The Deaf working age population in the United Kingdom: investigating the barriers for those within employment

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ABSTRACT

Aim of this research- The aim of this research is to explore and identify the barriers experienced by deaf adults in the workplace.

Background and research purpose- Deafness remains one of the most common disabilities within the UK, however deaf adults continue to experience barriers and inequalities in the workplace. Deaf individuals are more vulnerable in the workplace, because of significant challenges related to their hearing which can pose stress risk factors and barriers. The unemployment rate of deaf adults compared to hearing adults also remains higher within the UK although there are claims of effective support services for deaf workers to begin and remain in work. There was an absence of systematic reviews found in relation to this research topic, therefore it is essential that this is performed to rigorously and effectively fulfil this gap in literature and investigate such barriers and forward influential recommendations for future research, policy and practice, to further address such barriers identified, and enforce an inclusive working environment.

Methodology- A systematic review was conducted. Databases such as the University of Wales Trinity Saint David Library, SAGE journals, Google engine, and Taylor and Francis were utilised to perform this systematic review. An exclusion and inclusion criteria were implemented within this systematic review to obtain the most relevant data, whilst also effectively setting research boundaries. A thorough search was completed across all databases, using search strategy tools, which included the Boolean Operators to retrieve the most relevant qualitative and mixed-method data. The data found was thoroughly analysed on the relevancy, quality, and reliability through both the PRISMA diagram and critical appraisal. The included data was extracted and sorted into themes to effectively answer the research question.

Findings- 17 qualitative and mixed-method studies were identified which met this research inclusion criteria. Through the performance of thematic analyses six themes of barriers for deaf adults in the workplace were identified. The findings consistently outline that deaf adults experience significant ongoing barriers within the workplace. The four main themes included stigma, effective communication, accommodations, and fatigue. Two sub-themes which emerged included deaf awareness and building relationships.

Conclusion

The findings forward strong evidence that deaf workers experience ongoing barriers which can be detrimental to their quality of working life, inclusion, and positive relationships in the workplace. Recommendations for future research, practice, and policy were discussed from the conclusion of these findings to improve the support, inclusivity, and awareness for deaf workers.

Glossary of Abbreviations

UK – United Kingdom

EU- Europe

HL- Hearing loss

CASP- Critical appraisal skills programme

WL – Working life

BSL- British sign language

CHAPTER 1 INTRODUCTION AND BACKGROUND

Deaf/ hearing loss (HL) is the second most common disability in the United Kingdom (UK) (British Academy of Audiology, 2025). The term 'deaf' and 'hard of hearing' are closely associated with the inability to hear effectively (Royal College of General Practitioners,2025). The decrease in HL is associated with difficulties communicating (O'Connell et al., 2023), increased exposure to discriminatory attitudes (Boyce, 2015), and exclusion (Department of Health, 2015, p.11). This systematic literature review aims to comprehensively identify the barriers experienced by deaf workers in employment within the UK. This systematic review aims to do this by critically analysing and synthesising existing research to investigate the barriers experienced.by deaf workers. This research is significantly important due to the growth of deaf/HL in the UK, whilst also addressing the research gaps which are crucial to obtain an understanding of deafness and achieve an inclusive working environment. Inclusivity is an essential practice in the workplace to create a safe environment, whilst allowing all parties to achieve their full potential (Chartered Institue of Personnel and Development (CIPD), 2024). A comprehensive understanding of deafness encourages an inclusive working environment, in which deaf employees are provided with opportunities and increased participation (University of Leeds, 2025).

Introduction to the chapter

This chapter will provide an overview of the benefits of employment and the employment levels for deaf/ hard of hearing adults within the UK. Secondly, this chapter will introduce the term 'deafness', the diverse levels of deafness and how deaf/hard of hearing individuals communicate. Finally, this chapter will outline the rationale, the aims and objectives, and the research question of this dissertation.

Work population

The world of work is viewed as an essential part of participation in society (Kelliher & Richardson, 2011). Employment benefits overall mental health and well-being (Green et al., 2024; Balderson et al., 2019), social security (Curnock, Leyland, and Popham, 2016), and can promote self-identify and purpose (Public Health England, 2019). Existing research argues

that deaf adults are at an increased risk of experiencing unemployment compared to hearing adults (Bryne, Kim, and Parish, 2018, p.375). The employment rate associated with deaf working age adults is significantly lower compared to hearing working age adults. The working age population in the UK consists of individuals aged between 16-64 (GOV.UK, 2024). The Central Digital and Data Office (2017) outlines that in the UK, 65% of deaf working age adults are employed, compared to 79% of hearing working age adults.

Reasearch also outlines that deaf employed individuals are more vulnerable in the workplace. Those who are deaf experience stress in the workplace which is related to their HL (Action on Hearing loss, 2018). Existing literature also forwards that deaf employees experience numerous challenges within the workplace which impacts career progression, and quality of working environment (Business Disability Forum, 2024). The number of those with HL is rising in the UK (NHS England, 2017). In 2020 there were on estimate 12 million people in the UK with HL (Hearing link services, 2025), with figures now revealing that 18 million have a degree of HL in the UK (Royal National Institute for Deaf people (RNID), 2024). It is estimated that by 2035 more than 15 million people will have HL in the UK (University of Manchester, 2020). This systematic review is important to provide a comprehensive understanding of deafness and to address the barriers experienced by deaf adults in the workplace to influence a positive change in the working environment with the increase of deafness.

Categories of deaf and aids

Deaf is often graded into diverse categories, which include mild, moderate, severe, and profound HL (University College London Hospitals NHS foundation Trust, 2025). Hearing aid devices aid those who are deaf or have a severity of HL obtain a level of hearing (Barker at al., 2017). There are several different types of hearing aids which enhance the level of sound, however the different types of hearing aids will be determined by the individuals level of hearing, these include behind the ear hearing aids, receiver in the ear hearing aids, in the canal hearing aids, completely in the canal and invisible in the canal hearing aids, and body worn hearing aids (NHS, 2023). Those who are deaf/hard of hearing may also be provided with a cochlear implant, this is a surgical implant, which instead of making sound louder, it turns sound into electrical signals (NHS, 2025). However, some deaf/ hard of hearing adults

do not benefit from any hearing aid devices, causing them to remain profoundly deaf (NHS, 2025).

Existing research links deafness to a 'hidden disability', as deafness may not always be physically recognised through external components such as hearing aid devices, and is not immediately identified before interaction (Brookes, Broady and Calvert, 2008). HL can be caused by factors such as age-related (NCHA, 2025), genetics, infections both prenatal and throughout life, sound exposures, smoking, chronic diseases and nutritional deficiencies (World Health Organisation, 2025).

Communication

Within the UK there are numerous different forms of sign language. The UK is made up of four countries, which include Wales, England, Scotland, and Northern Ireland (Office for National Statistics, 2025). The primary sign language used is British Sign Language (BSL) in the UK (Government Communication Service, 2023). However existing research identifies that deaf Indvidual's across the UK also used Sign Supported English (SSE) (Cormier & Rowley 2024) and Irish Sign Language (ISL) (Irish Deaf Society, 2025).

Sign language is an expressional language, in which the signer uses visual gestures as a form of communication (British Deaf Association, 2024; Ackroyd & Wright, 2018). The below images shows that sign language such as BSL consists of finger spelling, however sign language also includes facial expressions and bodily gestures to emphasis meanings during discussions (Ackroyd & Wright, 2018). Spoken language is understandably different to BSL, the two languages have different grammatical structures and are communicated in different manners (Sutton-Spence, 1999).

Image 1
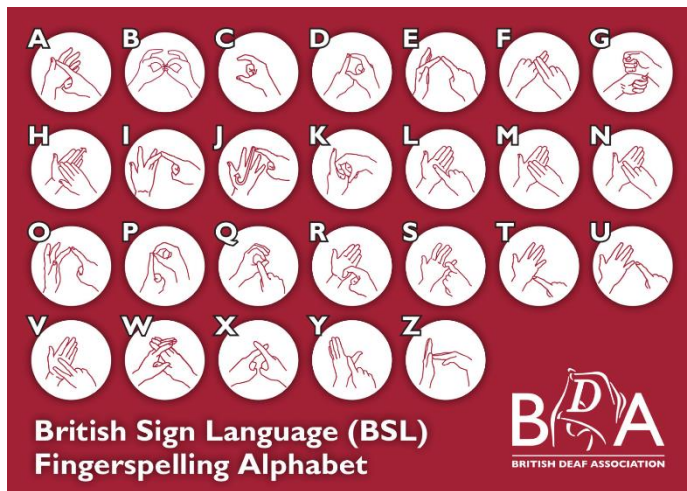
(BDA, 2024)

When deaf/ hard of hearing Indvidual's communicate with hearing peers they also utilise a source of tools to listen and understand interactions. Deaf/ hard of hearing individuals conduct lip-reading during conversations and many deaf/hard of hearing people prefer to communicate in writing (Karas & Laud, 2014).Deaf/hard of hearing individuals experience difficulties communicating in loud environments, when lips are covered, when spoken language is not clear, and when communicating in dark environments (National Deaf Children's Society, 2025).

Focusing on the four countries within the UK, existing research identifies that 151,000 individuals sign (Department or Work and Pensions & Disability Unit, 2024; Serjent, 2024)), with 87.000 of these individuals being deaf (BDA 2024). Recent data identifies that on estimate the UK population reached 68 million in 2023 (Office for National Statistics, 2024. Comparing these figures, the statistics highlight that BSL is not widely used as form of communication. Existing research identifies the low significance of BSL utilised in the UK, identifying that BSL users are at risk of encountering social exclusion as a result of being in a linguistic minority, which can negatively affect their experiences within employment (Disability Unit & Office for Equality and Opportunity, 2023).

Rationale

There was an absence of systematic literature reviews found during the research investigation process based on this research topic, therefore this systematic review will fill a gap in research and provide robust evidence in relation to this research topic. There is also a shortfall of existing research within the UK which investigates deaf barriers within the workplace. Whilst numerous research has focused on the barriers experienced amongst deaf adolescence in educational and social settings, and deaf adults accessing health services, there is a significant lack of research which addresses the lived experiences of deaf adults within employment. This gap in literature forwards the importance to undertake a systematic literature review to comprehensively address the barriers experienced by deaf workers within the UK. This thorough research investigation has the potential to create further crucial improvements for practice, and policies, whilst also addressing areas for future research to enable a focus on improving the inclusivity in the workplace for deaf workers.

Research Title

'The deaf working age population in the United Kingdom: investigating the barriers for those within employment'

Research question

'What are the barriers experienced by deaf workers within employment in the UK?'

Research aim

The overall aim of this dissertation is to answer the above research question, which is to explore and identify the barriers experienced by deaf adults in the workplace.

Research objectives

This dissertation aims to thoroughly answer the research question through the following objectives;

- To identify the diverse definitions of deafness through the exploration of research, theories, and policy.
- To evaluate policies and programmes in place to support deaf adults in the workplace and address the effectiveness of such policies/ programmes for deaf workers within the UK.
- To investigate and analyse common themes of the employment barriers experienced by deaf workers in research.
- To suggest recommendations for future research, practice, and policy to promote inclusivity and accessibility in the workplace based on the research findings.

Chapter summary

This chapter has provided a clear introduction to the research topic, including an introductory definition and information of deafness, the forms of communication, and an introduction to deaf employment and vulnerabilities. This chapter has also outlined the rationale of this dissertation, identifying gaps in research which this dissertation aims to fulfil, Finally, this chapter has provided the research question, the research aims and objectives for this dissertation. This chapter has overall set the foundations for chapter 2 which includes the literature review, this chapter will now close and will move onto literature review.

CHAPTER 2 LITERATURE REVIEW

This chapter aims to address the two objectives set out in this research, which are to identify the diverse definitions of deafness through the exploration of research, theories, and policy, and to evaluate policies and programmes in place to support deaf adults in the workplace, whilst addressing the effectiveness of such policies/ programmes for deaf workers within the United Kingdom. This chapter will also provide an overview of existing literature that explores the relationship between deaf workers and barriers within the workplace, whilst also addressing the strengths and limitations in current existing research, and how this systematic review is important to address the concerns of this research topic.

Definitions of 'deaf'

The term 'deafness' is widely defined in research. A common referral to the term 'deafness' in research is differentiated between 'Deaf' and 'deaf', indicating that deaf with a capital 'D' refers to those who identify as part of the deaf community/culture, whereas deaf with a lower-case 'd' is associated to those who do not (England, Meara, and Terry, 2024; British Deaf Association, 2015). Researchers Abou-Abdallah and Lamyman (2021) acknowledge this common definition of the term, however, the authors forward that the distinction between 'Deaf' and 'deaf' is a cultural approach in defining deafness. Ladd (2003) further identifies that those who identify as 'Deaf' communicate through sign language as their preferred form of communication, and are a part of a cultural linguistic minority, whereas those who are 'deaf' with a lower- case 'd' communicate through speech.

Emery & Iyer (2021, p.90) associates the term 'deaf' to those who were born deaf or have been deaf since childhood, which use sign language as their first or preferred language. It can also be interpreted that the term 'deaf' is inclusive when defining the term 'disability' (Brennan, 2003), as under the UK Equality Act (2010) legislation a disability is defined as ' a physical or mental impairment that has a substantial and long-term negative effect on a person's ability to carry out normal day-to-day activities' (Equality Act 2010. c1, S6). The core experience of HL is altered auditory sound which involves sound becoming either distorted or inaccessible (Hussain et al.,2023, p.5). This fundamentally impacts the way HL individuals experience the world around them (Hussain et al.,2023, p.5). Researchers Hussain

(et al., 2023) further address that this altered degree of HL can cause daily social challenges such as understanding speech, or any other auditory processing factors.

As this research focuses on deaf working age adults within the UK, adapting the definition of the Equality Act (2010), theoretical models of disability have shaped disability politics (Beckett & Lawson, 2021). The models of disability include, the medical model, and the social model (Jones & Saloniki, 2021). These models cause a significant challenge when defining the term 'disability', as the term has diverse interpretations within such models (Berthoud, 2008). The social construct of deafness is also linked to the social model of disability. The social model of disability views the term 'disability' as a social construct in which is processed through power relations in society, resulting in the separation of those considered as 'disabled' from overall society (Owens, 2015, p.386; Scullion, 2010, p.10).

This model enforces a distinction between the terms 'disability' and 'impairment' (Wales TUC Cymru, 2024, p.14). An impairment is described as 'a characteristic or long-term trait, which may, or may not, result from an injury, disease or condition' (Wales TUC Cymru, 2024, p.14). The social model focuses on removing barriers to improve inclusivity in society (Levitt, 2017, p.592). The social model surfaced from the written documents from the discussion of the 'fundamental principles of disability' between The Union of Physically Impaired Against Segregation (UPIAS) and The Disability Alliance (UPIAS, 1976) the meeting conducted by UPIAS and The Disability Alliance (1976) outlined that 'it is society which disables physically impaired people, disability is something that is imposed on top of our impairments, by the way we are unnecessarily excluded from full participation in society'. Although the invention of the perceptions behind the social model were established through the publication of the 'Fundamental Principles of disability', the term 'social model' was invented by academic Mike Oliver in 1983 (Oliver, 2013, p.1024).

The opposite theoretical model to the social model of disability, is the medical model of disability (Banbury, 2019). The medical model of disability distinguishes deafness as the limitation to hearing (Hogue and Race, 2018). Abou-Abdallah and Lamyman (2021) and medical institutes such as University College of London hospitals (2024) approach the definition of deaf through the medical scope, analysing that HL is diagnosed when the hearing level is assessed at greater than 25 decibels of hearing level, with 'moderate hearing loss' measuring up to 55 decibels of hearing level, leading 'profound hearing' to be defined

as a hearing level of 90 decibels. Albert (2004) suggests that this model is a traditional understanding of disability, in which it identifies the 'problems and limitations of the disabled person'. Albert (2004) proceeds to discuss the medical model within their work, outlining that the term 'disability' associates with 'impairment' in this model, whilst also delineating that such disabilities would include 'blindness and deafness'. Referring to previous definitions of disability, it could be interpreted that the Equality Act (2010) has taken a medical model approach when defining the term, as the definition focuses on the limitation of an individual's impairment regarding the environment around them (Hand, 2024).

As a result of the diverse definitions and theoretical models of disability and deafness, this research will use the terms 'deaf' which will be inclusive to all the adverse degrees of deafness. Having provided a scope into the diverse definitions of deafness, this dissertation will now move on to reflect on legislations in place to support deaf individuals in the UK.

<u>Legislations in place to protect deaf working age adults</u>

The Equality Act (2010) legally protects individuals under the protected characteristics from both indirect and direct discrimination in public settings such as the workplace (Ingleby & Lane, 2017; Equality Act (2010). There are nine protected characteristics within this legislation, which include, age, gender, sexual orientation, disability, religion, sex, marital status, pregnancy or maternity leave, and race (The Equality Act, 2010, s4). This Act ensures equal treatment is distributed to individuals under these protected characteristics (Equality Act, 2010). Direct discrimination is defined by the Equality and Human Rights Commission (2024) as a person(s) treated unfavourably because of having a protected characteristic under the Equality Act (2010). The terms 'direct' and 'indirect' discrimination have significant differences. Fredman (2016) inaugurates the divergence between the two terms in his research. Fredman (2016) outlines that the term 'direct discrimination' focuses on equal treatment under the protected characteristics set out within the Equality Act (2010), whereas 'indirect discrimination' acknowledges that equal treatment for all may result in indirective discriminatory practices as a cause of placing the individual(s) at a disadvantage (Crammer, 2017). Based on the definition of indirect discrimination (Crammer, 2017), this term closely integrates with social equity, which forwards the concept that individuals may require adverse support needs in contrast to equal support distributed (Royal College of Nursing, 2024).

Although this Act has been introduced with the intention to simplify and strengthen previous legislations outlined, it has also introduced social complexities (Feast & Hand, 2015). Wilks (2023) criticises the definition of disability defined in the Equality Act (2010), proposing that the Equality Act (2010) fails to outline the disabilities included within this law, arguing that the definition provides limited use when scoping specific disabilities/impairments. Researcher Obasi (2008) presents the concept of the social construct of viewing deaf individuals as 'disabled' within their work, configuring that the oppressor of deaf people are those with hearing, which disabled people who do not meet the criteria of HL include as suppressors.

In 2015, a BSL Act came into force in Scotland to promote the utilisation of BSL within public sectors (Scottish Government, 2024). This Act was then further established throughout the UK In 2022 (UK Public General Acts, 2022). Although the UK Government recognised BSL as a language in 2003 (Ackroyd & Wright, 2018; United Kingdom Parliament 2003), stating that 'BSL is a visual-gestural language with its own vocabulary, grammar and syntax' (United Kingdom Parliament 2003), the BSL Act (2022) now legally recognises BSL as its own language (UK Public General Acts, 2022). The BSL Act (2022) works alongside existing policies, such as the Equality Act (2010), which legally requires 'reasonable adjustments' to be made by public sectors (Disability Unit & Office for Equality and Opportunity, 2023). The BSL Act (2022) requires Government departments to report on how they are promoting and utilising BSL when communicating to the public (Disability Unit & Office for Equality and Opportunity, 2023). This section has provided legislations in place within the UK to support deaf individuals, this chapter will now focus on the working age and employment for deaf working age adults.

The Working age UK

The working age population in the UK consists of those aged between 16-64 years (GOV.UK, 2024). The employment gap between those with a disability and those without is the highest in Wales compared to the whole of the UK (Welsh Parliament, 2023). The employment gap between those who are disabled and those who are not, is also terminologically defined as the 'disability employment gap' (Welsh Parliament, 2023). In 2018, Focusing on Wales, the Welsh Government produced an employability plan to increase

employment rates throughout Wales as a result of the recognition of higher unemployment rates within the country (Welsh Government, 2018). Within the employability plan, the Welsh Government has set out targets to eliminate unemployment rates in Wales, focusing on disability, it is identified within this plan that '45% of working age disabled people are currently in employment, compared to 79% of those not disabled' (Welsh Government 2018). The targets within the employability plan state 'We will work with partners to identify suitable targets for increasing the number of disabled people in work' (Welsh Government, 2018). In relation to the employment gap identified by the Welsh Government, one of the targets set out in the employability plan aims to 'eliminate the gap in working age unemployment and economic inactivity rates between Wales and the UK average within 10 years' (Welsh Government, 2018). Although the employability plan was published in 2018, research shows that the disability employment gap in Wales remains the highest in comparison to the whole of the UK, figures reveal that in 2023 the disability employment gap in Wales was between 32-33% (Clifford, 2023). This is a significant difference to the disability employment gap within the UK as a whole, with the figure estimating at 28% in 2023 (Powell, 2024).

The Department for Work and Pensions (2024) proposes that the disability employment gap is larger for men compared to women. This has significantly changed since 2019, with figures revealing that 52.4% of women were in employment, compared to 54.3% of disabled men (Office for National Statistics, 2019). This indicates an intersection between gender and disability. Intersectionality is a sociological framework which interconnects characteristics such as gender, race, age, disability (Wickenden, 2023). The framework analyses how these characteristics simultaneously operate and overlap forms of discrimination (Christoffersen, 2021, p.5). Kimberlie Crenshaw coined the term 'intersectionality' in 1989 in her research 'demarginalizing the intersection of race and sex: a black feminist critique of anti-discrimination doctrine, feminist theory, and antiracist politics'. Crenshaw (1989) proposed the intersectionality between race and gender, identifying the oppression black African women experience as a result of their gender and race. This chapter will now move on to analyse workplace adjustments for deaf workers.

<u>Deaf and workplace adjustments</u>

Workplace adjustments are measures put in place to support and facilitate those with diverse needs to aid their job role, whilst also encouraging high employment rates and a reduction in employment barriers (Chandola & Rouxel, 2021, p.6). Workplace accommodations for deaf employees include interpreters, electronic notetakers, special equipment, and flexible working conditions (RNID, 2024).

There are programmes such as the Access to Work Programme, which was introduced in 1994, which provides financial support to those who are classed as disabled under the Equality Act (2010) to receive adjustments when starting work, in employment, or move into self-employment (Department for Work and Pensions, 2024). Corden and Thornton (2001, p.1) and Ashworth and Salis (2018) discuss the Access to Work Programme within their work, identifying that the Programme aims to remove barriers in the workplace between disabled and non-disabled peers. Ashworth and Salis (2018) further analyse the importance of work, arguing that employment increases factors such as wellbeing, financial security, and mental health, whilst also outlining that policies in place to support these factors are crucial.

The key principles set out within the Access to Work programme are 'meeting minimum needs', 'value for money/ determining additional costs', and 'reasonable adjustments (Department for Work & Pensions, 2024). It is interpreted that although employers have a legal duty to make reasonable adjustments in the workplace, they must conduct this in the most cost-effective way for the 'taxpayer'. The Access to Work programme is delivered by Jobcentre Plus which aims to support disabled individuals within the workplace (Business Wales, 2024). Within the eligibility for this programme. The term 'disability' is used in the context of 'an impairment or health condition that means they need an aid, adaptation or financial or human support to do their job' (Business Wales, 2024). The Access to Work is a programme designed for businesses for disabled employees who wish to employ disabled individuals both full- time and part-time (Business Wales, 2024). This programme also sets out that it provides guidance to disabled employees and supplies a grant to support associated costs with barriers currently experienced within the workplace for disabled individuals (Business Wales, 2024). According to the Welsh Government's 'Access to Work' programme, the funding is assessed on the individual circumstances, which concludes the amount of grant reimbursed, whilst the grant cap amount underlining at £66,000 per year

(Business Wales, 2024). Boyce (2015) criticises the cost-effective approach undertaken by the Access to Work programme, evaluating that the minimum funding for deaf workers results in a limitation of communication support available to efficiently support their working needs. A mixed-method study conducted by Arrowsmith (2020) also acknowledges criticisms with the Access to Work programme. The findings outlined that a large number of deaf working age adults are not aware of this programme (Arrowsmith, 2020). Having discussed adjustments and support in place to support deaf workers, this chapter will now provide an overview of existing literature which explores deaf experiences in employment.

Deaf employment experiences

 The relationship between deaf adults and employment experiences presents complex dilemmas in research. Although it has been previously identified that there is an increase of unemployed disabled men compared to disabled women (The Department for Work and Pensions, 2024), research identifies that predominantly disabled women are employed on part time positions compared to men (Longhi, 2017, p.26). Previous studies have revealed that disabled women experienced limitations within the workplace, such as the absence of promotions (Kim, Parish, and Skinner, 2020). Researchers Kim, Parish, and Skinner (2020) further utilise the concept of intersectionality within their work, intersecting both gender and disability, concluding that disabled women experience discrimination because of their disability and gender. There is a diverse view on disability part- time positions in the workplace in research, Schur (2003) proposes that part- time roles in the workplace may benefit those with a disability, as the position offers a flexible approach in which they are both able to work and accommodate their health needs.

However, further research identifies that all those who are deaf face vulnerabilities in working life (WL) (Granberg and Gustafsson, 2021). Barnes (2019) notes that vulnerabilities in the workplace are caused by limited deaf awareness and limited peer support. Hearing individuals stereotype deaf peers which drives negative attitudes and stigmatisation (Doak, 2020). Stereotypes are fixed beliefs which categorise individuals based on their characteristics/ social group (Bordalo et al., 2015).Stereotypes on deaf individuals have the tendency to primarily focus on their limited hearing rather than other characteristics (Mousley & Chaudoir, 2018).Authors England (et al., 2025) emphasise the importance of e-learning

training on deaf awareness to promote confidence for hearing colleagues when communicating with deaf peers and improve overall deaf awareness.

Existing research draws upon the negative experiences of employment for deaf workers. A study conducted by Cleminson (2019) investigated the perceived individual meanings and experiences of deafness. This study findings revealed that deaf workers experience isolation within the workplace as a result of their reduction in hearing (Cleminson, 2019). However, this study falls short with providing an in-depth understanding of the perceived experiences and further comprehensive evidence of the reasonings of isolation in the workplace, therefore it has significant limitations when investigating these barriers thoroughly. Authors Cook (et al.,2017, p.7) forward similar research findings, identifying that on estimate 70% of the included participants experienced isolation in the workplace, whilst outlining that isolation can cause deaf workers to not fulfil their career potential.

Similarly to Cleminson (2019) and Cook (et al.,2017) a further qualitative study conducted by Cameron (et al., 2019) associates the workplace with barriers for deaf employers. Cameron (et al., 2019) research methodology consisted of online interviews, and mixed focus group with deaf participants across all countries within the UK and Europe, including Ireland (23 participants), Britain (63 participants), and Germany (24 participants). The findings outlined that barriers experienced by deaf workers in employment include, effective accessible communication, deaf signers lack knowledge and lack of professional skills, limited knowledge of deaf needs and limited deaf awareness, and stereotypes. Although this study provides understanding of the barriers with the utilisation of qualitative methods to allow exploration of the research issue, The study findings presented by Cameron (et al.,2019) face limitations. The results within their findings outline that the barriers were not representative of the whole respondent population throughout the research, with the most addressed barrier in the workplace being communication barriers with only six participants addressing this barrier (Cameron et al., 2029).

To support this, a recent mixed- method study conducted by researchers Hampton (et al., 2024) concludes that deaf working age individuals face numerous barriers in the workplace. This study provides evidence that social communication barriers exist between deaf and hearing individuals (Hampton et al., 2024). However, as the study undertaken by researchers Hampton (et al., 2024) focusses on all aspects of life including, work, education, and social

environments, it is unclear to identify whether the communication barriers were truly identified in the workplace. However, further literature highlights similar findings to Hampton (et al., 2024), forwarding that those who are deaf and use BSL, English is considered as their second language, this causes a delay in comprehension and understanding social problems (Barnes & Bradley, 2013, p.19). Drawing attention on forms of communication such as signing, writing, hand gestures, and interpreters are fundamental efficient practices of contact between deaf and non-signing hearing peers (Kusters, 2017). Having looked at relevant literature in relation to this research topic, this chapter will now move on to summarise the findings identified within this chapter.

Chapter summary

This chapter has provided in-depth scope on the diverse definitions of 'deafness' including the social and medical theories of disability. Legislations and programmes have also been outlined which aims to support deaf adults both within the workplace and socially. Although existing research has identified barriers experienced by deaf adults in the workplace, there has been notably limitations and gaps identified which are essential to comprehensively explore this research topic. This dissertation will now move on to the methodology chapter.

CHAPTER 3 RESEARCH METHODOLOGY

This chapter identifies the methodological procedures undertaken in order to answer the research question 'What are the barriers experienced by deaf workers within employment in the UK?'. Research methodology refers to the research process undertaken by the researcher (Bhaskar & Manjuladevi, 2016). This chapter captures the systematic research procedure undertaken to meet the aims and objectives of this research. Whilst this chapter thoroughly examines the systematic strategies performed, it also details the inclusion and exclusion criteria set out in this methodology, which ensures the inclusion of the most relevant sources of literature for this research topic. This chapter will now begin, by firstly detailing the definition of a systematic literature review.

<u>Systematic literature reviews</u>

Systematic literature reviews are important to identify the best available evidence relating to research (MacFarlane, Rose, and Shokraneh (2022). Systematic reviews are defined by Dewey et al., (2012, p.193) as "a review of a clearly formulated question that uses systematic and explicit methods to identify, select and critically appraise relevant research, and to collect and analyse data from the studies that are included in the review''. A systematic literature review is diverse from other literature reviews, where it requires both a transparent and reproducible methodology, which outlines the process of study identification and selection (Barker & Phillips, 2021). Systematic literature reviews provide a synthesis of quantitative/qualitative data collected, whilst reducing the risk of bias that is formulated in other methods (Davies, 2019). Systematic reviews produce a limited level of bias through pre-selected inclusion criteria, which standard literature reviews dismiss (Ayorinde et al., 2020). There are key stages to complete a systematic review (Berge & Pollock, 2017, p.145), the stages of a successful systematic literature include:

1. Formulating the research question.
2. Defining the inclusion criteria of the research.
3. Researching studies.
4. Assessing the quality of selected studies.
5. Extracting the data.
6. Analysing and presenting the results identified from the data.
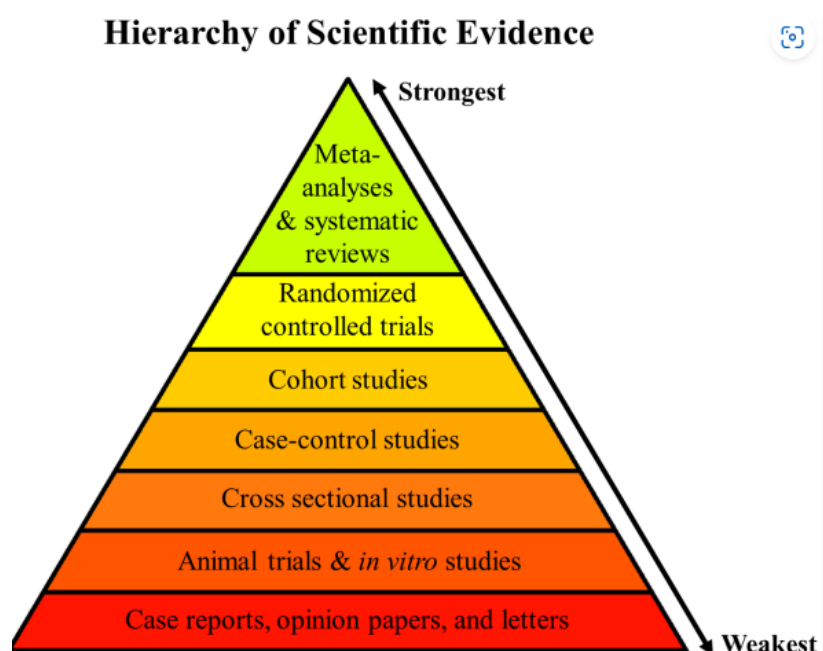
7. Interpreting the results.

(Guillaume, 2019, p.1635)

The sequential steps of the systematic literature review enable the researcher to rigorously answer their chosen review question (McSherry & Saltikov , 2024). After the successful completion of the sequential steps previously outlined, the researcher is able to contribute a significant body of research which identifies constant effects across studies, whilst drawing upon gaps in the literature and providing future recommendations for potential studies (Snyder, 2019).

The purpose of this systematic literature review is to critically analyse the literature available to examine the barriers deaf adults experience in employment in the UK, and to provide the evidence for further recommendations based on the outcome of the research presented. Whilst undertaking research to answer the research question, there was an absence of systematic reviews found related to this topic. Therefore, this systematic review will significantly add to the secondary qualitative data analysis gap in this research field.

Secondary qualitative data analysis can identify an extensive body of knowledge, which can result in a position of prominence for future research (Addington- Hall, Long- Sutehall, and Sque, 2010). Whilst also having the potential to provide answers to science and society's most pressing questions (Baldwin et al., 2022). This dissertation will add both transparency and a rigorous form of critical analysis of research which, it is hoped, will prove significance for both the topic and future research.

Figure 1. Hierarchy of Scientific Evidence

Hierarchy of Scientific Evidence

Strongest

- Meta-analyses & systematic reviews
- Randomized controlled trials
- Cohort studies
- Case-control studies
- Cross sectional studies
- Animal trials & *in vitro* studies
- Case reports, opinion papers, and letters

Weakest

As evidently forwarded in figure 1 (Clapton & Sami, 2023), systematic literature reviews are regarded as the strongest form of evidence as a result of the critical synthesis of data.

Reading is the first stage when conducting a literature review to gain a rich understanding of the research topic (Gaw, 2025, p.8). Background reading was firstly conducted across databases such as The University of Wales Trinity St David (UWTSD) Library, Google Scholar, PubMed, Taylor and Francis, Science Direct, National Library of Medicine, Cambridge University Press, Welsh & United Kingdom Government websites, SAGE journals, and UK deaf charity webpages and articles. Background reading was conducted to encourage the formation of a research question. Whilst background reading, a snowballing strategy was conducted, whilst using search strategies to read articles in a time- efficient manner. The term 'snowballing' refers to the identification of relevant articles found in a previous search (Felizardo et al., 2022). This allowed the researcher to assemble comprehensive knowledge around the research topic. Having introduced systematic reviews, this chapter will now move on to identify the research framework.

Research Framework

Primarily, the research aimed to investigate employment issues for deaf working adults in Wales, however as a result of limited literature found across the inclusive databases used, this dissertation will now scope employment issues for deaf working-age adults within the UK as

a whole in order to gather extensive robust data. It must also be noted as a result of the sparsity of literature also available within the UK, the research framework was further widened. Although the research framework is worldwide to collect rigorous universal definitions and reference author's original work to maintain robustness throughout this dissertation, when investigating relevant studies about this research topic, research will be collected from the UK and EU. Whilst undertaking background reading, keywords were identified in relation to this research topic. keywords are important to efficiently structure the literature review (Salji & Winchester, 2016). The keywords related to this research are 'deaf', 'barriers,' 'workplace,' and 'employment.' The expansion of this research framework will enable clear comprehensive evidence to the barriers experienced by deaf adults within the workplace, which will forward future potential implications for policy, practice, and research. This chapter will now identify further search strategies used to obtain relevant studies.

Search strategies

Subsequently, after background reading was conducted to obtain an in-depth understanding of the research topic, search terms and phrases were applied to the research process. Search terms and phrases allow the researcher to gather data including the relevant words applied in the search engine (Dhawan, Grewal, and Kataria 2016; Fenton, 2010) and obtain a scoped search around the topic (Booth et al., 2018). The search terms included phrases such as 'deaf workplace barriers UK', 'deaf workplace experiences UK', and 'deaf in employment UK'. These search terms created an accumulation of data, however, it was concluded that a significant proportion of data did not meet the inclusion criteria, for example, much research presented was worldwide. The Boolean Operators searching strategy tool was then practiced obtaining relevant research in a time-effective manner. The syntax of Boolean Operators when searching commonly includes words such as 'AND', 'OR', and 'NOT' to gather databases relevant to the specific search engine (Bramer, et al., 2018). Table 1 presents the syntax of searches conducted using the Boolean Operators for this research.

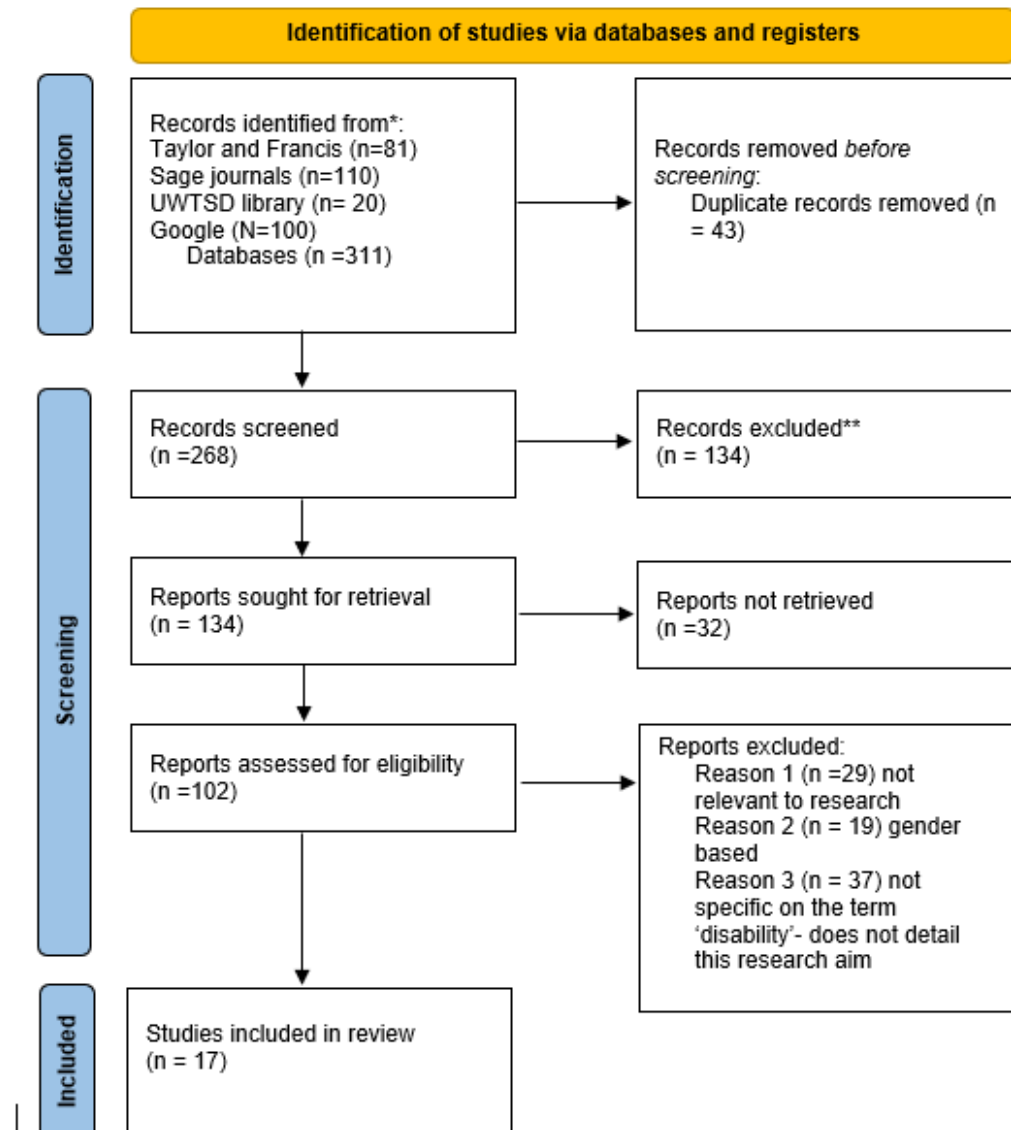Table 1. Syntax of searches conducted using Boolean Operators

Boolean operators search engine inputs
''Deaf Adults and Employment UK''

''Deaf barriers'' ''in'' ''workplace UK''
''Deaf and inequalities in employment''
"Deaf adults and employment barriers"

An extensive body of literature was found across all databases, for example when inputting the Boolean search strategy on the Google Scholar search engine, 26,100 articles were identified. Although Google Scholar is an accessible database, it presents a large number of articles, in which some publications are deemed as being of inadequate quality and are identified on the database (Elliot, 2024). Google Scholar also has limitations with retrieving important academic sources which are available on other databases (Collins, et al., 2015). Therefore, because of the limited period to complete this research, and only a singular researcher, the researcher scanned the first 100 articles of data on Google Search engine. Relevant literature was still obtained through these databases, however, the research then moved on to scope studies using the UWTSD library, Taylor and Francis, Google engine, and SAGE journals. These databases were chosen as through the UWTSD library portal, access was granted across both the Taylor and Francis and SAGE journal databases, resulting in these databases becoming significantly accessible.

The studies across these databases were found through effective search strategies as identified previously. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA, 2020) diagram was used for assistance throughout the process of data collection to maintain control of data found and assessed. During the conduct of this research, there was a shortfall of literature found using the Boolean Operator's research technique on the UWTSD library website. The duplicates and irrelevant sources were then removed systematically. During the screening process, each article was further examined concerning their title and abstract, examining the relevancy of research undertaken in comparison to this chosen research topic. The articles that did not meet this research topic's aims and inclusion criteria were then excluded. At the end of the systematic examination 17 studies were found which met the inclusion criteria, and which aided the objectives of this research to be completed. The inclusion and exclusion criteria of this research were thoroughly set out to effectively answer

the research question 'What are the barriers experienced by deaf workers within employment in the UK?'

Identification of studies via databases and registers		

Identification

Records identified from*:	Records removed *before screening*:
Taylor and Francis (n=81)	Duplicate records removed (n = 43)
Sage journals (n=110)	
UWTSD library (n= 20)	
Google (N=100)	
Databases (n =311)	

Screening

| Records screened (n =268) | Records excluded** (n = 134) |

| Reports sought for retrieval (n = 134) | Reports not retrieved (n =32) |

Reports assessed for eligibility (n =102)	Reports excluded:
	Reason 1 (n =29) not relevant to research
	Reason 2 (n = 19) gender based
	Reason 3 (n = 37) not specific on the term 'disability'- does not detail this research aim

Included

| Studies included in review (n = 17) |

Inclusion and exclusion criteria

A systematic review aims to answer the research question by gathering and analysing evidence which match with the pre-determined inclusion criteria (Aveyard, 2023, p.137). Generating an inclusion and exclusion criteria can also promote an attentive reviewing stage of a systematic review when engaging with literature related to the research (Begley et al., 2011). The obtainment of specific inclusion and exclusion criteria can enhance an unbiased, transparent, and ethical review (University of London, 2024).

The inclusion and exclusion criteria for this research are identified below:

Inclusion criteria:

- Studies within 15 years.
- Research published in English.
- Research that focuses on the barriers deaf individuals experience within the workplace.
- Qualitative/ mixed method research.
- Studies conducted within the UK and EU only.

    Exclusion criteria:

- Studies that focused on the term 'disability' with the absence of scope on deafness.
- Studies outside of the 15-year timeframe.
- Studies that do not focus on deaf adults.
- Non-English papers.
- Studies that do not address the barriers deaf adults experience within the workplace.
- Quantitative studies.
- Studies outside of UK and EU.

Justification of the inclusion and exclusion criteria

Disability in the UK is commonly used as an umbrella term when referring to distinctive disabilities. The Equality Act (2010) defines a disability as 'a physical or mental impairment that has a 'substantial' and 'long-term' negative effect on your ability to do normal daily activities' (Equality Act, 2010). As a result of this definition, the study scope broadened to include research which forwards this definition, however, focuses their research on deaf individuals in order to answer the research question. This broad definition of the term has resulted in an extensive body of literature which was found to be irrelevant to this study. One example of this occurrence is a mixed-method study conducted by Beyer & Kaehne (2013). This study evaluated the supported employment available for young people with disabilities, however, failed to identify the specific participant's disabilities. As the purpose of this paper is to analyse the barriers experienced by deaf workers, this caused the study to be excluded from this research.

As this dissertation aims to identify the barriers experienced by deaf workers in the UK, this study primarily aimed to exclude studies outside of this proximity, whilst also excluding papers which do not focus on the barriers experienced by deaf adults in order to answer the research question effectively. However, as identified previously, there was a small number of relevant research found that aligned with meeting the aims and objectives of this study, therefore, studies throughout EU have been included to thoroughly answer the research question. Non-English papers were automatically excluded from this paper as a result of the inability to read and understand the multitude of diverse languages.

Qualitative methods are essential when undertaking research whose purpose is to investigate insights and assemble a further understanding of a complex phenomenon (Lim, 2024). This qualitative approach combines both the interpretivism and constructivist paradigms, which focus on building knowledge from individual standing, whilst recognising such knowledge is socially constructed from personal experience (Creswell & Poth, 2018). Qualitative studies include methodologies such as observations, focus groups, and semi-structured interviews (Busetto, Gumbinger, and Wick, 2020). Quantitative data addresses the issues related to the research question through numerical data and is less descriptive of the social reality experienced by the participants (Abuhamda, Bsharat, and Ismail, 2021; Lim, 2024). Quantitative research involves methods such as survey research, experimental research, casual- comparative research, and correlation research (Apuke, 2017, p.43). As this review

focuses on the lived experiences of deaf adults within employment, qualitative and mixed-method studies have been included in this study. Qualitative studies typically address questions in-depth, allowing both the researcher to understand the social phenomena of the participant's experiences, and encourage participants to further engage with the questions (Abuhmada, Bsharat, and Ismail, 2021). Therefore, quantitative studies have been placed in the exclusion criteria. However, it must be noted that mixed - method studies have not been excluded from this research. Mixed- method research method is also known as a 'combination approach' (Heilbron, Timans, and Wouters, 2019), through the integration of both qualitative and quantitative methods, which allows research to both identify the phenomena of participants, whilst comparing analytical data to emphasis a robust research argument (McLoed, 2024). Having discussed the inclusion and exclusion criteria, this dissertation will now discuss the critical appraisal tools used to critically reflect and analyse the selected studies.

Critical Appraisal

Critical appraisal is an essential component when conducting research (Haile, 2021). A critical appraisal of evidence involves a thorough examination of a study's trustworthiness (Booth et al., 2021). A successful critical appraisal includes determining the trustworthiness based on the study's ethics, methodology, and quality (Booth, Smith, and Tod, 2022). To support the process of critical appraisal for both the trustworthiness and strengths and weakness of studies, the critical appraisal skills programme (CASP, 2024) and the Mixed-Method Appraisal tool (MMAT, 2018) was utilised in this study.

The critical appraisal skills programme is a commonly used tool for quality appraisal and is recommended for qualitative researchers (Brooks, French and Long, 2020). This tool provides checklists to enable an effective critical reflection of literature (CASP, 2024). The CASP tool enables the analysis of the procedures undertaken within a qualitative research study (Brooks, French, and Long 2020). The CASP tool (CASP, 2024) was chosen for the research purposes as it has been used successfully by the researcher in previous work, therefore the researcher has confidence in using this tool. The CASP tool (2024) is remarkably accessible and user friendly, providing the researcher with clarification of studies assessed using this tool. The CASP tool however does not provide an appraisal for mixed-method studies, therefore, to efficiently appraise the selected mixed-method studies the

Mixed Method Appraisal tool (MMAT,2018) appraisal tool was completed. Appendix 4 identities how the qualitative and mixed-method studies were critically appraised using these appraisal tools.

Data extraction

After the analyses of study quality was completed, data extraction was then conducted. Data extraction is the process of gathering the key characteristics within the selected data (Elmore et al., 2021). Data extraction holds strong importance during the research process, as it provides the foundations for appraising, summarising and interpreting the sources (Buchter, Pieper, and Weise, 2020). The extracted data will be sorted in a table, which will identify the key characteristics and information of the selected studies (appendix 3).

Thematic analysis

After the completion of the data extraction, thematic analyses was performed on the selected studies. Thematic analysis is a method that analyses qualitative data (Howell, et al., 2023). This method identifies, analyses, and interprets patterns of themes within qualitative data (Braun & Clarke, 2017, p.297). Core themes identified through this method are obtained through careful reading and regular readings of the chosen materials (Hall, Iskandarova, and Sovacool, 2023). Whilst thematic analyses identify similarities and differences between research, the method also forwards a line of argument around the research topic (Gould & Purssell, 2021). This is caused by the development of new insights and understanding of the research topic (Elliot, 2018). Delahunt & Maguire (2017) forward six steps to conduct a rigorous thematic analysis, which includes, becoming familiar with the data, generating initial codes, searching for themes, reviewing the selected themes, defining themes, with finally a discussion of the themes identified. The first two stages are presented by Delahunt & Maguire (2017) which involve becoming familiar with data and generating initial codes was conducted following the PRISMA diagram when evaluating the studies. Each study was then examined separately, interpreting the findings of the research. The careful reading of each study resulted in an understanding of the research interpretation and an extraction of themes. The themes identified were then mapped using a table, to accurately identify patterns of themes that arise across all included studies. The themes identified from research which are discussed in (Chapter no. 4) are stigma, effective communication, reasonable adjustments,

fatigue, deaf awareness, and building relationships. This chapter will now move on to discuss ethical considerations in research.

Ethical considerations

Ethics in research refers to the principles and action-guiding that shape research from the establishment to completion (UK Research and Innovation (UKRI), 2025). Ethics is important in research, an absence of clear ethical guidance can contribute to limited attention to ethical considerations and these considerations becoming ignored, leading to a risk of harm for both the participants and researchers (Bailey et al., 2021). All of the studies included in this systematic literature review have followed ethical procedures and guidelines thoroughly and have obtained ethical approval from an Ethics committee. This research has received approval from both the supervisor and the University of Wales Trinity St David (UWTSD) Ethics Committee (appendix 2). Having outlined the importance of ethics in research and ethical approval of this research, this chapter will now conclude with a chapter summary.

Chapter summary

This chapter has provided a detailed description of the research methodology and search strategies used to conduct this research. It has firstly identified the importance of background reading to obtain vital ground knowledge, moving on to discuss the systematic search strategies in place to retrieve high-standard literature. Thirdly, this chapter has also identified the inclusion and exclusion criteria for eligible studies, whilst also providing the reasonings of these criteria. Finally, the chapter has identified how thematic analysis was performed to identify common themes in research, whilst also briefly considering the importance of ethics in social research and how ethical approval was granted for this research. This research will now move on to discuss, critically analyse and synthesise the themes identified from the systematic research methodology process.

CHAPTER 4 DATA ANALYSES AND SYNTHESIS OF FINDINGS

This chapter aims to achieve objective three of this dissertation which is to investigate and analyse common themes of the employment barriers experienced by deaf workers in research. Firstly, this chapter will provide information of the main themes and sub themes found in the research paper. This chapter will then move on to highlight the characteristics of the identified studies, including where the studies were conducted, and the methodologies utilised within each study. An analysis of both main themes and sub emerging themes identified from the studies will then be conducted, outlining the key findings, whilst also identifying a gap in literature.

Emerging themes from included studies

The analysis of the emerging main themes from data analyses is identified in table (1.1). During the analysis of data, both main themes and sub themes were found. Whilst analysing and synthesising the concluded selected studies, a continuous pattern of themes was identified, and were associated with code words such as 'stigma', 'effective communication', 'reasonable adjustments' and 'fatigue'. This established the dissertations' main themes. During this process of analysing and synthesising, sub themes emerged. The sub themes emerged from data analysis and synthesis were coded into phrases such as 'building relationships' and 'deaf awareness', this is shown in table (1.2) below.

Table (1.1) Main themes

Articles	Theme 1 stigma	Theme 2 Effective Communication	Theme 3 Reasonable adjustments	Theme 4 Fatigue
O'Connell (2022)	●			
Jensen, Rise, and		●	●	

Svindal, (2020a)				
Napier, Oram, and Young, (2019)	●	●		
Carlsson (et al., 2015)				●
Drummond, (et al.,2019)				●
Hockaday (2024)	●	●		
Alqudah (et al.,2023)			●	
Adams et al. (2018)		●	●	
Napier, Oram, and Young (2020)		●		
Jensen, Rise, and Svindal (2020b)			●	●
Hale (2017)		●	●	
Napier (et al.,2017)			●	
Ali, Holman, and Naylor (2023)		●		●
Adam et al., (2023)			●	

Grote, Izagaren, and Jackson (2021)			●	
Levitt, Moreira, and Thelwall (2024)	●		●	
Dag, Kulberg, and Olsson (2021)	●		●	

Table (1.2) Emergence of subthemes

Deaf awareness	Jenson Rise, and Svindal (2020a)	Dag, Kulberg, Olsson, (2021)	Hale (2017)	Adams (et al., 2018)		
Building relationships	Napier Oram, and Young (2019)	Dag, Kulberg, and Olsson (2021)	Adams (et al, 2023)	Hockaday (2024)	Napier, Oram, and Young (2020)	Napier (et al., 2017)

It must be noted, as two articles produced by Jensen, Rise, and Svindal has been published in the same year (2020), the article 'working life trajectories with hearing impairment'

Produced by the researchers will be referenced as Jensen, Rise, and Svindal (2020a), with the article 'Employees with hearing impairment: A qualitative study Exploring managers'

perceptions' will be identified as Jensen, Rise, and Svindal (2020b), to provide a clear indication of which article is being discussed.

Characteristics of studies

As evidenced in table (1.1) 17 studies were included in total, with two identified sub themes evidenced in table (1.2). One study was conducted in Ireland (O'Connell, 2022), two studies were conducted in Norway (Jensen, Rise, and Svindal, 2020a; Jensen, Rise, and Svindal 2020b), two studies were conducted in Sweden (Carlsson et al, 2015; Dag, Kulberg, and Olsson 2021), one study was conducted in Scotland (Drummond et al., 2019), one study was conducted in multiple EU countries. which included over half of participants (58%) identified from the UK (Napier, et al., 2017), and one study was conducted in Glasgow (Ali, Holman and Naylor, 2023). However, a big portion of research was collected from the UK, with eight studies conducted overall in the UK (Hockaday, 2024; Alqudah et al., 2023; Adam's et al., 2018; Napier, Oram, Young, 2019; Napier Oram, and Young, 2020; Hale, 2017; Grote, Jackson, and Izagaren, 2021; Levitt, Moreira and Thelwall, 2024; Adam's et al., 2023),

The qualitative methods used in the included studies were in-depth interviews (Jenson, Rise, and Svindal, 2020a; Adam's et al., 2018), structured interviews (Napier, Oram, and Young. 2020), qualitative digital questionnaires (Adam's et al.,2023), community participatory study (Napier and Oram, and Young, 2020), focus groups (Adam's et al., 2018; Napier and Oram, and Young, 2020).However, the main methodology utilised within the selected studies were semi- structured interviews (Hockaday, 2024; Ali, Holman, and Naylor, 2023; Holman et al., 2019, Dag, Kullberg, and Olsson, 2021; Alduqah et al., 2023; Carlsson et al., 2015; Jensen, Rise, and Svindal, 2020b; O'Connell, 2021; Napier, Oram, and Young, 2019), and community participatory study (Napier ,Oram, and Young, 2020). The mixed- methods design consisted of surveys with a free text box for participants to add further detail in relation to the questions (Hale, 2017; Napier et al., 2017; Grote, Izagaren, and Jackson,2021; Levitt, Moreira, and Thelwall, 2024).

The only types of bias identified within the included studies were social desirability bias, selection bias, and sample size. Focusing on sample size, an adequate sample size is an important factor in research to create powerful and accurate data (Gruitjers & Peter's, 2022). The number of the consideration of small sample size has been diversely critically reflected in research. Researchers Korstjens and Moser (2018) evaluate those fewer than 10

participants classifies as a small sample size. However, Barnett (et al.2018) evaluates that a sample size of at least 12 is adequate to reach data saturation. Critically reflecting upon the sample sizes chosen within the selected studies, the following studies would be considered as having a small sample size; Adams (et al., 2023) study would be considered a small sample size with 7 participants, Napier, Oram, and Young (2019) and O'Connell (2024) with 8 participants, Napier , Oram and Young (2020), with 10 participants, and Hockaday (2024) with 5 participants. Small sample sizes have limitations in research because of the increased risk of generalisation, limited exploratory practices in studies and a decreasment of reliability (Donath, Hecksteden, and Kellner, 2022). To further critically reflect upon Hecksteden, Donath, and Kellner (2022) point, although small samples have been identified as having limitations, these selected studies have identified comprehensive evidence and consistent comparable themes within the diverse study settings. Multiple studies which conclude similar findings enhances the research argument and validity of the study through reproducibility (Nuhoho & Offeh, 2021).

Social desirability bias in research involves the participants to describe positive outcomes based on the study questions instead of answering in a truthful manner (Junior & Patricio, 2022) As this research question investigates the barriers deaf adults experience in the workplace, social desirability bias is unavoidable based on the research settings, and candidate's unconscious bias. Social desirability bias was identified as most at risk within Adams et al (2018) study as a cause of utilising focus groups which diminishes the confidentially and anonymity of the participants, increasing the risk of socially desirable answers (Eckerd, Kaufmann, and Ried, 2022). However, it must be noted that social desirability is difficult to detect in research due to the complexities of distinguishing the participants genuine or socially acceptable answers, causing this bias to often be neglected in research (Grosche & Luke, 2018).

Furthermore, as this research question focuses on deaf adults in the workplace, research has been gathered from studies completed in the workplace which may pose the risk of selection bias. Selection bias is the process of selecting participants who meet the study aims and inclusion criteria which will increase the similarity in responses, instead of randomising the research participants (Noble & Smith, 2014, p. 101). Selection bias was interpreted to be found in Grote, Izagaren and Jackson (2021), O'Connell (2018), Alduqah (et al., 2023), Napier, Oram, and Young (2019), Ali, Holman, and Naylor (2022), Adams (et al., 2023), and

Daag Kullberg, and Olsson, (2021), through purposive selected samples to meet the research inclusion criteria's. One example of a selected study which poses a risk of selection bias is the study conducted by Grote, Izagaren, and Jackson (2021). Grote, Izagaren, and Jackson (2021) scoped the experiences of deaf healthcare workers during the coronavirus pandemic. Although this involves selection bias, as it may not represent all deaf adults in the workplace, it is relevant to this dissertation research question and meets objective three of this dissertation efficiently. This dissertation will now discuss the first theme identified in the selected studies from the process of data analysis, which has been identified as 'stigma'.

Theme 1- stigma

The first theme identified was stigma experienced by deaf workers in employment. Five of the included studies established that deaf workers experience stigma in the workplace, which consequently impacts career progression and interpersonal relationships. Negative preconceptions were discussed in all papers. A qualitative study conducted by researcher O'Connell (2021) focused on employment discrimination for deaf adults in Ireland. The findings from this research reported that deaf adults experience stigma in the workplace. The main characteristic labels of stigma associated with deaf adults were identified as 'incompetent', 'unproductive', and 'dependent' as a result of the negative connotations of the dependent communication support through a BSL interpreter, or the assumption that deaf individuals are unable to communicate effectively through spoken language (O'Connell, 2021). To support this, research conducted by Napier, Oram, and Young (2019) which adapted identical research strategies to O'Connell (2021), however, focused on hearing adults' perception of deaf employees also emphasised the relationship between deaf workers and attitudinal barriers. The underlying attitudes presented by the hearing participants correlate to the 'dependent' stigma label forwarded by O'Connell (2021), as the results concluded the phenomenon that deaf workers depend on interpreters as a source of communication with hearing colleagues. The findings presented by both researchers (O'Connell, 2021; Napier, Oram, and Young, 2019) forward substantial evidence that deaf employees experience attitudinal barriers in the workplace. To support this, a mixed-method study conducted by Levitt, Moriera, and Thelwall (2024) whose research strategy consisted of surveys outlined that deaf adults experienced attitudinal barriers in the workplace, which results to limited career progression, and negative expectations as a result of their disability (Levitt, Moreira, and Thelwall, 2024). Dag, Kulberg, and Olsson (2021) expand on this,

providing the in-depth phenomena of deaf experience within the workplace, reporting that deaf workers are excluded and ridiculed by hearing colleagues as a result of the negative preconceptions. To support this, Hockaday (2024) findings interpret that hearing colleagues are aware of the 'power' they hold over the deaf worker, with the reasoning based of the ability to hear and communicate fluently, whilst identifying the status of power was threatened when deaf colleagues became confidently independent.

<u>Sub theme Deaf awareness</u>

The first sub theme identified from the included studies was deaf awareness. The findings demonstrate limited knowledge of deafness within the workplace (Jenson, Rise, and Svindal 2020a; Dag, Kulberg, and Olsson, 2021). The limited deaf awareness in the workplace presented by both colleagues and managers can cause deaf workers accommodations to be limited or quickly ignored (Jenson, Rise, and Svindal, 2020a). The overshadowing of the deaf needs lead to a hostile environment, in which hearing colleagues are not aware of the effects of deafness or effective communication practises which causes negative preconceptions and exclusion in the workplace (Dag, Kulberg, and Olsson, 2021).

Two studies also identified that limited deaf awareness is also present when deaf adults would access services to aid WL This is firstly represented in a large-scale qualitative survey consisting of 320 responses conducted by Hale (2017) which study explores the barriers of the Access to Work Programme, reporting that there is limited knowledge of deaf awareness presented by the ATW assessors which has consequent effects on accessibility within the scheme. A lack of experience has been linked to the limited knowledge (Hale, 2017). To support this, another large scale- study consisting of over 150 participants conducted by Adams (et al.,2018) forwards the conclusion that there is a limited deaf awareness presented by the ATW assessors and a need for further training.

<u>Building relationships</u>

A second sub theme identified was the inability to build professional rapports in the workplace. Napier, Oram, and Young (2019) findings reported that the deaf participants acknowledged a barrier to building rapports in the workplace with hearing colleagues as such rapports had to be built through written communication, whilst also relying on the interpreter

to be present. Dag, Kulberg, and Olsson, (2021) notes that the absence of social relationships promotes feelings of loneliness. Adams (et al, 2023) findings focus on the relationship between the deaf worker and interpreter, which forwarded the perception of hardship to relationship building between the deaf adult and interpreter. Although the study by researchers Adams (et al, 2023) has obtained a small sample size, the research provides a compelling argument that the lack of confidence of an interpreter causes a stressful environment for the deaf individual. To support this, Hockaday (2024) findings outlined a limitation of interpreter involvement during social networking within the workplace. Research findings has criticised the term 'trust' when describing the relationship between the interpreter, hearing and deaf colleague (Hockaday, 2024; Napier, Oram, and Young 2020). Trust is essential to build working relationships (Napier, Oram, and Young, 2020). The loss of self through interpretation, unfamiliar interpreters, and incorrect interpretation causes significant trust barriers between all parties within the workplace and the interpreter (Hockaday, 2024; Napier, Oram, and Young 2020). Deaf participants involved in Napier, Oram, and Young (2020) study expressed that they feel obliged to monitor their interpreter as result of lack of trust. Napier (et al., 2017) expands on the 'loss of self' through an interpreter, identifying that deaf individuals lose control and privacy of a conversation when communicating through an interpreter.

Effective communication

The third theme identified from the included studies was effective communication. Six studies have provided comprehensive explorative evidence which emphasises the communication barriers experienced by deaf adults in the workplace. Communication barriers are less restrictive when communicating through writing (Jenson, Rise, and Svindal, 2020a), however as predominantly reflected in Levitt, Moreira, and Thelwall (2024) study verbal communication is dominantly presented in the workplace which causes significant barriers for deaf workers. To support this Jenson, Rise, and Svindal (2020a) study delved into the communicative environment in the workplace, acknowledging that the increase of the workplace noise environment contributes to significant communication barriers for deaf employees. In comparison to this, a case study reported by Adams (et al., 2018) outlined that the deaf participant experienced stress in the workplace as a result of the increased noise in an office environment, which caused difficulty hearing both internal and external stakeholders.

Although interpreters are present to diminish such barriers in the workplace, research findings presented by Hale (2017) and Napier, Oram, and Young (2020) report that on occasions deaf workers are not provided with interpreters, causing communicative exclusion within the workplace. Hockaday (2024) findings however notes that even through an interpreter, communication barriers exist in the workplace through the absence of meaningful correspondence between deaf and hearing colleagues. The communication barriers within the workplace can lead to deaf employees to not participate effectively (Dag, Kulberg, and Olsson, 2021). Findings noted that the deficiency in hearing can cause communicative environments in the workplace inadequate for deaf workers (Dag, Kulberg, and Olsson ,2021; Ali, Holman, and Naylor, 2023). To support this, Napier, Oram, and Young (2019) provides comprehensive evidence of how the limited communication between deaf and hearing colleagues can increase a hostile working environment, with participants outlining keywords such as 'awkward', 'frustrated', and 'uncomfortable' when describing communication with deaf peers.

Reasonable adjustments

The fourth theme identified from the selected studies was reasonable adjustments. Eight of the included studies have highlighted barriers to accessing reasonable adjustments for deaf employees in the workplace. The lack of reasonable adjustments included the provision of inadequate or the absence of adjustments provided, and limited knowledge about the entitlement of adjustments (Jensen, Rise, and Svindal, 2020a; Grote, Izagaren, and Jackson, 2021; Hale, 2017). This is present in Alduqah (et al., 2023) research which identified that hearing aid technologies positively impacted their work-life, however the deaf participants were unaware of who was responsible to help them in the workplace. Jenson, Rise, and Svindal (2020a), notes that the lack of reasonable adjustments and inadequacy of adjustments were at the result of the managers not taking responsibility for the deaf workers needs to be met.

To support this, hearing managers within Jensen, Rise, and Svindal (2020b) study outlined the difficulty to provide accommodations such as flexibility for deaf workers based on the demanding duties within their role. Napier (et al., 2017) further focuses on the inadequate adjustments in the workplace, highlighting that equipment such as the text- relay service has benefits to increase full participation in the workplace, however, faces technical errors which

can impact quality of delivery. Grote, Izagaren, and Jackson (2021) have delved into the recent events of the coronavirus pandemic and the inadequate adjustments that were provided to deaf healthcare workers. During this period there was an insufficient amount of clear face coverings which hindered the deaf employee's ability to lip read, understand, and communicate with other colleagues, whilst also contending that the number of clear face coverings provided did not meet the demand of people who needed them (Grote, Izagaren, and Jackson, 2021). The Department of Health and Social Care (2020) outlined that they had provided 250,000 clear face masks to frontline NHS workers during the period of the coronavirus pandemic. There is a gap in research that measures the number of deaf individuals in employment in 2020 as a result of the terminological definition of 'disability' used as a broad association with numerous conditions set out in the Equality Act 2010 which is followed across all Government Bodies (Equality Act, 2010). However, Official Statistics reveal that there were '4.4m disabled people in employment in the UK in 2020' (Department for Work and Pensions, 2022). Critically reflecting upon this statistic, it can be argued that the number of clear face masks provided has not efficiently met the number of disabled workers who may require them. Referring back to Grote, Jackson, and Izagaren (2021) study, although this study provides comprehensive evidence of accessibility barriers in the workplace in regard to the implementation of face-coverings, it can be criticised that this study has only provided barriers experienced by deaf healthcare professionals, therefore the results may not be representative of the whole deaf working population in the UK during this period.

Papers have also discussed the limited knowledge about the entitlement of adjustments. Whilst studies have highlighted the benefits of the Access to Work programme, numerous criticisms were included in findings (Alduqah et al., 2023; Hale, 2017; Adam et al., 2018). This is reflected in Hale (2017) study which findings reported that only 15% of deaf workers found the ATW programme application easy. Deaf adults are often not provided with efficient information about the ATW programme which significantly impacts the knowledge of eligible support and overall knowledge of the process of the programme (Alduqah et al.2023; Hale, 2017; Adam et al., 2018). Studies also report that reasonable adjustments are significantly delayed by the ATW programme to complete job responsibilities, which hinders the overall ability to complete such duties (Alduqah et al., 2023; Hale, 2017). Hale (2017) and Adam (et al., 2018) expands on this, reporting that further training needs to be provided to ATW assessors to deliver extensive information to deaf users about the programme.

Inadequate adjustments have also been identified in relation to the ATW programme, this is forwarded in Hale's (2017) research which reported that the deaf participants experienced cuts to their ATW fundings which resulted in interpreters only being provided for a fraction of the working week. Adam's (et., 2023) also acknowledges that some interpreters are not efficient to meet specific communication accommodations, labelling interpreters 'good' and 'bad' based on their ability to process and interpret all information. This can thoroughly impact both the trust with between the deaf worker and the interpreter, whilst also not meeting their needs efficiently (Adams et al.,2023).

<u>Fatigue</u>

A fifth theme identified from the included studies was fatigue. Papers associated deafness to fatigue which can thoroughly impact work productivity. There was a gap in literature in the included studies that focussed on how fatigue impacted work productivity, however participants involved in Jensen , Rise, and Svindal (2020b) study identified that deaf colleagues concentration levels increase within social work environments, often causing the deaf colleagues to not interact as it is too 'tiresome' . Drummond (et al.2019) findings expands on this, further linking deafness to effort-related and physical fatigue , with participants expressing difficulty when concentration levels were increased when trying to multitask on both the work, listening to colleagues, utilising communication strategies such as lip reading, and continuously repositioning themselves to effectively complete these communicative strategies. Drummond (et al.,2019) further draws on the conclusion that deaf workers require rest and recovery breaks to support fatigue levels. To support this Ali, Holman, and Naylor (2023) findings forward that formal conversations require an increased listening concentration, leading to significant self-adaptions, causing both anxiety and mental fatigue. This mental fatigue is often caused by emotion factors such as frustration and embarrassment when not understanding third parties and the inability to hear whilst being present during a formal conversation (Ali, Holman, and Naylor, 2023). In comparison to both Drummond (et al., 2019) and Ali, Holman, and Naylor (2023). Research conducted by Carlsson (et al., 2015) notes that because of the restrictive communication abilities and increased strategies in place to communicate with hearing peers, deaf adults experience more challenging working conditions, whilst also identifying that the deaf participants with increased level of HL are more vulnerable to fatigue and increased barriers in the workplace.

Chapter summary

This chapter has identified the main themes, which include stigma, communication, reasonable adjustments, and fatigue, whilst also outlining the sub themes which has emerged through the analysis of data, which include, deaf awareness and building relationships. The themes outline significant comprehensive evidence that deaf adults experience barriers and challenges in the workplace. Potential bias's based on the research methodologies, strategies, and sample size have been critically reflected upon in this chapter, outlining how such bias can impact the overall validity of the research. This dissertation will now move on to further discuss the key findings, whilst also further exploring the research gaps found within this systematic literature review.

CHAPTER 5 DISCUSSION

Chapter introduction

This discussion chapter points out and interprets the main findings discussed in the main findings, identifies the strengths and limitations, and implications for practice and research (Chien & Khan, 2023; Evans, Gruba, and Zobel, 2014, p.12). The discussion starts by analysing the key results found in the research and examining how these results answer the research question 'What are the barriers experienced by deaf workers within employment in the UK?'. The discussion chapter is notably important in a dissertation as it provides a deeper extensive understanding of the chosen topic through the interpretation of findings (University of Southampton, 2025). This chapter delves into the key findings identified from the systematic literature review on the barriers experienced by deaf adults in employment. The discussion will discuss each theme, exploring the patterns and gaps in research. The chapter will also outline the strengths and weaknesses of this systematic literature review and the positionality of the researcher from the discovery of key findings.

Discussion of key findings

This systematic literature review investigates the barriers faced by deaf adults in employment. It has remained consistent in existing literature that those who are deaf face vulnerabilities in working life (WL) (Granberg and Gustafsson, 2021). This systematic literature review includes 17 studies which explores the barriers experienced by deaf workers. The studies were conducted in a wide range of countries such as the UK, Sweden, Norway, and Scotland. Across all the 17 selected studies identified using the PRISMA (2020) diagram, continuous comparisons of findings emerged. This systematic literature review included research methods such as thematic analyses to organise the included studies into themes. The thematic analyses research method enables the researcher to identify patterns, whilst correlating meanings within their included data (Finlay, 2021). The identification of themes within data through thematic analyses leads to a rich analyses and interpretation of findings (Daniels, 2018). Whilst analysing the studies, main themes and sub-themes emerged. The four main themes identified were stigma, effective communication, reasonable adjustments, and fatigue. There were two emerging sub-themes, which were deaf awareness and building relationships. The examination of studies reveals the relationship between deaf workers and barriers in the workplace. The analyses of themes provide diverse aspects on

how the inadequate working environments can cause stressors and barriers for deaf workers, which can impact both work ability, and social networking in the workplace. This chapter will begin by discussing the first of the four main themes 'stigma'.

<u>Stigma</u>

The analysis of included studies identifies the negative associations between deaf adults and their ability (O'Connell, 2024; Napier, Oram, and Young 2019; Levitt, Moreira, and Thelwall, 2024; Hockaday, 2024). The studies included highlighted that hearing individuals' preconceptions of deafness overshadow positive working relationships, whilst also impacting deaf adult's career progression (Levitt, Moreira, and Thelwall, 2024). The included studies provided comprehensive evidence from the personal experiences of both deaf adults and hearing adults, which drew similar conclusions of stigma experienced by deaf adults in the workplace. This strengthens the argument that deaf adults experience stigma because of their disability.

Studies shared comparative results which identified the common preconceptions held by hearing third parties, which are 'incompetent', 'unproductive', and 'dependent' (O'Connell, 2022,;Napier, Oram, and Young,2019) there was a gap of research found in the included studies which investigates the reasonings why hearing adults hold negative preconceptions. However, the research identified that there is a power dynamic between deaf and hearing individuals. It has been forwarded in findings that hearing individuals often obtain the higher power status, with status becoming threatened when deaf individuals become independent in their roles (Hockaday, 2024). Power status is often in relation to the ability to effectively communicate independently (Hockaday, 2024), which can contribute to the ongoing stigmatisation experienced by deaf adults.

Comparing the study findings to diverse definitions of deafness, the findings established from this theme forward that hearing individuals adapt the theory of the 'medical model of disability' (Hogue and Race, 2018). The selected studies reveal that hearing individuals perceive the interpreter for the deaf person(s) (O'Connell, 2022; Napier, Oram, and Young, 2019), interpreting that it is the impairment is the cause of barriers, with an interpreter being supplied to 'fix' the problem. Critically reflecting on this, this model of disability reinforces the conception that hearing individuals judge deaf peers based on their disability, rather than

the individuals' attributes and values (Albert. 2004) creating a strong link to this theme's findings on stigma. Having discussed the key findings of the theme stigma, the next section this chapter will consider the second theme of deaf awareness.

<u>Deaf awareness</u>

The findings both in the selected studies and existing literature forward that there is limited knowledge of deafness in the workplace, which in turn effects the relationships, support, and inclusion of deaf workers (Dag, Kulberg, and Olsson, 2021; Jenson, Rise, and Svindal 2020a). This systematic review has further detailed the impact of limited deaf awareness in the workplace, identifying that limited deaf awareness in the workplace snowballs into a hostile working environment, in which both the necessary adjustments for deaf workers are not met (Svindal, Jensen, and Rise, 2020a), and exclusion occurs in the workplace (Dag, Kulberg, and Olsson, 2021). The analysis of studies' reveals that limited awareness of deafness is not only recognised in the workplace, however, is also present when seeking support for WL (Hale, 2017).Critically reflecting on recent research, the employment gap for disabled people is significantly higher compared to those who are not identified as disabled (Department for Work and Pensions, 2024), it can be argued that the limited awareness experienced by deaf adults when seeking employment support can influence this increase of the disability employment gap. This chapter will now move on to discuss the theme 'building relationships'

<u>Building relationships</u>

Building relationships in the workplace is important to improve mental health (Dag, Kulberg, and Olsson 2021), and quality of work (Hockaday, 2024; Napier, Oram, and Young 2020). The research reveals the complex relationship between trust and building relationships (Hockaday, 2024; Napier, Oram, and Young, 2020). Firstly, it was identified in this theme that verbal communication is not the preferred tool to communicate for deaf individuals, whilst also recognising written communication, and communication through interpreters creates a prolonged approach to developing rapports between the deaf and hearing colleague (Napier, Oram, and Young, 2019; Dag, Kulberg, and Olsson,2021). The analysis of studies within this theme emphasised that building rapports are challenging when communication is conducted through an interpreter, as the deaf persons individuality and privacy gets lost in

translation (Hockaday, 2024; Napier, Oram, and Young 2019; Napier et al., 2017). Research outlined that the fear of loss of self is increased when there is an inconsistency of permanent interpreters, lack of confidence, and inactive participation presented by the interpreters (Adams et al., 2023; Hockaday, 2024) which also leads to a decreased level of trust between the interpreter, deaf and hearing worker.

The key findings present a significant criticism within the Access to Work programmes principles to providing support to deaf workers. The principle 'Meeting minimum needs', states that this programme aims to provide minimal support to individuals to overcome disability workplace related barriers (Department for Work and Pension, 2024) However, the absence and inconsistency of interpreters has been shown to have negative consequences on the working environment, increasing barriers to building relationships in the workplace (Adams et al., 2023; Hockaday, 2024). Having discussed the key findings of the theme building relationships, this chapter will now move onto the next section, which will consider the second theme of effective communication.

<u>Effective communication</u>

Communication barriers remained a common barrier through both existing literature and thematic analyses. However, this systematic review has further outlined that there is limited effective communication in the workplace between deaf and hearing workers. Many deaf adults preferred way of communication is often neglected in the workplace. Research identified that deaf individuals prefer written communication and signing, however, there is a high demand of verbal communication in workplace settings (Jensen, Rise, and Svindal, 2020a; Levitt, Moreira, and Thelwall, 2024). The absence of effective communication implementations for deaf workers can increase communication barriers in the workplace (Ali, Holman, and Naylor, 2023; Dag, Kulberg, and Olsson, 2021), whilst also causing the absence of meaningful communication between deaf and hearing colleagues (Hockaday, 2024). Although interpreters are implemented in the workplace to aid this communication barrier, studies identified that interpreters were only provided for part of the working week, which caused an absence this communication during some parts of WL (Hale, 2017; Napier, Oram, and Young, 2020).

Reflecting on the findings within the selected studies, the workplace was interpreted as unsuitable for deaf workers, with the relationship between increased noise levels and difficulty hearing, understanding and decreased work performance closely related (Adams et al., 2018; Jensen, Rise, and Svindal, 2020a). Understanding the capacity of noise levels is important to understand deaf adults' communication ability in diverse noise environments. The inadequate working environment can determine the level of inactive participation by deaf workers (Dag, Kulberg, and Olsson, 2021) and create an ongoing hostile working environment where deaf and hearing workers do not comfortably communicate with each other (Napier, Oram, and Young, 2019).

This represents criticisms between policy and practice. Although the UK has embedded a BSL Act (2022) which recognises sign language as its own language, which is encouraged in public services. Based the analyses of the included studies, it can be critically reflected that BSL is not being promoted to its full potential in the workplace and is not considered as a crucial language in the workplace for deaf workers, which is a contributor to communication barriers, whilst also increasing disadvantages for deaf workers. Although, there are policies in place to diminish such communication barriers (Equality Act, 2010), to ensure reasonable adjustments such as interpreters in the workplace, included studies have also identified that there has been an absence and inadequacy interpreters during the working week. This identifies a gap between policy and practice. They key findings of the theme effective communication has been analysed, this chapter will discuss the theme of reasonable adjustments.

Reasonable adjustments

The analyses of included studies outline that deaf adults experience inadequate adjustments in the workplace. The relationship between managers and a lack of responsibility was argued to have an impact on the level of support deaf workers have received in the workplace (Alduqah et al., 2023; Jensen, Rise, and Svindal, 2020b). The included studies also established a further limited knowledge presented by assessors when accessing services such as Access to Work to aid daily WL (Hale, 2017; Alduqah et al., 2023; Adam et al., 2018). This not only effects the level of support deaf workers receive, however also impacts the expansive knowledge deaf workers obtain about this programme, which leads to a decreased standard of work performance (Alduqah et al., 2023; Hale, 2017). The findings also established that equipment

provided to some deaf adults in the workplace are inadequate to meet their personal needs (Grote, Izagaren, and Jackson, 2021), whilst also experiencing ongoing technical errors which significantly impact the completion of work (Napier et al., 2017).

Examining the limited and inadequate adjustments provided for deaf workers and existing research, it presents conflict between the terms equality and equity. Equality as identified previously is the provision of equal treatment regardless of characteristics such as disability (Equality Act, 2010). However, equity focuses on fairness and recognises the diverse needs of individuals (Royal College of Nursing, 2024). Adjustments such as face masks were mandatory in the workplace, however, this led to communication strategies such as lip-reading for deaf worker inaccessible, meaning that equal treatment does not sufficiently meet the needs of deaf workers. This also shows a gap between policy and practice. The Equality Act (2010) legally protects individuals under the protected characteristics against both direct and indirect discrimination. Focusing on indirect discrimination identified within this legislation (Equality Act, 2010), it could be interpreted that the equal distribution of adjustments can cause unintentional harm to those with deafness who require diverse adjustments rather than the standard adjustments provided in the workplace, which is legally prohibited within this Act. The interpretation of findings forward that an equitable approach should be taken when providing reasonable adjustments for deaf workers. This chapter will now proceed to discuss the theme of fatigue.

<u>Fatigue</u>

Studies reveal differentiative causes and impacts of fatigue for deaf workers. The increased level of concentration and communicative environments were associated with fatigue (Drummond et al., 2019; Ali, Holman, and Naylor, 2023; Jensen, Rise, and Svindal, 2020b). Deaf workers often multi-task within the workplace on both communicating with employees and workload, which can result to concentration, physical and effort related fatigue (Drummond et al.,2019). Additionally, the dominance of verbal communication in the workplace can also cause mental fatigue, with studies revealing that communicative environments often cause emotional stressors such as anxiety, frustration, and embarrassment (Ali, Holman, and Naylor, 2023). Although there was a gap of research identified on how fatigue impacts work productivity, the studies indicate that the workplace significantly impacts both cognitive and energy levels through the social work environment as a cause of

aiming to listen and understand social working environment (Jensen, Rise, and Svindal, 2020b)

Understanding the diverse aspects of fatigue is essential for accommodating deaf workers. Rest and recovery breaks were seen as crucial for deaf workers to maintain quality standard work Drummond (et al.,2019). For example, some individuals who are deaf experience a more challenging working environment to hearing peers as a result of restrictive forms of communication, and multiple implementations in place (Drummond, et al.,2019). An increased challenging workplace can cause individuals to become more vulnerable of experiencing workplace fatigue (Carlsson et al.,2015). Having discussed the theme of fatigue, this dissertation will now move on to highlight the strengths and limitations of this systematic literature review.

Strengths and limitations

 This systematic literature review was conducted by one researcher, which could lead to bias. Although the aim of systematic reviews is to remain transparent, there is a risk of subjectivity as all decisions throughout creating the research question, searching, data extraction, study analyses, and interpretation is all conducted by the researcher, in which the researchers' opinions can influence this process (Caroll et al., 2023). However, as the researcher of this systematic literature review is hearing, there was an initial unawareness of barriers experienced by deaf workers in the workplace, therefore this systematic literature review is both transparent and reliable. This review was also completed by one researcher in a limited timeframe; therefore, the researcher was unable to analyse all the data available across different databases which can pose a risk to the researcher not retrieving all effective data in relation to this research topic.

Although this dissertation aimed to focus on the barriers deaf adults experienced in employment in the UK, there was a sparsity of literature that met the inclusion criteria in the UK based on this dissertation. This caused the research to expand to EU. As a result of the expansion of research, the included studies were conducted in numerous geographical locations across EU, causing a limitation of a primary focus on the UK. A minority of the included studies contained a low sample size, this can have an impact when aiming to

research on the overall population. However, many of the included studies have a large population which strengthens the validity of findings.

Also, many of the studies have been conducted within the last five years (Adams et al., 2023; Grote, Izagaren, and Jackson, 2021; Hockaday, 2024; Ali, Holman, and Naylor, 2023;Levitt, Moreira, and Thelwall, 2024; Dag, Kulberg, and Olsson, 2021; Jensen, Rise, and Svindal, 2020a; Jensen, Rise, and Svindal, 2020b; Napier, Oram, and Young, 2020; Alduqah et al., 2023), this strengthens the relevancy and currency of findings collected. Collecting out-dated research, which is considered as more than five years can threaten the comparability of findings for further practice (Antoine et al., 2014). However, it must be noted that selected studies which met the research inclusion and criteria were included outside of this age bracket as a result of the sparsity of research found based on this research topic. As the strengths and limitations of this systematic review has been forwarded, this chapter will now move on to reflect the researcher's positionality of this research topic.

<u>Positionality of the researcher</u>

Research positionality refers to the process of the researcher understanding both their ontological and epistemological positioning within their research field (O'Neill, 2024). Ontology is concerned with the individual views and beliefs, whereas epistemology is concerned with the nature of this knowledge (Aven & Ylonen 2023). Prior to this investigation the researcher was not educated on this research topic. This also decreases researcher positionality bias. A researchers ontological positioning can influence the research investigation, and how the results are analysed and interpreted (Goundar, 2025). After conducting this review, it has become apparent that deaf workers experienced significant barriers in the workplace that can impact their work life, daily life, and long-term career quality. This investigation has caused the researcher to become determined to stead awareness of such barriers experienced in the workplace and further analyse ways in which these barriers can be diminished. The analysis of research also has driven the researcher to obtain an increased awareness of deafness, with the aim to gain a deeper understanding of deaf peers to decrease their negative experiences in the workplace.

This systematic literature review has added a credible body of evidence to strengthen existing research arguments. It has provided an in-depth insight to the barriers experienced by deaf

adults in the workplace, which will heavily contribute to further research. The researcher has undertaken thorough methodological procedures to analyse, select, and sort research which met the inclusion and exclusion criteria to ensure that the research collected were both relevant and reliable to answer this dissertations research question. Whilst undertaking this research, there was an absence of systematic literature reviews found across the included databases in the UK that focused on the barriers experienced by deaf adults in employment, therefore this systematic literature review will provide clear and reliable research to future researchers who investigate this topic.

Chapter Summary

This chapter has summarised the key findings found throughout the selected studies, and analysing the conflicts between the selected studies and background information obtained. The gaps in research, strengths and limitations of both the existing research and this systematic review has been reflected to obtain expansive knowledge of existing research, whilst also maintaining thorough transparency. Thirdly, the researcher's positionality of this topic has been included, to create a clear understanding of how the findings identified has deepened the researchers understanding. This chapter will now close, with the dissertation moving onto future recommendations and conclusion.

CHAPTER 6 CONCLUSION AND RECOMMENDATIONS

Recommendations and conclusion

The recommendations and conclusion chapter will outline the implications of the research findings, and how these implications forward significant recommendations for future research, policy and practice. Furthermore, this chapter will conclude with and overall review of this systematic review, addressing both the key findings and importance of this research topic.

Implications of research findings

The findings outlined in this systematic review highlights a strong relationship between deaf adults and workplace barriers. This review includes strong evidence which connects limited deaf awareness, stigma, ineffective communication, inadequate reasonable adjustments, fatigue, and poor workplace relationships to deaf experiences within the workplace. The implication of these research findings forwards recommendations for future research, policy, and practice to both address and diminish barriers experienced by deaf adults in the workplace. Firstly, this systematic review highlights a need for further training on deafness and effective ways to communicate with a deaf individual to enable a deaf aware, inclusive and accessible working environment for deaf employees. Secondly, this review signifies that specific adjustments should be considered to meet the needs of a deaf worker. Thirdly, this review highlights the importance of workplace relationships between the deaf employee, hearing employees/employers, and the interpreter, however such relationships are not achieved effectively for deaf workers which leads to negative workplace environments. Overall, the findings implicate that future interventions are crucial for further research, policy, and practice to create a well needed positive significant change in the workplace for deaf workers to create a productive, sustainable, healthy, and inclusive environment. This dissertation will now move on to outline recommendations for future research.

This dissertation aimed to answer the research question 'what are the barriers experienced by deaf workers within employment in the UK?'.

This dissertation undertook a systematic literature review to explore the barriers experienced by deaf workers within employment in the UK. The research aimed to address the common barriers through the synthesis of research, outlining the impacts these barriers have on the quality of deaf adults WL. This dissertation aimed to answer the research question through the following objectives;

- To identify the diverse definitions of deafness through the exploration of research, theories, and policy.
- To evaluate policies and programmes in place to support deaf adults in the workplace and address the effectiveness of such policies/ programmes for deaf workers within the UK.
- To investigate and provide comprehensive evidence of the employment barriers experienced by deaf workers.
- To suggest recommendations for future research, practice, and policy to promote inclusivity and accessibility in the workplace based on the research findings.

Through the synthesis of selected research, key themes and emerging sub-themes were identified. To begin, stigma was recognised to play a vital role in the barriers experienced by deaf workers. There is a common misconception that the inability to hear is linked to the inability to productively complete quality work (O'Connell, 2021). Secondly, there is a recognised limited awareness of deafness, which significantly impacts the level of support and effective communication between deaf workers, hearing co-workers and managers, and assessors, which causes a hostile environment (Jenson, Rise, and Svindal, 2020b; Dag, Kulberg, and Olsson, 2021; Hale, 2017). Thirdly, the loud (Jenson, Rise, and Svindal, 2020a) and predominantly verbal working environment (Levitt, Moreira, and Thelwall. 2024) is not suitable for deaf workers, whilst also underpinning that the absence of limited effective communication between deaf colleagues, hearing colleagues, through the interpreter cause ongoing barriers to meaningful communication (Hockaday, 2024; Dag, Kulberg, and Olsson, 2021). Deaf individual needs are not being met within the workplace, however deaf adults are provided with generic adjustments which are often inadequate to support their needs (Grote, Izagaren, and Jackson, 2021). Finally, research has established that deaf concentration levels are more increased than their hearing peers which severely impacts work productivity (Drummond et al., 2019; Jensen, Rise, and Svindal, 2020b). Deaf individuals multitask on

communication strategies, listening, whilst completing work activities, which causes high levels of concentration and mental fatigue (Drummond et al., 2019; Ali, Holman, and Naylor, 2023; Jensen, Rise, and Svindal,2020b).

Through the synthesis of research and comparative investigation of policies and programmes established to support deaf adults in the workplace, the findings have forwarded vital recommendations for future research, policy, and practice. These recommendations are essential to further address the issues identified within the workplace to encourage both an inclusive and equitable working environment. This chapter will now move on to outline future research recommendations.

Recommendations for future research

 This research aimed to explore the barriers of deaf workers within the UK, however there was sparse research available found in the UK which met the inclusion criteria to sufficiently complete this. It is highly recommended that further research is undertaken and published in the UK which investigates this research question, to thoroughly explore the barriers experienced by deaf workers and to further address solutions to these barriers in the workplace to create an inclusive environment. As this research question is based on the experiences of deaf adults in the workplace, it is recommended that qualitative research is undertaken to investigate both the perspectives and impact. The methodological approach recommended is a random sample, several of the studies included in this research conducted purposive sampling, this increases potential bias which can lead to research results being criticised. Furthermore, as this research question focuses on the workplace, it is recommended that qualitative research is not conducted between employees and their managers as this can increase the risk of social desirability bias. This chapter will now forward recommendations for future policy

Recommendations for future policy

It is recommended that a new policy is created regarding deafness. The Equality Act (2010) definition of 'disability' is extremely broad and does not provide the public with a core understanding of the term 'deafness', and background information such as, causes of deafness, the impacts of deafness, and how to support a deaf individual. Referring to the key themes outlined, there is a clear link between limited deaf awareness and barriers in the

workplace, whilst also increasing indirect discrimination, which the Equality Act (2010) claims to prohibit. Therefore, by creating a Deaf Act, it will enable the public to obtain an increased understanding of the term, which in turn will encourage more inclusivity and support for deaf individuals. Furthermore, although the BSL Act (2022) has been implemented to recognise BSL as a language, which encourages deaf awareness, this law is not legally required in the workplace.

Focusing more on the Equality Act (2010), It is clear from this research that this Act is not sustainable for many deaf workers. The service of fair and equal treatment is not sufficient to meet specific individual needs. Reflecting on the research found, the adjustments provided to some deaf workers do not efficiently meet their specific needs. Furthermore, critically reflecting on the Equality Act (2010) based on the findings, the researcher argues that this Act obtains a 'one size fits all' approach, which does not reflect the diversity of individuals. Therefore, it is recommended that a new policy which focuses on deafness and diversity is implemented to lawfully enable equitable approaches in public sectors such as the workplace. This chapter will now provide recommendations for future policy

Future recommendation for practice

The Access to Work programme needs further reviewing. This research found a substantial gap between the aims of the Access to Work programme and positive implications of this programme in the workplace. Although the Access to Work programme institutes that it 'aids disabled people start or stay in work' (Department for Work and Pensions, 2024), the research found highlights limited knowledge about the Access to Work programme, limited support/adjustments provided in the workplace as a result of cuts in funds and untrained staff (Adam et al., 2018;Hale, 2017; Alduqah et al.., 2023). Leading on from this, it is important that more funding is provided to deaf workers within this programme, as the cuts in funds cause experiences of barriers in receiving adequate support, such as consistent interpreters to break down both social and professional networking barriers within the workplace.

Secondly, further training needs to be completed by both the Access to work assessors and employers to obtain a high standard of knowledge about deafness to diminish key barriers experienced by deaf workers. Thirdly, BSL training would be recommended for hearing workers who work alongside deaf colleagues to decrease both communication barriers in the

workplace, and the fear of loss of self/ misinterpretation through the communication of an interpreter. Expanding on this point, a regular experienced interpreter is recommended to be supplied to the deaf worker through the entire working week to enable a professional work rapport, whilst also effectively aiding communication barriers.

Furthermore, e-learning/ workplace training on deaf awareness in the workplace should be a mandatory implementation, to promote effective communication, deaf awareness, and inclusion within the workplace. Having provided recommendations for future research, policy and practice, this chapter will now conclude with an overview of this systematic literature review.

Conclusion

In conclusion, this systematic review has fulfilled a gap in research, whilst investigating this topic there has been an absence of systematic reviews found. This systematic review contributes notably to the understanding of work environment experiences for deaf adults. Not only does this systematic review contribute to the existing understanding of barriers experienced by deaf adults in the workplace within the UK, but it also critically reflects research, creating new arguments, which provides opportunities for future research to further explore. The synthesis of robust research has allowed the development of both a valid and reliable review, whilst also addressing gaps in research, and future recommendations for future policy, practice and research to further address deaf barriers in the workplace, which will enable institutes to obtain comprehensive deaf awareness to successfully create an inclusive work environment and diminish barriers for deaf workers

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APPENDIX ONE- PROPOSAL FORM

Institute of Education and Humanities/
Yr Athrofa Addysg a'r Dyniaethau

MA Dissertation Approval Form/
Ffurflen Gymeradwyo Traethawd Hir MA
ECGE7002Q/ECED7010

Student Name/ *Enw Myfyriwr*	Courtney Elkins		
Degree Scheme/ *Cynllun Gradd*	Equity and diversity in society		
Start date/ *Dyddiad cychwyn*	10/12/24	End Date / Dyddiad TBC	31/03/25

Title of Dissertation/*Teitl eich Traethawd Hir*
The deaf working age population in the United Kingdom: investigating the barriers for those within employment
Research Question/Cwestiwn Ymchwil
• What are the barriers experienced by deaf workers within employment in the UK?
Aims and Objectives/*Nodau ac Amcanion*
Research aim - The overall aim of this dissertation is to answer the above research question, which is to explore and identify the barriers experienced by deaf adults in the workplace. Research objectives - This dissertation aims to thoroughly answer the research question through the following objectives; - To identify the diverse definitions of deafness through the exploration of research, theories, and policy.

- To evaluate policies and programmes in place to support deaf adults in the workplace and address the effectiveness of such policies/ programmes for deaf workers within the UK.
- To investigate and analyse common themes of the employment barriers experienced by deaf workers in research.
- To suggest recommendations for future research, practice, and policy to promote inclusivity and accessibility in the workplace based on the research findings.

Outline of your Dissertation/ Amlinelliad o'ch Traethawd Hir
• What constitutes deaf and hearing impaired?   • Deaf and employment.   • Deaf barriers within the workplace.

Methodology
Systematic literature review

Short Introductory Bibliography: *Llyfryddiaeth rhagarweiniol byr*
Deaf/ hearing loss (HL)is the second most common disability in the United Kingdom (UK) (British Academy of Audiology, 2025). Deafness/ hearing loss affects an estimated 18 million adults in the United Kingdom (Royal institute for Deaf people (RIND), 2024). Research indicates that deafness/ hearing loss has been associated with negative impacts on employment status (Goman, et al., 2020). Hearing deficiency limits the individual's communication ability, which can cause exclusion within the workplace (Davidsson & Petersson, 2018). Central Digital and Data Office (2017) and Cook (et al., 2017, p.7) outline that in the United Kingdom, 65% of the deaf age working population are employed, compared to 79% of the general population. In the UK, the employment gap between those with a disability and those without is the highest in Wales compared to the whole of the UK (Senned, 2023). The employment gap between those with a disability and those who do not identify as having a disability, is also terminologically defined as the 'disability employment gap' (Senedd, 2023). Although services such as the Access to Work Programme (Department for Work & Pensions, 2024) are available to assist deaf adults in employment (Public Health Wales, 2024), barriers are still experienced in employment (Boyce, 2015).

Proposed Supervisor/*Goruchwyliwr awgrymedig*
Darrel Williams

The above topic, proposal, and supervisor have been agreed:
Cytunwyd ar y pwnc, y cynnig a'r goruchwyliwr uchod:

Signed : …
…………………………………………………..Programme Director/
Llofnod   Cyfarwyddwr y rhaglen

Date/Dyddiau: 19/3/2025

APPENDIX 2- ETHICS FORM

APPLICATION FOR ETHICAL APPROVAL

RESEARCH STUDENTS
This form is to be completed by the student within **SIX** months for full-time students and **TWELVE** months for part time students, after the commencement of the research degree or following progression to Part Two of your course.

Once complete, submit this form via the ***MyTSD Doctoral College Portal*** at (https://mytsd.uwtsd.ac.uk).

This document is also available in Welsh.

RESEARCH STAFF ONLY
All communications relating to this application during its processing must be in writing and emailed to pgresearch@uwtsd.ac.uk , with the title 'Ethical Approval' followed by your name.

STUDENTS ON UNDERGRADUATE OR TAUGHT MASTERS PROGRAMMES should submit this form (and receive the outcome) via systems explained to you by the supervisor/module leader.

In order for research to result in benefit and minimise risk of harm, it must be conducted ethically. A researcher may not be covered by the University's insurance if ethical approval has not been obtained prior to commencement.

The University follows the OECD Frascati manual definition of **research activity**: "creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications". As such this covers activities undertaken by members of staff, postgraduate research students, and both taught postgraduate and undergraduate students working on dissertations/projects.

The individual undertaking the research activity is known as the "principal researcher".

Ethical approval is not required for routine audits, performance reviews, quality assurance studies, testing within normal educational requirements, and literary or artistic criticism.

Please read the notes for guidance before completing ALL sections of the form.

This form must be completed and approved prior to undertaking any research activity. Please see Checklist for details of process for different categories of application.

SECTION A: About You (Principal Researcher)

1	Full Name:	Courtney Elizabeth Elkins

2	Tick all boxes that apply:	Member of staff:	☐	Honorary research fellow:	☐
	Undergraduate Student	☐	Taught Postgraduate Student	☒	Postgraduate Research Student	☐

3	Institute/Academic Discipline/Centre:	IEH/Children, Youth and Education
4	Campus:	Carmarthen
5	E-mail address:	2007490@student.uwtsd.ac.uk
6	Contact Telephone Number:	
	For students:	
7	Student Number:	2007490
8	Programme of Study:	MA Equity and Diversity in Society
9	Director of Studies/Supervisor:	Darrel Williams

SECTION B: Approval for Research Activity

1	Has the research activity received approval in principle? (please check the Guidance Notes as to the appropriate approval process for different levels of research by different categories of individual)	**YES**	☒	**NO**	☐
					Date
2	If Yes, please indicate source of approval (and date where known): *Approval in principle must be obtained from the relevant source prior to seeking ethical approval*	Research Degrees Committee	☐	
		Institute Research Committee	☐	
		Other (write in)	☒	**Programme director approval**

SECTION C: Internal and External Ethical Guidance Materials

	Please list the core ethical guidance documents that have been referred to during the completion of this form (including any discipline-specific codes of research ethics, location-specific codes of research ethics, and also any specific ethical guidance relating to the proposed methodology). Please tick to confirm that your research proposal adheres to these codes and guidelines. You may add rows to this table if needed.	
1	**UWTSD Research Ethics & Integrity Code of Practice**	☒
2	**UWTSD Research Data Management Policy**	☒
3	*[List any other relevant documents here]*	☐

SECTION D: External Collaborative Research Activity

If there are external collaborators then you should gain consent from the contact persons to share their personal data with the university. If there are no external collaborators then leave this section blank and continue to section E.

1	Institution						
2	Contact person name						
3	Contact person e-mail address						
4	Is your research externally funded?		**YES**	☐	**NO**		☒
5	Are you in receipt of a KESS scholarship?		**YES**	☐	**NO**		☒
6	Are you specifically employed to undertake this research in either a paid or voluntary capacity?	Voluntary	**YES**	☐	**NO**	☒	
7		Employed	**YES**	☐	**NO**	☒	
8	Is the research being undertaken within an existing UWTSD Athrofa Professional Learning Partnership (APLP)?	If YES then the permission question below does not need to be answered.	**YES**	☐	**NO**		☒
9	Has permission to undertake the research has been provided by the partner organisation?	(If YES attach copy) If NO the application cannot continue	**YES**	☐	**NO**		☒

Where research activity is carried out in collaboration with an external organisation

10	Does this organisation have its own ethics approval system?	**YES**	☐	**NO**	☒
	If Yes, please attach a copy of any final approval (or interim approval) from the organisation (this may be a copy of an email if appropriate).				

SECTION E: Details of Research Activity

1	Indicative title:	The deaf working age population in the United Kingdom: investigating the barriers in employment.		
2	Proposed start date:	10 December 2024	Proposed end date:	31 March 2025

	Introduction to the Research (maximum 300 words per section)
	Ensure that you write for a <u>Non-Specialist Audience</u> when outlining your response to the points below:
	Purpose of Research Activity *Proposed Research Question* *Aims of Research Activity* *Objectives of Research Activity*
	Demonstrate, briefly, how **<u>Existing Research</u>** has informed the proposed activity and explain
	What the research activity will add to the body of knowledge *How it addresses an area of importance.*

	Purpose of Research Activity
3	The purpose of this research is to identify the barriers deaf working age adults experience in the United Kingdom within employment. Deafness/ hearing loss affects an estimated 18 million adults in the United Kingdom (Royal institute for Deaf people (RIND), 2024). Research indicates that deafness/ hearing loss has been associated with negative impacts on employment status (Goman, et al., 2020). Hearing deficiency limits the individual's communication ability, which can cause exclusion within the workplace (Davidsson & Petersson, 2018). Central Digital and Data Office (2017) and Cook (et al., 2017, p.7) outline that in the United Kingdom, 65% of the deaf age working population are employed, compared to 79% of the general population. In the UK, the employment gap between those with a disability and those without is the highest in Wales compared to the whole of the UK (Senned, 2023). The employment gap between those with a disability and those who do not identify as having a disability, is also terminologically defined as the 'disability employment gap' (Senedd, 2023). Although services such as the Access to Work Programme (Department for Work & Pensions, 2024) are available to assist deaf adults in employment (Public Health Wales, 2024), barriers are still experienced in employment (Boyce, 2015). The research will identify the common themes of dominant barriers experienced by deaf working age adults within the UK, concluding future recommendations for practices and policies to create a more inclusive working environment. (this box should expand as you type)

	Research Question
4	The deaf working age population in the United Kingdom: investigating the barriers for those within employment (this box should expand as you type)

	Aims of Research Activity
5	- Through a literature review methodology, to identify the different definitions of deafness

	- Identify the importance of employment, and the impact of unemployment - Evaluate overall themes of employment inequalities for the deaf working age population in Wales - Provide future recommendations for policies and practices. (this box should expand as you type)
6	**Objectives of Research Activity** - To identify the diverse definitions of deafness through the exploration of research, theories, and policy. - To evaluate policies and programmes in place to support deaf adults in the workplace and address the effectiveness of such policies/ programmes for deaf workers within the UK. - To investigate and analyse common themes of the employment barriers experienced by deaf workers in research. - To suggest recommendations for future research, practice, and policy to promote inclusivity and accessibility in the workplace based on the research findings. (this box should expand as you type)

Proposed methods (maximum 600 words)

Provide a brief summary of all the methods that **may** be used in the research activity, making it clear what specific techniques may be used. If methods other than those listed in this section are deemed appropriate later, additional ethical approval for those methods will be needed. You do not need to justify the methods here, but should instead describe how you intend to collect the data necessary for you to complete your project.

7	This study will predominantly use a literature review approach. The literature review will thoroughly address the research question. The question will be addressed by analysing: Published data will be collected from the university library, both digitally and physically, through google scholar, PubMed, the Welsh Government, UK Government, JSTOR, ScienceDirect, charities, and the World Health Organisation. Other robust websites will also be used once I have clarified the validity using the critical appraisal skills programme (CASP) tool to identify robust resources. The CASP tool is a template checklist which enables the researcher to examine the robustness, relevance, and value of research (CASP, 2024). Research suggests that the tool is recommended for qualitative research (Brooks, French, and Long, 2020). A second tool known as the 'Boolean operators' will be used to gather research. The Boolean Operators consists of inserting keywords such as, AND, OR NOT in between text into search engines to gather articles that include both words (Dhawan, Grewal, and Kataria, 2016). One example of this tool going to be utilised within the research

	process is 'Deaf adults' AND 'Barriers in workplace UK', to identify research linked to my chosen topic. Thematical analysis when gathering literature will be conducted to identify common themes of barriers experienced by deaf adults within employment in the UK. *(this box should expand as you type)*
	Location of research activity Identify all locations where research activity will take place.
8	N/A as a Literature Review *(this box should expand as you type)*
	Research activity outside of the UK If research activity will take place overseas, you are responsible for ensuring that local ethical considerations are complied with and that the relevant permissions are sought. Specify any local guidelines (e.g. from local professional associations/learned societies/universities) that exist and whether these involve any ethical stipulations beyond those usual in the UK (provide details of any licenses or permissions required). Also specify whether there are any specific ethical issues raised by the local context in which the research activity is taking place, for example, particular cultural and/or legal sensitivities or vulnerabilities of participants. If you live in the country where you will do the research then please state this.
9	*(this box should expand as you type)*

10	Use of documentation not in the public domain: Are any documents **NOT** publicly available?	**NO**	☒
		YES	☐
11	If Yes, please provide details here of how you will gain access to specific documentation that is not in the public domain and that this is in accordance with the current data protection law of the country in question and that of England and Wales. *(this box should expand as you type)*		

	Does your research relate to one or more of the seven aims of the Well-being of Future Generations (Wales) Act 2015?	YES	NO
12	A prosperous Wales	☐	☒
13	A resilient Wales	☐	☒
14	A healthier Wales	☒	☐
15	A more equal Wales	☒	☐
16	A Wales of cohesive communities	☐	☒
17	A Wales of vibrant culture and thriving Welsh language	☒	☐
18	A globally responsible Wales	☐	☐
19	If YES to any of the above, please give details: 14) This project will consider the mental health and wellbeing of deaf adults in the United Kingdom regarding employment.		

| | 15) This project focuses on the standard of equality experienced in employment for deaf adults, including exploring how the UK supports people who are deaf and of working age to 'fulfil their potential no matter what their background or circumstances' (Well-being of Future Generations (Wales) Act 2015).

 16) This Literature review study will look at the 'satisfaction with access to facilities and services' (Well-being of Future Generations (Wales) Act, essential guide, 2015).

 (this box should expand as you type) |

SECTION F: Scope of Research Activity

	Will the research activity include:	YES	NO
1	Use of a questionnaire or similar research instrument?	☐	☒
2	Use of interviews?	☐	☒
3	Use of focus groups?	☐	☒
4	Use of participant diaries?	☐	☒
5	Use of video or audio recording?	☐	☒
6	Use of computer-generated log files?	☐	☒
7	Participant observation with their knowledge?	☐	☒
8	Participant observation without their knowledge?	☐	☒
9	Access to personal or confidential information without the participants' specific consent?	☐	☒
10	Administration of any questions, test stimuli, presentation that may be experienced as physically, mentally or emotionally harmful / offensive?	☐	☒
11	Performance of any acts which may cause embarrassment or affect self-esteem?	☐	☒
12	Investigation of participants involved in illegal activities?	☐	☒
13	Use of procedures that involve deception?	☐	☒
14	Administration of any substance, agent or placebo?	☐	☒
15	Working with live vertebrate animals?	☐	☒
16	Procedures that may have a negative impact on the environment?	☐	☒
17	Other primary data collection methods. Please indicate the type of data collection method(s) below.		
	Details of any other primary data collection method: (this box should expand as you type)	☐	☐

If NO to every question, then the research activity is (ethically) low risk and **may** be exempt from **some** of the following sections (please refer to Guidance Notes).

If YES to any question, then no research activity should be undertaken until full ethical approval has been obtained.

SECTION G: Intended Participants

If there are no participants then do not complete this section, but go directly to section H.

	Who are the intended participants:	YES	NO
1	Students or staff at the University?	☐	☒
2	Adults (over the age of 18 and competent to give consent)?	☐	☒
3	Vulnerable adults?	☐	☒
4	Children and Young People under the age of 18? (Consent from Parent, Carer or Guardian will be required)	☐	☒
5	Prisoners?	☐	☒
6	Young offenders?	☐	☒
7	Those who could be considered to have a particularly dependent relationship with the investigator or a gatekeeper?	☐	☒
8	People engaged in illegal activities?	☐	☒
9	Others. Please indicate the participants below, and specifically any group who may be unable to give consent. Details of any other participant groups: (this box should expand as you type)	☐	☒

	Participant numbers and source Provide an estimate of the expected number of participants. How will you identify participants and how will they be recruited?	
10	How many participants are expected?	N/A as a Literature Review *(this box should expand as you type)*
11	Who will the participants be?	N/A as a Literature Review *(this box should expand as you type)*
12	How will you identify the participants?	N/A as a Literature Review *(this box should expand as you type)*

	Information for participants:	YES	NO	N/A
13	Will you describe the main research procedures to participants in advance, so that they are informed about what to expect?	☐	☐	☒
14	Will you tell participants that their participation is voluntary?	☐	☐	☒
15	Will you obtain written consent for participation?	☐	☐	☒
16	Will you explain to participants that refusal to participate in the research will not affect their treatment or education (if relevant)?	☐	☐	☒
17	If the research is observational, will you ask participants for their consent to being observed?	☐	☐	☒
18	Will you tell participants that they may withdraw from the research at any time and for any reason?	☐	☐	☒

19	With questionnaires, will you give participants the option of omitting questions they do not want to answer?	☐	☐	☒
20	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	☐	☐	☒
21	Will you debrief participants at the end of their participation, in a way appropriate to the type of research undertaken?	☐	☐	☒
22	If NO to any of above questions, please give an explanation			
	(this box should expand as you type)			

	Information for participants:	**YES**	**NO**	**N/A**
24	Will participants be paid?	☐	☐	☒
25	Is specialist electrical or other equipment to be used with participants?	☐	☐	☒
26	Are there any financial or other interests to the investigator or University arising from this study?	☐	☐	☒
27	Will the research activity involve deliberately misleading participants in any way, or the partial or full concealment of the specific study aims?	☐	☐	☒
28	If YES to any question, please provide full details			
	(this box should expand as you type)			

SECTION H: Anticipated Risks

	Outline any anticipated risks that may adversely affect any of the participants, the researchers and/or the University, and the steps that will be taken to address them.		
	If you have completed a full risk assessment (for example as required by a laboratory, or external research collaborator) you may append that to this form.		
1	**Full risk assessment completed and appended?**	**Yes**	☐
		No	☒
2	**Risks to participants** For example: sector-specific health & safety, emotional distress, financial disclosure, physical harm, transfer of personal data, sensitive organisational information		
	Risk to participants: N/A as a Literature Review	*How you will mitigate the risk to participants:* N/A as a Literature Review *(this box should expand as you type)*	

	(this box should expand as you type)	
3	If research activity may include sensitive, embarrassing or upsetting topics (e.g. sexual activity, drug use) or issues likely to disclose information requiring further action (e.g. criminal activity), give details of the procedures to deal with these issues, including any support/advice (e.g. helpline numbers) to be offered to participants. Note that where applicable, consent procedures should make it clear that if something potentially or actually illegal is discovered in the course of a project, it may need to be disclosed to the proper authorities	
	N/A *(this box should expand as you type)*	
4	**Risks to the investigator** For example: personal health & safety, physical harm, emotional distress, risk of accusation of harm/impropriety, conflict of interest	
	Risk to the investigator: - Emotional distress *(this box should expand as you type)*	*How you will mitigate the risk to the investigator:* - Ensure that rest breaks are utilised during the research activity process. - Prepare for personal responses to maintain resilience as this research focuses on personal experiences, I will do this by keeping a digital personal diary which will be in a password protected file on my University Microsoft account. I will also utilise meetings with my supervisor discussing published data and its analysis. *(this box should expand as you type)*
5	**University/institutional risks** For example: adverse publicity, financial loss, data protection	
	Risk to the University - Reputation	*How you will mitigate the risk to the University:* - -This literature review will not include any personal details about the university, as it will focus on employment inequalities for deaf adults, however, will follow the universities code of practice. For example, the data will be analysed rigorously, using tools such as CASP to ensure literature is robust, whilst remaining transparent with conflicting research. This follows the standards of good practice set out in section 4.1 of the Research Ethics & Code of Practice guide. *(this box should expand as you type)*
6	**Environmental risks** For example: accidental spillage of pollutants, damage to local ecosystems	
	Risk to the environment:	*How you will mitigate the risk to environment:* *(this box should expand as you type)*

	(this box should expand as you type)		

	Disclosure and Barring Service			
	If the research activity involves children or vulnerable adults, a Disclosure and Barring Service (DBS) certificate must be obtained before any contact with such participants.	**YES**	**NO**	**N/A**
7	Does your research require you to hold a current DBS Certificate?	☐	☐	☒
8	If YES, please give the certificate number. If the certificate number is not available please write "Pending"; in this case any ethical approval will be subject to providing the appropriate certificate number.			

SECTION I: Feedback, Consent and Confidentiality

1	**Feedback** What de-briefing and feedback will be provided to participants, how will this be done and when?
	• N/A as a Literature Review *(this box should expand as you type)*
2	**Informed consent** Describe the arrangements to inform potential participants, before providing consent, of what is involved in participating. Describe the arrangements for participants to provide full consent before data collection begins. If gaining consent in this way is inappropriate, explain how consent will be obtained and recorded in accordance with prevailing data protection legislation.
	• N/A as a Literature Review

	(this box should expand as you type)		
3	**Confidentiality / Anonymity** Set out how anonymity of participants and confidentiality will be ensured in any outputs. If anonymity is not being offered, explain why this is the case.		
	• N/A as a Literature Review *(this box should expand as you type)*		

SECTION J: Data Protection and Storage

	Does the research activity involve personal data (as defined by the General Data Protection Regulation 2016 "GDPR" and the Data Protection Act 2018 "DPA")?	**YES**	**NO**
1	*"Personal data" means any information relating to an identified or identifiable natural person ('data subject'). An identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person. Any video or audio recordings of participants is considered to be personal data.*	☐	☐
	If YES, provide a description of the data and explain why this data needs to be collected:		
2	• N/A as a Literature Review *(this box should expand as you type)*		
	Does it involve special category data (as defined by the GDPR)?	**YES**	**NO**
3	*"Special category data" means sensitive personal data consisting of information as to the data subjects' –* *(a) racial or ethnic origin,* *(b) political opinions,* *(c) religious beliefs or other beliefs of a similar nature,* *(d) membership of a trade union (within the meaning of the Trade Union and Labour Relations (Consolidation) Act 1992),* *(e) physical or mental health or condition,* *(f) sexual life,* *(g) genetics,* *(h) biometric data (as used for ID purposes),*	☐	☐
	If YES, provide a description of the special category data and explain why this data needs to be collected:		
4	• N/A as a Literature Review		

			YES	NO
	(this box should expand as you type)			

	Will data from the research activity (collected data, drafts of the thesis, or materials for publication) be stored in any of the following ways?	**YES**	**NO**
5	Manual files (i.e. in paper form)?	☐	☒
6	University computers?	☐☒	☐
7	Private company computers?	☐	☒
8	Home or other personal computers?	☒	☐
9	Laptop computers/ CDs/ Portable disk-drives/ memory sticks?	☐	☒
10	"Cloud" storage or websites?	☐	☒
11	Other – specify:	☐	☐
12	For all stored data, explain the measures in place to ensure the security of the data collected, data confidentiality, including details of backup procedures, password protection, encryption, anonymisation and pseudonymisation:		
	The literature review will be stored on my University Microsoft account in a password protected file, which will be accessible on both the university and home computer which are password protected. *(this box should expand as you type)*		

	Data Protection		
	Will the research activity involve any of the following activities:	**YES**	**NO**
13	Electronic transfer of data in any form?	☐	☒
14	Sharing of data with others at the University outside of the immediate research team?	☐	☒
15	Sharing of data with other organisations?	☐	☒
16	Export of data outside the UK or importing of data from outside the UK?	☐	☒
17	Use of personal addresses, postcodes, faxes, emails or telephone numbers?	☐	☒
18	Publication of data that might allow identification of individuals?	☐	☒
19	Use of data management system?	☐	☒
20	Data archiving?	☐	☒

21	If YES to any question, please provide full details, explaining how this will be conducted in accordance with the GDPR and Data Protection Act (2018) (and any international equivalents, where appropriate):
	• N/A as a Literature Review *(this box should expand as you type)*
22	List all who will have access to the data generated by the research activity:
	Myself and my supervisor when sharing drafts and discussions during meetings *(this box should expand as you type)*
23	List who will have control of, and act as custodian(s) for, data generated by the research activity:
	Myself *(this box should expand as you type)*
24	Give details of data storage arrangements, including security measures in place to protect the data, where data will be stored, how long for, and in what form. Will data be archived – if so how and if not why not.
	• It will be kept for the length of the project then the data will be destroyed. • Once the dissertation has been marked and I have graduated all data will be destroyed. *(this box should expand as you type)*
25	Please indicate if your data will be stored in the UWTSD Research Data Repository (see https://researchdata.uwtsd.ac.uk/). If so please explain. (*Most relevant to academic staff*)
	• N/A - MA Dissertation Project *(this box should expand as you type)*

26	Confirm that you have read the UWTSD guidance on data management (see https://www.uwtsd.ac.uk/library/research-data-management/)	**YES**	☒
27	Confirm that you are aware that you need to keep all data until after your research has completed or the end of your funding	**YES**	☒

SECTION K: Declaration

	The information which I have provided is correct and complete to the best of my knowledge. I have attempted to identify any risks and issues related to the research activity and acknowledge my obligations and the rights of the participants. In submitting this application I hereby confirm that I undertake to ensure that the above named research activity will meet the University's Research Ethics and Integrity Code of Practice which is published on the website: https://www.uwtsd.ac.uk/research/research-ethics/		
1	**Signature of applicant:**	Courtney Elkins	**Date:** 20/11/2024

For STUDENT Submissions:

2	Director of Studies/Supervisor:	Darrel Williams	**Date:** **20/11/2024**
3	Signature:	Darrel Williams	

For STAFF Submissions:

4	Academic Director/ Assistant Dean:		**Date:**
5	Signature:		

Checklist: Please complete the checklist below to ensure that you have completed the form according to the guidelines and attached any required documentation:

☒	I have read the guidance notes supplied before completing the form.
☒	I have completed **ALL RELEVANT** sections of the form in full.
☒	I confirm that the research activity has received approval in principle
☐	I have attached a copy of final/interim approval from external organisation (**where appropriate**)
☐	I have attached a full risk assessment (where appropriate) *ONLY TICK IF YOU HAVE **ATTACHED A FULL RISK ASSESSMENT***
☒	I understand that it is my responsibility to ensure that the above named research activity will meet the University's Research Ethics and Integrity Code of Practice.
☒	I understand that before commencing data collection all documents aimed at respondents (including information sheets, consent forms, questionnaires, interview schedules etc.) must be confirmed by the DoS/Supervisor, module tutor or Academic Director.

RESEARCH STUDENTS ONLY
Once complete, submit this form via the **MyTSD Doctoral College Portal** at (https://mytsd.uwtsd.ac.uk).

RESEARCH STAFF ONLY
All communications relating to this application during its processing must be in writing and emailed to pgresearch@uwtsd.ac.uk , with the title 'Ethical Approval' followed by your name.

STUDENTS ON UNDERGRADUATE OR TAUGHT MASTERS PROGRAMMES should submit this form (and receive the outcome) via systems explained to you by the supervisor/module leader.

APPENDIX 3- DATA EXTRACTION TABLE

Authors	Aims of the study	Study design	Participants	methods	Key findings	
O'Connell (2021)	To identify the deaf experiences of Audism in emoployment	qualitative	8	Semi-structured interviews	- Deaf individuals experience stigma related Barriers both when seeking employment and in employment	
Jensen, Rise, and Svindal (2020a)	Investigatre and identify factors that hinder deaf work particpation.	Qualitative	21	In- depth interviews.	Deaf participants experience verbal communication barriers, in the context of both not understanding others and the loud working environment.

Limited flexibility in the workplace- workplac | |

					e is a demanding envrionemt which sometimes participants expressed hardships with.	
Carlsson (et al.,2015)	Explore the working life for those with hearing impairments	Qualitative descriptive design	15	Semi-structured interviews	Challenging working conditions- Deaf indivuals implement multiple strategies which impact work-related fatigue.	
Drummond (et al., 2019)	Investigate the link between hearing loss and daily- life fatigue	Qualitative	14	Semi-structured interviews	Fatigue was identified as most common in the workplace-increased concentration, multitasking when understanding the room, lip reading, movement, re-positionin	

					g, frustionan- emotional fatigue. Restrbreaks are important to deal with fatigue.	
Hockaday (2024)	To explore hearing people's perceptions of working with a BSL interpreter	Qualitative	5	Interviews	Communication is difficult between deaf and hearing worker- absence of meaningful oral communication. Limited involvement of the interpreter. Power relationship between the deaf worker and hearing individual 'Power status' is with the hearing worker. Incorrect interpretation of the	

					hearing individual	
Alduqah (et al., 2024)	Gather information on the issues faced by workers with hearing loss	Qualitative	24	Semi-structured interviews	Hearing technologies positively impact the noisy working environment levels. Inadequate support received in the workplace, and limited awareness of whom is responsible to support. Negative relationship between deaf worker and ATW programme- delays in support, not accessible, and limited awareness of the programme.	
Adam's (et al., 2018)	Investigate the working productio	Qualitative	No specific number- over 100	In- depth interviews , focus groups	Conflicting relationship with	

	n of the ATW programme to positively direct future implementation		participants for the whole researching process.		ATW programme- participants outline the benefits, however limited knowledge of the programme, limited knowledge and awareness presented by the ATW staff- further training was recommended	
Napier, Oram, and Young (2020)	Explore the experiences of the translated self for deaf individuals.	Qualitative	10	Focus groups, Community participatory study, Interviews.	'Trust' is associated with the interpreter- incorrect interpretation, lack of concentration on work, unfamiliar interpreters,	
Hale (2017)	To investigate the barriers experienc	Mixed-method	320 responses	Online survey	Limited deaf awareness presented	

	ed within the Access to work programme, to guide further positive changes.				by ATW staff. Inadequate- linked between lack of experience, limited support provided throughout the working week- cuts to funding- Impacts work communication. 15% of respondents found application process easy.	
Napier (et al., 2017)	To explore the perceptions and experiences of telecommunications relay services	Mixed method	84 responses- however only 74 included responses.	Surveys, interviews.	Mixed relationship- study highlights technology improves accessibility, however Slow technology. Technology malfunctions. Relationship between	

					the technology and independence/ control.	
Ali, Holman, and Naylor (2023)	Investigate the relationship between hearing loss and emotional states	qualitative	17 participants	Semi-structured interviews	Relationship between hearing loss in the workplace and negative emotions in the workplace. Stress during conversation, embarrassed, frustrated, anxiety, anger-related mental fatigue.	
Grote, Izagaren, and Jackson (2021)	To analyse the relationship between the lack of reasonable adjustsments snd communication for deaf workers	Mixed-method	83 responses	Survey	Inadequate and inaccessible working adjustment. The amount of clear fac-coverings did not meet the demand of individual	

					s who needed them to communicate through lip-reading.	
Levitt, Moreira, and Thelwall (2024)	Identify and increase the understanding of barriers experienced securing employment for people with disabilities.	Mixed-method	858 responses	Survey	Deaf identified parrticpants outlined that they experience stigma and communication barriers-impacted career progression, negative preconceptions	
Dag, Kulberg, and Olsson (2021)	Examine deaf adults Experiences of social interaction, and relationships within higher education ,employment, and daily life.	Qualitative	16 participants	Interviews	Communicational barriers-excluded in the workplace. Stigma in the workplace because of their disability. Misconceptions and prejudice nature.	

Napier, Oram, and Young (2019)	Investigate the experiences and the impact of the communication methods through an interpreter for hearing workers	Qualitative	8 participants	Semi-structured interviews	Interpreter is seen for the 'other' (deaf individual) Diffculty building rapports- limited effective communication and deaf workers require the interpreter to be present Opportunities for social communication is restricted.	
Svindal, Jensen and Rise (2020b)	Explore managers perceptions of deaf employees.	Qualitative	17	Interviews	Accomodations are hard to attain due to the demanding role. Relationship between deafness and fatigue- 'tiresome' as a result of concentration.	

Adam's (et al., 2023)	Examine and evaluate the deaf perception on interpreters' values, performance, and competencies	Qualitative	7	Questionnaire	Experienced an interpreter that was not confident- deaf worker felt responsible for interpreter, impacts relationship building. Inadequate interpreters to meet their specific needs- labelled 'good' and 'bad'-

APPENDIX 4- CRICITAL APPRAISAL

CASP

Svindal, Jensen and Rise (2020a).

Section A Are the results valid?	
1. Was there a clear statement of the aims of the research?	Yes
CONSIDER: • *what was the goal of the research?* • *why was it thought important?* • *its relevance*	
2. Is a qualitative methodology appropriate?	Yes
CONSIDER: • *If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants* • *Is qualitative research the right methodology for addressing the research goal?*	
3. Was the research design appropriate to address the aims of the research?	Yes
CONSIDER: • *if the researcher has justified the research design (e.g., have they discussed how they decided which method to use)*	
4. Was the recruitment strategy appropriate to the aims of the research?	Yes Outlined that an inducted approach was necessary, therefore qualitative methods were chosen

5. Was the data collected in a way that addressed the research issue?	Yes Participants were recruited through a hearing-impaired association, which characteristics align with the research issue.

6. Has the relationship between researcher and participants been adequately considered?	Can't Tell

Section B: What are the results?

7. Have ethical issues been taken into consideration?	Yes Ethically approved

	All participants received information about the research in advance of participation and signed an informed consent form,
CONSIDER: • *If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained* • *If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study)* • *If approval has been sought from the ethics committee*	
8. Was the data analysis sufficiently rigorous?	Yes States that researchers followed data analyses guided such as Corbin and Strauss data analyses guide as practically feasible
CONSIDER: • *If there is an in-depth description of the analysis process* • *If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data* • *Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process* • *If sufficient data are presented to support the findings* • *To what extent contradictory data are taken into account* • *Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation*	
9. Is there a clear statement of findings?	Yes Includes statements of participants Provided s detail into different areas of context in relation to the research question
CONSIDER: • *If the findings are explicit* • *If there is adequate discussion of the evidence both for and against the researcher's arguments* • *If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst)* • *If the findings are discussed in relation to the original research question*	
Section C: Will the results help locally?	
10. How valuable is the research?	Yes The findings of this research compared research findings to outline areas of issues for deaf

	people in the workplace, outlining areas for concern and improvement.
CONSIDER: • *If the researcher discusses the contribution the study makes to existing knowledge or understanding (e.g., do they consider the findings in relation to current practice or policy, or relevant research-based literature* • *If they identify new areas where research is necessary* • *If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used*	

Mixed method critical appraisal- MMAT

Hale (2017)

Is there an adequate rationale for using a mixed methods design to address the research question?

Survey was a tick box with a free text response format- Researcher wanted to obtain evidence in numbers affected by issues within the ATW programme but not predetermine the impact of those issues.

Are the different components of the study effectively integrated to answer the research question?

Yes, the research highlighted the statistical finding figures throughout, whilst also including qualitative findings in order to emphasis a clear conclusion and outcome of the research question.

Are the outputs of the integration of qualitative and quantitative components adequately interpreted?

Yes, the researcher interprets the quantitative figures which were evidently presented, whilst also interpretating the importance of the research related issue by integrating qualitative findings.

4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?

Some divergencies were outlined and addressed in the research, qualitative data outlines that the access to work programme has many benefits on involved participants, however quantitative data shows that only 15% respondents found the application process easy. However, throughout the result findings, further qualitative data compares to quantitative initial statistical figures.

Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?

The approach was beneficial to evidence the researchers reasonings for completing a mixed-method survey, whilst also efficiently answering the research question. Clear indication of both the quantitative and qualitative, and interpretation of findings are

presented throughout research to robustly answer the research topic. Qualitative data was analysed using content analysis by the research, and thematic analyses was undertaken to identify themes through coding in data. This can however oppose a risk of bias. However, as the survey was electronic, which shared similar responses to the quantitative findings, which saves responses after completion, this forwards high-quality research.