EXPLORING ACADEMIC MOTIVATION AND ACHIEVEMENT OF A DEAF STUDENT IN HIGHER EDUCATION USING SELF-DETERMINATION THEORY

Snober Bukhari
MPhil Graduate, Department of Education, University of Management and Technology, Lahore, Punjab, Pakistan, Snooberbukari@gmail.com

Faisal Anis*
Department of Education, University of Management and Technology, Lahore, Faisal.Anis@umt.edu.pk

Faran Ahmed
English Language Trainer, Future Institute of O level and A level, Lahore, farangulshi77@gmail.com

ABSTRACT
This paper explored the academic motivation and achievement demonstrated by a deaf student participating in higher education. This study adopted a qualitative case study methodology and semi-structured interviews as primary data-gathering tools. Grounded in the self-determination theory (SDT), this study aimed to interpret and relate the findings to the existing literature. Five significant themes emerged from the analysed data that embody distinct aspects of our participant’s academic motivation and achievement: academic achievement and recognition, motivational factors, learning preferences and strategies, help-seeking behaviour, and future aspirations. This study may broaden our knowledge concerning how deaf students interpret their experiences, perceptions, and the significance attached to them, along with influential contextual elements shaping academic motivation and achievement. The research underscored both strong points manifested by the participant during his educational pursuit and encountered obstacles and the implications for his future goals. The paper discussed the study’s limitations and suggested some directions for future research.

Keywords: deaf student, academic motivation, academic achievement, self-determination theory, higher education.

INTRODUCTION
Students with hearing impairment (HI) constitute a varied group, showcasing diversity in methods of communication, educational ethos, and cultural self-identification (Namli & Suveren, 2019). Being deaf is not merely an auditory disability; it is also a potent factor contributing to the shaping of how one communicates, thinks, and socialises in the world (Horejes, 2009). The communication approach opted by these learners can run the gamut from sign language or spoken words to an amalgamation of both. The scope and breadth of their education might extend from specialised institutions or programs tailored for the deaf to regular academic platforms either with or without supplementary services (Drigas & Rodi, 2013). Such variables pose both unique challenges and possibilities that stand to shape the academic journey for students with hearing impairments (Ediyanto Ediyanto, Atika, Hayashida, & Kawai, 2017). Educating students with hearing impairment requires an understanding of effective educational practices as well as the impact of hearing loss on various aspects of their lives (Davis, Harrison, & Cowan, 2022).

Several higher education institutions in Pakistan have started providing access to education and enrol students with HI in universities with normally hearing students (Bukhari, Butt, & Muhammad, 2021). The students with HI use sign language for their communication, whereas normally hearing students use spoken language. This research was concerned with exploring the motivational factors of students with HI who study in an inclusive university and were rewarded for their academic achievement. Through this research, the researcher wanted to explore what things motivate students with HI towards academic achievement.

Academic motivation and achievement of deaf students
Various studies have yielded divergent findings pertaining to the levels of motivation and academic achievement in deaf students when compared to their hearing counterparts (Horejes, 2009). Some researches have revealed lower levels of motivation and achievement among deaf students, while other studies have found no significant differences or even higher levels of motivation and achievement amongst this population.
Several studies have explored the relationship between motivation and academic achievement in deaf students compared to their hearing peers (Dagnew, 2015). While some reports suggest that there are lower levels of both motivation and achievement among deaf students, other studies contradict this finding by reporting no significant differences or even higher levels of motivation and achievement in this population. Thus, contrasting results exist regarding the impact of deafness on motivational factors and subsequent academic success (Ediyanto, Atika, Hayashida, & Kawai, 2017). It is imperative to further investigate these contradictory findings using rigorous research methodologies that account for various influencing variables.

**Self-Determination Theory (SDT)**

Self-Determination Theory (SDT) is a macro theory of human motivation extensively applied in various domains, including education (Ganotice Jr et al., 2023; Stanley & Schutte, 2023). This theory can offer a comprehensive approach to studying deaf students’ motivation and achievement in higher education contexts (Hlavac & Commons, 2023). SDT postulates three fundamental psychological needs that influence human motivation: autonomy, competence, and relatedness (Shoemaker, 2023). Moreover, this theory identifies six types of motivation, ranging from the least self-determined (amotivation and external regulation) to the most self-determined (intrinsic motivation and integrated regulation), affecting performance, persistence, learning, creativity, and well-being (Farini & Scollan, 2023; Griffith, 2023).

This study was conceptualised keeping self-determination theory (Deci & Ryan, 2000) in view, which emphasises that academic motivation can be seen as a continuum with amotivation and intrinsic at either end, and extrinsic motivation is in the middle. Figure 1 explains the taxonomy of human motivation and types of motivation, arranged from left to right in positions of the range to which the motivation for one’s behaviour originates from one’s self. On the left side, amotivation is a state in which a person just thinks about the aspects that left behind their success which are associated with processes of low competency to do the task. In the middle, extrinsic motivation is defined as making an effort to do other work getting something else and stresses to take incentives and tangible rewards, such as students with HI making an effort to study hard to get good grades.

Here further four types of extrinsic motivation are external regulations, introjection, identification and integration (Mamun, 2023; Zhou & Zhang, 2023). First, external regulation perceived locus of control is external. Associated processes are linked with rewards and punishment (Foschi, 2023). Second, introjection perceived locus of causality is somewhat external associated processes linked with ego involvement, and the focus is on approval from self or others (Michou et al., 2023). Third, the identification perceived locus of causality is somewhat internal and associated processes are linked with the conscious value of activity and are self-directed towards goals (Lai, 2023). Fourth, the integration perceived locus of causality is internal and associated processes are linked with the hierarchical enjoyment of goals. On the right side, the last type of motivation is intrinsic motivation, defined as doing work or something for themselves and to fulfil own desires. Students with HI study hard to fulfil the desire of their own self, which need to learn more. Here perceived locus of causality is internal and associated processes are linked with interest, enjoyment, and inherent satisfaction (Deci & Ryan, 2000).

![Figure 1. The self-determination continuum (Ryan & Deci, 2000, p. 72).](image-url)
**Purpose of the Study**
The present study, using a case study design and SDT, aimed to bridge existing research gaps and enhance our understanding of deaf students’ motivation and achievement in higher education settings.

It was assumed that the data, conclusion and suggestions drawn from this study would be of significance for relevant students and indirectly to hearing individuals. This study was conducted to explore the motivational factors that influence students with HI towards achieving academic success at the university level. Students with HI may have more awareness of their motivational factors, and other students may also know which motivational factors influence students with HI towards academic achievement. This study may enhance the knowledge of other students with HI and motivate their internal sources of motivation to work as fuel in the academic motivation of students with HI towards success. This study may help the researchers to understand the current situation regarding the academic motivation and achievement of students with HI. The outcome of this study may also be beneficial to the administrators and teachers to make a constructive decision regarding inclusive education (Iqbal & Muhammad, 2020; Tahira, Muhammad, & Masood, 2020) in universities and enhance intrinsic motivation in students with HI. This study may also guide future researchers to conduct more studies on similar topics.

The next section presents the methods used in this study, including the research design, data collection, data analysis, and ethical considerations.

**METHODS & MATERIALS**
In this research, a qualitative case study research design (Thomas, 2021; Yin, 2018) was used to develop an understanding of the factors which motivate a student with HI to excel academically at the university level. This study used qualitative research methods and ‘purposive sampling’ (Etikan, Musa, & Alkassim, 2016), and the research participant was a student with HI from a Private University in Lahore.

**Demographic information of the participant**

<table>
<thead>
<tr>
<th>Student Name</th>
<th>Muhammad Abdullah†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
</tr>
<tr>
<td>Degree Program</td>
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</tr>
<tr>
<td>Semester</td>
<td>8th</td>
</tr>
<tr>
<td>Age</td>
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</tr>
<tr>
<td>Degree of Hearing Impairment</td>
<td>Profound</td>
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<tr>
<td>CGPA</td>
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</tr>
<tr>
<td>Awards</td>
<td>Dean Award</td>
</tr>
<tr>
<td>Institute Name</td>
<td>A Private University‡</td>
</tr>
</tbody>
</table>

**Data collection methods**
Data were collected by using in-depth semi-structured interviews (Brinkmann & Kvale, 2018; Irving Seidman, 2019). In the qualitative research method, in-depth interviews are used to seek data from individuals about their personal experiences focusing on a specific issue or area of interest (Aslam, Muhammad, & Nasir, 2022; Pirzada, Muhammad, & Mahmood, 2022; Saleem, Muhammad, & Siddiqui, 2021). The semi-structured interview method is more flexible, where some questions are written before in the interview guide, and the researcher may ask during the interview according to the demand of the interview and topic in order to get more in-depth information (Diana, Muhammad, & Ifitikhar, 2021; Hani, Naz, & Muhammad, 2021; Saif, Muhammad, & Safdar, 2021).

**Procedure of interview**
An in-depth interview was conducted with Muhammad Abdullah. Before conducting the interview, formal informed consent was taken and an e-mail was sent to the participant, and an informal oral introduction was also provided to the student that explained the purpose of conducting interviews (I. Seidman, 2006). The first researcher [SB] personally visited the research site and met with Muhammad Abdullah. The interview was conducted according to the mutually agreed day, time and venue.

The semi-structured interview was conducted at the university library by the first researcher [SB], and she got help from a sign language interpreter to conduct the interview with the student because the first researcher [SB] was not well versed in sign language to communicate with students with HI. The sign language interpreter was well-qualified and knew terminology related to the issues being explored in the study. Therefore, he was able to communicate with the participant very well. The first researcher [SB] requested the interpreter personally for assistance.

Each interview was recorded with the consent of the participant (Brinkmann, 2013). In semi-structured interviews, questions were changed according to the participant’s responses (Kvale, 1996; Roulston, 2014).

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† Pseudonym for ensuring subject anonymity
‡ Name is not disclosed for keeping the identity of research site confidential
The first researcher verbally asked questions from the participant, and the interpreter translated those questions into sign language for the student. The participant replied using sign language, which the interpreter translated into verbal communication. The questions by the first researcher and answers by the interpreter were recorded by the audio recorder.

**Data analysis methods**

The interview transcript was analysed through qualitative content analysis, which is a method for systematically describing the meaning of qualitative data (Schreier, 2012, 2014). After conducting the interview, the first researcher transcribed the interview data. The recorded data was used to transcribe the interviews. The analysis started with reading and re-reading the transcribed data in a Microsoft Word file (Saldaña, 2011, 2013). After that, a Microsoft Excel sheet was used to summarise the response of the participant and highlight the main themes according to the questions (Miles, Huberman, & Saldaña, 2020).

**Ensuring trustworthiness**

Trustworthiness was ensured based on credibility and transferability. Credibility was achieved through conducting an in-depth semi-structured interview based on a literature review on the academic motivation of students with HI at the university level. In addition, the first researcher spent a longer period of time at the participant’s university and with the process of data collection and analysis to achieve credibility of the findings through an in-depth interview. Furthermore, to ensure credibility, the first researcher shared the transcript for member-checking with the participant. Hurting questions in interviews and hurting their self-esteem by probing were avoided. Also, preliminary findings were shared with the research team for review/criticism to ensure credibility. The researchers provided a detailed description of the findings to ensure that findings from the depth interview data could be transferable to other contexts. Moreover, the researcher kept a transparent record of data collection and data analysis so that an adequate audit trail could easily be made by auditors.

**Ethical considerations**

Ethics is the most important part of research, and a study is ruined if ethical considerations are excluded from qualitative research work, which may cause to fail the research objectives and purpose (Munhall, 2001; Wiles, 2012). This research was conducted considering the safety and anonymity of the research participant (Loue, 2000). In the designing phase, the researchers considered the ethical challenges that may come due to statements or probing questions in the interview. In the implementation phase, informed consent was the first step to inform the participant about the purpose and process of the research and to tell him briefly about the expectations from the researchers (Khawaja, Muhammad, & Siddiqui, 2022). The first researcher informed the participant about the purpose and issues related to confidentiality, benefits and risks of the participants (Miller, Birch, Mauthner, & Jessop, 2012). The first researcher ensured the participant that his information would be kept anonymous. The self-respect of the participant was prioritised. The confidentiality and privacy of the participants of the research were ensured. The first researcher ensured the participant would not be harmed or stressed in any way. The first researcher ensured that if there was any point where participant was disturbed, then he may stop the interview which may be rescheduled at any other time with the mutually agreed upon time. Volunteer participation in this study was ensured.

**FINDINGS**

The interview transcript revealed various aspects of academic motivation and achievement as a deaf student. The following themes emerged from the analysis of the transcript:

**Academic achievement and recognition**

Abdullah reported that he had been a high achiever since his childhood and had received awards and praise from his teachers and family. He said that he felt very happy and satisfied when he performed well in exams or got good grades. He also said that awards, rewards, marks, and grades were helpful and supportive for his future and his job opportunities. He expressed his pride in being the first one in his family to get an award and in competing with his hearing peers. For instance, he stated:

*I have expectations. I have a friend in my neighbourhood, and he is doing a job in a foreign country. Before this, he studied at this university, and now he is doing the job there. I like it, and it motivates me to do well. I think that after completing my study, I will get a good job. I was motivated when I saw my normal class fellows and my senior deaf students get awards, so I am motivated to get awards and study hard. I am thinking of getting awards because it is necessary and beneficial. It is called reinforcement for a student after doing any task and gives good performance in study. It opens job opportunities for students and gets jobs on a good scale. Awards, rewards, marks, and grades are helpful and supportive for students’ good and bright future and to get a good job.*
Motivational factors
Abdullah identified both intrinsic and extrinsic factors that motivated him to study hard and learn new things. He said that he was curious about new topics and words and that he enjoyed learning activities and solving difficult problems with effort. He also said that he was motivated by competition, awards, praise, self-esteem, life goals, and avoiding guilt or punishment. He said that he wanted to please his parents, teachers, and friends and to fulfil their expectations. He also said that he had a role model in his neighbourhood who had studied at the same university and had got a good job in a foreign country. For example, he said:

*Competition motivates me to do well, but it is also one factor. To win in the competition is part of life and I like it. I told them that my two class fellows are good friends. They both support each other and get good grades. I was inspired by them, competed with them, and decided goal to get higher grades and awards like them.*

Learning preferences and strategies
Abdullah stated that he preferred group study and discussion with his peers and friends and that he liked to help others learn and practice sign language. He said that he benefited from different ideas and questions from others and that he felt confident as a group leader. He also said that he liked visual materials, such as charts and models, because he was a visual learner. He said that he searched for information on the internet when he needed to learn more about a topic. He said that he did not fix any time to study, but he studied late at night if he did not complete his task in the day. For instance, he stated:

*I prefer to do group study because I get more ideas and solve problems. Different questioning and ideas help me. If I am alone, I am just thinking by myself. So I like discussing with others. Honestly, I like being a group leader.*

Help-seeking behaviour
Abdullah reported that he was not afraid to ask for help from his teachers, interpreters, or family when he faced any difficulty or confusion in his studies. He said that he appreciated the teaching style of one of his teachers, who asked questions individually to all students and made their concepts clear. He also said that he got help from sign language interpreters who facilitated his communication with hearing students and teachers. He also said that he asked his mother for advice when he did not understand something and that she prayed for him very much. For example, he said:

*It is nice to study from teachers, especially one teacher whose teaching method I like the most. I like to study from her because she asks questions and pays individual attention to all students. She tries to make their concepts clear. She takes a good interest in all students—that is why I enjoy her class.*

Future aspirations
Abdullah expressed his positive attitude towards his studies and his future and said that he wanted to teach deaf students and help his father in his business. He said that his father was a doctor and that he helped him with computer work and other tasks. He also said that he had an interest in architecture and that he wanted to support his family. He also said that he wanted to get a good job after completing his degree from the university. For example, he said:

*After getting this degree from the university, I aim to teach deaf students and help others. I like to sit with others and have discussions. I do not like to sit idle. I help others to learn and practice what I study and learn. I help others in whatever I know. I feel good and like to study with deaf peers and hearing students. I teach them sign language because they do not know about signs. I like it very much.*

DISCUSSION
This study aimed to explore the academic motivation and achievement of a deaf student in a higher education setting. Abdullah was selected as the single case for this qualitative case study. The data analysis revealed that navigating the world of academia as a deaf student presents unique challenges and often calls for unparalleled determination.

Five themes captured various aspects of the participant’s academic motivation and achievement: academic achievement and recognition, motivational factors, learning preferences and strategies, help-seeking behaviour, and future aspirations.

It is clear that an intricate web of both intrinsic and extrinsic motivational factors drives Abdullah’s high level of competence—from his inherent curiosity about new topics to his competitive edge fuelled by awards, praises from teachers as well as familial pride. His preference for group study pointed towards him employing a collaborative approach to learning, likely shaped by his deafness—which forced him into constant interaction with others, whether it was practising sign language or engaging in discussion groups aided by interpreters. Notably, his readiness to solicit assistance when faced with difficulties was indicative of a positive attitude towards seeking help—a crucial skill for any self-regulated learner—that draws roots in perceived
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competence coupled with mastery goals, among other things such as family support and cultural norms, which encourage active problem-solving. Finally, his passion for nurturing other students like himself evidenced how personal values combined with interests can frame one’s professional pursuits. Simultaneously, this raises questions on how abilities are impacted not just by self-efficacy beliefs but also influenced considerably by societal expectations imposed on those who navigate life differently owing to their disabilities.

CONCLUSION
This qualitative case study explored the factors influencing the academic motivation and achievement of a deaf student in higher education. The study underscored several prominent themes that highlighted both strengths and challenges this unique demographic faces. Utilising semi-structured interviews as a primary data source, linked with an underpinned approach guided by Self-Determination Theory, this research offered candid insights into various dimensions shaping a deaf student’s academic competence: academic achievement and recognition, motivational factors, learning preferences and strategies, help-seeking behaviour, and future aspirations. This study undeniably enriched our overall understanding regarding mainstream higher education experiences of deaf students as it provided valuable context to elicit an understanding of the factors facilitating or inhibiting motivation for academic achievement.

REFERENCES