11.50 <sup>a</sup>	0.01		
Hearing females	Deaf females	9.50 <sup>a</sup>	0.04		
	Deaf males	-4.00	0.67		
Hearing males	Hearing females	11.50 <sup>a</sup>	0.01		
	Deaf females	21.00 <sup>a</sup>	0.000		
	Deaf males	7.75	0.134	12.71	0.000
Deaf females	Hearing females	-9.50 <sup>a</sup>	0.042		
	Hearing males	-21.00 <sup>a</sup>	0.000		
	Deaf males	-13.25 <sup>a</sup>	0.002		
Deaf males	Hearing females	4.00	0.67		
	Hearing males	-7.75	0.13		
	Deaf females	13.25 <sup>a</sup>	0.00		

<sup>a</sup>The mean difference is significant at the 0.05 level.

In Table 4, the analysis of variance of among groups of adolescents [deaf male:  $X = 65.00$ ;  $SD = 9.75$ ; deaf female:  $X = 51.75$ ;  $SD = 7.75$ ; hearing male:  $X = 72.75$ ;  $SD = 11.00$ ; and hearing female:  $X = 61.00$ ,  $SD = 9.50$ ] indicated that deaf female students average residence score was found to be significantly lower among hearing female, deaf male and hearing male adolescents [ $F(3, 155) = 12.71$ ,  $p \leq 0.05$ ]. This shows that being female and deaf brings about a higher level of risk factors that are difficult to cope with. This is true with the notion of the challenge model of resilience. To develop resilience, most scholars agree that there have to be risk factors that trigger individuals to develop resources. Individuals become less resilient when the severity of risk factors is lower or if the severity of the adversity is higher so that individuals do not have the psychological and emotional resources to cope with the upcoming risk factors (Luthar, Cicchetti, & Becker 2006; Masten, 2001). The result indicated in this study confirmed that deaf female adolescent students are immersed in a multitude of risk factors including social demands from the community for being female, developmental characteristics including lower self-esteem during adolescence, academic demands and disability.

### *3.5. Disability and coping skills*

Data were also collected from one concluding open-ended question. From the summarised data, it was found that deaf respondents encounter a lot of problems including inability to communicate with teachers, other students or even with the community. They confirmed that they understand the people around them after a lot of demonstrations. They are also faced with challenges in classroom learning; they understand what the teachers are saying if the teachers wrote notes on the blackboard or showed them books in which the daily lesson is found. Most of the respondents explained that they had difficulties in developing good relationships with hearing students because hearing students often struggle to understand what deaf ones want to convey. As possible solutions, they preferred to interact with students of similar hearing statuses (deaf or hard of hearing); they also acknowledge teachers who can communicate with them in sign language. Most of their school days become effective with time because teachers support them.

## **4. Conclusion and recommendations**

Deaf adolescents' level of resilience was found to be less than their counterparts. Deaf female adolescents' level of resilience was found to be significantly low when compared to all the groups in the study. This has important implications for teachers, parents and professionals. The significant status difference in resilience between deaf and hearing students signifies deaf students' capability of coping with life stressors and responding to academic and psychosocial demands is less than their counterparts. Unless resilience enhancement interventions are made on those deaf adolescents who were under this study, their academic and social competence will be diminished more which could lead to dependent youth in the community. Similar problems go with deaf female students as their resilience was found to be less than their counterparts. Remedial actions shall be taken by parents, guardians, school teachers, counsellors and other social services. Like others who have encountered maltreatment and other types of harm or stressors, deaf and hard of hearing children need to be helped to develop strong resilience for current and later life ladders to ensure their health and provide them with the skills they need to cope with their painful experiences and life challenges.

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