

**An Analysis of the Assessment and Treatment of Problematic and Offending
Behaviours in the Deaf Population**

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Abstract

This thesis examines the assessment and treatment of problematic and offending behaviours within the Deaf population, to identify pertinent issues for the management of individuals displaying such behaviours.

Chapter 1 reviews the relevant literature related to problematic and offending behaviours in the Deaf population and outlines the remaining thesis. Chapter 2 presents a systematic review evaluating the relationship between hearing parent Deaf child dyads and behavioural problems demonstrated by Deaf children and adolescents. Despite highlighting a number of methodological limitations, the review indicates that hearing parent-Deaf child dyads have some effect on the demonstration of Deaf children and adolescent behavioural problems.

The empirical paper in Chapter 3 investigates the vulnerabilities of Deaf individuals in the Criminal Justice System (CJS) and the effectiveness and use of the policies implemented to protect Deaf people involved in the CJS. The findings are based on the perceptions of professionals and British Sign Language interpreters who have experience of working with Deaf people involved in the CJS as well as police officers' experiences. The findings revealed that neither the professionals working with Deaf people involved in the CJS, nor the CJS in terms of the police, courts or prisons were perceived as possessing sufficient skills to meet the needs of Deaf individuals. Neither was the CJS equipped to implement and adhere in full to the requirements of policies aimed at protecting Deaf people.

Chapter 4 examines the predictive validity of the Historical/Clinical/Risk Management- 20 (HCR-20; Webster, Douglas, Douglas Eaves & Hart, 1997) showing it to be a valid and reliable tool within hearing forensic populations. However, the review indicates the need for further research within the Deaf population and makes recommendations for such work.

An individualised approach to the assessment and treatment of a Deaf forensic in-patient with Borderline Personality Disorder is presented in Chapter 5. The case study highlights that assessments and treatments developed for the hearing population are insufficient in meeting the treatment needs unique to Deafness without necessary adaptations.

Chapter 6 offers concluding comments, discussing further implications for clinical practice.

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Chapter 1

An Analysis of the Assessment and Treatment of Problematic and Offending Behaviours in the Deaf Population

1. Introduction

1.1 Deafness

Estimates indicate that there are nine million deaf and hard of hearing people in the United Kingdom, of these 698,000 are estimated to be severely or profoundly deaf.

One in every 1,000 children is estimated to be deaf at the age of three and two children in every 1,000 are estimated to be deaf between the ages of nine to sixteen.

Ninety percent of deaf children are born to hearing parents (Conrad, 1979; Hoffmeister, 2000).

Deafness is a term which covers a variety of conditions. Individuals can be born deaf or acquire deafness at some point during their life. Deafness can be bilateral, present in both ears, or unilateral, present in one ear. Deafness can be profound or partial and depending on the degree of deafness, can sometimes be remedied by hearing aids or cochlea implants. The degree of deafness, the age of onset of deafness as well as the cause of deafness determine the implications of the hearing loss. The impact of deafness will differ between profoundly deaf individuals from birth or early life and individuals who are partially deaf or acquire deafness and/or hearing loss later in life.

1.1.2. Cause of Deafness

It is approximated that one in every 1600 children are severely or profoundly deaf due to genetic causes (RNID, 2010). It is recognised that individuals with hereditary deafness rarely demonstrate neurological or intellectual difficulties (Monteiro, 2010).

However, aetiologies related to some congenital symptoms are associated with the disproportionate prevalence of brain damage (Chess & Fernandez, 1980; Vernon, Steinberg & Montoya, 1999) learning disability (Haskins 2004; Vernon, et al., 1999), and physical disability (Denmark, 1994) in the deaf population. This can have adverse psychological effects on mental states and behaviours (Braden, 1994; Chess & Fernandez, 1980; Kitson & Thacker, 2000; Vernon & Rich, 1997; Vernon, et al., 1999). Consequently, the cause of deafness provides important information about the nature of the problems encountered by the deaf individual (Monteiro, 2010).

There are many causes of deafness not discussed within this thesis because the causes related to organic disorders are most pertinent in aiding explanations about the development of behavioural problems.

1.1.3 Degree of Deafness

Profound deafness, partial deafness and hard of hearing are terms used to define the individual's degree of deafness and the developmental consequences of the deafness.

Profound deafness causes individuals to have little or no hearing for speech.

Individuals with partial deafness, also defined as mild, moderate or severe deafness/hearing loss, might hear speech when aided by hearing aids or cochlea implants. Hard of hearing individuals are those who have acquired mild/moderate hearing loss following the acquisition of speech and verbal language.

1.1.4 Age of Onset

The onset of the hearing loss describes the approximate age of the individual when the hearing loss occurred. A distinction is made between pre-lingual deafness, a sensory

deficit, that describes individuals who become deaf before the acquisition of speech and verbal language (Braden, 1994; Denmark, 1994; Vernon, Raifman, Greenberg & Monteiro, 2001) and post-lingual deafness, a sensory deprivation, which describes individuals who have become deaf after the acquisition of speech and verbal language (Braden, 1994; Denmark, 1994).

The effects of pre-lingual deafness are distinct from those of postlingual deafness. Pre-lingual deaf individuals are unable to acquire speech naturally, as they cannot imitate speech of others and are therefore disadvantaged in communicating verbally (Denmark, 1985). However, much more than language and communication is affected by deafness (Braden, 1994; Denmark, 1985; Vernon, et al., 1999). The early development of pre-lingual deaf children with hearing parents is compounded by communication difficulties, which impact on the deaf child's linguistic, social, emotional and psychological development (Monteiro, 2010).

Deafness is defined by Braden (1994) as a pre-lingual onset of severe to profound, bilateral/mixed sensory neural hearing loss that affects psychological factors. However, the various aetiologies, degrees of deafness and age of onset, which differentially affect cognition, sign language skills and psychological development, cause the deaf population to be heterogeneous (Vernon, 2005).

1.1.5 Models of Deafness

Models of Deafness are dependent on the perspective of the domain. However, two dominant models of deafness exist. The first is the disability model, which expands upon the medical construct of deafness and focuses on the aetiologies of deafness. In

this model the hearing loss is perceived as a physical deficiency and therefore a disability.

The second is the cultural model, which stems from a social constructionist approach and views deafness as culturally different and unrelated to disability (O'Rourke & Grewer, 2005). Deafness is reflected as a positive identity distinct from that of the hearing population but is not deviant from the norm (Young, Monteiro & Ridgeway, 2000). Culturally Deaf individuals identify themselves as Deaf; they use sign language as a mode of communication and form a distinct community. Consequently, experiences of communication barriers are limited to interactions with the hearing world (Baines, 2007; O'Rourke & Grewer, 2005; Young, et al., 2000). The total number of British Sign Language (BSL) users in the UK falls between 50,000 to 70,000 (RNID, 2010).

Traditionally, Deaf parents and their children who used sign language as their first language and had attended residential schools, formed the Deaf Community (O'Rourke & Grewer, 2005). However, at present the Deaf Community is a heterogeneous group of Culturally Deaf individuals with differing family and educational backgrounds. In addition, hearing individuals who have Deaf parents, family members, friends or those who work with Deaf people can be incorporated to some extent within the Deaf Community.

Typically, Culturally Deaf people are described as 'Deaf' with a capital 'D' so to distinguish them from 'deaf' individuals who identify with the hearing population. Individuals who describe themselves as 'deaf' are those who have lost their hearing

after the acquisition of speech or have been brought up orally or do not use sign language as a communication mode (Dennis & Baker, 1999; O'Rourke & Grewer, 2005). Such distinctions are thought to be discriminating amongst the Deaf Community and are less frequently used. However, literature continues to adopt a capital 'D' when referring to Culturally Deaf individuals.

This thesis focuses on the Culturally Deaf and in order to be consistent with present literature a capital 'D' is adopted to describe this unique heterogeneous distinct group of people who identify with the Deaf community and use sign language as their first or preferred language.

1.1.6 Language and Communication

Pre-lingual Deaf children are unable to develop intelligible speech as they are unable to imitate speech and monitor their own voices. However, when they are exposed to sign language from birth they achieve linguistic and developmental milestones in accordance with their hearing counterparts (Petitto, 2000). In order for children to learn any form of language, they must have access to appropriate modes of communication (Bochner & Albertini, 1988).

The majority of Deaf children are born to hearing parents (Conrad, 1979; Hoffmeister, 2000) whose primary mode of communication is speech. Consequently, the majority of pre-lingual Deaf children are denied access to appropriate forms of language within their immediate environment (Braden, 1994) and are not exposed to sign language during the early formative years, the critical period for language development (Monteiro, 2010).

The delay in language acquisition influences the development process. Deaf children denied access to appropriate communication due to the communication breakdown between them and their hearing parents, experience a reduction in opportunities for social interactions and increased frustration (Meadow, 1980). In addition, children without sufficient language are unable to explain themselves, their feelings and beliefs (Denmark, 1994; Gregory, Bishop & Sheldon, 1995) which can affect their self-esteem and identity (Gregory, et al., 1995).

An inability to communicate with the family can extend to an inability to communicate effectively with both the hearing and the Deaf community (Baines, 2007) as the individual is neither proficient in spoken nor sign language. Such difficulties further deprive the individual of opportunities for social interactions and social identity, as they are unable to identify with either the Deaf community or the hearing population (Du Feu & Fergusson, 2003). However, not all Deaf people use sign language and whilst their ability to cope might be more fragile than their hearing counterparts, not all Deaf people fail to cope and integrate into society.

A wide variety of languages and variants exists in the Deaf population which creates linguistic diversity (Bochner, 1982; Montoya, Egnatovich, Eckhardt, Goldstein, Goldstein, & Steinberg, 2004). Linguistic diversity is related to the heterogeneous nature of the deaf population. Factors contributing to this heterogeneity include: the age of the onset of deafness; access to effective communication systems/language deprivation; age that language acquisition began; educational background; individual language proficiencies/fluency; and the presence of neurological sequellae (Miller & Vernon, 2001).

A small but significant sub-culture within the Deaf community has minimal language skills in verbal and manual language (Conrad, 1979; O'Rourke & Reed, 2007; Miller, 2004; Miller & Vernon, 2002; Vernon, et al., 1999). Minimal language skills are related to a number of factors including: coexisting organic neurological, cognitive and linguistic disorders; early language deprivation (Montoya, et al., 2004); and disruptions in language modelling (Miller & Vernon, 2002). Individuals who have minimal language skills experience vast gaps in information, they have little awareness of social norms and they present with a profound deprivation in psychological, social and emotional development (Vernon, et al., 1999).

1.1.7 Development

The majority of Deaf children experience significantly different developmental environments from hearing children (Hindley & Kroll, 1998). They are often the only Deaf member of their family and therefore experience a dissimilar socialisation process (Braden, 1994). This can have a profound effect on a child's development and can lead to adverse developmental consequences (Dennis & Baker, 1999; Du Feu & Fergusson, 2003).

Pre-lingual Deaf children with hearing parents share common experiences of minimal communication with their families, they have limited social interactions/experiences, suffer isolation and have restricted access to appropriate services (Young, et al., 2000). These shared experiences restrict integration, blunt experience and cause the Deaf child to miss environmental feedback from socially appropriate behaviours that can manifest into adulthood (Gregory, et al., 1995). Consequently, some Deaf people might arrive at adulthood with less understanding of social and emotional aspects of

life and have fewer coping strategies for their internal thoughts/feelings and their external environments. Such deficits are not innate but are the result of deprivation (O'Rourke, 2007).

1.1.7 Development of Problematic Behaviours

The prevalence of child- problematic behaviours is higher amongst the Deaf population than the hearing population (Kentish, 2007). Research suggests that Deaf individuals with hearing parents demonstrate increased behavioural and adjustment problems within the home, education, employment, and community environments (Denmark, 1994; Du Feu & Fergusson, 2003). However, the presentation of such behaviours are less likely in Deaf children with Deaf parents who have early access to appropriate communication and are integrated members of the family (Denmark, 1994).

Previous research suggested that deprivation in psychological, social and emotional development led to Deaf individuals' personalities being less structured, more immature and egocentric in perceptions and socialization, and less empathic (Bachara, Raphael & Phelan, 1980; Denis & Baker, 1999; Hindley & Kroll, 1998; Kentish, 2007). In addition, poor empathic ability may contribute to social isolation, withdrawal, attention deficit in social skills and interpersonal relationships (Bachara, et al., 1980; Denmark, 1985). However, more recently these pathologies of deafness have been rejected on the grounds that assumptions were based on findings from selective groups and therefore cannot be generalised to all Deaf people (Monteiro, 2010).

Recent research indicates that deprivation experienced by Deaf children with hearing parents impacts negatively on the individual's ability to understand moral reasoning and the consequences of their behaviour (Miller, 2001; Young, et al., 2000). Some deaf individuals may never have learned what constitutes appropriate behaviour (Austen, Gray & Carney, 2007). In addition, experiences of deprivation might also affect the development of Theory of Mind skills, the ability to understand other people's inner worlds and reflect upon one's own thoughts and feelings (Kentish, 2007). A lack of understanding relating to these factors is associated with behavioural problems demonstrated in the Deaf population (Kentish, 2007).

In addition, increased behavioural problems in the Deaf population are related to the aetiologies of deafness and the associated organic disorders that can predispose individuals to cognitive and psychological deficits, resulting in poor impulse control and an inability to understand behavioural acts (Vernon, et al., 1999; O'Rourke, 2007). Also, Deaf children with mental impairments present exacerbated emotional and behavioural problems when they are denied the opportunity to communicate using sign language (Denmark, 1994).

O'Rourke (2007) presents the argument that, theoretically, Deaf individuals might be at an increased risk of demonstrating violence and aggression because some aetiologies of deafness, which lead to brain damage, can affect the self-regulatory system and cause acts of disinhibited aggression. In addition, due to the common experience of communication problems, Deaf individuals' lives might be inherently more stressful, particularly in relation to interpersonal relationships and their restricted access to information and learning in a predominantly hearing environment.

This can result in aggressive behaviour being demonstrated in order to reduce such stressors.

1.1.7 Nature of Offending Behaviours

Little is known about the pattern and characteristics of offending behaviours in the Deaf population (Andrews & Conley, 1977; O'Rourke & Grewer, 2005; Young, et al., 2001; Young, et al., 2000). There is no evidence to suggest that Deaf people are more likely to offend than the general population, however, due to the high rate of behavioural disorders observed in Deaf children and the clinical Deaf population they may be more at risk of offending (Hindley, Kitson & Leach, 2000).

Research exploring the Deaf forensic clinical population has failed to investigate the Deaf population as a whole. It has provided evidence of the coincidence of offending behaviours and mental illness within this subgroup (Young, et al., 2000). However, evidence indicates that the Deaf forensic clinical population form a small distinct group, whose offending behaviours bias towards sexual and violent offences (Hindley, et al., 2000; Miller, 2004; Miller, et al., 2005; Vernon & Rich, 1997; Vernon, et al., 1999; Young, at al., 2001). Various explanations have been offered for the prevalence of these offending behaviours, including sexual and violent offences, within this population.

From a psychodynamic perspective, Fonagy (1999) suggests that offending behaviours in the general population are related to an insecure attachment style, which can lead to a failure to acquire reflective capacity, which might lead to criminal behaviour. Due to the disruptions in the attachment process between the Deaf child

and hearing parent, this theory might be applicable to the Deaf population and extends upon Kentish's (2007) findings that a lack of Theory of Mind skills creates behavioural problems in the Deaf population.

It is unclear whether Deaf children who have experienced deprivation and lack coping strategies are more likely to demonstrate problematic and/or offending behaviour (O'Rourke, 2007). However, some research indicates that limited access to verbal information and opportunity causes the Deaf individual to lack knowledge of appropriate sexual behaviour arising from social feedback about their own behaviour (Andrews & Conley, 1977; Denmark, 1994).

A lack of understanding of sexual behaviour extends to the behaviour of Deaf individuals who have been the victims of sexual abuse, but it appears to be more complex. Research indicates that Deaf children are at an increased risk of sexual abuse (Sullivan, Brookhouser & Scanlan, 2000). Dennis and Baker (1999) found that a significant proportion of sex offenders reported being sexually abused as a child. This is supported by research which suggests Deaf individuals are at a higher risk of violent and sexual offending when they have experienced child sexual abuse (Miller & Vernon, 2003; Miller, et al., 2005) or substance misuse and demonstrate educational, developmental and linguistic deprivation (Miller, et al., 2005)

Other research suggests that some Deaf adults are protected from the Criminal Justice System due to their deafness (Hindley, et al., 2000). Allowances for offending behaviour can result in individuals not experiencing or recognising the consequences of their offences, which can lead to an escalation in offending behaviours (Denmark,

1994; Roberts, 1990; Young, et al., 2000). In addition, any associated mental health problems remain undiagnosed when Deaf individuals are absolved due to their Deafness (Denmark, 1994; Roberts, 1990; Young, et al., 2000).

Some aetiologies of deafness related to brain damage are also suggested to be associated with offending in the Deaf population. In particular, damage to the frontal lobes and limbic system significantly increase impulsive disinhibited sexual and violent behaviours (Chess & Fernandez, 1980; Vernon & Rich, 1997).

These various theories contribute factors, all of which appear to be related to offending behaviours within the Deaf population. However, the causal relationship is unknown, as no single factor appears more salient in explaining offending behaviours within this population (O'Rourke & Grewer, 2005; Young, et al, 2001). Therefore, the developmental pathway and nature of offending behaviours either in the Deaf population as a whole or in relation to those Deaf people with mental illness remains unclear (Young et al., 2001).

1.1.8 Deafness and Vulnerability in the Criminal Justice System

People with minimal language skills are most disadvantaged in the Criminal Justice System as they are most likely to lack the ability to understand the charges against them and/or participate in their own defence (Miller & Vernon, 2002; Vernon, et al., 1999). Even when an interpreter is provided, the complexity of the legal language will lead to a failure to understand what is expected of them within their own court hearing (Miller & Vernon, 2002).

Communication needs are further complicated by a number of psychological factors, which place defendants at risk of being disadvantaged throughout the Criminal Justice System (Brennan & Brown, 1997; O'Rourke & Reed, 2007). Factors, which increase an individual's vulnerability include acquiescence, compliance and suggestibility. Research indicates that the question 'Do you understand?' evokes an acquiescent response and has resulted in police officers assuming incorrectly that the Deaf person has understood the complex nature of the caution. Thus, the Deaf person is interviewed without understanding their rights (Vernon, Raifman & Greenberg, 1996). Deaf suspects who are illiterate are likely to demonstrate compliance. They tend to sign papers without understanding them or the consequences of signing (Vernon et al., 1996; Vernon, et al., 2001). In addition, individual and interrogator characteristics, in combination with the environment, affect the degree to which a person is suggestible (Gudjonsson, 1991; O'Rourke & Beail, 2004; O'Rourke & Reed, 2007).

1.1.9 Interpreting in the Criminal Justice System

The majority of interpreting in the Criminal Justice System results in the interpreter signing at a level beyond that of the Deaf person's understanding. Even when finger spelled, concepts will mean little to the Deaf person, who may be illiterate and has not mastered English syntax. However, even when Deaf people are fluent in BSL, some legal concepts remain inaccessible and problems in conveying complex information through interpretation continue (Brennan & Brown, 1997), as legal terms lack sign language equivalents or are unfamiliar to the sign repertoire of the majority of Deaf people (Vernon, et al., 1999). Due to diverse language skills amongst the Deaf

population (Vernon, et al., 1999), difficulties in monitoring the interactions between the Deaf individual and interpreting team are significant.

1.1.10 The Deaf Prison Population

Little is known about the patterns and characteristics of offending behaviours in the Deaf population (Young, et al., 2000). Attempts to investigate the Deaf prison population have failed to distinguish between deafened individuals who suffer hearing loss and Deaf individuals who have a Deaf cultural identity (Young, et al., 2000). Consequently, the nature of offending behaviours (Young, et al., 2000), the number of Deaf people (O'Rourke & Reed, 2007) and prevalence of mental illness (Fiskin, 1994) in the Deaf prison population remains unknown.

An understanding of the Deaf prison population is required in order to establish effective preventative measures for first time offending and recidivism. In addition, factors which cause the Deaf prison population to be vulnerable to mental health problems need to be identified and strategies are required to reduce mental health problems, amongst this population (O'Rourke & Grewer, 2005).

1.1.11 Assessing and Treating Deaf Offenders

In failing to grasp a basic understanding of offending characteristics typical in the Deaf population, the treatment of Deaf people in contact with the Criminal Justice System (CJS) has been significantly impeded (Young, et al., 2000). The CJS and professionals working within its realms have little knowledge of Deafness and sign language. Consequently, Deaf people involved in the CJS are vulnerable to diagnostic error including both a failure to diagnose a present mental illness (Brennan & Brown,

1997; Denmark, 1994; Young, et al., 2000) and being labelled mentally ill in the absence of a psychiatric disorder (Fiskin, 1994; Vernon, et al., 1999). Consequently, the numbers of Deaf people with mental health problems in prison and psychiatric settings are unreliable (O'Rourke & Grewer, 2005). However once Deaf people are admitted to psychiatric services (Denmark, 1994) and prison (O'Rourke & Reed, 2007) they are detained for longer. This is indicated by the prevalence of Deaf inpatients within forensic secure psychiatric services, which exceeds that within the general population (O'Rourke & Grewer, 2005).

As the Deaf population is culturally distinct from the hearing population, Deaf individuals who encounter the CJS require a service dedicated to meeting their specific needs (Haskins, 2004; O'Rourke & Grewer, 2005). However, there is a paucity in services specialised to treat the Deaf population (Haskins, 2004) and those which do exist continue to be dependent on theories and practices based on the hearing population (O'Rourke & Grewer, 2005). Deaf people should experience the same quality of CJS as their hearing counterparts, one which is culturally and linguistically appropriate throughout all stages of the system from them entering the CJS through to the assessment, detention, and treatment phase (Appleford, 2003; Haskins, 2004).

1.2 Purpose of This Thesis

There is a general paucity in research investigating the Deaf community. In particular, the nature of problematic and offending behaviours in this population in terms of frequency, prediction, assessment, treatment efficacy and identification of risk factors

is unclear. This thesis examines elements of prediction, assessment, treatment and management of problematic and offending behaviours in the Deaf population.

This investigation begins in Chapter 2 by reviewing the current literature available regarding the effect of hearing parent-Deaf child dyads on behavioural problems in Deaf children and adolescents. At present there appears to be no published review examining this research area. The findings indicate that hearing parent – Deaf child relationships have some effect on child behavioural problems. However, the review highlights a range of methodological differences between studies, resulting in recommending caution in interpreting the findings.

The empirical paper in Chapter 3 examines the experiences of Deaf people involved in the CJS. Specifically the research investigates the ability of the CJS to meet Deaf people's needs specific to Deafness throughout the stages of the system. A content analysis approach was used to code the qualitative data and once coded, appropriate analysis was conducted. The findings indicate that the Criminal Justice System is not adequate in coping with the specific needs of Deaf people, which influences the System's ability to assess and treat the Deaf prison population. However, this research is not without its limitations, which are considered in the discussion of the findings in relation to the implications for future research, jurisdiction and clinical practice.

Based on the findings from the empirical paper and previous research it is apparent that a lack of suitable risk assessments exists within the Deaf population. The Historical, Clinical, Risk Assessment Scheme-20 (HCR-20) (Webster, Eaves, Douglas & Wintrip, 1995; Webster, Douglas, Eaves & Hart, 1997) appears appropriate to use

within the Deaf population. Chapter 4 investigates the psychometric properties of the HCR-20 within varied clinical populations including the Deaf population, and indicates that further research is required to examine the measure's reliability and validity in the UK Deaf population.

The case study contained in Chapter 5 demonstrates the applicability of the HCR-20 within the Deaf forensic clinical setting. The individual examined in the case study has a diagnosis of personality disorder, a history of: substance misuse; violence; sexual abuse; and deprivation in opportunity and language acquisition, which influenced his functioning and rehabilitation. The case study highlights the complex issues in relation to the assessment and treatment of the Deaf population, which are further compounded by the individual's tendency to demonstrate behaviours symptomatic of personality disorder.

This thesis highlights both the problematic nature of the assessment and treatment of the Deaf population in relation to problematic and offending behaviours and the limited research currently available. The implications of this thesis are examined in Chapter 6.

Chapter 2

A Literature Review Following a Systematic Approach; How Hearing Parent and Deaf Child Interactions Effect Child Problematic Behaviours

2.1 Abstract

Aims-This review aims to evaluate the effect of hearing parent-Deaf child relations on behavioural problems in Deaf children and adolescents.

Design-A literature review following a systematic approach of cross-sectional and cohort studies was conducted. It evaluated the effect of a range of exposures on behavioural problems demonstrated by Deaf children and adolescents. Four databases and one gateway were searched. Contact was made with three experts within this domain and hand searching of reference lists was completed.

Studies- Searches identified 695 hits, of which 643 were irrelevant or duplicates. One study was unobtainable from the British Library. The remaining 51 articles were assessed against the PICO criterion, 44 studies were excluded, resulting in seven articles being included in this review. Six of the studies were cross-sectional and one study employed a cohort design. Exposure differentiated across the studies. In addition, each of the included studies employed differing standardised and non-standardised instruments to measure exposures and outcome. All measures were self-report in nature and not standardised for use in the Deaf population. Quality assessment was completed on all the included studies to measure the quality and accuracy of the reporting.

Results- Interactions between hearing parent-Deaf children dyads seemed to affect behavioural problems in Deaf children and adolescents. However, only three studies reported effect sizes and these were not comparable due to the variation in exposures.

Also the studies reporting the highest effect sizes produced the lowest quality assessment scores indicating that effects reported were not necessarily a direct consequence of the exposure. The quality assessment scores of the included studies tended to be low. Regardless of the variations of the exposures across the studies, a theme was identified.

Conclusion- Overall the findings suggest that hearing parent-Deaf child relationships have some effect on child behavioural problems. Whilst the review lacked the ability to identify the most salient exposure, a theme was apparent between parental symptomology and the demonstration of behavioural problems. Although some studies reported moderate effect sizes, they cannot be attributed exclusively to the exposure. Research within this domain is burdened with methodological flaws including but not confined to: a lack of consideration for confounding factors specific to the Deaf population; a lack of appropriate control and comparison groups; and a reliance on various self-report measures not standardised within the Deaf population. Such methodological failings have implications for research past and future. Future research would benefit from implementing more stringent methodologies to establish the true efficacy of hearing parent-Deaf child dyads on Deaf children's and adolescent' behaviour. This would enable the development and implementation of an effective intervention to reduce the likelihood of clinical outcomes, thus reducing extreme behaviours and involvement in the Criminal Justice System.

Key words: Deaf; Deafness; Hearing impaired; children; adolescents; Parent-child relations; Parent-child interactions; Parent; Mother; Behaviour; Behavioural; Problems; Disorders.

2.2 Introduction

2.2.1 The Deaf Child in a Hearing Environment

Ninety per cent of Deaf children are born to hearing parents (Feher-Prout, 1996; Schum, 1991; Sloman, & Springer, 1987), who have little experience or knowledge of Deafness. Hearing parents can experience negative emotions, which increase as they attempt to adjust to the unique requirements of their Deaf child. (Feher-Prout, 1996; Lederberg & Goldbach, 2002; Mathos & Broussard, 2005). Stress experienced by these families can result in negative outcomes. Hearing loss can disrupt the attachment process as hearing parents are less likely to meet their Deaf child's needs. Disruptions to the attachment process and child's development are common amongst hearing parents and Deaf children dyads (Lampropoulou, & Konstantareas, 1998; Lederberg & Goldbach 2002; Mathos & Broussard, 2005; Pipp-Siegal, Sedey & Yoshinaga-Itano, 2002; Schlesinger & Meadows 1972). An essential aspect of attachment is communication (Gregory, Bishop & Sheldon, 1995) but deafness per se does not necessarily lead to disruptions in the attachment process (Weiser & Kamara, 2005).

Deaf parents of Deaf children experience less stress due to their experience and knowledge of hearing loss, resulting in an ability to adjust to their Deaf child's needs and access relevant resources (Feher-Prout, 1996; Goldberg, Lobb & Kroll, 1975). The provision of high quality communication and interactions mediates the impact that Deafness can have on the attachment and development process (Schlesinger & Meadows 1972, Spencer 1993). Deaf children of Deaf parents are reported to have higher social maturity, independence (Schlesinger & Meadow 1972) self-esteem,

intellect and communication than Deaf children of hearing parents (Weisal & Kamara, 2005; Williams 1969).

Deaf children from hearing families might be at increased risk of experiencing a variety of problems including: delayed development (Braden, 1994); as well as academic failure, low self-esteem, rejecting relationships, inconsistent discipline (Du Feu & Fergusson, 2003); and sexual, physical, and emotional abuse (Dennis & Baker , 1999; Sullivan, et al., 2000). All of which may be secondary to parents' negative attitudes to Deafness and their perceptions of their child's failure to develop the family's verbal mode of communication (Du Feu & Fergusson, 2003)

Hearing parents are unable to employ a specific communication system; the structural characteristics of their signing neither reflects spoken English nor a specific sign language (Rieffe & Terwort, 2006; Spencer, 1993). The signing ability of these parents rarely exceeds that of a four-year-old Deaf child, and impedes their ability to communicate with their children at higher levels (Spencer 1993). If parents do not have the capacity to communicate effectively, the Deaf child can become frustrated. Frustration can result in the child resorting to more demonstrative and/or aggressive communication (Denmark, 1994; Mathos & Broussard, 2005).

2.2.2 Childhood Behaviours as Risk Predictors

The prevalence of behaviour problems is higher amongst Deaf children than hearing children. Poor interactions between hearing parents and Deaf children can result in the child displaying a variety of behaviour problems (Denmark, 1994; Gregory, 1995; Robert & Hindley, 1999; Schum 1991). Behavioural problems displayed in Deaf

childhood reoccur and persist into adulthood (Denmark 1994, Kelly, Forney, Parker-Fisher & Jones 1993).

There is a consensus that childhood behavioural problems are predictive of adult problem behaviours, specifically offending. In developmental terms the individual's characteristics as well as environmental characteristics are salient predictors of offending behaviours in adulthood. In order to identify early prevention strategies, non-offending behaviours that lead to offending and early indicators of later frequent/serious offending should be identified (Farrington, 2007). In addition, research indicates that offending behaviours are only a small component of antisocial behaviours, which present in childhood and manifest into adulthood (Farrington, 2009). Antisocial children tend to demonstrate antisocial behaviours in adolescence and adulthood and tend to raise antisocial children (Farrington, 2007). In an attempt to identify predictors of offending and antisocial behaviours in adults, age, gender, genetics, personality, family, peer, educational, neighbourhood, and situational factors have been investigated.

The Cambridge Study in Delinquent Development followed up 411 males from aged eight to aged 32. The most salient childhood predictors of delinquency were present between the ages of 8-10 years and included antisocial child behaviour, impulsivity, low intelligence and attainment, family criminality, poverty and poor parental child-rearing behaviour. In addition, the most significant predictors of antisocial behaviours demonstrated at the age of 18 were earlier demonstrations of antisocial behaviours (Farrington 2007; 2009). Also adult antisocial behaviours were related to family factors such as having a convicted parent, having an unemployed father/ poorly

educated father as was the individual leaving school at the earliest possible age. Aggression demonstrated in childhood was also reported to continue into adulthood violence (Farrington, 1991; Tremblay, Vitaro, Nagin, Pagano & Séguin, 2003) and was associated to more deviant and offending behaviours including domestic violence and substance misuse (Farrington, 2009).

In addition, the onset of offending behaviours has been investigated. When late onset offenders were compared with early onset offenders the strongest predictors of late onset offending behaviour was nervousness, having few friends between the ages of 8-10, and not having sexual intercourse by age 18. When compared with non-offenders the best predictors of late onset offending was teacher-rated anxiousness at ages 12-14 and high neuroticism at the age of 16. Therefore, nervousness and withdrawn behaviours appeared to be protective factors prior to the age of 21 (Zara & Farrington, 2009).

Therefore, adult offending can be predicted from childhood. However, the causal relationship between these risk predictors and offending are less well established (Farrington, 2007). In order for effective early intervention strategies to be developed the causal mechanism between predictors of offending behaviours and the actual demonstration of offending behaviours should be identified.

This review attempts to evaluate the impact of hearing parent-Deaf child relations on behavioural problems demonstrated by Deaf children and adolescents. Whilst research exists within this area, this review is necessary to establish the most salient parent-child factors in predicting behavioural problems in Deaf children and adolescents.

Such an evaluation will not only provide evidence for the effect of parent–child relations but aims to highlight areas of strength and weakness within these relationships, so to provide more insight into the aetiology of behavioural disorders in Deaf children with hearing parents. This in turn may provide scope for both improving current resources as well as identifying required intervention to reduce behavioural problems in Deaf children with hearing parents which might reduce the risk of such behaviours manifesting into adulthood.

The inclusion/exclusion criteria for the identified studies were the result of extensive scoping searches in a number of sources relevant to the topic. The decision to include only Deaf children and adolescents exposed to parental and family care was based on findings that children cared for outside of their family display higher levels of behavioural and emotional problems than Deaf children cared for within their biological families (Robert & Hindley 1999). Deaf children and adolescents with disabilities were also excluded as some causes of Deafness resulting in disabilities can in themselves be the cause of behavioural disorders (Meadows 1980).

2.3 Existing Review Assessment

Preliminary searches for existing systematic reviews and meta-analysis were conducted in the Cochrane Library, DARE, HTA, Campbell Collaboration, PsychINFO, MEDLINE and EMBASE covering biomedical, health-related, science and social-science literature. These searches concluded that systematic reviews and/or meta analyses did not exist within this research domain.

2.3.1 Aim

This systematic review aimed to provide an original systematic approach to evaluate the available evidence on the effect of parent-child relations on Deaf children and adolescent behavioural problems.

2.3.2. Objectives

The objectives of the current review were:

- 1) To determine the effect of hearing parent-Deaf child relations on behaviours of Deaf children and adolescents.
- 2) To establish whether particular hearing parent-Deaf child interactions are more salient in predicting an increase in behaviour problems in Deaf children and adolescents.

2.4 Method

2.4.1 Sources of Literature

Electronic bibliographic databases were searched including; PsychINFO (1967 to December week 1 2009, completed on the 5th of January 2010,); MEDLINE (1950 to December week 4 2009, completed on the 5th of January 2010,); EMBASE (1947 to 2010 week 01, completed on the 5th of January 2010,); and Web of Science (1925 to latest week 2010, completed on 5th January 2010, 129 hits). The gateway COCHRANE CENTRAL (1800 to 2010, completed on the 5^h of January 2010) was also employed.

The reference lists from the key studies included in this review were hand searched; the assessments of references were based on the reviews inclusion criteria. Meetings

were held with Dr Sue O'Rourke (Consultant Clinical Psychologist, St George Healthcare Group) who has expertise in the treatment of Deaf forensic mental health patients) and a Consultant at the University of Birmingham Library who had expertise in conducting database searches, both of whom provided additional information. In addition, contact was made with the Royal National Institute for Deaf (RNID) who provided further resources. Contact via email was attempted with four (57%) authors of the key studies for additional resources, but none responded. In addition, literature searches were conducted using the internet search engine Google.

2.4.2 Search Strategy

The searches completed on the five databases were restricted to English language, due to the time restriction of obtaining and translating foreign studies. Unpublished research was also excluded from the review due to the time constraints in obtaining the articles. It is acknowledged that such exclusions will have created publication bias, which must be considered when evaluating the reviews findings. The basic search terms were maintained and only amended to meet the requirements of the specific database terms (see Appendix 1 for search syntax).

2.4.3 Search Terms

(Deaf or Deafness) OR (Hearing disorders or impairments) OR (Hearing loss) OR (Partially hearing impaired or loss).

AND

(Mother or single mother or adolescent mother) OR (Father or single father or adolescent father) OR (Parent or Parents or Single parent) OR (Family or families) OR (Parental characteristics) OR (Parent child communication) OR (Parent child relations or child rearing)

AND

(Child or Children) limited to 'preschool child' 2-5 years or 'child', 6 -12 years OR
(Adolescent or adolescents) limited to 'adolescent', 13- 18 years.

AND

(Behaviour(s) or behavioural) OR (Behaviour* problem* or disorder*) OR (Violent
or Violence) OR (Aggression or Aggressive or Anger) OR (juvenile delinquency) OR
(criminal behaviour) OR (Antisocial behaviour) OR (Psychopathy)

2.4.4. Inclusion and Exclusion Criteria

To develop and confirm the inclusion criteria, preliminary scoping searches were completed in Cochrane CENTRAL, PsychINFO, MEDLINE, EMBASE and Web of Science. The inclusion criterion consisted of the following:

Population- Children and adolescents aged 2 years to 18 years with a diagnosis of moderate, severe or profound Deafness without a disability or mental health diagnosis, cared for by hearing parent (s).

Exposure- Parent and child interactions between hearing parent(s) and Deaf children

Outcome- Behaviour problems, behaviour disorders

Study Design- RCT, quasi – experimental, Cohort, Case Control and Cross-Sectional study designs.

2.4.5 Study Selection

The full texts of the credible studies were ordered, one of which was unobtainable from the British Library. The author reviewed all of the studies for inclusion and relevance. Figure 1 demonstrates the process employed for the study selection. See Appendix 2 for the Inclusion Criteria Assessment form and Appendix 3 for the list of excluded studies and the reason for their exclusion.

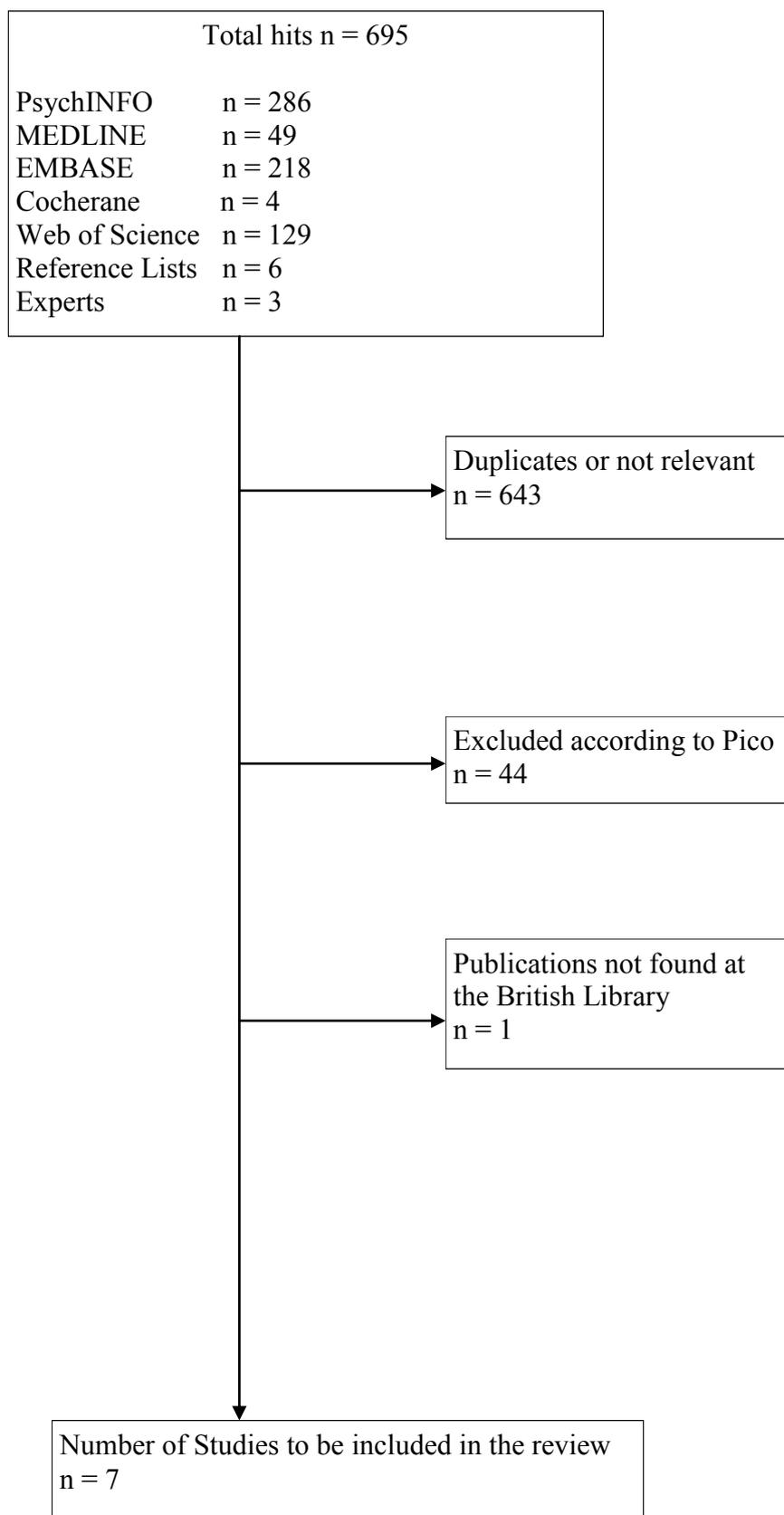


Figure 1: Summary of Study Selection and Exclusion

2.5 Quality Assessment

Following the exclusion of studies (n = 44) quality assessments were carried out and completed on all of the included studies (n = 7). The quality assessment employed a threshold criterion, which included clear definitions of the population, exposure and the outcome measures. The studies were then assessed for quality, using the quality assessment criteria developed for this review's topic and the study types. Quality assessments were conducted on the studies using modified versions based on the research topic of The Critical Appraisal Skills Programme (CASP) Checklist (<http://www.phru.nhs.uk/casp/cohort.htm>). The quality assessments explored the population selected, study design, allocation to groups, data collection procedures and confounding variables or bias within the studies, which might have explained the findings. The studies were scored by the following:

0 = Does not meet criteria

1 = Partly meets the criteria

2 = Fully meets the criteria

U = Unclear (scored separately)

Each study was given a quality assessment score by totalling the scores on each criterion. 'Unclear' responses were used to provide the accuracy of the reporting. Accuracy was measured separately by totalling the number of possible 'unclear' scores minus the number of 'unclear' responses. The author completed quality assessments for each study (n = 7). See Appendix 4 and Appendix 5 for the quality assessment forms used for cross-sectional studies and cohort studies, respectively.

2.5.1 Data Extraction

The following data was extracted for each of the included studies:

- Demographic characteristics of the overall sample at the start of the research
- Number of Participants (within each condition if necessary)
- Comparability of participants or groups
- Number of conditions/exposures
- Study design
- Completion of quality assessment
- Description of exposures, setting, delivery and measurement
- Description of variables being measured
- Variables measured at baseline, post treatment and follow-up (for cohort study only)
- Validity and reliability of the measures (where Deaf participants were administered measures the validity/reliability of measures was considered within the Deaf population)
- Attrition and statistical analysis
- Findings of the studies based on exposure
- Significance and implications of the research findings.

Where information in the studies did not provide a clear conclusion, it was reported as 'unknown' or 'none reported' as contact with authors for clarification had failed. See Appendix, 6.

Table 1 presents the significant characteristics of the seven studies included in this review allowing for an easy comparison across papers. The information within this table was selected based on its relevance to the aims of this review. Table 1 highlights

the variations in the definitions of Deafness, types of exposure and assessment tools adopted by the studies. Table 1 emphasises the inconsistencies across the studies involved in this review.

Table 2 and Table 3 examine the quality of the studies (cross-sectional and cohort retrospectively) included in this review. The recruitment procedures amongst the studies indicate that the majority of samples were voluntary and all studies included self-report instruments to measure exposure and behavioural outcomes. The validity of the instruments employed across the studies is inconsistent. Also attrition when reported was high, which appeared to be related to the recruitment procedures adopted by the studies. Statistical analysis was weak as only three of the studies reported effect sizes. The remaining four studies reported only the significant differences found. The majority of the studies achieved poor quality assessment scores and produced various clarity scores.

Table 1. Characteristics of the Included Studies

Study Authors (Year)	Study Design	Analysed Sample Size and Age	Definition of Deafness	Preferred Language match Parent Communication	Exposure	Comparator inc within group comparators	Outcome	Assessment Tools
Adams & Tidwell (1988)	Cross Sectional	134 2-12 years	Moderately Severe to Profound	Missing	-Discipline techniques -Discipline Beliefs	<i>Within Group</i> -Parental success of discipline technique	-Behaviour Problems (Frequency)	-Child Behaviour Scale -Coping Styles -Beliefs on Discipline (<i>Designed for study</i>)
Adams & Tidwell (1989)	Cohort	50 2-12 years	Moderate (70dB) to Profound (90dB)	Missing	Self - Instructional Programme (SIP)	-Non-participation in SIP <i>Within Group</i> -Degree of hearing loss	-Behaviour Problems (Frequency & Intensity) -Parental Stress	-Parental Stress Index (PSI) - Questionnaire on Resources and Stress-short form -Eyberg Child Behaviour Inventory (ECBI) -Child Behaviour Scale
Brubaker & Szakowski (2000)	Cross Sectional	39 3-8 years	Moderate (30-44dB) Mod Severe (45-59dB) Severe (60 –79 dB) Profound (80+ dB)	Match= 92.31% (n =36) Mix = 7.69% (n = 3)	Parenting Practices	-Hearing Group (n = 37)	- Behaviour Problems (Frequency & Intensity)	-Alabama Parenting Questionnaire (APQ) - (ECBI)

Calderone, & Greenberg (1999)	Cross Sectional	36 8-15 years	Mild to Profound (24 dB-110dB)	Match = 100%	-Maternal coping resources -Recent life stressors	None	- Behaviour Problems (Frequency)	-Life Events Survey (LES) -Problem Solving Task (PPAST) -Inventory of Parent Experiences (IPE) -Health Resource Inventory (HRI) -Socio- Emotional Assessment Inventory (SEAI) -The Home Quality Rating Scale (HQRS) -Child Improvement Locus of Control (CILC) -Walker Problem Behaviour Identification Checklist (WPBIC)
Dhariti & Murthy (1990)	Cross Sectional	317 5.5-11.5 years	Moderate (30-70dB) Severe (70-90dB) Profound (90+dB) -Bilateral sensory neural -Congenital -Profound	Missing	Maternal attitudes towards child rearing	-Hearing Group (N = 90) <i>Within Group</i> - Age -Education	-Behaviour Problems (Frequency Intensity)	- Behaviour Problem Checklist (<i>Designed for study</i>) -Parental Attitude Research Instrument (PARI)

Neuhaus (1969)	Cross Sectional	84 3-19 years	Deaf	Missing	Parental attitudes to -child's Deafness - disability	<i>Within Group</i> Parent's Gender	-Behaviour adjustment -Emotional adjustment	-USC Parent Attitude Survey Attitude Toward Disabled Persons Scale (ATDPS), -H-O-W Behaviour Rating Schedules
Prior et al. (1988)	Cross Sectional	26 2-5 years	Moderate (31-50 dB) to Profound (81-100 dB)	Missing	Parental psychological adjustment	Hearing Group (N= 26)	-Behaviour adjustment -Child's Temperament	-Modified Child Temperament Questionnaire (CTQ) -Preschool Behaviour Questionnaire (PBQ) -General Health Questionnaire (GHQ) - Index of Perceived Social Support -Life Events Questionnaire (Australian - Temperament Project) - Family Survey (<i>Designed for study</i>)

Table 2. Quality of Included Cross-Sectional Studies

Study Authors (Year)	Recruitment Procedure	Exposure Measure & Validity	Outcome Measure & Validity	Design / Analysis Confounding Factors considered	Attrition Rates	Effect Size / P Value	Quality	Clarity
Adams & Tidwell (1988)	Registers from Deaf services mailed questionnaires	-Non – Standardised self report assessments Internal validity = 0.72	-Non – Standardised self report assessments Internal validity = 0.90	NO - CF's specific to research domain not considered - Performance bias related to measures probable	Mailed (n = 330) Responses (n =148) 44.84% Eliminated (n = 14) 9.46%	p<0.05	23 / 50	24/25
Brubaker & Szakowski (2000)	-Registers on; Deaf service; Deaf schools; university lab mailed - Internet advertisement	-Standardised self report assessments	-Standardised self report assessments -Non – Standardised self report assessments	PARTLY -Some CF's specific to research domain considered -Performance bias related to measures probable	Mailed (n = 833) Responses (n =175) 19.43% Internet Responses (n = 34) Eliminated (n=133) 63.67%	Research Sample; 0.36 -0.39 p<0.05 Control group 0.36- 0.68, p<0.05- p<0.001	37/50	24/25
Calderone, & Greenberg (1999)	Families recruited from school districts	-Standardised self report assessments -Semi structured interview	- Standardised self report assessments	PARTLY -Some CF's specific to research domain considered -Measurement bias probable	None reported	p<0.05 – p<0.001	29/50	24/25

Dhariti & Murthy (1990)	Unclear. Samples from; special Deaf school; mainstream schools (Deaf & hearing)	-Standardised self report assessments	-Non – Standardised self report assessments -Unstructured interview	PARTLY -Some CF's specific to research domain considered -Performance bias related to measures probable	Unclear	p<0.05- p<0.01	27/50	22/25
Neuhaus (1969)	Unclear	-Standardised self report assessments	-Standardised self report assessments	NO - CF's specific to research domain not considered - Performance bias related to measures probable	Unclear	0.43- 0.70, p<0.01	23/50	19/25
Prior,et al (1988)	Unclear	-Standardised self reports assessments -Non – Standardised self report assessments	-Standardised self report assessments	PARTLY -Some CF's specific to research domain considered -Performance bias related to measures probable	Unclear	0.45- 0.83 p<0.01	28/50	21/25

Table 3. Quality of Included Cohort Studies

Study Authors (Year)	Recruitment Procedure Study / Exposure	Exposure & Length	Exposure Measure & Validity	Outcome Measure & Validity	Design / Analysis Confounding Factors considered	Attrition Rates	Effect Size / P Value	Quality	Clarity
Adams & Tidwell (1989)	Registers from Deaf services Random selection; exposure (n = 24); Non exposure (n = 26)	Self Instructional Parenting Programme (SIPP) 8 Week	-Standardised self report assessments	-Standardised self report assessments -Non – Standardised self report assessments	NO - CF's specific to research domain not considered - Performance bias related to measures probable	Mailed (n=300) Responses (n=90) 30% Elimination (n=17) 18.89% Pre Exposure Withdrawal (n =15) 20.55% Exposure Withdrawal (n = 8) 39.73%	0.50 - 0.79 p<0.001	15/50	22/25

2.6 Descriptive Data Synthesis

Three studies reported effect sizes. This review adopts Cohen's (1992) definition of effect sizes in order to establish their significance. A small effect size should be at least $d = 0.20$, a medium effect size $d = 0.50$ and a large effect size $d = 0.80$. Table 4 highlights the key factors from each study, which may have influenced findings. Also included are possible explanations for the results.

Each study included in the present review incorporated volunteer samples that met the research inclusion criteria. Six of the seven studies employed a cross-sectional design. Three of these studies incorporated a comparator-hearing group. Out of the two remaining studies, one study explored the samples within group differences and assigned participants to subgroups based on their demographic information. The remaining study used a cohort design.

All of the three cross-sectional studies incorporating a comparator found significant differences between the sample and controlled group. Brubaker and Szakowski (2000) found a significant difference between the intensity of behaviour problems displayed by the Deaf and hearing groups ($p < 0.05$). Small effect sizes were found for: corporal punishment on the intensity of behavioural problems ($d = 0.36$); and inconsistent discipline on the frequency ($d = 0.36$) and intensity ($d = 0.39$) of behaviour problems within the Deaf sample. However, medium effect sizes were found for inconsistent discipline in the hearing sample for both frequency ($d = 0.52$) and intensity ($d = 0.68$) of behaviours. The Deaf sample which experienced mixed parent-child communication systems tended to demonstrate more frequent and intense behaviour

problems than those who experienced matched parent-child communication systems, although the difference was not significant ($p>0.05$). The study received the highest quality assessment score of 74% and 96% for clarity.

Although Dhariti and Murthy (1990) found that the Deaf and hearing sample demonstrated similar types of behaviour problems, the Deaf sample demonstrated significantly more frequent ($p<0.01$) and intense ($p<0.05$) behaviour problems that manifested in later ages. The mothers of the Deaf sample were found to demonstrate significantly more extreme attitudes regarding their child's behaviour than the mothers of the hearing sample ($p<0.01$). The study received a quality assessment score of 54% and 88% for clarity.

Prior, Glazner, Sanson and DeBelle (1988) also found that the Deaf sample presented with significantly more behaviour problems ($p<0.001$) and anxiety ($p<0.001$) than the hearing sample. The mothers of the Deaf sample were also found to be significantly more anxious ($p<0.05$) and depressed ($p<0.05$). Medium effect sizes were found for maternal psychological health ($d=0.56$) and perceptions of social networks ($d=0.52$). The study received a low quality assessment score of 56% and a clarity score of 85%.

Studies investigating within group differences were not consistent. Parental success was explored by Adams and Tidwell (1988) whilst Neuhaus (1969) measured parental gender differences in relation to the demonstration of child behavioural problems. Adams and Tidwell (1988) found parents perceptions of their success in disciplining their Deaf child was related to their perceptions of their child's demonstration of behaviour problems. Parents who perceived themselves successful in disciplining

their Deaf children rated the perceived incidence of behaviour problems significantly less than 'unsuccessful' parents ($p < 0.05$) and tended to employ different discipline techniques. The study produced one of the lowest quality assessment scores 46% but high clarity at 96%. The low quality score might indicate that the significance of the difference found within the Adams and Tidwell (1988) study is due to poor quality methodology, rather than the impact of parental success.

Neuhaus (1969) found medium effect sizes for the impact of parental attitudes to their child's Deafness and child behavioural adjustment at ages 8-12 ($d = 0.50$), 13-19 ($d = 0.49$). Medium effect sizes were found between maternal attitudes towards their child's Deafness and child behavioural adjustment at all ages; 3-7 ($d = 0.70$); 8-12 ($d = 0.62$); and 13-19 ($d = 0.55$). Parents' congruent positive attitudes resulted in fewer rates of behavioural problems ($p < 0.01$). However, parents with non-congruent attitudes when maternal-negative attitudes were combined with paternal-positive attitudes produced the higher rates of behaviour problems ($p < 0.05$). The study received a low quality assessment score 46% and a low clarity 76%. Again, the significance of the difference found might be the result of shortcomings in methodology rather than the impact of parental gender.

Calderon and Greenberg (1999) investigated maternal coping resources and life stressors. Social support was the most significant predictor for maternal coping resources: overall adjustment ($p < 0.001$) and adjustment to their Deaf child ($p < 0.001$). Overall adjustment was a significant predictor of behaviour in older children. The sample's ages ranged from 8-15 years ($p < 0.05$). The study scored a quality assessment of 58% and 96% for clarity.

Adams and Tidwell (1989) conducted the single cohort study included within this review. Pre- and post-treatment differences were not significant ($p > 0.05$). However, medium effect sizes were found between maternal stress and maternal perceptions of child behaviour problems on the Child Behaviour Checklist ($d = 0.54$) and the Eyberg Child Behaviour Inventory ($d = 0.68$). Children with lesser degrees of hearing loss were perceived to demonstrate behaviour problems more frequently than children with greater degrees of hearing loss ($p < 0.01$). This study scored the lowest quality assessment at 30% but a high clarity score 88%. It is likely that the large effect sizes found within this study are the result of an inadequate methodology rather than the impact of maternal perceptions.

The findings indicate that the overall quality assessments of the studies included in this review is low. Only one study can be described as producing a low to medium quality assessment score (Brubaker & Szakowski, 2000). The findings indicate that the studies, which achieved the highest range of effect sizes achieved the poorest quality assessment scores. This is particularly so for Adams and Tidwell's (1989) and Neuhaus's (1969) studies. Also, over half of the studies within this report neglected to report the effect sizes. Without the effect sizes it is difficult for this review to evaluate for bias and threats to validity, which prevents robust comparisons across studies and restricts the conclusions which can be drawn from this review.

The studies with the higher quality assessment scores employed standardised measures or a mix of standardised and non-standardised measures. In order for more appropriate comparisons to be made, all studies not only require the reporting of effect sizes but should also employ standardised measures. Where possible, these

measures should be standardised in the Deaf population. This is relevant as Vostanis, Hayes, Du Feu and Warren (1996) found in their study (excluded) that the Parents Checklist (PCL), a psychiatric instrument for Deaf children, significantly correlated with the Child Behaviour Checklist (CBCL) on the measures of severity of behavioural and emotional problems. However, the instruments differed in their detection of clinical cases.

Studies, which achieved higher quality assessment scores tended to partially identify confounding factors specific to the Deaf population. However, no study identified all factors relevant for research in the Deaf population, which will have had an impact on their findings.

Table 4. Key Factors of Included Studies

Author Year	Exposure & Ratings	Outcome & Ratings	Significant Findings	Possible Explanation of Findings
Adams & Tidwell (1988)	<p>Parents rate their;</p> <p>-Discipline techniques</p> <p>-Success of discipline</p> <p>-Beliefs of how hearing impaired children should be disciplined</p>	<p>Parents rate;</p> <p>-Frequency of child behavioural problems</p>	<p>-‘Successful’ parents perceive incidence of behaviour problems significantly less than ‘unsuccessful’ parents ($t=2.59$, $p<0.05$).</p> <p>-‘Successful’ parents tended to ‘explain and discuss’ compared to ‘unsuccessful’ parents who ‘scolded’ most frequently.</p>	<p>-Parents were not blind to exposure/outcome; therefore, responses could demonstrate social desirability. Scales require a lie subscale</p> <p>- Objective scores of parental discipline techniques, success and child behavioural outcome required</p> <p>-‘Explanation/discuss’ require effective communication with child. Communication methods between child/parent and parental views of success in communicating with child required.</p> <p>-Few significant findings possibly a result of poor research design, pilot study required to assess reliability and validity of measures</p> <p>- Measures not specific for Deaf population</p>
Adams & Tidwell (1989)	<p>Self - Instructional Programme (SIP)</p>	<p>Mothers rate;</p> <p>-Stress levels</p> <p>-Frequency of child behavioural problems</p>	<p>- No significant effect treatment on maternal stress levels/problematic behaviour</p> <p>- Positive relationship between stress and frequency of behaviour problems on CBS ($d=.54$, $p<0.001$) ECBI ($d=.68$, $p<0.001$).</p> <p>- Frequency of behaviour problems significantly more in children with less degrees of hearing loss than children with greater degrees of hearing loss ($F [1, 34] = 532.46$, $p<0.01$).</p>	<p>- Treatment/measures based on hearing unlikely to be suitable for Deaf population.</p> <p>-Treatment delivery might not be appropriate in creating significant change</p> <p>-Causal relationship between stress and behaviour problems required.</p> <p>-Parental stress likely to affect perceptions of child behaviour and treatment of behaviour</p> <p>-Objective ratings of child behaviour required</p> <p>-Parents expectations of child differ amongst children with less and greater hearing loss.</p>

Brubaker & Szakowski (2000)	Parents rate; -Parenting Practices	Parents rate; -Frequency of child behavioural problems -Intensity of child behavioural problems	-Significant difference between intensity of Deaf & hearing problem behaviours ($t(74) = 2.294, p < 0.05$) - Mix parent communication children demonstrate more frequent/ intense behaviour problems ($M = 8.73$; $M = 106.19$) than parent matched communication children ($M = 6.86$; $M = 94.87$) - Frequency and intensity of behaviour problems related to inconsistent discipline in Deaf ($d = .36, p < 0.05$; $d = .39, p < 0.05$) and hearing ($d = .52, p < 0.001$; $d = .68, p < 0.001$). -Intensity of Deaf childrens' behaviour problems related to corporal punishment ($d = .36, p < 0.05$)	- Parent's ability to prevent behaviour escalating could differ between hearing parents of Deaf and hearing children. -Intensity of Deaf child's behaviour possibly a misperception of expressive sign language / child's frustration to communication breakdown - Measures not specific for Deaf population -Non-significant relationship could be a result of confounding variables i.e. parental social desirability/ differing perceptions of behaviour. Objective ratings of parental-child communication required. -Cause and effect of significant relationships required to understand the implication of the finding
Calderone, & Greenberg (1999)	Mothers rate; -Coping resources (Overall; Deafness) -Recent life Stressors Interviewer rate; Maternal problem solving	Teachers rate; - Child adjustment (adj) (Socio-emotional (SE); behavioural	-Overall adjustment and adjustment to child Deafness predicted by; child's degree of hearing loss; maternal negative life stress; and social support. -Social support most significant predictor for maternal coping resources; overall ($F = 22.8, p < 0.001$); Deafness ($F = 16.6, p < 0.001$). - Child SE adjustment in older children was predicted by; maternal high external locus of control; and problem solving. -Overall adj significant predictor of behaviour in older children	-Multiple regression allowed forward and back stepwise entries of predictors to establish significance -Confounding factors ;in maternal ratings of adj to Deaf child and therefore resulted in it being an insignificant predictor of behaviour outcome - Measures not specific for Deaf population -Teachers' rating outcome measure appears blind to outcome measure, therefore objective -Teachers' ratings based on behaviours in total communication educational environment. Typical home behaviours because of interactions with parents not directly measured.

Dhariti & Murthy (1990)	Mother rate; -Attitudes towards raising a child	Mother rate; -Frequency of child problem behaviours	<ul style="list-style-type: none"> -Deaf and hearing children demonstrated same type of behaviour problems -Deaf demonstrate significantly more frequent and intense on many behaviour problems measured which manifest in later ages than hearing ($p<0.01$-$p<0.05$) -Anxiety and self consciousness developed later in Deaf children - Mothers of Deaf demonstrated more extreme attitudes than mothers of hearing including; negative attitudes to avoidance of communication; encouraged verbalisation ;encouraged anger suppression; increased strictness; and acceleration in development ($p<0.01$) 	<ul style="list-style-type: none"> - Ability to prevent behaviour escalating could differ between parents of Deaf and hearing children. -Intensity of Deaf child's behaviour possibly a misperception of expressive sign language -Measures not specific for Deaf population - Anxiety & self consciousness likely to develop later due to increased child awareness of limitations in the hearing world -Differences in attitudes might be a result of the PARI not accounting for behaviours specific to Deaf and the dynamics of a hearing parent-Deaf child combination. Particularly in relation to items; avoidance of communication; and encourage verbalisation. -Causal relationship between attitudes and behaviour problems required
Neuhaus (1969)	Parents rate; -attitudes to child's Deafness - attitudes to disability	School staff rate; Behavioural adjustment (adj)	<ul style="list-style-type: none"> - Parental attitudes towards children significantly affected child behavioural adj ($F(1, 81) = 16.65, p<0.01$). Maternal attitudes towards children related to emotional adj of child 3-19yrs ($d=.55$-$d=.70, p<0.01$) & Paternal attitudes related to 8-19 yrs ($d=.43$-$d=.50, p<0.01$) - Parents congruent positive attitudes positively affected adj ($t= 5.38, p<0.01$). Non congruent attitudes (maternal-negative combined paternal-positive) = poorest child adj ($t= 2.40, p <0.05$) 	<ul style="list-style-type: none"> -Objective ratings of outcome -Measures not specific to Deaf population - Exposure measures were specific to attitudes towards disability including hearing impairment. - Impact of maternal attitudes possibly a result of society's views of childcare at the time of the study, when paternal involvement was minimal.

<p>Prior et al (1988)</p>	<p>Parents rate; -Parental psychological adjustment</p>	<p>Parent and Teacher rate; -Child's behavioural adjustment / temperament</p>	<p>-Teacher ratings; Deaf displayed more behaviour problems ($t=3.72, p<0.001$); and anxiety ($t=3.74, p<0.001$) than hearing. - Mothers of Deaf more anxious ($t = p<0.05$) & depressed ($t = 2.61, p <0.05$) than hearing mothers. -Poor maternal psychological health correlated with behavioural problems ($d=.56, p <0.01$) -Maternal perceptions of good support networks were related to less child behaviour problems ($d = .52, p <0.01$) -Temperament was not found to be a significant predictor of child's problematic behaviour</p>	<p>-Objective ratings of outcome -Measures not specific for Deaf population -Relationship between maternal and child anxiety requires exploration for conclusion -Relationship between psychological adjustment of parent and adjustment to child's Deafness requires exploration - Perceptions of social support possibly positively related to psychological adjustment and therefore behavioural outcome. -Possible that temperament measure was not reliable in detecting temperament of Deaf children</p>
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2.7 Discussion

2.7.1 Main Findings

This review aimed to:

1) *To determine the effect of hearing parent- Deaf child relations on behaviours of Deaf children and adolescents.*

The seven studies in this review provided varying amounts of support for the effect of hearing parent- Deaf child relations on behaviours of Deaf children and adolescents.

The studies demonstrated a significant effect of exposure in terms of statistical difference (Calderone and Greenberg, 1999) or an effect size sufficient to be statistically significant (Adams & Tidwell, 1989; Brubaker & Szakowski, 2000; Neuhaus 1969; Prior, et al., 1988). Adams and Tidwell (1989) and Neuhaus (1969) reported statistically significant within-group comparisons, but neglected to report the effect sizes.

Overall, interactions between hearing-parent and Deaf-children dyads seem to have a negative effect on behavioural problems of Deaf children and adolescents. However, this is inferred with caution due to the methodological flaws found within each of the studies as well as the various exposures investigated across the studies.

2) *To establish whether particular hearing parent-Deaf child interactions are more salient in predicting an increase in behaviour problems in Deaf children and adolescents.*

The exposures across the studies included in this review differed. Methodological flaws were identified in each of the studies and reporting of effect sizes was low. As a result, this review lacks the ability to reliably determine a salient parent-child

interaction for predicting an increase in behavioural problems in Deaf children and adolescents. However, this review has identified a theme that parental symptomology affects parent's perceptions of their child's behaviour as well as the discipline employed by parents.

Parents who perceived their discipline techniques as successful, perceived their children's behaviour to be significantly less problematic than those who perceived their disciplining techniques to be unsuccessful (Adams & Tidwell, 1988). Parental attitudes were found to significantly affect child behavioural adjustments with maternal attitudes being most salient (Neuhaus, 1969). In addition, maternal states were found to be most significant in predicting the behavioural problems of their offspring. Maternal psychological health was related to increases in child behavioural problems and perceptions of a supportive social network were related to fewer demonstrations of child behaviour problems (Prior et al., 1988). Similarly, Calderone and Greenberg (1999) found that maternal coping resources were a significant predictor of child behaviour problems in older children. Maternal perceptions of a supportive social network was the most significant predictor in maternal coping resources. Adams and Tidwell (1989) also found that parental stress was related to parental perceptions of increased child behavioural problems.

Both Brubaker and Szakowski (2000) and Adams and Tidwell (1988) found that parental discipline techniques significantly affected parental perceptions of child behavioural problems. Inconsistent discipline and corporal punishment were related to increased perceptions of behavioural problems (Brubaker & Szakowski, 2000).

Adams and Tidwell (1988) provide support for this notion, as successful parents in

their sample were those who employed explanation/discussion to discipline their children, compared to unsuccessful parents who employed scolding. In order for parents to be consistent in implementing explanation/discussion in disciplining their Deaf child, it is presumed that parents must have sufficient ability to communicate with their child. Brubaker and Szakowski (2000) failed to implement subjective measures of communication modes between child and parent dyads and Adam and Tidwell (1988) failed to investigate communication methods.

Whilst communication was not found to be significant in predicting behavioural problems, the Brubaker and Szakowski (2000) study might not have produced reliable findings, as it only reported the communication modes between the parent-child and not the preferred language of the parents. Therefore, some parents might have been Deaf. In addition, the sample size may not have been sufficient to produce significant differences.

2.7.2 Methodological Considerations

It is important to consider the methodological strengths and weaknesses of any review. The search strategies employed in this review were reasonably comprehensive and conclusive. However, due to the time constraints, contact with study authors was not possible nor was it possible to source non-English papers. Further time would have allowed for a more thorough search procedure incorporating other resources, including the paper unobtainable from the British Library and a more detailed search of reference lists. In conclusion, due to the limited number of studies included in this review, additional time could have resulted in the inclusion of further studies, which could have been beneficial to the reviews findings.

The literature sources selected were considered to be the most suitable for the focus of the review, however with additional time, other databases might have produced further references. A more comprehensive search of additional databases might also have produced a similar systematic review, which might have provided more sources of reference.

This review followed a strict inclusion/exclusion criteria, which was followed stringently during the evaluation process. Due to the very stringent criteria, significantly more studies were excluded than included which probably highlights the paucity of available research in the Deaf population.

The inclusion/exclusion criteria stringency was restricted due to the paucity in available research. As a result, the inclusion criterion for the population was limited in its restrictions. The inclusion criterion was unable to specify that the population included in the study must be pre-lingual Deaf individuals as the majority of studies neglected to include age of onset. Thus, the inclusion criteria relied upon the authors' definitions of the population's Deafness, which tended to be based on the degree of deafness. This review therefore accepted populations based on the reported degree of deafness in decibels (profound 80dB +) and/or terms (i.e. profound) as well as more loose terms such as 'Deaf' and/or 'hearing impaired'. As a result this review was weakened in its ability to investigate pre-lingual Deaf children whose communication needs are unique to postlingual deaf individuals.

Due to the paucity of research, the inclusion criterion's outcome and exposure could not be limited to behavioural problems in children whose first language was sign

language and whose parent's had no sign language skills. This review had difficulty finding such populations which did not attend residential school. Such findings appear reflective of the schooling of Deaf children. Due to the geographic nature of Deaf schools, Deaf children whose first language is sign language tend to be schooled residentially and can contribute to form a Deaf identity.

The exposure within the inclusion criterion was also limited in restricting it to a single exposure of parent-child interaction such as mismatched communication between the parent-child dyad. This review clearly demonstrates that the same exposure was not measured by more than one study.

Due to there being few studies including a comparative sample, this review was restricted in limiting the comparative sample to Deaf children who parents were also Deaf. The search strategies employed within this review were unable to conclusively find such studies, which also met the overall inclusion criterion.

In conclusion, this review's inclusion/exclusion criterion was restricted in limiting the population, exposure and comparator criterion. Whilst additional search strategies and additional time might have found other studies, this review suggests that the restrictions within the criterion are not a result of the limits in the search strategies employed but are the result of the paucity of existing research. The inclusion/exclusion criterion was developed on the basis of preliminary scoping searches in advance of the search strategy. From the preliminary search a wide range of studies from various domains within the Deaf population were reviewed. This led

to the conclusion that a criterion which was restrictive, would result in too few studies meeting the criterion for a systematic review.

The quality assessment forms (Appendix 4 and 5) included questions that were designed to address areas of bias which may have influenced the results of the included studies. The cross-sectional quality assessment form included questions about selection bias. Due to the difference found within the samples across the studies, it was important to decipher their capacity to be representative of the Deaf population. Measurement bias was considered in terms of the exposure measured and the outcome measured. This was particularly salient in this review due to the lack of standardised measures within the Deaf population. The influence of confounding factors, attrition and statistical analysis was also considered.

Quality assessment forms designed for the cohort study (Appendix 5) included in this review consisted of the questions from the cross-sectional quality assessment form. Additional questions concerning the follow-up period were included. This was particularly salient considering the short follow-up time adopted by the one cohort study within this review. A short follow-up time might not accurately represent change as a result of treatment effect.

2.7.3 Interpretation of the Findings from the Present Review.

This review attempted to include studies which employed the highest quality methodological designs to eliminate significant bias and produce valid and reliable data. However, the majority of the studies in this review employed cross-sectional designs, which are prone to sampling and measurement bias. Only one of the studies

employed a cohort design, which are prone to attrition loss. Both study designs are flawed in their lack of ability to elicit certainty of any temporal relationship.

The Deaf population is unique in both its communication and culture. The majority of researchers lack understanding and the ability to communicate effectively with Deaf people. These difficulties are likely to create barriers and limit methodological designs available to the majority of researchers. Both the cross-sectional study designs and single cohort design within this review extracted relevant information about the research sample in the absence of contact between the researcher and sample.

Although cross-sectional designs are most prone to selection bias, all studies including the cohort study recruited samples on a voluntary basis. As a result, the findings from the studies included in this review lack the ability to be generalised to the wider Deaf population. This is particularly salient for studies reporting the non-responder rates and also the sources from which samples were pooled. The majority of the included studies employed samples pooled from Deaf schools or Deaf service providers' registers. Each study included in this review neglected to report information on non-respondents and those not accessing resources.

Out of the total number of studies included in this review, three employed a comparative hearing sample. Selection bias is most often introduced in such studies when groups are not matched at baseline. As a result, effect sizes found cannot be directly accounted for by the exposure. This is most visible from the studies' reports of elimination and their neglect to report research dropouts where motivational and personality differences between groups make direct comparisons invalid.

Differences amongst participants are therefore acknowledged. Motivation to participate in the research will have differed. Motivation to participate is likely to have been founded upon personal expectations and previous experiences. Parents with Deaf children accessing Deaf resources might vary in experience of seeking help to assist them in raising and/or understanding their Deaf child. Therefore, motivation to engage in the research might have varied amongst those from Deaf schools or service provisions to samples recruited from mainstream schools, university laboratories and internet advertisements.

In addition, variance was found in the hearing loss of the samples examined in these studies. Despite researchers stating that the samples had a hearing loss, the definitions of the hearing loss differed greatly. This was particularly visible when decibels (dB) were included in the definition. For example the definition for moderate degree of hearing loss differed across the studies; 70dB (Adams& Tidwell, 1989); 30-44dB (Brubaker & Szakowski, 2000); 30-70dB (Dhariti & Murthy, 1990); and 31-50 dB (Prior, et al., 1988). These differences indicate that studies which neglected to include decibels in their definitions of degrees of hearing loss are likely to have employed further variations. Also one study indicated only that the sample was 'deaf'. These differentiations specify that a standardised definition of Deafness was not employed by the studies, nor did a consensus exist within the definitions employed. In addition, one study reported including participants with aided hearing. This review is unclear as to the number of studies which included participants with aided hearing but neglected to report them. This review concludes that the included studies employed inconsistent definitions of the degree of hearing loss. Such variations challenge the ability of this review to comparably evaluate these studies.

Challenges to this review's ability to compare the results of the included studies are further compounded by the variation of exposures. Each of the seven studies included employed inconsistent exposures. Even when exposures appeared similar such as parent practices or parental stress and coping strategies, variations existed in both the actual exposure and the measurements of the exposure. As each exposure and measurement of the exposure has its own bias, the evaluation of these studies is placed under scrutiny.

The complexities of comparing the included studies were augmented as a result of the variations in the outcomes measured and the method utilised to measure these outcomes. Whilst all studies measured behavioural problems, three studies measured behavioural problems in terms of frequency and intensity; two studies measured behavioural problems with regards to frequency only; and two studies investigated behavioural adjustment. As each approach incorporates its own bias, the ability to compare these studies is impaired.

Measurement bias must also be considered in the context of this review. Six of the studies employed standardised measures of exposure and outcome, however only two of the total number avoided using non-standardised measures for either exposure or outcome. The dubious nature of the reliability and validity of research findings based on non-standardised measures further challenges the ability to compare the exposures and outcomes across the studies. Where validated scales were used for exposure and / or outcome measures, a wide variety of different instruments were employed. Out of the seven studies included in this report, a total of eighteen different psychometric

measures were utilised. Different assessments have different criteria and methods for recording information, which inevitably introduce their individualised bias.

Each of the studies included in this review utilised self-report instruments. Due to the differing opinions about the reliability of the data elicited, the utilisation of such measures is controversial. It is suggested by this review that informant bias was introduced across all studies as a consequence of the employment of self-report instruments. However, Gutterman (1988) suggests that parent-child relations in a practical sense are difficult to observe, as the parent tends to inhibit their own behaviours, therefore self-report instruments are required. The accuracy of self-report can be increased with psychometric measures, which are psychometrically tested for reliability and validity. Whilst some of the studies in this review employed psychometric measures, the extensive variation of the tools administered makes comparisons tenuous.

The review also proposes that measurement bias exists, as the included studies neglected to employ measures deemed suitable within the Deaf population. Research investigating this population is reliant on a multitude of measures and resources developed for the hearing population. The uniqueness of the Deaf population results in the standardised measure and its norms being invalid in the Deaf population. This is particularly salient as Vostanis et al. (1996) suggest that the Parents Checklist's (PCL) detection rate of clinical cases is more sensitive than the Child Behaviour Checklist (CBCL). Therefore, the validity of the findings from the included studies is questionable as a result of them being based on instruments developed for the hearing population.

The attrition rates of the included studies within this review are inconsistent. Only two out of the seven included studies clearly reported attrition rates. The majority of attrition was related to non-respondents and both studies reported attrition due to elimination. Neither of the two studies incorporated statistical analysis to adjust for the attrition rates.

Bias was also likely to be present due to a lack of blind exposure- outcome assessment in the majority of the studies. The majority of studies incorporated a single assessor of the exposure and outcome. In addition, the majority of parental self-report instruments were completed by mothers and therefore limits the generalisability of these studies' findings.

Finally, this review considers the generalisability of the findings and their applicability to the United Kingdom's (UK) population. All seven studies were conducted outside of the UK. The majority were conducted in the USA, one was conducted in Australia and one conducted in India. It is beyond the scope of this review to consider all the potential cultural differences relevant to parent child relations and child behavioural problems. This review is unable to establish whether parents culturally differed in their perceptions, attitudes and experiences towards their Deaf children and their behaviours. However, standardised measures tend to be standardised across cultures. Therefore, studies incorporating non-standardised measures are less generalisable. It is also difficult to establish whether the samples within the studies differed in their experience and ability to access Deaf resources as well as their experiences of hearing loss and causes of Deafness. Consequently, this review concludes that the generalisability of the findings from the included studies

should be taken with caution. Therefore, more research is required particularly within the UK.

2.8 Conclusions and Recommendations

The findings from this review suggest that there are, at minimum, small exposure effects of parent-child interactions on the demonstration of behavioural problems in Deaf children. The effects of the exposure increased when clinical rather than statistical significance was considered as many studies neglected to report effect sizes. Of those reporting effect sizes, the studies which achieved the largest exposure effects had the lowest quality assessment scores. Therefore, the findings of these studies are less likely to be a direct consequences of the exposures studied and more likely to be associated with the flaws identified within the methodologies.

This review is also able to suggest, at minimum, that parental symptomology and preferred types of discipline are associated with parental perceptions of child behavioural problems. Differentiation of exposures across the studies resulted in this review's inability to determine a salient exposure in predicting behavioural problems in Deaf children and adolescents.

Research investigating behavioural problems in Deaf children and adolescents resulting from parent-child relations comprised of uncontrolled, low to moderate quality studies, in which comprehensive interpretations of the findings are almost impossible. The effects of parent-child interactions are commonly researched within the hearing population, but less so in the Deaf population. As the majority of Deaf children have hearing parents who have difficulty in meeting their Deaf child's needs,

it seems a priority for future research. This is particularly salient as research indicates that Deaf children demonstrate significantly higher behavioural problems than their hearing counterparts (Denmark, 1994; Gregory, 1995; Robert & Hindley, 1999; Schum 1991) which manifests into adulthood (Denmark 1994, Kelly, et al., 1993).

Whilst the included studies found that behavioural problems were most prevalent in their Deaf samples when compared to a hearing comparator, methodological flaws cause the validity to be questioned. Such methodological flaws appear to have both research and clinical implications. The studies in this review neglected to use measures standardised within the Deaf population. Due to the paucity of such measures, research can rarely adopt a methodologically sound assessment procedure for behavioural problems in Deaf children and adolescents. This is particularly salient when considering Vostanis et al's. (1996) use of the Parent Checklist (PCL), a self-report measure for parents normed for the Deaf population. Vostanis et al. (1996) found that the PCL performed significantly differently in some areas than the Child Behaviour Checklist (CBCL), a self-report standardised instrument for the hearing population. Such findings have implications for both past and future research as they indicate that without standardised measures, a true reflection of child behavioural problems within the Deaf population cannot be determined.

A further implication for research is found within this review with regards to the effect of parental symptomology. The included studies revealed that parent symptomology was related, albeit loosely, to their perceptions of their child's demonstration of behavioural problems. Research findings based on parental self-reports which indicate the prevalence of behavioural problems in the Deaf population

might be more reflective of parent symptomology rather than the true nature of the behavioural problems. Findings from the included studies must be considered in relation to their methodological flaws; however, a theme existed and suggested that parental symptomology was significantly more negative when the child was Deaf, resulting in increased perceptions of behavioural problems.

A clinical implication of this review is based on the findings with regards to parental symptomology. It is beyond the scope of this review to consider all possible influences present within the association between parent symptomology and behavioural problems of Deaf children and adolescents. However as this review appears to have identified a theme, clinically it appears important to consider. Whilst it appears clinically important to provide intervention to Deaf children to reduce behavioural problems and the likelihood of these behaviours, manifesting into adulthood, it also appears important that primary intervention begins with the parents/family. This review suggests that further research is required in establishing the true effect of parent symptomology on behavioural problems in Deaf children and adolescents in order to provide suggestions for effective family interventions.

This review also suggests that clinicians presented with Deaf children demonstrating behavioural problems account for parental symptomology within the treatment package. It appears that clinicians whilst providing treatment for the child must also consider and implement, where necessary, intervention with the family. It is important to acknowledge that the term clinician in this review refers to those who are experienced in working with the Deaf population. Inexperienced clinicians are

advised to refer Deaf people's cases to clinicians who specialise in the treatment of the Deaf population.

This review acknowledges that the studies are too few in number and too limited in their methodological design to provide researchers, clinicians, parents of Deaf children as well as the Deaf population complete confidence in these results.

The suggested key features for future research are:

- Controlled study designs of higher quality are required
- Studies must be designed with adequate statistical power taking into account expected dropouts.
- Research should employ samples recruited from wider resources, in a randomised manner, to reduce selection bias and increase the generalisability of the findings
- Participants from a variety of ethnic and socio-economic backgrounds must be included, with an age and gender mix ideally comparable to Deaf children with Deaf parents
- Research is required to consider the age of onset of Deafness, the causes of Deafness, the duration of Deafness and the cultural identity of the participants in terms of Deafness
- Research is required to consider the types of and durations of Deaf resources accessed and match participants to enable comparisons
- Fewer measures of exposure and outcome should be used more widely by research
- Longer-term follow-ups should be undertaken where possible to increase confidence in the results.

- Research is required to develop standardised measures within the Deaf population to ensure validity of findings. This would ensure that outcome measures accounted for deviant behaviours related to the Deaf community and not the hearing culture
- Self-report measures should include deception scales. This is particularly important as the majority of studies required parents to rate exposure and outcome measures
- All parties included in producing the findings should be blind to the exposure and outcome
- Researchers are required to research areas of exposure in more depth. This review indicates that the majority of research was taken at face value. The effect of exposure was investigated only once.
- Research should be undertaken in the UK to establish the generalisability of findings

It must be recognised that the Deaf population is heterogeneous and behavioural problems often coexist with the organic symptoms of causes of Deafness. Research and clinicians must consider the degree of hearing loss, the age of onset of deafness and the cultural models of Deafness, when investigating, assessing and treating the Deaf population.

Researchers are also required to develop standardised tools within the Deaf population or at the very least reach consensus about the most appropriate measures to employ, to enable research to measure the same constructs and use the same tools. In the absence of such requirements, the true efficacy of hearing parent-Deaf child relations and behavioural problems in these Deaf children and adolescents will remain unclear.

It is imperative that both clinicians and researchers become accustomed to the Deaf population and that they acquire the necessary skills to investigate, assess, and provide effective treatment within this unique population. Until this occurs that part Deaf population, which has no contact with, or knowledge of, specialised Deaf resources remain neglected. Frequently this neglect becomes acknowledged only when behaviour persists or increases in severity and/or intensity and referrals are made to specialist Deaf mental health services.

Whilst this chapter has investigated the effect of parent- child relations on Deaf children and adolescent behavioural problems, it has also highlighted coping strategies of parents. Chapter 3 investigates the Criminal Justice System's coping and treatment of criminal behaviour in the Deaf population.

Chapter 3

Aspects of the Processing of Deaf Offenders within The Criminal Justice System

3.1 Abstract

The sample consisted of 10 professionals and 19 British Sign Language interpreters, who worked with Deaf people in the Criminal Justice System and 402 police officers, who had participated in The Cheshire Constabulary and Police Officers' Deaf Awareness Survey. Questionnaires designed for a larger Department of Health funded study were issued by post, email and in person. The research used a content analysis approach. The code scheme was developed using a mixed approach. A high inter-coder reliability was 0.80 established by Cohen's Kappa.

The findings revealed that both professionals working in the Criminal Justice System and the police had limited specialised skills to work with Deaf people involved in the system. The majority of police, including custody officers, were unaware of the Police and Criminal Evidence Act (1984) guidelines regarding Deaf people.

Perceptions of the court revealed that a high prevalence of communication problems within Court proceedings with a Deaf person existed and the courts were perceived to rarely monitor the communication between the Deaf person and the interpreter. In addition, interpreter's confidence and assertiveness was perceived to be instrumental in making the Court aware of communication difficulties.

The perceptions of the interpreters and professionals indicated that that the prison service does not meet the requirements of the Discrimination Disability Act (1995, amended, 2005).

As a result, Deaf inmates are not provided sufficient resources to meet their needs, nor are they provided the opportunity for rehabilitation and reintegration into society.

This research is discussed in relation to previous findings and future research in order to gain further insight into the needs of Deaf people involved in the Criminal Justice System.

Key words: Deaf, Deaf Awareness, Criminal Justice System, Police, Courts, Prison, Interpreters, Professionals, Police.

3.2 Introduction

There is a paucity of research regarding the forensic issues related to Deaf people in the Criminal Justice System (CJS) including their psychiatric and psychological characteristics. Pre-lingual Deaf people in particular pose unique problems for the CJS due to the communication difficulties that they experience as a result of Deafness. Such difficulties manifest in CJS practices and procedures from administering the caution, through police interviews, to court proceedings and prison sentences (Vernon, Raifman, Greenberg & Monteiro, 2001).

Using a content analysis approach, this research attempted to answer previous research questions regarding Deaf peoples' vulnerabilities in the CJS. It also attempted to investigate the effectiveness and use of the policies implemented to protect Deaf people involved in the CJS. This is a research domain that lacks evidence and is often reliant on anecdotal evidence.

The current study defines Deafness as a cultural and linguistic identity distinct from the hearing population (O'Rourke & Grewer, 2005; Young, Monteiro, & Ridgeway, 2000).

3.2.1 The Implications of Deafness in the Criminal Justice System

3.2.2 The Police and Criminal Evidence Act (1984)

The Police and Criminal Evidence Act (1984) (PACE) was introduced in the United Kingdom as a regulatory framework for aspects of the police investigation process. Under PACE, Deaf people are provided with specific rights during the police and prosecutorial interrogation. The custody officer as soon as it is practical must contact an interpreter and where possible, the interpreter should be on the appropriate registers. An appropriate adult and a solicitor should be present at the interview of an individual who is mentally ill or

mentally impaired. Deaf people must not be interviewed in the absence of the interpreter unless they agree in writing to be interviewed in the absence of one. Interviews are recorded audibly and documented in writing, but it is at the discretion of the interviewing officer whether the interview is visually recorded.

PACE guidelines, allow a significant amount of flexibility for police to exercise their powers (Choongh, 2002). Research indicates that all interactions with a Deaf person should be filmed so to capture the Deaf person's communication and demonstrate the quality and nature of the interview and interpretation (Vernon, et al., 2001). Also PACE guidelines only provide details of the regulations such as employing a qualified registered interpreter. PACE neglects to provide procedural information. As a result, officers are not guided effectively in working with interpreters prior to, during and after the interview (Vernon, et al., 1996). PACE guidelines also neglect to provide procedural information regarding the content of the interview for the general population (Choongh, 2002) and people with disabilities (Greenberg, 1993). Therefore PACE neglects to provide information regarding Deaf peoples' tendency to demonstrate vulnerable behaviours associated with psychological factors and the effects of such factors during the interview process (Vernon, et al., 2001). As PACE guidelines give limited guidance on the police process with Deaf people and pass much responsibility to the custody officer; the police should be sufficiently trained in interviewing Deaf people.

3.2.3 Deaf People in Court Proceedings

There has been little research investigating the experience of Deaf people in court, however some research has focused on the interpreter's role and communication in court proceedings.

Sign language is expressive and relies heavily on facial expressions to convey information. Energetic signing in the witness stand may make people appear excited or aggressive to those unaware of the nature of the language (Du Feu & Fergusson, 2003; Kitson & Thacker, 2000). Psychological factors also place Deaf people at a disadvantage in court. During the court proceedings, direct questions to the Deaf individual can result in responses being demonstrative of acquiescence, compliance and suggestibility. Such responses mislead the court without their knowledge and incorrectly influence the courts' decisions. In addition, court proceedings are influenced by the Deaf individual's vulnerable responses during the police interview. The presence of acquiescent, compliant and suggestible behaviours during the police interview can result in Deaf defendants' cases being sent to trial due to the belief that the Deaf individual is aware of their rights when they are unaware of both their rights and the process (Vernon, et al., 2001). In the past, such vulnerability has caused Deaf defendants to be judged unfit to plead and resulted in inappropriate hospital detention (O'Rourke & Grewer, 2005).

3.2.4 Interpreting in Court

Deaf people who demonstrate minimal language skills tend to use rudimentary vocabulary and individualised gestures. Their responses in court are demonstrative of a number of factors including minimal language skills, social deprivation, emotional reactivity and attempts to respond appropriately to the situation or the fragments of communication that they understand (Miller & Vernon, 2002). Sign language interpretations for Deaf people with minimal language skills rarely convey the equivalent of what the court is saying due to the complexity of the language. In addition, some interpreters are unable to sufficiently communicate or understand a Deaf person with minimal language skills. Whilst the court observes such communication difficulties, the court lacks understanding of the language and

interactions between the Deaf individual and interpreter and, therefore, remains unaware of such problems and reaches decisions based on this miscommunication (Vernon, et al., 1999). However, even when Deaf relay interpreters are employed, a void between what is being said and the Deaf person's understanding can remain (O'Rourke & Reed, 2007).

Due to the court's lack of sign language skill, as well as the issues of interpreting complex legal language, the courts rely on the interpreter to access the Deaf individual's dialogue. These interpretations are the interpreter's rendition of the communication, are therefore subjective and ambiguous, and might not reflect the Deaf person's dialogue reliably (Brennan & Brown, 1997).

In order for vulnerabilities of Deaf people in court to be reduced and interpretation to be monitored effectively it is necessary that professionals gain an understanding of the relationship between sign language and English (Brennan & Brown, 1997), and gain knowledge of Deafness, Deaf culture and the Deaf community (Du Feu & Fergusson, 2003), so that the professionals can understand the changes in language during the court processes, which are crucial in achieving a Deaf person's understanding (Brennan & Brown, 1997). In addition, such knowledge and skill will ensure that court decisions are based on fact rather than issues with communication.

3.2.5 The Disability Discrimination Act (2005)

Under the Disability Discrimination Act (DDA) (1995, amended 2005), public services must accommodate the needs of disabled people. Amendments to the DDA ensured that the prison service clearly fell under the Act's requirements. Under the Act, the Prison Service is required to promote equality and equal opportunity for inmates with disabilities and eliminate

negative attitudes of harassment. Requirements for equal opportunities for disabled inmates include, but are not limited to: equal opportunity to address offending behaviours and educational needs; a safe and secure environment; communication with the outside world and adaptations to be made to enable Deaf prisoners to use telephones; and BSL interpreters to be used to convey specific information. Governors are advised to make reasonable adjustments for disabled inmates and are warned that if such reasonable adjustments are not made they are vulnerable to a legal challenge (HM Prison Service, 2008).

3.2.6 Equal Opportunities for Deaf Inmates

The prison system lacks the skill, expertise and awareness required to provide equality for Deaf prison inmates (O'Rourke & Reed, 2007) and therefore is unable to meet their basic needs, causing them to serve a 'double sentence' (Gibbs & Ackerman, 1999; Kent, 1998; O'Rourke & Reed, 2007; Miller, 2001). Deaf inmates who are unable to communicate with their hearing counterparts and prison staff suffer severe deprivation, which places them at significant risk. Deprivation in communication is associated with Deaf inmates suffering social isolation (Schneider & Sales, 2004; Vernon & Miller, 2005), sexual and/or physical assaults (Ezekiel, 1994; Schneider & Sales, 2006). Isolation is augmented as Deaf inmates lack access to resources, which facilitate communication with the outside world and which reduce boredom and loneliness (Schneider & Sales, 2006).

Offender treatment programmes are not accessible to Deaf inmates because of a lack of interpreters (Fiskin, 1994; O'Rourke & Reed, 2007; Schneider & Sales, 2006). Consequently, Deaf inmates are less able to demonstrate change to parole boards and can serve longer prison sentences. Without the required offence treatment programmes, it is probable that Deaf inmate's risk of re-offending upon release remains, causing an increased likelihood of re-offending in the future (O'Rourke & Reed, 2007). By failure to provide accessible treatment

programmes to Deaf inmates, the prison service neglects rehabilitation opportunities and places society at risk.

3.2.7 The Deaf Prison Population and Mental Health Problems

Research based on Deaf violent offenders indicated mental health diagnosis is double that which the general prison population self-reported (Miller, Vernon & Capella, 2005). Severe deprivation in communication and isolation experienced by Deaf inmates may cause them to be more vulnerable to experiencing mental health problems (Fiskin, 1994; O'Rourke & Reed, 2007; Young, et al., 2000). However, no reliable evidence to support this hypothesis exists (Young, et al., 2000). Concerns remain that upon entering the CJS, Deaf people are at risk of suffering mental health problems, which fail to be diagnosed (Brennan & Brown, 1997).

Prison doctors tend to lack Deaf awareness and sufficient communication skills to assess and diagnose Deaf prisoners. This leads to inaccurate conclusions in which a diagnosis fails to be established and/or misdiagnosis occurs. Only when diagnosis is carried out by Deaf aware professionals can the reliability and validity of the diagnosis be determined (Hindley & Kroll, 1998; O'Rourke & Reed, 2007).

3.3 Aims and Objectives

This research attempted to explore previous research questions regarding Deaf people's vulnerabilities in the CJS. It also attempted to investigate the effectiveness and use of the policies implemented to protect Deaf people involved in the CJS.

The research explored whether; professionals working in the system have proficient sign language skills or Deaf awareness training; police are aware of PACE guidelines with regard

to Deaf people; police interviews with Deaf people are consistently visually recorded; and BSL interpreters are always to be present during police interviews.

In relation to Deaf people and court proceedings, the research explored whether there would be any difference between the frequencies with which the courts used BSL interpreters and relay interpreters. The research also hypothesised that communication difficulties would be prevalent and affect the courts' ability to monitor the interpretation.

Due to the DDA requirements encompassing the prison service for the previous five years, the research explored whether Deaf inmates have equal opportunities to address their offending behaviour, to attend educational and training programmes and have access to other necessary resources. A lack of equal opportunities within all aspects of prison life is expected to be perceived to negatively influence Deaf people's experiences in prison.

3.4 Method

3.4.1 Sample

The Professional and Interpreter Questionnaires were issued by post to Specialist Deaf Services in England, including Mental Health Hospitals and Rehabilitative Services. The Interpreter Questionnaire was also posted to two interpreting services. Professional and Interpreter Questionnaires were delivered by email or by hand to individuals who had expressed interest in the study prior to and during recruitment. A deadline for responses was provided but then extended due to a low response rate. Those who had expressed interest and services which had received questionnaires, were reminded of the deadline in an attempt to gain a larger sample size. After the second deadline, the data were prepared for analysis.

The Police Questionnaires were sent to the Cheshire Constabulary Research Department, which agreed to incorporate the full questionnaires into their Deaf Awareness survey. A deadline was provided and the Cheshire Constabulary forwarded their survey findings, which incorporated only some of the questions developed for the Department of Health-funded study. Therefore, the researcher did not have access to the raw data and could not confirm the accuracy of the findings or analyse them accordingly.

Out of the 50 'Professional' questionnaires that were issued 13 (26%) responses were received from participants described as 'Professionals' who had experience of working with Deaf people involved in the Criminal Justice System. Due to incomplete questionnaire responses, three participants (23.1%) were eliminated from the data analysis. The professional sample consisted of: 1 Clinical Psychologist; 2 Consultant Forensic Psychiatrists; 1 Social Worker; 1 Criminal Solicitor; 1 Registered Intermediary; and 2 'Other'. The mean number of years experience working with Deaf people was 14 and ranged from 1-29 years.

Out of 60 'Interpreter' questionnaires issued, 19 (31.7%) responses were received from qualified British Sign Language Interpreters who had experience of interpreting for Deaf people involved in the Criminal Justice System. Due to incomplete questionnaire responses, one participant (5.3%) was eliminated from the data analysis. The mean number of years that the Interpreter sample had been qualified was eight and ranged from 1 – 24 years.

The research also used a police sample derived from The Cheshire Constabulary and Police Officers Deaf Awareness Survey. Out of 2163 surveys, issued 402 (15%) responses were received and included in the Cheshire Constabulary Survey. The number of years that the

police sample had worked for the Cheshire Constabulary ranged from less than 2 years to 16 plus years. The majority of the sample 231 (56%) had more than six years of service experience within the Cheshire Constabulary.

3.4.2 Ethics

Ethical approval to conduct this research was granted by the Ethics and Research Committee of The University of Birmingham upon completion of the University Ethical Review of Research Self Assessment Form. In addition, the National Research Ethics Service indicated that the larger Department of Health study did not meet the criteria for a comprehensive ethical review.

Informed consent was gained from all participants involved in the study. Consent forms were attached to all interpreter and professional questionnaires issued by post, email or in person and returned with the completed questionnaires. Police participants were made aware that the Cheshire Constabulary and Police Officers Deaf Awareness Survey incorporated the research items. Police participant consent was gained for the Cheshire Constabulary and Police Officers Deaf Awareness Survey and the research separately. The completed research consent forms were returned by the Cheshire Constabulary Police Research Department who reported that all of the police participants had provided informed consent for both the research and the Cheshire Constabulary and Police Officers Deaf Awareness Survey.

Participant information was made anonymous using codes. These codes were issued to the interpreter and professional participants by the researcher. Codes were issued to the police by the Cheshire Constabulary Police Research Department. All of the participants were informed that they could withdraw at any time during the study by contacting the researcher and stating their code. Contact details of the researcher were provided to all participants. In addition,

qualitative data was made anonymous by the removal of specific information to maintain confidentiality.

3.4.3 Measures

The measures used for this study were taken from a larger Department of Health funded study on Deaf people in the Criminal Justice System. Participants were required to complete the questionnaires developed for the Department of Health's funded study, which examined Deaf people's experience in the Criminal Justice System from the perspective of the professionals and interpreters working with them. Employing such samples enables the study to investigate the experiences of Deaf people, including those who do not have the capacity to consent. Appendix 7 and 8 illustrate the Department of Health's Professional and Interpreter questionnaires used to investigate Deaf people in the Criminal Justice System. Appendix 9 illustrates the Department of Health's Police questionnaire, which was incorporated into the Cheshire Constabulary and Police Officers Deaf Awareness Survey; therefore, the Department of Health's Police questionnaire was not delivered in its entirety.

3.4.4 Recruitment for Deaf Participants

In an attempt to recruit Deaf persons who had experience of the CJS procedures the Department of Health's research was advertised in a number of ways, articles about the research were published in the British Deaf News Magazine and a regional Deaf Club magazine. Posters and leaflets were designed and advertised at local Deaf Clubs and sent to all services, which received the questionnaires. In addition, a Deaf Theatre Company producing a play demonstrating Deaf people's experience in prison was contacted. However, no response from the Department of Health study had been received at the time when the

present data analysis was conducted. This resulted in the Deaf people's sample not being included in the present study.

3.4.5 Development of Codebooks

Content analysis was employed in the present study in an attempt to objectively analyse the research findings using the developed codes, themes and appropriate statistical analysis.

Content analysis enables themes and codes to be presented in their qualitative form and therefore extends the information gained from the analysis.

The coding scheme included a codebook, which included the code name, code definition and rules for coding. A code form was also developed which included the code name, the designated quantitative code and qualitative information regarding the code. Separate codebooks and code forms were developed for the Professional and Interpreter sample group. A screening assessment was also developed to ensure that coders completed the correct coding form and relevant codebook when coding either the professional or the interpreter sample. The codebooks and code forms are illustrated in Appendix 10 for the professional sample and Appendix 11 for the interpreter sample. These codebooks were originally developed for the Department of Health research and utilised for the present study.

A well-defined coding scheme is suggested to be the basis of high inter-coder agreement (Schnieder, Wheelen, Cox, 1992). The coding scheme was generated using a mixed deductive and inductive approach. Codes were derived theoretically, accounting for the research question of the study and established knowledge of Deaf people in the Criminal Justice System. Themes were also identified from the completed questionnaires, which provided a basis for generating new codes or modification of codes. An initial version of the coding

scheme for both sample groups was explored and established that a number of codes were incomprehensible and unreliable. A second coding scheme was developed in which fewer codes existed and training was delivered to the second coder. A discussion with the second coder regarding the code's definitions and examples resulted in further modifications to the coding scheme and a common understanding of the codes.

The researcher and the second coder conducted a pilot coding exercise on 25% of both sample group findings. The coding decisions were compared, discrepancies were discussed and resulted in the development of the final coding scheme. The researcher coded all of the data, 50% of the Professional sample and Interpreter sample were randomly selected and coded by the second coder in order to establish inter-coder reliability.

3.4.6 Inter Coding Reliability

Due to the codes in this study being mutually exclusive Cohen's (1960) Kappa was employed to establish inter-coder reliability. Cohen's Kappa for the interpreter sample was 0.79 and 0.81 for the professional sample. Codes shared between the two sample groups were combined and overall inter-coder reliability was 0.80. In conclusion, the inter-coder reliability for the present study was high.

3.4.7 Statistical Analysis

The analysis of the data was both quantitative and qualitative. The qualitative data was coded using the codes applied in the relevant codebooks and entered into SPSS. For example, where the frequency of events was investigated, the following codes were entered into SPSS: 1= Never; 2= Occasionally; 3= Usually; 4= Always. Where data was ordinal and the samples were sufficient in size, non-parametric Kendall's Tau tests were conducted to identify the

significance of the associations within the findings and exact non-parametric Wilcoxon sign rank tests and a Friedman’s ANOVA were conducted to determine the significance of the findings. All data analysis was conducted using SPSS 16.0.

3.5 Results

3.5.1 Sign Language and Deaf Awareness Training

Table 5 shows the British Sign Language (BSL) ability of the professional sample ranged from no sign language to Level Four (Required for BSL Interpreter qualifications) and included one BSL native speaker. The mean BSL ability was Level One. As the number of years working with Deaf people increased, so the level of BSL increased ($\tau(7) = 0.57$, $p < 0.05$). Among police participants only 75 (18.7%) had received Deaf Awareness training, of which 32 (42.7%) had completed a BSL or visual language course, no further information was available. However, 196 (61%) of the police sample indicated that they would benefit from such training.

Table 5. Participant’s Years of Experience and British Sign Language Skill and Deaf Awareness

	Professional Sample	Interpreter Sample	Police Sample
Years Experience	(n = 10)	(n = 18)	(n = 402)
Mean	14	8	-
Range	1- 29	1-24	1-16
BSL Level	(n = 9)	-	-
Mean	1		
Range	0-4		
Mode	0		
Deaf Awareness Training	-	-	(n = 402)
Yes			75 (18.7%)
No			323 (81.3%)

3.5.2 Police Monitoring Process and Ability to Cope

Six (60%) of the professional, 17 (94.4%) of the interpreter and 42 (10.6%) of the police participants had been involved in one or more police interviews involving a Deaf person. Table 6 illustrates that the perceptions of the interpreters and the professionals with police experience appear to indicate similar themes. The fluctuating sample size presented in Table 6 is the result of the data being extracted from a free narrative. Table 7 provides further qualitative examples of these themes.

The majority of the professional sample (4 or 66.7%) and interpreter sample (15 or 88.2 %) perceived the police officers' ability to monitor Deaf people's level of understanding and communication as poor. One professional suggested that, "the police do not specifically monitor the understanding of the Deaf interviewee" whilst an interpreter indicated that, "it seems very difficult for police to monitor and understand a Deaf person's level of understanding". In addition, 15 (88.2%) of the interpreters reported their perceptions of the police officers' ability to cope when issues of communication and understanding arose, of which the majority (9 or 53%) perceived such abilities as poor. In particular the police were perceived to "think that because they were able to arrest a Deaf person and get them [Deaf person] in the police car, they [the police] could communicate with them [Deaf person] but often when I [the interpreter] arrive at the police station the Deaf person does not fully understand why they are there". As the "Deaf person has normally been waiting for a number of hours, communicating via pen and paper and not always understanding the process" the police "don't always understand the communication issues". In addition, the police's lack of ability to cope was suggested to lead "sometimes to someone's Deafness being seen above their crime and case being dropped".

Due to the difficulties that the police were perceived to encounter in monitoring and coping with issues of communication and understanding 14 (82.4%) interpreters felt that the police viewed interpreters as ‘experts’ responsible for monitoring the understanding of the Deaf person during the interview process. As “there is a [police] perception that the provision of an interpreter will solve any issues.” “Interpreters are frequently seen as the ‘experts’ and the police rely on us to ensure that understanding is happening...which is a big responsibility”.

Six of the interpreters (54.5%) indicated that police’s readiness to follow guidance was good or variable amongst officers and/or constabularies and “dependent upon the police officer’s experience, attitude and knowledge. Some officers have been exceptional” and “willing to adapt to accommodate interpreting needs and seem to have accepted advice e.g. reading abilities of Deaf people for whom English is a second language,” whilst “others have left a lot to be desired.” However, the professional sample found a poor or variable reception when providing guidance, as the police were perceived to be “very critical of [the professional] for criticizing their approach.”

Table 6. Frequencies of Themes Found in the Professional and Interpreter Samples’ Experience of the Police Process

	Professional Sample	Interpreter Sample
Police ability to monitor	(n = 6)	(n = 17)
Good	0%	0%
variable	16.7%	11.8%
Poor	83.3%	88.2%
Police Receptivity	(n = 2)	(n = 11)
Good	0%	45.5%
Variable	50%	9.1 %
Poor	50%	45.5%
Police Deaf Aware	(n = 4)	(n = 17)
Good	0%	0%
variable	25%	23.5%
Poor	75%	76.5%

Table 7. Examples of Statements Demonstrating Police Awareness and Ability

Theme	Participant Statement or Examples
<p>Police Ability to Monitor</p>	<p>“The police do not specifically monitor the understanding of the interviewee” “It seems very difficult for police to monitor and understand a vulnerable Deaf person with limited BSL/life knowledge level of understanding “Their monitoring of understanding is via the interpreted renditions.” “Deaf person was nodding, not in agreement but an equivalent in the hearing world would be, uhuh, I’m getting what you are saying ...the police thought the Deaf person was agreeing with everything”</p>
<p>Police Ability to Cope</p>	<p>“Deaf person has normally been waiting for a number of hours, communicating via pen and paper and not always understanding the process.” “Asked him to sign the statement which he clearly could not read.” “Initial interview used a young child to interpret for the two Deaf parents.” “Many claim that the Deaf person ‘can understand when they want to’-Use of police jargon to lead to misunderstanding” “Someone’s Deafness can be seen above their crime and leniency or cases are dropped.”</p>
<p>Police Receptivity</p>	<p>“Depends on the individual police officer’s level of experience in working with interpreters, there is a large variation in awareness of how to work with interpreters under PACE.” “Police were very critical of me for criticizing their approach” “Often the officer accepts their lack of knowledge and resolves to take further training!!!”</p>
<p>Police Deaf Awareness</p>	<p>“Usually minimal (unless input is given beforehand as I mentioned) it increases when we discreetly assist them.” “Variable, but surprisingly better than most professions. The new police officers in our area have Deaf awareness incorporated into their training” “When Deaf people are handcuffed, it is the equivalent of gagging a hearing person and the police don’t seem to understand this. Of course, there may be times when this is absolutely necessary for the safety of all concerned but they need to incorporate Deaf awareness in police training”</p>
<p>Police Expert Interpreter</p>	<p>“We are seen as the ‘experts’ and the police rely on us to ensure that understanding is happening...which is a big responsibility!” “There is the perception that the provision of an interpreter should solve any and all of these issues.”</p>
<p>Police Interpreter Characteristic</p>	<p>“The quality of interpreter has a direct impact re issues” “Not being intimidated by officers in a rush or wanting to do things their way without understanding the issues” “Some interpreters are confident enough to insist on a Deaf relay interpreter” “Interpreter must be aware of their role and not intimidated by the police’s perceived power.”</p>

3.5.3 Police Use of Interpreters

Table 8 shows the frequency and percentages with which the police sample reported providing preparation time to interpreters compared to the frequency that the interpreter sample were provided preparation/debrief time by the police they worked with. Only one (16.7%) professional had ‘never’ experienced the presence of a BSL interpreter during a police interview with a Deaf person stating; “because I was able to sign (not a Sign Language Interpreter- SLI) the police would use my skills- they said they were unable to access a SLI with short notice”. The majority of the police sample (23 or 54.8%) claimed ‘always’ to provide access to a BSL interpreter, compared to eight (19%) who had ‘never’ accessed a BSL interpreter.

Amongst the interpreter sample seven (41.2%) were ‘usually’ provided with the opportunity to discuss any communication/understanding issues with the police before/after the interview. Out of the 402 police participants, 49 (12.2%) responded to this question, 33 (67.3%) of the police sample would ‘always’ provide time for preparation and debrief, whilst, 10 (23.8%) police officers would ‘never’ provide preparation/debrief time to interpreters. The rest of the police sample (n= 353) did not respond stating that they had never interviewed a Deaf person in custody.

Table 8. Demonstrates the Frequencies of Preparation/Debrief Time between Interpreters and Police

	Interpreter Sample	Police Sample
	(n = 17)	(n = 49)
Always	6 (35.3%)	33 (67.3%)
Usually	7 (41.2%)	2 (4.1%)
Occasionally	4 (23.5%)	4 (8.2%)
Never	-	10 (20.4%)

As the frequency of preparation and/or debrief time between the police and interpreters increased, the interpreters perceived an increase in the police's openness to interpreter guidance when issues of communication and understanding arose ($\tau(9) = 0.58, p < 0.05$). "With preparation, police officers demonstrate a greater patience and openness to ask questions that help the situation". In addition the police's Deaf awareness ($\tau(15) = 0.44, p < 0.5$) was also perceived to increase as the preparation and/or debrief time between the police and interpreters increased. As interpreters tended to, "provide basic deaf awareness during preparation time e.g. time lag, delay in response and explain that a question needs to be rephrased so as not to lead the Deaf person." However, one interpreter stated their concern of providing Deaf awareness to the police and stated that due to a "lack of training the police officers relied on the interpreter to educate them. This can damage the interpreter's impartiality and make the interpreter part of the investigative team".

3.5.4 Interview Recording Procedure

Table 9 shows the frequency and percentage of interpreters who had experienced suspects and non-suspects interviews being visually and audibly recorded. The fluctuating sample size is a result of the data being extracted from free narrative. Only one (5.8%) of the interpreters had 'always' been involved in a visually recorded police interview with a Deaf suspect "after a discussion between the police officer and the interpreter" and only three (17.7%) interpreters had 'always' been involved in a visually recorded police interview with a Deaf non-suspect. One interpreter stated: "I always ensure there is a video recording done even if they have to dig out a portable camcorder." The mean times a suspect was visually recorded was 2.35 ('occasionally'); the mean times a non-suspect was visually recorded was slightly higher 2.47 but remained 'occasionally'. A Wilcoxon signed-rank test was carried out on the coded data and found no significant difference between the number of times a suspect's and

non-suspect's interview was visually recorded ($z = 0.816$, $p > 0.05$). However, the frequency data indicates that deaf people's interviews were not consistently visually recorded (see Table 8). This was supported by 59 (14.9%) of the police participants stating that they would only use an audio recording when interviewing a Deaf person. Whilst 173 (43.8%) police participants stated that they would use both an audio and video recording and 92 (22.3%) would use only a video recording.

Interpreters' confidence of visually recorded interviews and audio only recorded interviews are also shown in Table 9. A Wilcoxon paired-rank test was carried out on the coded data for the 11 interpreter participants who made reference to their confidence in visual and audio recorded police interviews. Interpreters were significantly less confident in the accuracy of audio-recorded police interviews with Deaf people than filmed interviews ($z = 2.919$, $p < 0.01$, $r = -0.88$) as "the interpretation of an audio-recorded interview could not be checked, confirmed, repaired and/or challenged at a later date". "A video-recording is the only way a record can be retained which gives access to the BSL user's utterances in the same way an audio-tape gives access to a speaker using their own words. Therefore video-recording is the only way to keep a true record of what the BSL user said".

Table 9. Demonstrates Frequency and Percentage of Interpreter’s Experience¹ and Confidence² in the Police Interview Procedures

	Frequency	Percent	Mean
Interview Video Recording	(n=17)		
Suspect			
Always	1	5.9%	
Usually	6	35.3%	
Occasionally	8	47.1%	2.35
Never	2	11.8%	
Non- Suspect			
Always	3	17.6%	
Usually	4	23.5%	
Occasionally	8	47.1%	2.47
Never	2	11.8%	
Confidence in Audio	(n=13)		
Confident	0	0%	
Some Confidence	0	0%	
No Confidence	13	100%	1
Confidence in Visual Recording	(n=11)		
Confident	7	63.6 %	2.55
Some Confidence	3	27.3 %	
No Confidence	1	9.1%	
Confidence in BSL	(n=16)		
Confident	3	18.6%	
Some Confidence	12	75.1%	2
No Confidence	1	6.3%	

Another interpreter provided further insight into the problems experienced when a police interview with a Deaf person is not visually recorded by explaining, “I visited a victim with a police officer a few months after the original statement was taken. There was a lot of ambiguity in the written English translation of the audio tape. The victim was not able to recall exactly the signs they had used (directional verbs being the biggest problem) and could

¹ For the purposes of statistical analysis ‘never’ was coded as 1, ‘occasionally’ as 2, ‘usually’ as 3 and ‘always’ as 4.

² For the purposes of statistical analysis ‘ no confidence’ was coded as 1, ‘some confidence’ as 2, and ‘confident’ as 3.

not confirm the statement where the ambiguities arose. If we had had sight of a video recording of the interview this could have been clarified”.

Only three (18.6%) interpreters were confident in the accuracy of interviews using a BSL interpreter when the “Deaf person is fluent in BSL and an appropriate registered and trained interpreter who is aware of their role and not intimidated by the Police perceived power is employed”. However, the majority (12 or 75.1%) of interpreters had only ‘some’ confidence in the accuracy of a police interview using a BSL interpreter. Such confidence appeared to be, “dependent on the interpreter’s level of skill and experience, their ability to identify when they are not meeting the communication needs of the Deaf person and bring in the skills of a Deaf relay interpreter or an intermediary”.

3.5.5 Interpreter Characteristics and the Police

Out of the interpreter police sample, 12 (70.6%) referred to the interpreter’s confidence and assertiveness in assuring that the Deaf person’s communication needs were met. One interpreter stated that the police’s Deaf awareness is “dependent on how assertive the interpreter is” and another stated that interpreters are required to have “confidence so not to be intimidated by officers”. In addition, interpreters indicated that the use of Deaf relays and intermediaries was as a result of interpreters being “confident enough to insist on a Deaf relay interpreter or intermediary, which means postponing the interview”. Whilst another interpreter raised their concerns of such responsibility stating that “there are a number of interpreters who do not know about the role of intermediaries and a number who are very reluctant to suggest the use of a relay interpreter when necessary, as they perceive this almost as a personal failure”.

3.5.6 Police Deaf Awareness

The majority, (13 or 76.5%) of interpreters and three professionals (75%) perceived the police to lack Deaf awareness as “they just don’t understand the cultural stuff” when interacting with a Deaf person. Further insight into such perceptions was provided by one interpreter who reported that police officers continue to say, “oh, I’ve never met a Deaf and dumb person before”. In addition, one interpreter reported that the police “were not using sign language interpreters and relying on family members including young children” and two interpreters indicated that Deaf peoples’ hands continue to be placed behind their backs upon arrest, which caused “frustration as it is the equivalent of gagging a hearing person and the police don’t seem to understand this”. One interpreter stated that one client they had interpreted for was arrested with their hands behind their back “and was trying to get the police officers attention, the only way they could do this was to pinch him [the police officer], as a result they were charged with assault”.

The lack of Deaf awareness perceived by the professional and interpreter sample are supported by the police findings. Table 10 illustrates some of the Police findings, the fluctuating sample size is the result of missing data. Of those who were unaware of PACE guidelines, the majority 169 (59%) were currently or had been in a custodial role. In relation to the arrest of a Deaf person, 152 (38.4%) of the police participants would use the same procedures when arresting a Deaf person as they would use with a hearing person, whilst 89 (22.5%) did not know what they would do. However, 155 (39.1%) police respondents reported that they would implement different strategies when arresting a Deaf person. Strategies they felt suitable included: the use of written information; use a family member or friend to interpret; creating an optimum environment for lip reading; and helping the Deaf person to understand the situation.

Table 10. Demonstrates the Police Awareness of PACE Guidelines using Percentages taken from the Cheshire Constabulary and ‘Police Officers Deaf Awareness Survey’

	Percentage
When arresting a Deaf person, would you use the same Procedure as you would with a hearing person?	(n = 396)
Yes	38.4%
No	39.1%
Don’t know	22.5%
Are you aware of the PACE guidelines relating to the treatment of a Deaf person whilst they are detained in custody?	(n = 400)
Yes	28.2%
No	71.8%
If you had to interview a Deaf person, would you always call for an appropriate adult?	(n = 301)
Yes, all instances	45.5%
Yes (if detainee is vulnerable)	35.5%
Don’t Know	19.0%
What method would you use to record an interview with a Deaf person who is using an interpreter?	(n = 395)
Using audiotape	14.9%
Using videotape	23.3%
Both of the previous	43.8%
Don’t know	18.0%

The entire sample indicated that they would interview a Deaf person when an interpreter was not present under one or more circumstances. Participants were required to select responses that applied to them, therefore the findings reflect the respondents’ multiple choices (480) and not the total sample, consequently they are not presented as percentages. The circumstances under which police reported that they would interview a Deaf person in the absence of an interpreter included: when a hearing parent or guardian was present (193); when written consent was gained (133); when a Deaf or poor speaking/hearing ability parent or guardian was present and written consent was gained (93); at the request of the detainee (19); and when they could not access an interpreter (42). In addition, only 137 (45.5%) of the

police participants stated that they would employ an appropriate adult in all interviews with a Deaf person.

3.5.7 Police Resources

The majority of the interpreter sample (9 or 52.9%) made reference to the police's resources; all felt that the resources available were insufficient in ensuring that the needs of Deaf people were met during the police process. In general, the interpreter resources were perceived to be insufficient as "Deaf relay interpreters and intermediaries should be employed by the police rather than relying upon the confidence/competence of the interpreter to identify their requirement". In addition, the employment of an "independent advocate who uses BSL" to work alongside an interpreter during a police interview was suggested to be "the best way to resolve communication issues as the advocate's role is to intervene on behalf of the BSL user".

In relation to the resources regarding visual recordings of police interviews one interpreter stated that "for suspects the situation is worse as PACE does not give the explicit direction for videoed interviews with them and police are reluctant to use the video suites. For the suspect to be interviewed PACE needs to be more explicit. The overall quality of the video suites is a nightmare all over the country. Just having a camera you can adjust and zoom with enough space to fit two people on clearly at an angle that is viewable is such an ask in this day and age it is not funny". Further, in relation to PACE one interpreter commented that they were "concerned that the custody sergeant makes the decision as to whether an appropriate adult is required. I have never found this a problem if I highlight this may be needed, but that is not my role".

3.5.8 Court Use of Interpreters

Table 11 illustrates the use of interpreters, relays and intermediaries at court; the fluctuating sample size is the result of missing data. The majority of the interpreter sample had interpreted in court (16 or 88.9%) and nine (90%) of the professional sample had experienced at least one court proceeding involving a Deaf person, all of whom had experienced the employment of an interpreter in all of the court proceedings. One professional had experienced the presence of a Deaf relay and/or an intermediary during all court proceedings involving Deaf people. However, two of the professional sample reported that a Deaf relay had 'never' been present and three reported that an intermediary had 'never' been present during the court proceedings involving a Deaf person.

An exact Friedman's ANOVA revealed that there was a significant difference between the number of times that the professional sample had experienced the employment of interpreters, Deaf relays and intermediaries during court proceedings involving a Deaf person ($X^2(2) = 11.86, p < 0.01$). Post hoc tests with a Bonferroni correction were applied. There was no significant difference between the number of times that a Deaf relay and an intermediary were employed in court procedures involving a Deaf person ($z = 1.265, p > 0.05$). However interpreters were employed significantly more frequently than both Deaf relays ($z = 2.549, p < 0.01, r = 0.85$) and intermediaries ($z = 2.392, p < 0.01, r = 0.80$) in court proceedings involving Deaf people.

Table 11. Demonstrates the Frequency³ that the Courts Employed Interpreters, Deaf Relays and Intermediaries in Court Proceedings involving Deaf People.

	Professional Sample	Percentage	Mean
Court Interpreter Presence :	(n = 9)		
Always	9	100%	4
Court Deaf Relay Presence:	(n = 9)		
Always	1	11.1%	2.50
Usually	3	33.3%	
Occasionally	3	33.3%	
Never	2	22.2%	
Court Intermediary Presence:	(n = 8)		
Always	1	12.5%	2.12
Usually	2	25%	
Occasionally	2	25%	
Never	3	37.5%	

The majority (15 or 93.8%) of the interpreters who interpreted in court preferred preparation with the Deaf person/solicitor/court staff before the hearing. This information was missing for the other 6.2% of the interpreter sample. However, only three (18.8%) participants were ‘always’ provided with such preparation time. The majority (10 or 62.5%) experienced preparation ‘usually’. Preparation time was perceived to be “essential for the court officials to know what the interpreter’s needs are and how interpreters work” as well as “to sort out logistical issues and meet the Deaf person to see their language use and their understanding of why they are there. This helps the interpreter ascertain their [Deaf person’s] language use and conceptual knowledge”. In addition, interpreters felt that meeting with “the solicitors for information surrounding the case” to “clarify anything before the court hearing” was necessary prior to the court proceedings. As the frequency of such preparation meetings

³ For the purposes of statistical analysis ‘never’ was coded as 1, ‘occasionally’ as 2, ‘usually’ as 3 and ‘always’ as 4.

decreased, the presence of communication difficulties during a court procedure involving a Deaf person were perceived to increase ($\tau(14) = 0.58, p < 0.01$).

Table 12 illustrates that communication difficulties were perceived to be prevalent by both the professional and interpreter sample. One professional stated that they were “not convinced that the deaf defendant completely understood what was being said as some Deaf people have difficulty in following the interpreter”. Whilst another stated that “Deaf people are very disadvantaged and have to accept the pace of the court proceedings which are determined by the court attorneys”. Interpreters commonly reported that they felt that “often court interpreters will sign at the same speed and complexity as they would with the general deaf community” and the Deaf person is “not assertive enough to say when they do not understand the interpreter. Usually the Deaf person will just nod or say very little – which is particularly difficult to monitor. Therefore issues around communication and understanding, do not come to light”, as the majority of interpreters 11 (68.8%) reported that the court officials only ‘occasionally’ monitored them when they were interpreting.

3.5.9 Court Ability to Monitor and Ability to Cope

Table 12 illustrates the perceptions of the professionals and interpreter samples of the awareness of the court of the needs of the Deaf person. The fluctuating sample sizes are the result of the data being extracted from free narrative. Table 13 provides further qualitative examples of these themes.

Table 12. Courts' Awareness and Ability to Meet Deaf People's Needs

	Professional Sample	Interpreter Sample
Ability to Monitor	(n = 9)	(n = 15)
Good	0%	0%
Some	44.4%	6.7%
Poor	55.5%	93.3%
Court Ability to Cope	-	(n = 13)
Good		15.4%
Some		15.4%
Poor		69.2%
Communication Difficulties	(n = 6)	(n = 16)
Yes	100%	81.2%
No	0%	18.8%
Court Attitude	(n = 5)	(n = 13)
Positive	80.0%	30.8%
Variable	0%	53.8%
Negative	20.0%	15.4%
Interpreter Characteristics	(n = 6)	(n = 8)
Yes	100%	100%
No	0%	0%
Court Deaf Aware	(n = 6)	-
Deaf aware	0%	
Some	33.3%	
None	66.6%	

The majority of the interpreter sample (14 or 93.3%) and professional sample (5 or 55.5%) perceived the courts' to lack the ability to monitor Deaf people's level of understanding and communication. The courts were believed to lack the ability to monitor communication and understanding as the court officials "are not language professionals or educational professionals. Their monitoring of understanding is via the interpreted renditions. They monitor the BSL users' understanding from the interpreted responses."

In addition, the majority of the interpreters (8 or 69.2%) perceived that the courts lacked the ability to cope when issues of communication and understanding arose. Insight into the

court's lack of ability was related to the prosecution team who were perceived as "attempting to use techniques of ambiguous questions and trying to intimidate the interpreter— this leaves the interpreter in a difficult situation where questioning the question is needed". Therefore, one interpreter stated that the ability of the courts to cope with issues of communication is "dependent on the interpreter; with good interpreters who are articulate and who understand the issues and how to deal with a court the [communication / understanding issues] are dealt with well, without this, things get muddy."

The findings also indicated that both samples had experienced the presence of communication difficulties during court proceedings and both samples felt that the interpreter's confidence and assertiveness were important in the court acknowledging such difficulties. "Interpreters need to be firm and confident to assert themselves at times when a prosecutor will try to tell the interpreter to 'just interpret the question'". The interpreter "makes the court aware and ensures that the point is understood. If [the interpreters] are at a stage that [they] are uncomfortable with the communication putting [their] hands up and explaining the need for another approach is paramount". In addition, 6 (66.7%) of the professional sample perceived the court's ability to cope with issues of communication was "dependent on the particular interpreter as some are more inclined than others to interrupt proceedings and ask for time to repeat and clarify."

The majority (7 or 58.4%) of the interpreters indicated that the courts' attitude was varied between court and court officials as "the court and the court ushers are very helpful and have a positive attitude. However, this is not always the situation. Crown court is the worst...they all think they are Gods...outdated, pompous and inflexible". "Prosecutors can be obstructive if an interpreter intervenes and asks them to clarify their question -this is sometimes

necessary to make a sensible/fair rendition.” Whilst the majority of the professionals (4 or 80%) perceived the court and its officials to demonstrate a positive attitude when encountering a Deaf individual, as the courts “tried very hard and were generally sympathetic to the needs of the interpreter and the extra time for interpreting was allowed”.

3.5.10 Court Deaf Awareness

Six professionals in their responses referred to the court’s Deaf awareness, of which four (66.6%) perceived the courts to lack Deaf awareness with one stating that the courts “tried hard to meet the Deaf person’s needs but were unable to due to lack of awareness”. Two (33.3%) perceived the courts to demonstrate some Deaf awareness.

Table 13. Examples of Statements Demonstrating the Courts' Awareness and Abilities

Theme	Participant Statement or Examples
Court Preparation Preferable	<p>“YES. For the Deaf person, so as I can see their language use and their understanding of why they are there. The solicitors for information surrounding the case. The court staff to sort out logistical issues.”</p>
Court Ability to Monitor	<p>“Not very well, their awareness, power and class prevents them caring enough to work out if the Deaf person understands”</p> <p>“Court has no idea how much is being ‘lost’ or whether person understands”</p> <p>“Head nods are often mistaken for evidence of understanding or confirmation.”</p> <p>“Courts are not aware of the effect that language deprivation and MLS can have on a Deaf person’s ability to understand the court procedures”</p>
Court Ability to Cope	<p>“I have found most courts amenable to necessary adjustments.”</p> <p>“Sometimes they try to simplify the procedure to ensure there is no confusion.”</p> <p>“The Deaf people were very disadvantaged and had to accept the pace of court”</p> <p>“Letting the Deaf person off- e.g. being lenient in sentencing/punishment because of their Deafness. This is not always a help to the Deaf person who consequently never accepts the real outcomes of their behaviour”</p>
Court Receptivity	<p>“The court and the court ushers were very helpful and had a positive attitude. This is not always the situation. Crown Court is the worst...they all think they are Gods.. outdated, pompous and inflexible.”</p> <p>“I have said to solicitors that they need to be more specific in their language use so that I can interpret accurately and they have responded to this as have the courts’</p> <p>“Prosecutors can be obstructive if an interpreter intervenes and asks them to clarify their question. The prosecutor may try to intimidate the interpreter”</p>
Court Communication Difficulties	<p>“A child signs putting a penis in their mouth, I would ensure the court were aware of her action but not give a name to the action as there were no lip patterns and by giving it a name could be an indication to the girl’s sexual knowledge in the eyes of the jury.”</p> <p>“Hit/ strike/weapon are always a challenge unless you are prepped and confident to ask before interpreting the meaning or exact intent of the question.”</p> <p>“The sign for rape looks like ‘ripping someone’s clothes’. I had a client who thought he was being charged for ripping someone’s clothes”</p>
Court Interpreter Characteristic	<p>“Interpreters need to be firm and confident to assert themselves at times when a prosecutor will try to tell the interpreter to ‘just interpret the question”.</p> <p>“You make them aware and ensure your point is understood. If you are at a stage that you are uncomfortable with the communication putting your hands up and explaining the need for another approach is paramount.”</p> <p>“A lot depends on the particular interpreter and some are more inclined than others to interrupt proceedings and ask for time to repeat and clarify.”</p>

3.5.11 Prison Visits' Experience

The professional sample had least experience of working with Deaf people in prison as only five (50%) of the professional sample had worked with Deaf prison inmates. However sixteen (88.9%) of the interpreter sample had worked with Deaf people in prison. Table 14 demonstrates that half of the interpreters who had interpreted in prison had not done so at the request of the prison but at the request of external agencies. One participant stated the reason that interpreters were less employed at the request of the prison was due to “the prison staff at all levels ignoring the fact that Deaf prisoners need communication”.

Table14. Demonstrates the Total Number of Situations in which Interpreters Worked in Prison.

Circumstances interpreters have worked in prison	Total
Under what circumstances have you worked in prisons?	
Request of Prison	8
Parole / Lifer Panels	4
Professional Visits	8
Mental Health Assessment	3
Other	3
Educational / Vocational Courses	0
Offender / Rehabilitative Programmes	0

3.5.12 Prison Attitude

Table 15 shows that the majority of the professional (3 or 60%) and seven (70%) of the interpreter sample perceived prison staff as having negative attitudes during interactions with Deaf inmates. Four (80%) of the professionals with prison experience provided further insight into the negative attitudes of the prison staff, indicating that three (75%) perceived the prison staff to be ignorant and hostile and the other individual perceived the prison staff as punitive. However two professionals (40%) and three (30%) interpreters viewed the attitudes of the prison staff to vary as “some [prison staff] were very concerned and others were [perceived to be] unaware of the communication difficulties and would either ignore the Deafness or be positively hostile to the Deaf person for making their life harder. Prison

officers would shout at Deaf people then challenge the Deaf person when they did not respond”.

3.5.13 Prison Resources

Table 15 indicates that both the professionals and interpreters perceived the resources of the prisons to be insufficient in meeting Deaf inmates’ needs and Table 16 illustrates further qualitative examples. Ten (62.5%) interpreters in the absence of direct questioning viewed the prison resources to be insufficient. Whilst four (80%) of the professionals indicated that Deaf inmates they had worked with did not have access to a minicom and three (60%) stated that Deaf inmates did not have access to subtitles on the communal televisions. However, the 40% of professionals who stated that Deaf prisoners had access to TV subtitles some of the time also stated they would be “turned off because the other prisoners did not use them”. In addition three (60%) of the professionals who had prison experience stated that they were aware of other inmates being used as in-house interpreters and one interpreter stated that they were asked to interpret “a Mental Health /Suicide risk assessment but a prison officer who was learning level one BSL was used” rather than the qualified interpreter due to cost.

Table 15. Frequencies and Comparisons of Themes Found in the Professional and Interpreter Samples Experiences of the Prison Service

	Professional Sample	Interpreter Sample
Prison Attitude	(n = 5)	(n = 10)
Good	0%	-
Satisfactory	40%	30%
Poor	60%	70%
Prison Deaf Awareness	(n = 5)	(n = 17)
Deaf Aware	0%	0%
Some Deaf awareness	0%	11.8%
Lack Deaf awareness	100%	88.2%
Double Sentence	(n = 5)	(n = 8)
Yes	0%	0%
No	100%	100%
Prison Resources		(n = 10)
Good		0%
Variable		0%
Poor		100%
Minicom Access	(n = 5)	
Yes	0%	
Sometimes	20%	
No	80%	
TV Subtitles Access	(n = 5)	
Yes	0%	
Sometimes	40%	
No	60%	
Rehabilitation Programmes	(n = 4)	(n = 6)
Yes	0%	0%
No	100%	100%
Interpreter Access		
Yes	0%	0%
No	100%	100%
Mental Health Problems	(n = 5)	(n = 4)
Yes	100%	100%
No	0%	0%

¹ The fluctuating sample size in Table 15 is the result of the data being extracted from free narrative.

Table 16. Examples of Statements Demonstrating the Prison Awareness and Ability

Theme	Participant Statement or Examples
<p>Prison Attitude</p>	<p>“The interaction of prison officers with the entire prison population varies from officer to officer.”</p> <p>“I frequently saw prison officers shout then challenge the Deaf person when they did not respond.”</p> <p>“Staff would either ignore the Deafness or be positively hostile to the Deaf person for making their life harder.”</p>
<p>Prison Resources</p>	<p>“I am appalled at the lack of interpreter provision during periods of imprisonment. It is an infringement of the individual’s rights, and seemingly a direct contravention of the DDA” -</p> <p>“They are disempowered, outside of the protections afforded by the DDA”</p> <p>“Some prison staff have very basic signing skills, but are used as in-house interpreters”- “A prison officer with BSL level 1 interpreted a Mental Health /Suicide risk assessment.”</p> <p>“The Deaf person did not understand any of the rules nor were their rights explained to them in sign language”</p>
<p>Rehabilitation Programme</p>	<p>“They are denied primarily because of the expense of booking an interpreter and also because it is felt the other prisoners would object to an outsider in the room.”</p> <p>“Shoddy service leading to little rehab and subsequent re-offending”</p> <p>“Cannot access any of the educational/interventional programmes”</p> <p>“Major difficulties for lifers not accessing interventions therefore not processing or being eligible for parole”</p>
<p>Mental Health Problem / Mental Health Treatment</p>	<p>“Mental health is significantly affected by the lack of communication in prison.”</p> <p>“Extreme isolation and no one who can communicate well enough to establish mental health issues”</p> <p>“There is a range of mental health issues but very little support was provided -No assessment or treatment”</p>
<p>Double Sentence</p>	<p>“They are not only in prison, but there is no/little communication/access to training, services. I have even heard of Deaf people being sent to different prisons on purpose as it was thought that if they were together they could plan an escape route as the staff would not be able to understand sign language”</p> <p>“Incredibly isolated and suffering from immense frustration due to the communication barriers”</p> <p>“Prime targets for harassment and discrimination”</p>
<p>Prison Deaf Awareness</p>	<p>“Extremely poor, wilfully ignorant, woefully inadequate”</p> <p>“Poor in general though there is usually one or two kind hearted/open to learn/Deaf aware officers around too.”</p> <p>“They assumed lip reading and writing notes were acceptable means of communication and seemed unaware of the clients level of English and the emotional implications of not being able to communicate in prison of having access to an interpreter”</p>

3.5.14 Rehabilitation

Table 15 indicates that Deaf inmates were unable to access education and/or vocational programmes and offender rehabilitation programmes during their prison sentence.

In relation to educational training the majority of the professional sample stated that Deaf inmates were denied access to such courses due to the lack of interpreter provision. While two professionals (40%) had worked with deaf inmates who were able to access some form of training, the training did not appear to reflect formal educational or vocational courses and both stated that interpreters were not provided. This resulted in one professional stating that they, themselves, were asked to support a Deaf inmate accessing training as well as the prison officers “who had come to know [the Deaf inmate] well and had learned some sign language from them.”

The total number of professionals who commented about Deaf inmates’ access to offender rehabilitation programmes stated that the Deaf inmates they had worked with were denied access to such programmes. Three of which (60%) stated the lack of access to such programmes was the result of a lack of interpreter provision. This resulted in professionals perceiving Deaf inmates as being “very disadvantaged” which caused “major difficulties for lifers, who without access to interventions were not eligible for parole”. This was supported by six (37.5%) of the interpreters, who made reference to Deaf inmate’s inability to access such programmes. One interpreter stated, “Deaf people are unable to access any form of rehabilitation, counselling, therapy, education”, while another said that Deaf inmates are provided with a “shoddy service which leads to little rehab’ and subsequent re-offending and/or reinforces [the Deaf individual’s] lack of respect for the Criminal Justice System”.

3.5.15 Communication Difficulties

The entire professional sample with prison experience stated that the prison staff's ability to communicate with a Deaf inmate without an interpreter was poor. One participant (20%) stated that due to the prison staff's lack of ability to communicate, Deaf inmates were unable to understand the prison process, routine and procedure. In addition, seven (43.5%) of the interpreters perceived the prison system to lack the ability to meet Deaf inmates' needs. This they related to communication difficulties, with one participant stating, "It appeared that they [prison officers] assumed that lip reading and writing notes were an acceptable means of communication and appeared unaware of the clients' level of English and the emotional implications of not being able to communicate or have access to an interpreter".

3.5.16 Double Sentence

Table 15 shows that all of the professionals and half of the interpreters with prison experience referred to Deaf inmates experiencing a double sentence of isolation and vulnerability. This was perceived by both samples to be related to a deprivation of communication, which was also perceived to have an effect on the mental and emotional states of the Deaf inmates they had worked with. Interpreters described Deaf inmates as "incredibly isolated and suffered from immense frustration due to the communication barriers" and were "often bullied because of their deafness" whilst the prison was described as being "unaware of the emotional implications of being unable to communicate in prison". The professionals provided further insight stating that Deaf inmates were "unable to have contact with friends or family" and were "unable to integrate safely within the prison population."

In addition, 60% of the professional sample stated that Deaf inmates had no contact with other Deaf inmates and were sometimes purposefully separated from them during their prison

sentence “so they don’t sign and plan an escape”. The other 40% stated that contact between Deaf inmates was rare.

3.5.17 Mental Health

Table 15 demonstrates that the entire professional sample with prison experience stated that they were aware of Deaf inmates suffering from mental health problems, which included depression, schizophrenia, personality disorder and learning disability. They also stated that Deaf inmates were denied access to mental health treatment and support as “no one [prison staff] was able to communicate well enough to realise there may be mental health issues”. The perceived prevalence of mental health problems was supported by the four interpreters who referred to the emotional and mental status of the Deaf inmates they had worked with. Insight into the possible reasons for the prevalence of mental health problems was provided by some of the interpreters who stated that “often Deaf people referred from prisons [to hospital] had had their mental health significantly affected by the lack of communication provided in prison”. Whilst the “emotional effects of being virtually language –deprived whilst being incarcerated, often without appropriate access to support may in fact exacerbate existing mental health problems”.

3.5.18 Prison Deaf Awareness

Table 15 indicates that the interpreter and professional samples as a whole viewed the prison system to lack Deaf awareness, based on their experiences of working with Deaf inmates. The entire prison professional sample and 14 (87.5%) of the prison interpreter sample, as well as one interpreter, who had not experienced prison but had worked with Deaf people who had previously served a prison sentence, perceived the prison system to lack Deaf awareness. The two interpreters who indicated that the prison had some Deaf awareness, indicated that this

view was based on “one or two kind- hearted, open to learn, Deaf aware officers”. However, the findings indicated that both the professionals and interpreters felt that “Deaf awareness was needed for both staff and other inmates”. However one interpreter felt that the “time needed to invest in this, both in the training and actual roll out of good practice was not forthcoming”.

3.5.19 Equality

Out of the total number of professionals, six (60%) referred to the quality of the Criminal Justice System for Deaf people. All believed the quality of the CJS for Deaf people to be poor in comparison to that provided for the general population. In addition, 17 (94.4%) of the interpreter sample specified that the CJS and those working within it were unable to meet the needs of Deaf people and that changes were necessary for Deaf people’s experience to improve. Such inequality experienced by Deaf individuals and the lack of resources provided was perceived by one professional to be related to funding “since the courts are relatively well funded and seen as important (politically and socially), they can afford to insist on having interpreters present. This is not true of police or prisons who are less well funded and will ‘make do’ without interpreters if possible”. In addition, 16 (88.9%) of the interpreters specified that, “the whole system is riddled with words/ concepts that do not translate that easily into BSL...even simple terms need considerable restructuring according to the client’s understanding”.

Eleven (61.1.%) of the interpreter sample specified that a Deaf aware CJS is necessary to improve Deaf individuals experience “to reduce the risk of miscarriages of justice” whilst one professional stated that “there needs to be a wide programme of information to the CJS

about the needs of the Deaf, alongside a political commitment to adequately fund services.” In addition, four (22.2%) interpreters specified that training for all sectors of the CJS regarding the role of the interpreter was necessary to improve Deaf people’s experience in the CJS. In addition, six (33.3%) of the interpreter sample specified that more interpreter training “on how to work with the police and court systems, including looking at translation issues, monitoring of self, colleagues, and assertiveness” was necessary to improve the Deaf person’s, experience of the CJS. Also, the majority of the interpreter sample (13 or 72.2%) specified that an improvement in translation resources, including an increase in the number of interpreters, relays, and intermediaries was essential.

Deaf people’s increased access to the CJS was also perceived to be important in improving Deaf people’s experience in the CJS. Three (16.7%) of the interpreter sample indicated that the Deaf community would benefit from an increase in knowledge and awareness of the CJS regarding the procedures, expectations and their rights.

3.6 Discussion

This research attempted to explore previous research questions regarding Deaf people’s vulnerabilities in the CJS and the effectiveness and use of the policies implemented to protect Deaf people involved in the CJS.

The research explored whether: professionals working in the system have proficient sign language skills or Deaf awareness training; police are aware of PACE guidelines with regard to Deaf people; police interviews with Deaf people are consistently visually recorded; and BSL interpreters are always present during police interviews.

In relation to Deaf people and court proceedings, the research explored whether there would be a difference between the frequency with which the Courts used BSL interpreters and relay interpreters. The research expected communication difficulties to be prevalent and affect the courts' ability to monitor the interpretation.

The research explored whether Deaf inmates have equal opportunities to address their offending behaviour and/or to attend educational and training programmes and have access to other necessary resources. A lack of equal opportunities within all aspects of prison life was expected to be perceived to negatively influence Deaf people's experience of prison.

3.6.1 The Findings

3.6.2 Sign Language and Deaf Awareness

The research revealed that professionals working in the CJS had limited sign language ability, but this increased as years working with Deaf people in the CJS increased. In addition, 81% of the police sample had not received any form of Deaf Awareness training but 61% felt their practice would benefit from such training.

3.6.3 Police Practices Under PACE

The lack of training was evident in the research findings as 71.8% of the police sample, including custody officers, were unaware of the PACE guidelines regarding Deaf people. Only 67.1% of the police stated that they would visually record an interview with a Deaf person. This was evidenced in the findings from the interpreters as only 5.8% of the interpreter sample had always been involved in a visually recorded police interview with a Deaf suspect, while only 17.4% of the interpreter sample had always been involved in a

visually recorded police interview with a Deaf non-suspect. Although there was no significant difference between the frequencies that Deaf suspects and non-suspects were interviewed, the results indicated that Deaf people's police interviews tended not to be visually recorded by the police.

The research indicated that the professional and interpreter sample perceived that the Police employed interpreters during the majority of interviews with a Deaf person. As 66.6% of the professional sample had been involved in one or more police interviews employing an interpreter and 94.4% of the interpreter sample had been employed during a police interview. However, the police sample provided contradicting evidence as 57% of the police sample stated that they would not employ an interpreter when interviewing a Deaf person and therefore would not be adhering to PACE.

The police provision of preparation and/or debrief time with the interpreters varied as 33.3% of interpreters were 'always' provided with preparation time compared to 41.2% who were 'usually' able to prepare and debrief the police. Preparation and debrief time was perceived to positively influence the police's ability to accept guidance from the interpreters and increase police officers' Deaf awareness.

In addition, the findings revealed that the interpreter's confidence in directing the police when issues of understanding and communication arose was perceived to be fulfilling the needs of the Deaf person and leading to the employment of Deaf relays and intermediaries.

3.6.4 Interpreters, Relays and Intermediaries

The research revealed that interpreters were employed significantly more frequently than Deaf relay interpreters and intermediaries during court proceedings. The entire professional sample had experienced the presence of an interpreter in all court proceedings with a Deaf person. However, 22.2% had never experienced the presence of a Deaf Relay and 37.5% had never experienced the presence of an intermediary during the court proceedings involving a Deaf person.

3.6.5 Court Proceedings and Language Difficulties

The research revealed a high prevalence of communication problems within court proceedings. However, the courts rarely monitored the communication between the Deaf person and the interpreter. The findings indicated that there was a perceived reduction of communication difficulties during court proceedings when the courts provided preparation time between the interpreters, Deaf person, solicitor and court staff before the court hearing. In addition, the role of the interpreter was perceived to be instrumental in making the court aware of such communication difficulties.

3.6.6 Access to Prison Resources

The results revealed that Deaf inmates were denied access to courses developed to reduce offending behaviour and educational programmes, due to a lack of interpreter provisions. In addition, Deaf inmates were unable to access sufficient resources such as a minicom, communal television subtitles and other Deaf inmates. The qualitative findings revealed that a lack of such resources, including offender and educational programmes, was perceived by the professional and interpreter samples to lead to Deaf inmates experiencing isolation.

3.6.7 Prison and Mental Health

The findings also revealed that Deaf inmates were vulnerable to mental health problems, which were not treated. Both the professional and interpreter sample perceived that Deaf inmates were vulnerable to mental health problems because of their experiences of isolation and vulnerability within the prison system.

3.7 Implications of Findings

3.7.1 Professionals Working in the Criminal Justice System

The sign language ability of the professionals currently working with Deaf people involved in the CJS is far below the abilities necessary to communicate effectively with Deaf people without the presence of an interpreter. Anecdotal research indicates that a lack of Deaf awareness and ability to communicate significantly affects the assessment and treatment process with Deaf people (Brennan & Brown, 1997; Du Feu & Fergusson, 2003; O'Rourke & Grewer, 2005). Assessments conducted with Deaf unaware clinicians and interpreters can lead to a significant amount of information being lost in translation without the knowledge of the clinician (Du Feu & Fergusson, 2003) and can result in the misdiagnosis of Deaf characteristics and vulnerabilities (O'Rourke & Grewer, 2005). Even when professionals are fluent in BSL, problems remain regarding the accessibility of some legal concepts and the errors that can occur in sign language interpretation (Brennan & Brown, 1997).

The professionals within the current study worked in roles that either were involved in the assessment and treatment process and/or were responsible for ensuring that the Deaf person's rights were protected. The current study indicates that professionals working with Deaf people in the CJS lack the ability to fulfil these roles, such aims, due to their lack of ability to communicate in sign language.

3.7.2 Implication for Police Practice

This research incorrectly expected that the police would be well versed in PACE guidelines regarding Deaf people and would be sufficiently trained in Deaf awareness.

This research provides support for Sheehan and Cohen's (1995) study, in demonstrating a lack of sufficient Deaf awareness training among police officers.

3.7.3 PACE Guidelines and Police Awareness

A lack of PACE awareness was evident in the police practices with Deaf people and appears indicative of custody officers' lack of PACE awareness. This research provides support for Vernon et al's. (2001) recommendation that all interactions and interviews with Deaf individuals should be visually recorded. Interpreters' confidence in the accuracy of police interviews involving a Deaf person significantly increased when police interviews were visually recorded because the quality and/or nature of the interview and interpretation could be demonstrated in court.

Although the research found that BSL interpreters were frequently employed during police interviews with Deaf people, the majority of police lacked awareness that a Deaf person can only be interviewed in the absence of an interpreter when they agree in writing. Therefore this study is in agreement with the view that interpreters should be a mandatory provision under PACE. PACE guidelines should also be required to govern the police in working with interpreters (Vernon et al., 2001). In particular, the provision of preparation and debrief between the police and interpreter before and after an interview should be mandatory, due to the role that such meetings were perceived to have in police practices in this study.

Recurrent themes within the research indicated that the employment of Deaf relays and intermediaries in police interviews was a consequence of interpreters requesting their assistance. The complexities of interpreting for people with Minimal Language Skills (MSL) (Miller & Vernon, 2002) are well documented, as is the significant effect that Deaf relays have in supporting people with MLS (Vernon et al., 2001). Therefore, in not including the use of Deaf relays and intermediaries in the PACE guidelines, PACE neglects to consider the needs of Deaf people with MLS, which restricts their opportunity to understand their rights under caution.

3.7.4 Implications for Deaf People's Access to Court

The current study's findings support previous research in indicating that the prevalence of communication problems continues to be high (Brennan & Brown, 1997). The findings indicated that communication difficulties were perceived to occur less during court proceedings when interpreters had been provided the opportunity to prepare with the Deaf person, solicitor and court staff, however, such time was not always provided. Therefore, due to the influence that such preparation meetings have on the occurrence of communication difficulties within court proceedings it appears necessary that they become mandatory within the CJS practices

3.7.5 Implications for Interpreters

An interesting finding of the current study revealed that both the police and the courts' awareness of communication problems and problems related to the Deaf person's understanding were perceived to be related to the interpreter's confidence and assertiveness in drawing police officers and court officials attention to such difficulties. These findings suggest that interpreters should receive sufficient training to work within the CJS and become

proficient in demonstrating assertiveness throughout the police and court procedures, as a recurrent theme indicated that both the police and court officials had a tendency to attempt to intimidate and/or be obstructive to interpreters during such proceedings.

3.7.6 Implications for the Deaf Prison Population

The current research findings indicate the DDA's (1995, amended 2005) requirement to promote equality and equal opportunity for inmates with disabilities and eliminate negative attitudes of harassment was not met according to the sample's perceptions. Deaf inmates were not provided with an equal opportunity to address their offending behaviour and educational needs, due to the lack of interpreters employed in prison. Effective processes were not implemented to enable Deaf inmates to communicate with the outside world. BSL interpreters were not employed on a regular basis to convey information, and negative attitudes of harassment remained. In these respects, the current study supports the previous findings of Gibbs and Ackerman (1999), Kent (1998), O'Rourke and Reed (2007) and Miller (2001).

3.7.7 Prison and Mental Health Vulnerabilities

Past research has recommended that factors that cause the Deaf prison population to be vulnerable to mental health problems should be identified (O'Rourke & Grewer, 2005). These findings support Schnieder and Sale's (2006) review of anecdotal evidence in that both samples perceived that the mental health problems experienced by the Deaf inmates with whom they had worked were influenced by the isolation that they experienced and their inability to access sufficient resources. The current study also confirmed concerns regarding the failure of diagnosis of mental health problems within the Deaf prison population (Brennan & Brown, 1997; O'Rourke & Reed, 2007).

Based on the current study's findings, it is recommended that the DDA (1995, amended in 2005) requirement to promote equality, equal opportunity and eliminate negative attitudes of harassment, be adhered to by the Prison Service in order to prevent and/or reduce mental health problems and social isolation of Deaf inmates. However, it is argued that the Prison Service, which evidently lacks expertise, knowledge and awareness of the Deaf prison population, requires further guidance in order to achieve the DDA's (1995, amended in 2005) requirements of reasonable adjustment. Such guidance should detail the range of needs of the Deaf prison population and provide detail of effective adjustments from complex issues such as providing equal opportunity to address offending behaviours, through to less complex issues such as providing access to hearing aid batteries. Individualised reasonable adjustments also appear to be beyond the ability of the Prison Service. Therefore, the Prison Service should be guided in contacting and working effectively with external agencies so to assess the needs of the individual prisoner, to ensure that their needs are met, their rights are protected and their mental health is not impaired as a result of the prisons' failure to provide equal opportunity and to eliminate negative attitudes.

3.7.8 Rehabilitation and the Deaf Prison Population

The current findings support previous research in demonstrating that Deaf inmates were not able to access offender treatment programmes due to the lack of interpreters (Fiskin, 1994; O'Rourke & Reed, 2007; Schneider & Sales, 2006). However, the research literature reviewed indicates that the provision of interpreters in rehabilitative programmes might not be sufficient to ensure that Deaf inmates have access to such programmes. Nor can it be presumed that offender programmes founded on comprehensive aetiological models and

theories of the hearing population are valid in causing cognitive change in the Deaf population.

There is little understanding about the offending behaviours of the Deaf population. However, some factors associated with offending behaviours appear unique to the Deaf population and appear related to deprivation in communication, language and life experience (Andrews & Conley, 1977; Bachara, Raphael, & Phelan, 1980; Denmark, 1994; Hindley, Kitson & Leach, 2000; Miller, et al., 2005; Roberts, 1990; Young, et al., 2000). Personality characteristics demonstrated in some Deaf individuals such as emotional immaturity, impulsivity, lack of empathy, egocentricity, and a tendency not to be introspective, have been found to significantly impact on treatment outcome and recidivism of Deaf offenders (Dennis & Baker, 1999). Additionally, brain damage as a cause of Deafness must be considered (Vernon & Andrews, 1990; Vernon, et al., 1999), as should the linguistic and literacy diversity of the Deaf population (Vernon & Rich, 1997) in the assessment and treatment of a Deaf individual.

At present risk assessments as well as offender behavioural programmes do not specifically address these issues for Deaf people and as a result might not be suitable for the Deaf prison population as a whole. It is suggested that future research should investigate the Deaf prison population, to acquire knowledge of their offending behaviours, risks and treatment needs.

3.8 Limitations of the Current Study

There are a number of limitations with the current study, the most obvious relating to the size and nature of the sample. The first issue is with regards to its voluntary nature. The researcher attempted to provide all professionals and interpreters working within the Criminal Justice

System with an equal chance of being involved in the research. However, the low response rate resulted in a self-selected sample, which might not be a reliable representation of the target populations. Due to the small sample size and the nature of data, the researcher was restricted in conducting statistical analysis. Similar problems might indicate why there is a prevalence of anecdotal research investigating the Deaf forensic population.

The police sample findings appear not to be a true representation of the police's awareness and ability to cope with Deaf people. The Cheshire Constabulary was the only participating police force and is unique as Deaf awareness is incorporated within its induction training. The analyses of the police findings was limited as the raw data was not accessible to the researcher. Therefore, the generalisability of the findings could not be established and associations could not be explored.

In neglecting to include Deaf people who have experienced the CJS procedures as either a suspect or an offender, the study is limited as findings are formed only on the perceptions of the professionals and interpreters. Such perceptions are the result of observations and/or information provided by their clients and thus may not be a true representation of a Deaf person's experience of the CJS. The lack of Deaf participants indicates the difficulties in obtaining a Deaf sample for hearing-led research investigating the Deaf offender population. Such difficulty might be demonstrated by the lack of research available in this population and may also provide insight into the reason why available research tends to be based on anecdotal evidence and/or file reviews.

There were also limitations regarding the procedure of the research. The questionnaires used were those developed for the Department of Health's study. The closed questions and

narrative of the questions might have restricted participant's responses, particularly when open questions were presented at the end of each section. Thus, the research would benefit from using open questions to interview participants so to explore their experience further without restrictions. The research would also benefit from holding a focus group with each of the sub-samples so as to discuss and amplify the findings.

3.9 Recommendations

It is recommended that the findings be used as a starting point for the Department of Health's study, which could benefit from the existing research. In particular, the Department of Health's study should use a randomised sample that is significantly larger in size in order to produce findings, which can be generalised, and implement the procedural changes previously discussed.

Based on the findings it is suggested that Deaf awareness training should be mandatory for all those working in the Criminal Justice System and that future research attempts to identify effective methods to deliver such training. Future research should also investigate changes to PACE to enable police procedures to be more effective during interactions with Deaf people. This study has also identified the need for interpreters to be confident and assertive while interpreting within the CJS; specific training needs to be implemented to develop and foster such traits, in addition to facilitating professionals in producing reliable assessments for the courts.

Future research is recommended to try to ensure that the prisons recruit sufficient support to meet the DDA (1995, amended in 2005) requirement to promote equality, equal opportunity and eliminate negative attitudes. Research is also required into factors that cause the Deaf

prison population to be vulnerable to mental health problems and the preventative strategies necessary for their reduction. Future research should also be directed into the Deaf prison population's offending behaviours in order to gain knowledge of their offending behaviour and treatment needs. The knowledge gained could be used to establish the suitability of existing behaviour and treatment programmes aimed at the Deaf prison population and highlight where further developments are required to make such programmes more effective.

As previously stated, the majority of risk assessments do not address issues unique to Deafness, therefore their applicability, reliability and validity within the Deaf population remains unknown. The following chapter whilst providing an overview of the HCR-20's ability to predict future violent conduct in the hearing population in a variety of clinical settings demonstrates that there is lack of evidence regarding the HCR-20's use within the Deaf population. Chapter 4 provides insight into the adaptations that are specific to deafness and necessary for the HCR-20 to be considered as a suitable risk assessment within the Deaf population. However, Chapter 4 reinforces the view that individuals completing the HCR-20 for a Deaf individual must have sufficient knowledge and skills to assess a Deaf person's risk of future violence. This is a concern when considering this research's finding that neither those working in neither the CJS nor the establishments that form the CJS are equipped to assess and treat the Deaf population.

Chapter 5 presents the practical application of the HCR-20 with a Deaf male, who has a history of violent misconduct and provides evidence that risk assessments that are specifically adapted and completed by professionals who specialise in working with the Deaf population can be applied within this population. However, HCR-20's reliability and validity within the Deaf population should be established.

Chapter 4

A Critical Review of the Historical/Clinical/Risk Management-20 (HCR-20) and its Validity in the Deaf Population

4.1 Introduction

An important aspect of decision making within the prison and forensic mental health setting is the risk of future violence (Douglas, Yeomans & Boer, 2005). The ability to predict the risk of future violence is imperative for public protection as well as care planning (Gray, Taylor & Snowden, 2008). Consequently, research has strived to develop structured clinical risk assessments of future violence. One such instrument is the Historical, Clinical, Risk Assessment Scheme-20 (HCR-20) (Webster, Eaves, Douglas & Wintrip, 1995; Webster, Douglas, Eaves & Hart, 1997). This review will evaluate the HCR-20's psychometric properties and its applicability to the civil and forensic mental health populations as well as the prison population. The applicability of the HCR-20 in the Deaf forensic population will also be considered.

The HCR-20 Violence Risk Assessment Scheme was first published by Webster, Eaves, Douglas and Wintrip (1995). This version was revised by Webster, Douglas, Eaves and Hart (1997). The HCR-20 was derived from empirically-based factors relating to violence and clinical experience so to provide a professional standard for the risk assessment process (Webster et al., 1997). As it is empirically-based, testable and applicable to clinical practice, the HCR-20 is viewed as an attempt to merge science and practice (Webster et al., 1997). The manual advises a multi-faceted approach for completion of the HCR-20 in order to establish the presence or absence of risk factors. The scoring of the HCR-20 incorporates a comprehensive file review, psychometric testing and clinical interview. The HCR-20 is a

twenty-item scale broken down into three subscales; Historical (a reflection of the individual's psychological adjustment and history of violence), Clinical (observations of the individual's current and recent functioning) and Risk Management (risk factors related to the adequacy of the individual's plans for institutionalised and community reintegration).

Empirical research indicates that historical factors are most related to risk therefore more weight is given to the HCR-20 Historical subscale. Consequently, the Historical subscale consists of ten items compared to the five items incorporated in both the Clinical and Risk Management subscales (Webster et al., 1997). Each of the items on the HCR-20 are coded 0 (the item definitely is absent or does not apply), 1 (the item is possibly present or is present only to a limited extent) and 2 (the item is definitely present). The total score is provided by the cumulative scores of the three subscales, yielding a total score of 40. The HCR-20 does not have a cut-off score, therefore risk is determined by the structured risk judgement of 1 (low) 2 (moderate) and 3 (high).

The HCR-20 is claimed to be a comprehensive violence risk assessment tool, which has a potential to be administered in a variety of settings (Douglas et al., 2008; Douglas, Ogloff, Nicholls, & Grant, 1999). To date the applicability of the HCR-20 has been investigated in the civil psychiatric, forensic psychiatric, prison and youth offending populations. The majority of such research has investigated its use in North American male samples; however research outside of the USA has increased and some research has attempted to employ more diverse samples.

4.2 Validation

The development of the HCR-20 included three stages of validation during the selection of the included items and the development of the individual and collective scales. The initial stage was evidence based; items were selected from empirical findings in the field of violence risk assessment. The second stage incorporated internal consistency analysis, which was preceded by an external-criterion stage. This approach is claimed to have produced an ordered guide to violence risk assessment, which was compliant with an empirical model of decision making (Webster et al., 1995; 1997).

A number of invalidating circumstances exist within the HCR-20. The criterion for invalidating circumstances include: omitted items (e.g., more than two H items; more than one C or R item; or more than five items on the HCR-20 total scale); inconsistent weighting of individual items (e.g., categorising an individual as a set risk category based on the occurrence of a single risk factor); and reoccurring administration of the HCR-20 within 6 months or less (unless a significant shift in risk status is established). Consequently, only valid profiles are recorded and interpreted in accordance with the normative data and the manual.

4.3 Psychometric Properties

In order to predict future risk accurately, researchers and clinicians require a reliable and valid measure. Kline (1986) states a good test must be theoretically based, have high reliability and validity, be based on appropriate norms, have discriminatory power and use levels of data no less than interval or ratio scales.

4.4. Reliability

Reliability is the degree of consistency which an instrument reflects the construct it is measuring.

4.4.1 Internal Consistency

The internal consistency is the degree to which the items within the instrument measure the same variable. Internal consistency of the HCR-20 has been calculated in research using Cronbach's Alpha which examines inter item correlation. A Cronbach's Alpha of .70 and above indicates reliability (Kline, 1986).

Research conducted in the North American civil psychiatric population has reported good internal consistency. Klassen (1996) reported a Cronbach's Alpha of 0.73 in a sample of 50 inpatients. Whilst Ross, Hart and Webster (1998) using a file review procedure reported that the H scale had a Cronbach's Alpha of 0.74, but the C scale reached only an Alpha coefficient of 0.64.

Internal consistency within the forensic psychiatric population also tends to be high, particularly with regards to the HCR-20 total score. Using a Swedish translation of the HCR-20 in a sample of 43 forensic inpatients, Belfrage (1998) found high internal consistency. Cronbach's Alpha were reported for the total HCR-20 score (0.95), H scale (0.96); C scale (0.89) and R scale (0.85). In a North American sample of 175 acquitted forensic psychiatric patients, Alpha coefficients ranged from 0.69 to 0.79. The HCR-20 total, H10, C5 and R5 scale scores were respectively 0.78, 0.69, 0.77, 0.77 (Douglas, Klassen, Ross, Hart, Webster, & Eaves, 1998). Claix, Pham, and Willocq (2002) reported in a Belgian male sample (n = 86) Cronbach's Alpha for the total score (0.73), H scale (0.61); C scale (0.47) and R scale (0.54). Whilst internal consistency of the HCR-20 within the prison population is reported by Dahle

(2006) using a German sample of offenders (n = 397) as 0.84.

The evidence indicates that the internal consistency of the HCR-20 ranges across studies but is most frequently reported to be above 0.70, indicating it has internal consistency. This appears particularly salient for the total scale and H scale, which appear to produce the higher Cronbach's Alpha indicating that these scales are most consistent in measuring the same variable.

4.4.2 Inter-Rater Reliability

Inter-rater reliability is the degree of consistency of an individual's score rated by two or more raters measured at the same time. Inter-rater reliability of the HCR-20 was measured using Inter Class Correlation (ICC). According to Cohen (1992), an r-value of 0.30 is considered small, whilst an r-value 0.50 is considered moderate and a large r-value is considered to exceed 0.70.

Within the civil psychiatric setting, inter-rater reliability is good, ranging from 0.78 to 0.86. North American studies report ICCs for the HCR-20 total score, H scale, C scale and R scale were respectively, 0.80, 0.87, 0.70, 0.81 (Douglas et al., 1999). The total HCR-20 score has consistently produced high inter-rater reliability, 0.78 (McNeil, Gregory, Lam, Binder, & Sullivan, 2003) and 0.86 in a Norwegian sample (Harvig, Alfarnes, Skjonberg, Moger, & Ostberg, 2006).

Inter-rater reliability of the HCR-20 is reported to be moderate to high within the forensic psychiatric setting. Research from North America reports high inter-rater reliability for the HCR- 20 total score, H, C and R scale were respectively, 0.85, 0.90, 0.79, 0.47 (Douglas,

Ogloff & Hart, 2003). Support for the H scale is provided by Douglass et al. (1998) reporting ICCs for the H scale (0.81 – 0.90). Studies from Western Europe replicate these findings. Belfrage (1998) reported inter-rater reliability for total score (0.81). De Vogal and de Ruiter in a Dutch, predominantly male sample, reported the HCR-20 total score inter-rater reliability as 0.75 (2005) and 0.79 (2004). Claix et al. (2002) also indicated that the HCR-20 has good inter-rater reliability for total score (0.73), H scale (0.85); C scale (0.65) and R scale (0.64).

In the UK the HCR -20 inter-rater reliability has been reported to range from 0.80 to 0.88 in forensic in-patient samples, with and without intellectual disabilities (Gray, et al., 2008; Gray, Fitzgerald, Taylor, MacColough, & Snowden, 2007). However, a smaller, almost moderate, inter-rater reliability was found for the total HCR-20 score (0.57) based on a sample of thirty high secure male in-patients (Tyrer, Cooper, Seiwright, Duggen, Rao & Hogue, 2005).

Within the prison setting Douglas et al. (2005), using a North American sample (n = 188) found the total score, H scale, C scale and R scale ICCs were respectively 0.93, 0.90, 0.81, 0.91. Dahle (2006) replicated these findings, ICCs ranged from 0.78 to 0.92. In addition, Cooke, Michie and Ryan (2001) reported large ICCs for the HCR-20 total score (0.92), H scale (0.92), C scale (0.74) and R scale (0.70) based on a Scottish sample (n = 250).

Overall inter-rater reliability is consistently high within North American samples for all settings. The research indicates that inter-rater reliability based on samples outside of North America produce smaller ICC scores, however, such scores remain as significant. This appears to suggest that the inter-rater reliability of the HCR-20 can be generalised across cultures.

Based on the information presented, the HCR-20 appears to be a reliable predictor of future violence across the civil and forensic psychiatric settings as well as the prison setting. The HCR-20 also appears to be a reliable cross-cultural assessment tool for future violence. However the HCR-20's reliability is higher within the North American male population, therefore more research is required to establish the reliability of the HCR-20 in samples other than that in which it was developed.

4.5 Validity

The validity of an instrument is the degree to which it measures what it states to measure. Concurrent validity is the extent to which a test correlates with other tests purporting to measure the same construct. Whilst predictive validity examines the extent to which a measure is able to predict a particular outcome.

4.5.1 Concurrent Validity

Within the forensic psychiatric population, research indicates that the HCR-20 strongly correlates with the Psychopathic Checklist Revised (PCL-R, Hare, 1991). Correlations between the HCR-20 and PCL-R are reported as +0.64 (Belfrage, 1998) and +0.60 (Douglas et al., 1998).

In order to prevent artificially inflated correlation, Douglas and colleagues (Douglas, Webster & Winstруп, 1996; Douglas & Webster, 1999) removed the item 'psychopathy' from the HCR-20. As a result the HCR-20 was reported to correlate highly with the Violence Risk Appraisal Guide (VRAG: Rice, & Harris, 1995) (+0.54) and PCL-R (+0.64). The H scale in particular, correlated strongly with both the PCL-R (+ 0.54) and the VRAG (+0.61). Weaker correlations were reported between the C scale and the PCL-R (+0.47) as well as the VRAG;

(+ 0.28). It is probable that these weaker correlations are associated with the PCL-R and VRAG assessments being based on unchangeable historical items, whilst the HCR-20 C scale is based on current or recent functioning. These findings are supported by Douglas et al. (1998), who reported that the H scale strongly correlated with the PCL-R total score (+0.76) but the relationship was weak between the C and R scales (+0.18, +0.16) respectively. In addition, Douglas et al. (1998) found that the HCR-20 correlated (+0.54) with the Brief Psychiatric Rating Scale (BPRS; Overall & Klett, 1992). They found that the H scale was unrelated but the C and R scale strongly correlated with the BPRS (+0.63 and +0.59) respectively.

The HCR-20 has also demonstrated high concurrent validity within the North American civil psychiatric patient population. McNeil et al. (2003) reported strong correlations between the HCR-20 and total scores on the Psychopathic Checklist Screening Version (PCL: SV, Hart, Cox & Hare, 1995) (+0.61). The HCR-20 subscales were found to correlate moderately with the PCL: SV total score, (H10; +0.56, C5; +0.40, R5 +0.47). Also in the forensic psychiatric setting, the H scale has been reported to strongly correlate with the PCL: SV total score (+0.80) and the VRAG (+0.83) (Doyle, Dolan, & McGovern, 2002).

The HCR-20 achieves moderate to strong concurrent validity when correlated with the PCL-R, VRAG and the PCL-SV. The evidence indicates that the HCR-20 total scale and H scale demonstrate the strongest concurrent validity when compared to the three tests purporting to measure the same construct (PCL-R, PCL-SV and VRAG). This is expected as the HCR-20 scale and the additional measures reflect the unchangeable historical risk factors.

4.5.2 Predictive Validity

The predictive validity of the HCR-20 has been investigated in civil and forensic psychiatric populations as well as the prison population, for both institutional and future violence in the community.

Within the civil psychiatric population Klassen (1996) reported moderate to small effect sizes between the H scale and general violence (+0.30), and the H scale and ward violence (+0.26). However the PCL: SV factor 2 was found to correlate slightly more strongly with ward violence (+0.33). In the forensic inpatient setting Claix et al. (2002) found poor correlations between the HCR-20 and any types of violent offences in the community (+0.26-+0.37) and any types of non-violent offences (+0.24-+0.28). However, the HCR-20 scores were strongly correlated with homicide (+0.56-+0.74).

Studies that are more recent have employed Receiver Operating Characteristics (ROC) and Area Under the Curve (AUC) analysis to assess the predictive accuracy of the HCR-20. AUC values of 0.70 are considered moderately large whilst 0.75 and above are considered large (Douglas et al., 2008).

Research investigating the HCR-20 in the forensic psychiatric patient population for institutional violence demonstrates moderate to large predictive validity. Dernevik, Grann and Johnson (2002) reported that whilst the HCR-20 total and H scales were moderate predictors for institutional violence (AUC's = 0.68) the total score and C scale were strong predictors for community violence (AUC's = 0.84; 0.79) respectively. Also the HCR-20 was more accurate in its predictions of institutional and community violence than the PCL: SV. McDermott, Edens, Quanbeck, Busse and Scott (2008) replicated these findings and

supported the notion that the HCR-20 is a valid predictor of institutional violence (AUCs = 0.65 - 0.70). However, McKenzie and Curr (2005) found contradicting evidence as the HCR-20 total score and subscales were moderate predictors of institutional violence (AUCs = 0.49-0.68).

In contrast, using a UK sample, Morrisey et al. (2007) found that the HCR-20 significantly predicted institutional violence (AUC = 0.68 -0.77), unlike the PCL-R (AUC = 0.48 -0.59). Whilst Doyle et al. (2002) retrospectively investigated the validity of the HCR-20, PCL: SV and the VRAG in predicting in-patient violence within the first 12 weeks of admission. The HCR-20 H scale was found to be a moderate predictor for any physical violence (AUC = 0.70) but a low predictor (AUC = 0.66) for 'level 1' violence (physical assault or any violence resulting in injury). In comparison the VRAG's predictive validity was similar to the HCR-20 for physical violence and 'level 1' violence (0.71- 0.64). However the PCL: SV was the strongest predictor for any violence and 'level 1' violence (AUC's = 0.76 -0.74). Research from the UK also reveals that the HCR-20 has moderate to strong predictive validity for risk of future violence demonstrated in the community. Dolan and Khawaja (2004) found that the HCR-20's total score was a strong predictor for readmission (AUC = 0.85) and self/collateral reports of violence (AUC = 0.76) but a moderate predictor for re-offending (AUC = 0.71). However, the AUC value for serious re-offending was not significant. Whilst Gray, et al. (2008) reported that the HCR-20 was a good predictor of violent offences with AUCs ranging from 0.70-0.76, the predictive accuracy of the HCR-20 and its subscales declined somewhat over time. In addition, Gray et al. (2007) found that the HCR-20 was an accurate predictor of reconviction (AUC = 0.79) and general violence (AUC= 0.81) in offenders with and without intellectual disabilities.

Within the prison, setting the HCR-20 has demonstrated poor to strong predictive validity for future violence. Cooke et al. (2001) reported moderate AUC values for both general and violent institutional infractions in their Scottish sample (AUC = 0.64; 0.64). Kroner and Mills (2001) who reported AUCs of 0.68 to 0.56 for minor and major misconducts, respectively, replicate this.

The evidence indicates that the predictive validity of the HCR-20 is consistent across studies and settings. The majority of studies report that the HCR-20 is a moderate predictor of violence in forensic in-patient settings and future violence in the community.

4.6 Norms

The HCR-20 has been standardised using samples from the North American male forensic population. Whilst the majority of studies have been conducted on this specific sample, an increasing number of validation studies of the HCR-20 have been conducted in Western European populations including the UK. These studies to date indicate that the HCR-20 is generalisable and applicable to populations outside of North America. For example Gray et al. (2008) used a UK sample of males (n=887) discharged from four medium secure mental health hospitals between 1992 and 2001. The HCR-20 was a good predictor of violent offences (AUC's 0.70-0.76) although the predictive accuracy declined over time, whilst Doyle et al. (2002) found moderate to large effect sizes (AUC = 0.70) for 'any violence' on the HCR-20's H scale. Although the findings of these studies and others appear promising, the HCR-20's performance is most consistent within North American research samples. Therefore, additional cross validation studies are required to establish the true nature of the generalisability of the HCR-20.

In addition to the cross-cultural differences the HCR-20 was primarily developed using all male samples. Studies which have employed the HCR-20 have generally continued to employ all male samples and as a result, the suitability of the HCR-20 in the female population is ambiguous. De Vogal and de Ruiter's (2005) study demonstrates this issue. Whilst the HCR-20 demonstrated sound predictive validity for both violent recidivism and inpatient violence in their male sample, the predictive accuracy of the HCR-20 was much lower for the female sample. Only the final risk judgement within the female sample demonstrated significant predictive validity for violent outcome.

4.7 Limitations

The normative data and raw scores of the HCR-20 are based on clinical and forensic samples; therefore, the HCR-20's applicability is exclusive to individuals meeting the test requirements in a clinical or forensic setting. The HCR-20 is unable to be employed for any other purposes than clinical risk assessment (Webster et al., 1997). In order to understand the test manual and justify its implication, practitioners utilising the HCR-20 are required to have adequate awareness of test logic, psychometric methods, clinical practice and theory.

Interpretation of the HCR-20 is limited to individuals who have received appropriate training in the limits of psychological tests. In addition, the totalling of the scores is only to be used for research purposes, therefore no cut-off of the overall risk level can be established by the authors.

To date HCR-20 item-analytical studies are absent, causing the properties of each item to remain unknown. Witt (2000) states that it would be useful to gain insight into which items best measure the construct. Comprehensive item-analytic studies would facilitate understanding of the individual properties of the items (e.g., item redundancy). In addition,

limitations exist concerning the ‘psychopathy’ item, which is calculated by a score on the PCL-R or the PCL-SV. Items which measure antisocial lifestyle (factor 2) on the PCL-R, are comparable to a range of HCR-20 items (e.g., relationship instability, employment problems, and early maladjustment) which can cause the double scoring of items.

4.8 The HCR-20 in the Deaf Population

There are no practical reasons why the HCR-20 cannot be utilised with a Deaf population. However, its validity within this population is unclear and the quality of information used to score the items needs to be scrutinised (O’Rourke, 2007).

When scoring historical items, the meaningfulness of certain items should be established. In particular, the Historical items should be considered in relation to the developmental processes of Deaf individuals and their access to resources. Such experiences might result in some items being less predictive risk factors for the Deaf population. In particular, ‘Early maladjustment’ is most likely to reflect the prevalence of childhood difficulties within the Deaf community. Therefore, this item should be considered against the norms of the Deaf community and not the hearing population (i.e. is the individual’s adjustment comparable to other Deaf people with the same experiences). In addition, underachievement in ‘employment’ is most likely to reflect the lack of Deaf awareness in the hearing environment and therefore the lack of employment available to the Deaf community rather than individualised problems (O’ Rourke, 2007). Consequently, these historical items appear less predictive risk factors for violence in the Deaf population.

The Clinical items, ‘lack of insight’ and ‘negative attitudes’ must also be viewed from a Deaf perspective, as these items could be rated present as a result of the Deaf individual’s lack of

knowledge or experience. Due to Deaf culture, Deaf people can appear blunt in comparison to hearing people, which can be perceived as rudeness and assessed as evidence for negative attitudes. In addition, engagement in treatment is required to be assessed in relation to the appropriateness and access to the treatment offered to a Deaf individual. Risk Management items are required to account for the cultural and linguistic environment experienced by the Deaf individual (O'Rourke, 2007).

4.9 Factors Unique to Deafness

In addition, risk items unique to Deafness should be included within the HCR-20 assessment of a Deaf individual to aid risk formulation and risk management plans.

4.9.1 Causes of Deafness

Some aetiologies related to congenital symptoms are associated with the disproportionate prevalence of brain damage (Chess & Fernandez, 1980; Vernon, Steinberg & Montoya, 1999) learning disability (Haskins 2004; Vernon, et al., 1999), and physical disability (Denmark, 1994) in the deaf population. This can have adverse psychological effects on mental states and behaviours (Braden, 1994; Chess & Fernandez, 1980; Kitson & Thacker, 2000; Vernon & Rich, 1997; Vernon, et al., 1999). Consequently, the cause of deafness provides important information about the nature of the problems encountered by the deaf individual (Monteiro, 2010).

4.9.2 Communication

The communication style of an individual can impact on risk in various ways (O'Rourke, 2007). An individual's communication style must be assessed to determine both their use of sign language, i.e. whether they use British Sign Language, Sign Supported English or

Makaton and to ascertain whether an individual with minimum language skills has a learning disability or whether minimal language skills are associated with a specific language disorder or a history of deprivation. The communication assessment helps to develop realistic treatment goals for the individual's style of communication and understanding (O'Rourke, 2007).

4.9.3 Attitudes Towards Hearing People

A history of being oppressed by the hearing population/individuals might lead the Deaf individual to hold negative and hostile attitudes towards hearing people which can be mistaken for paranoia when assessed by non experienced Deaf aware professionals (O'Rourke, 2007). Such attitudes might cause the Deaf individual to have a general dislike for hearing people and place those at risk who display a discriminatory view or misunderstand Deafness. In addition the Deaf individual might have plans to harm a specific hearing individual (O'Rourke, 2007).

4.9.4 Deaf Cognitive Distortions

Cognitive distortions specific to deafness are associated with the belief that the individual committed the offence because of their deafness and did not know any better. Such a distortion might be an effective strategy causing hearing professionals with a lack of Deaf experience to collude with the Deaf individual and result in fewer consequences for their offending behaviour (O'Rourke, 2007).

4.9.5 Lack of Experience and Understanding

Deaf people growing up in a predominantly hearing environment will have missed the many opportunities provided for both formal and incidental learning. This lack of knowledge and

understanding will have a striking effect in areas of social and emotional development (O'Rourke, 2007). Therefore, any risk management strategy in a hospital setting or a community setting should create realistic and achievable goals that incorporate the Deaf individual's experience of deprivation and lack of background knowledge (O'Rourke, 2007). In addition, interventions should be exploratory when focusing on the meaning of the individual's beliefs, desires and needs.

4.9.6 Deaf Community

The Deaf Community provides a great support to Deaf individuals. However, the Deaf Community is small in number and integrating into it can be stressful. Due to the small nature of this population, an individual's offending behaviours rarely remains anonymous amongst Deaf circles which can lead to re-integration problems (O'Rourke, 2007).

Risk management plans should incorporate the potential relapse at Deaf Clubs taking into consideration of the mix of ages and genders that attend the different social events. Risk assessments of the individual's access to specific Deaf Clubs and therefore the Deaf Community can determine and prevent future opportunities for offending (O'Rourke, 2007).

4.9.7 Hearing Environment

For many Deaf individuals living in a hearing environment will be intrinsically stressful which might cause an increase in risk. Whilst the individuals' risk is gradually increasing, those around the Deaf individual do not have the skills to communicate with them and are unable to assess/identify their risk. If a Deaf person in an institution must be placed within a hearing institutional environment, the risk management plan must incorporate a package of

support aimed to minimise the risk and increase the staff's ability to assess the ongoing risk (O'Rourke, 2007).

4.9.8 Availability of Specialist Services

The ease in which a Deaf individual can access a specialist Deaf service might be relevant to the risk management plan. Ongoing access to specialist Deaf forensic mental health services for the individual and community practitioners working with the Deaf individual would enable an on-going risk assessment (O'Rourke, 2007).

4.10 Summary

The HCR-20 was developed on the basis of clinical experience founded on empirical findings. Consequently, it is an empirically based testable measure, which has the ability to be applied to clinical practice. The levels of reliability are good, with inter-rater reliability, scores frequently exceeding the required level of 0.80. In addition, validity coefficients above 0.50 are frequently reported. Research also indicates that the HCR-20 scales are significant in predicting violence demonstrated by civil and forensic populations in both in-patient and community settings, with the Clinical scale being most strongly related to aggression. The evidence also indicates that the HCR-20 has comparable, if not superior, predictive validity in relation to other measures for example the PCL-R.

However in order to validate the use of the HCR-20 further, additional cross-validation research is required so to provide more scope into the generalisability of the HCR-20 in a range of forensic populations external to North America (specifically UK samples, prison populations and female offenders).

The HCR-20 aids and informs clinical judgements within the Deaf population and is recommended in preference to the PCL-R (O'Rourke, 2007). However, in addition to the HCR-20, risks relative to Deafness should be identified during any assessment of a Deaf individual's risk of future violence. Reports pertaining to the HCR-20 should state the limitations and uncertainties of the measure within the Deaf population (O'Rourke, 2007). As specialised Deaf services become increasingly under pressure from commissioning bodies to use standardised risk assessments and the Deaf prison population continues to be detained in the absence of any determined risk, research is required to establish the reliability and validity of the HCR-20 in the Deaf population. Future changes to the HCR-20 offer hope that items which are revised in the HCR-20 version 3 might be more suitable for use in the Deaf population and therefore might lead to the HCR-20 version 3 being generalisable across the hearing and Deaf populations.

The practical implications of the assessment and treatment of a Deaf forensic mental health inpatient with a diagnosis of personality disorder and a history of substance misuse and violence are explored in the following chapter. The single case study serves to highlight the problematic nature of working therapeutically with Deaf patients with complex needs unique to Deafness combined with personality disorder. Chapter 5 also demonstrates the practical use of the HCR-20 in the Deaf forensic clinical population.

Chapter 5

CBT Based Intervention, Behaviour Modification and the Therapeutic Relationship, with a Deaf Inpatient with Borderline Personality Disorder and a History of Substance Misuse

5.1. Ethical Considerations

This case study presents a factual account of a 36-year-old male detained under Section 3 of the Mental Health Act (1983, amended, 2007). The individual's identity has been made anonymous to maintain patient confidentiality. Consent was gained from the client in order for this case study to be completed. The case study is in accordance with the British Psychological Society ethical guidelines of respect, competence, responsibility and integrity.

This chapter is not available in the digital version of this thesis.

Chapter 6

Discussion

6.1 Presentation of Findings

The purpose of this thesis was to examine the assessment and treatment of problematic and offending behaviours in the Deaf population. As the prevalence of behavioural problems within the Deaf population could indicate risk of future offending (Hindley, Kitson & Leach, 2000) and the ability to meet the needs of Deaf offenders with and without mental illness appears poor (Miller, Vernon & Capella, 2005), these areas have developed into central concerns for professionals working with the Deaf population.

This investigation began with a systematic review of the current literature regarding the effect of hearing parent-Deaf child relations on behavioural problems in Deaf children and adolescents. The findings in Chapter 2 indicate that an extensive search of the literature identified seven studies of appropriate quality to be included in the review. Overall interactions between hearing parent- Deaf children dyads affected behavioural problems in Deaf children and adolescents. However, the review highlighted various methodological differences between the studies, highlighting the need for caution when interpreting findings.

The empirical paper in Chapter 3 aimed to investigate aspects of the processing of Deaf offenders within the Criminal Justice System in order to provide further insight into the treatment of offending behaviours demonstrated by the Deaf population. The findings illustrate that personnel at all stages of the CJS, including professionals who work directly with Deaf people, lack the skills necessary to meet Deaf people's needs,

which increases their vulnerability. The role of the BSL interpreter was perceived to be instrumental in reducing such vulnerabilities during the police and court process, but was dependent on individual personality traits training and experience. In addition, the policies implemented to protect the rights of Deaf people within the CJS were not perceived to be met appropriately, which had implications for CJS practices and Deaf individuals.

Chapter 4 investigates the use of the HCR-20 in various clinical populations and found that the overall levels of reliability are good, with inter-rater reliability scores frequently exceeding the required level of 0.80. The HCR-20 indices were reliable predictors of inpatient and community violence, with the Clinical scale being most strongly related to aggression. The predictive validity of the HCR-20 was evidenced to be comparable, if not superior to, the predictive validity of the PCL-R. However, further cross-validation research is required to establish the generalisability of the measure across differing populations including UK samples. In addition, research investigating the reliability and validity of the construct in the Deaf population is required.

The case study in Chapter 5 highlights the problematic nature of assessing the Deaf mental health forensic population and the methods in which treatments are required to be adapted to suit this population. Overall, the post intervention assessments indicated that the patient demonstrated a positive change in all areas of the initial intervention. However, further intervention is required in order for the patient to achieve treatment change, particularly regarding substance misuse.

All chapters serve to highlight the complex nature of the assessment and treatment of problematic and offending behaviours in the Deaf population, regardless of the setting. In particular, it highlights the challenges experienced by hearing individuals and establishments in managing, assessing and treating such behaviours in accordance with Deaf people's cultural needs and the implications for Deaf people when their needs are not met appropriately.

6.2 Contextualisation Within the Previous Literature

The systematic review in Chapter 2 revealed that there had been no previous meta-analysis or systematic approach investigating the effect of hearing parent-Deaf child relations on behavioural problems in Deaf children and adolescents. Due to the lack of knowledge regarding this research domain, the current research has made a unique contribution to the literature in identifying a theme linking parental symptomology and the demonstration of behavioural problems.

The review highlighted that there is an absence of systematic and universal approaches for assessing and evaluating the demonstration of behavioural problems in the Deaf population. In addition, the majority of research neglects to consider culturally Deaf factors, which appear to impede valid and reliable evaluations. In order to understand the true effect of hearing parent-Deaf child relations and the true nature and frequency of problematic behaviours demonstrated by Deaf children and adolescents, future research is required to significantly change its methodology.

The empirical paper included in Chapter 3 is unique, as no study has previously examined Deaf people's experiences of the CJS from the Police interview, the court

procedure, through to the prison sentence. The findings demonstrated support for previous anecdotal research (Brennan & Brown, 1997; Du Feu & Fergusson, 2003; O'Rourke & Grewer, 2005) and highlighted the potential vulnerabilities faced by Deaf people, as professionals lacked the sufficient BSL communication skills to assess, treat and protect the Deaf person's rights within the CJS. In addition, the findings extend Brennan and Brown's (1997) research, as communication problems were related to the use of inaccessible legal concepts, not only during court procedures but also throughout the stages of the CJS.

The findings indicate that PACE guidelines are insufficient in protecting the rights of Deaf people and therefore not only support Vernon, Raifman, Greenberg and Monteiro's (2001) research but also expand upon their recommendations for policy change. Also, the findings that the DDA's (1995, amended, 2005) requirements are not met by the prison service confirms previous research (Gibbs & Ackerman, 1999; Kent, 1998; O'Rourke & Reed, 2007). In addition, the findings confirm the prevalence of mental health problems perceived amongst the Deaf prison population and verify that such problems are undiagnosed and untreated (Brennan & Brown, 1992; O'Rourke & Reed, 2007).

The reliability and validity of the HCR-20 within the Deaf population is unknown. Due to specialised Deaf services being pressured by commissioning bodies to use standardised risk assessments and Deaf prisoners being detained longer than their hearing counterparts (O'Rourke & Reed, 2007) future research is necessary in order to establish the measures efficacy in predicting future risk of violence in the Deaf population.

The case study in Chapter 5 highlights the unique complexities of Deaf individuals with a history of offending behaviours, deprivation and a dual diagnosis of personality disorder and substance misuse. The literature search revealed minimal research in relation to the effective assessment and treatment in the Deaf population and illustrated the dependence of specialised Deaf services on hearing treatment models. Due to the lack of standardised assessments and treatment programmes within the Deaf population Mr T's true treatment change is difficult to establish. In addition, despite a detailed admission and risk assessment, Mr T's true risk of future offending remains unclear.

6.3 Limitations of This Thesis

There are several limitations to this thesis that are pertinent to this research domain, both in the general understanding of the Deaf population and the nature of problematic and offending behaviours prevalent within this population.

The systematic review emphasised a number of methodological discrepancies and biases that limit both the generalisability of the papers included in the review and the wider literature. In addition the number of papers included in the systematic review was relatively small ($n = 7$) and this challenges the relevance of the findings. A more comprehensive search of relevant resources and a broader search criterion including unpublished work and non-English papers might have produced additional papers and a previous systematic review relevant to this field. Also, the quality of the included papers was not pro-rated due to limited resources.

Another limitation relates to the included papers in the review, which adopted differential definitions of the degree of deafness and resulted in Deaf and deaf

samples being investigated. Also, the review did not exclusively investigate behavioural problems in children whose first language was sign language and whose parent's had no sign language skills. In addition, the behavioural problems were not measured by one single instrument and no measures included in the review were normed for the Deaf population. Therefore, the effect of hearing-parent-Deaf child interactions on behavioural problems demonstrated by Deaf children and adolescents remains unclear. Such limitations within the review serve to highlight the paucity of research within this domain and indicate the problems associated with the available research in relation to shortcomings in its methodology.

One limitation of the empirical paper serves to highlight the predominant problem in obtaining a Deaf sample for hearing-led research, which might provide insight into the reason why available research investigating the Deaf population tends to be based on anecdotal evidence and/or file reviews. In neglecting to include Deaf people, the findings are significantly limited in reliably representing Deaf people's experience of the CJS. In addition, information regarding the nature and the development of offending behaviours in the Deaf population could not be obtained.

Further limitations of the empirical paper relate to the generalisability of the non-randomised sample and the statistical analysis, which was restricted due to the small sample sizes, the nominal nature of the data and the inaccessibility of the raw police data. In addition, measures employed were not standardised and were restrictive. The lack of standardised measures within the empirical paper is indicative of the lack of such measures normed for the Deaf population.

Whilst Chapter 4 examines relevant research in relation to the predictive validity of the HCR-20, there have been no investigations conducted into the validity and reliability of the measure in predicting future violence in the Deaf offender population. Therefore, literature stating the applicability of the HCR-20 within this population should be considered with caution.

In relation to the intervention, even though the length of the treatment time frame is long, due to the disruptions in the therapeutic relationship, the number of the sessions which targeted behavioural patterns or thinking processes were relatively few in number to promote internal change. Therefore, the patient's treatment progression is likely to be the result of a combination of factors. Due to the single case nature of the study, the study cannot be generalised to other Deaf forensic patients presenting with similar treatment needs.

The case study described in Chapter 5 does illustrate the impact of the findings of the systematic review (Chapter 2) and the police responses to the patient's most recent violent behaviour support the empirical paper (Chapter 3), as well as demonstrating the applicability of the HCR-20 (chapter 4). In addition, the practical issues presented in the case study emphasise that traditional rehabilitation programmes offered by the prison service would be ineffective in targeting Mr T's treatment needs. The study therefore highlights the need for research to investigate the rehabilitation of Deaf offenders in general, as well as effective ways to manage and treat personality disordered Deaf forensic patients.

6.4 Clinical Implications

This thesis highlights a number of areas professionals need to be mindful of in relation to their assessment and management of Deaf individuals demonstrating problematic and/or offending behaviours.

In spite of the methodological flaws, the systematic review offers clinically significant findings. It is evident from the review that previous research investigating the prevalence of behavioural problems in the Deaf population has tended to adopt self-report measures developed for the hearing population, which appear not to perform with the same sensitivity in the Deaf population (Vostanis et al's., 1996).

Consequently, the true prevalence of behavioural problems in the Deaf population appears unclear and as a result, comparisons with the hearing population appear unfounded. Therefore, standardised measures normed within the Deaf population are required for a true reflection of children's and adolescents' behavioural problems within the Deaf population.

A pertinent clinical implication of the review is related to the theme identified between parental symptomology and the demonstrations of behavioural problems of Deaf children and adolescents. Based on these findings, clinicians presented with Deaf children demonstrating behavioural problems whilst providing treatment for the child should also consider and implement, where necessary, intervention with the family.

In addition, the review indicates that clinicians working with the Deaf population should be skilled in assessing and delivering treatment to the Deaf population. This is

particularly salient in relation to the empirical papers' findings, that professionals working with Deaf people involved in the CJS are insufficiently skilled and mental health problems within the Deaf prison population are undiagnosed. Clinicians should take responsibility for identifying their own competencies when working with the Deaf population and should refer cases when they are unable to meet the needs of the Deaf person. In addition, all those working with suspects and offenders in the CJS should receive mandatory Deaf awareness training.

Based on the empirical research findings, changes to PACE appear necessary to attempt to ensure that police procedures involving Deaf people are effective. In addition, training aimed to develop and foster confidence and assertiveness in interpreters appears necessary, so that professionals within the CJS are guided in following Deaf-aware practices and implementing strategies necessary to reduce Deaf people's vulnerabilities within CJS. Also, it appears necessary for the CJS to review the resources available to Deaf people during the police, court and prison process so to ensure that their needs are met and the resources are sufficient to meet their needs.

Whilst the empirical paper provides support for previous findings that Deaf inmates are denied access to rehabilitation programmes, clinicians cannot presume that such offender programmes will cause cognitive change in the Deaf population. The difficulty in delivering a treatment developed for the hearing population to a Deaf individual is highlighted in the case study.

Chapter 4 indicates that professionals also need to be aware of the benefits and limitations of applying the HCR-20 to the Deaf population without its true reliability and validity being known.

Whilst the case study in Chapter 5 is unable to provide guidance regarding the treatment structure or successful treatment outcome, it serves to emphasise the complexities of the assessment and treatment process with the Deaf population. The case study provides some insight into the modifications required to ensure that the process is culturally appropriate, considers, and targets factors unique to the Deaf population.

The case study also indicates the challenges of working with Deaf offenders, demonstrating symptoms of personality disorder and highlights the problematic nature of dealing simultaneously with both clinical and criminogenic needs. Whilst the intervention is far from complete, it is encouraging that the patient has demonstrated some treatment progression and engages in behaviours that are more positive.

6.4 Implications for Further Research

The limited evidence base in relation to the assessment and treatment of problematic and offending behaviours in the Deaf population is apparent. Research must distinguish between deafened individuals who suffer hearing loss and Deaf individuals who have a Deaf cultural identity in order to gain a reliable understanding of the prevalence, nature and relationship between problematic behaviours and offending behaviours demonstrated by Deaf individuals.

It is necessary; however, that research investigating the Deaf population considers factors unique to this population and implements measures developed and normed within the Deaf population to ensure the validity and reliability of the findings. In addition, future research is required to adopt controlled study designs and investigate samples recruited from wider resources, in a randomised manner to reduce selection bias and increase the generalisability of the findings.

Based on the systematic review, empirical paper and the case study's findings it is recommended that research initially focus on the development and standardisation of reliable and valid structured methods of assessment, to aid the assessment and formulation process and base treatment efficacy on objective notions of treatment change. In the absence of such measures, future research is at risk of being compounded by invalidating factors, which will neither extend our knowledge of the nature of problematic and offending behaviours, nor provide insight into appropriate assessments and treatments necessary to reduce such behaviours.

In relation to standardised measures, findings from the psychometric critique in Chapter 4 indicate that not only should the next stage of research attempt to develop standardised measures within the Deaf population but should also assess the validity and reliability of existing standardised measures such as the HCR-20 within the Deaf population. Research validating such tools is required to define the use of the HCR-20 within the Deaf population.

6.5 Conclusion

Research investigating the assessment and treatment of problematic and offending behaviours in the Deaf population remains scarce and that which does exist, appears

to be methodologically flawed. In addition research into the nature of problematic and offending behaviours in the Deaf population have been investigated as relatively separate concepts. Therefore, the relationship between them remains unclear. The amalgamation of these concepts is necessary to establish the causal relationships between these concepts to attempt to devise a credible approach to the assessment, treatment and evaluation of this population.

The evidence from this thesis indicates that the research investigating the Deaf population, in particular the offending population, is in its initial stages and is far from the advanced theories and treatment models of the hearing offender populations. However, knowledge regarding specific adaptations to assessments such as the HCR-20 (O'Rourke, 2007) and treatment approaches such as CBT (Glickman, 2009) and DBT (O'Hearn & Pollard, 2008) exists. Therefore, it is necessary to establish the reliability and validity of these assessments and the effectiveness of these adapted treatment approaches in relation to problematic and offending behaviours.

This thesis also indicates that defining and accurately assessing the Deaf population's problematic and offending behaviours is challenging due to the: failure to distinguish between Culturally Deaf individuals and deafened individuals; the lack of standardised valid psychometric measures within this population; and hearing researchers and clinicians lacking sufficient knowledge and communication skills to work with this population.

Consequently, it is clear that extensive work is required so as to ensure that appropriate assessments and treatment programmes are developed for Deaf

individuals with and without mental illness displaying both problematic and offending behaviours.

In order for such developments to be made, the researchers and professionals working within this field must be sufficiently skilled in both communicating and implementing culturally Deaf applications. This need extends to the professionals and officials working within the British Criminal Justice System to ensure that Deaf people's rights are protected, their needs are met, and their risk of future offending reliably predicted and reduced. This is necessary to both protect society and ensure that Deaf offenders have equal access to rehabilitation as their hearing counterparts.

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Appendix 1

Cochrane CENTRAL Search Syntax (1800 to 2010, completed on the 5^h of January 2007, 4 hits).

1. behaviour* in All Fields or problem* in All Fields and disorder* in All Fields, in all subjects,
2. PARENT* in All Fields or MOTHER in All Fields or FATHER in All Fields, in all subjects
3. CHILD in All fields or ADOLESCENT in All Fields, in all subjects
4. DEAF* in All Fields or HEARING IMPAIR* in All Fields or HEARING LOSS in All Fields, in all subjects
5. 1 and 2 and 3 and 4

EMBASE Search Syntax (1947 to 2010 week 01, completed on the 5th of January 2010, 33 hits).

1. Hearing Impairment/
2. Hearing Disorder/
3. deaf. mp.
4. deaf\$. mp [mp = title, abstract, subject headings, heading word, , original title]
5. 1 or 2 or 3 or 4
6. PARENT/
7. ADOLESCENT MOTHER/ or MOTHER
8. ADOLESCENT FATHER/ or FATHER
9. 6 or 7 or 8
10. Child Parent relation
11. FATHER CHILD RELATION/
12. MOTHER CHILD RELATION/
13. interpersonal communication/
14. Child Rearing/
15. 10 or 11 or 12 or 13 or 14
16. Behaviour disorder/
17. VIOLENCE
18. anger/
19. AGGRESSION/
20. CRIME/
21. juvenile Delinquency/
22. ANTISOCIAL BEHAVIOUR
23. PSYCHOPATHY
24. 16 or 17 or 18 or 19 or 20 or 21 or 22 or 22
25. child/
26. adolescent. mp.
27. child\$. mp [mp= title, abstract, subject headings, heading word]
28. adolescent\$. Mp. [mp = title, abstract, subject headings, heading word]
29. 25 or 26 or 27 or 28
30. 5 and 9 and 15 and 24 and 29
31. 5 and 15 and 24 and 29
32. 5 and 15 and 24
33. 5 and 24 and 29

MEDLINE Search Syntax (1950 to December week 4 2009, completed on the 5th of January 2010, 49 hits).

1. Hearing disorders/ px [Psychology}
2. Hearing Loss/ pa [pathology]
3. Hearing Impaired Persons/ px [Psychology]
4. Deafness/ px [Psychology]
5. Hearing. mp. [mp = title, original title, abstract, name or substance word, subject heading word]
6. 1 or 2 or 3 or 4 or 5
7. Limit 6 to (“ preschool child (2 to 5 years)” or “ child (6 to 12 years)” or “adolescent (13 to 18 years)”)
8. Parents/ ed, px [Education, Psychology]
9. Mothers/ or single parent
10. Mother / ed, px [Education, Psychology]
11. Fathers / or single parent/
12. Fathers/ ed, px [Education, Psychology]
13. Parents/ or single parent/
14. 8 or 9 or 10 or 11 or 12 or 13
15. exp Parent-Child Relations/
16. Child Rearing/
17. 15 or 16
18. Child Behaviour disorders/ px [Psychology]
19. Child behaviour disorders/ or communication disorders/ or mood disorders/ or neurotic disorders/ or personality disorders/ or substance-related disorders/
20. Juvenile Delinquency/ px [Psychology]
21. Family/
22. 18 or 19 or 20 or 21
23. 6 and 7 and 14 and 22
24. 6 and 7 and 14 and 17 and 22
25. 6 and 14 and 17 and 22

PsychInfo Search Syntax (1967 to December week 1 2009, completed on the 5th of January 2010, 286 hits).

1. Hearing Disorders/
2. deaf/
3. partially hearing impaired/
4. hearing. mp. [mp = title, abstract, heading word, table of contents, key concepts]
5. 1 or 2 or 3 or 4
6. limit 5 to (160 preschool age ,age 2 to 5 years. Or 180 school age <age 6 to 12 years> or 200 adolescence <age 13 to 17 years>
7. parents/
8. mothers/ or adolescent mothers/ or single mothers/ or unwed mothers/
9. fathers/ or adolescent fathers/ or single fathers/
10. exp parental characteristics/
11. 7 or 8 or 9 or 10
12. family/
13. exp parent child relations/
14. exp parent child communication/

15. 12 or 13 or 14
16. exp behaviour problems/
17. exp juvenile delinquency/
18. exp behaviour disorders/
19. 16 or 17 or 18
20. 5 and 6 and 15 and 19
21. 5 and 6 and 11 and 19
22. 5 and 11
23. exp development/
24. 22 and 23
25. 19 and 24
26. violence/
27. aggressive behaviour/
28. criminal behaviour/
29. 26 or 27 or 28
30. 19 and 29
31. 5 and 11 and 30
32. stress/
33. 11 and 32
34. 5 and 33
35. 15 and 30
36. 5 and 35
37. 15 and 22
38. 30 and 37
39. exp Anger/
40. 5 and 39

Web of Science Search Syntax (1925 to latest week 2010, completed on 5th January 2010, 129 hits)

1. TS = deaf*
2. TS = hearing impaired*
3. TS = hearing loss
4. # 1 or # 2 or # 3
5. TS = behaviour problems
6. TS = behaviour disorders
7. TS = conduct disorders
8. TS = aggression
9. TS = aggressive
10. TS = violence
11. TS = violent
12. TS = crime*
13. TS = juvenile delinquency
14. TS = antisocial behaviour
15. # 5 or # 6 or # 7 or # 8 or #9 or #10 or #11 or # 12 or # 13 or # 14 or # 14
16. # 4 and # 15
17. # 8 or # 9 or # 10 or # 11 or # 12 or # 13 or # 14
18. # 5 or # 6 or # 7
19. # 4 and # 18
20. # 4 and # 17

21. TS = child*
22. TS = adolescent
23. # 21 or # 22
24. # 20 and # 23
25. TS = parent *
26. # 4 and # 18 and # 25

Appendix 2 Inclusion Criteria

First Author:
Title:
Journal:
Date:
Country:

1. Population

- Is the population defined as moderate / severe / profoundly deaf?	Y	N/S	N
-Are degrees of deafness defined i.e. profound 80dB?	Y	N/S	N
-If deafness is not defined can the population be determined as deaf?			
-Does the population include children aged 2 years to 12 years?	Y	N/S	N
- Does the population include adolescents aged 13 to 18 years?	Y	N/S	N
- Does the population include both sexes?	Y	N/S	N
- Males?	Y	N/S	N
- Females?	Y	N/S	N
-Are physical or mental disabilities present?	Y	N/S	N

2. Exposure

-Has the population been exposed to parent –child relations / interactions throughout their lives?	Y	N/S	N
-Has the population got a history of not residing with their parents?	Y	N/S	N
- Are the parent (s) defined as hearing?	Y	N/S	N

3. Comparator

- Is a parenting style / parent- child interaction identified? <i>This does not have to be present</i>	Y	N/S	N
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4. Outcome

- Does the population display behaviour problems?	Y	N/S	N
-Are these behaviour problems defined?	Y	N/S	N

5. Study Type

- Is the study either an RCT, quasi-experiment, cohort study or case control study?	Y	N/S	N
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6. Is the study to be included?	Y	N/S	N
--	---	-----	---

Reasons for exclusion:

Appendix 3
List of Excluded Studies and reasons for their Exclusion

Authors	Date	Title	Reasons for Exclusion
Adams, J. W.	1987	Reducing the stress levels of parents of hearing- impaired children: A parent educational programme.	Dissertation abstract
Andersson, G., Olsson, E., Rydell, A., & Larsen, H. C.	2000	Social competence and behavioural problems in children with hearing impairment.	Behavioural problems in relation to parent child interactions not measured
Barker, D. H., Quittner, A.L., Fink, N. E., Eisenberg, L. S., Tobey, E. A., & Niparko. J. K.	2009	Predicting behaviour problems in Deaf and hearing children: The influences of language, attention and parent-child communication	Target population criteria includes cochlear implants and investigates behaviour following surgery
Bowen, L.D.	1991	Coping and maternal stress in intact and single-parent families with hearing- impaired preschool children	Dissertation abstract
Cheskin, A.	1982	The use of language by hearing mothers of Deaf children	Behaviour problems not included as an outcome measure
Goldberg, B., Lobb, H. & Kroll, H.	1975	Psychiatric problems of deaf children	Review of a population living in an institution
Greenberg, M. T.	1980	Hearing families with deaf children: Stress and family functioning as related to communication method	Behaviour problems not included as an outcome measure
Hagborg, W. J	1989	A comparative study of parental stress among mothers and fathers of deaf school-age children	Population sample taken from a residential school
Hindley, P., Hill, P., McGuigan, S. & Kitson, N.	1994	Psychiatric disorder in deaf and hearing impaired children and young people	Population sample taken from a residential school
Hintermair, M.	2006	Parental resources, parental stress and socio-emotional development deaf and hard of hearing children	Population sample includes physical handicaps
Hosie, J. A., Russell, P. A., Gray, C. D., Scott, C., Hunter, N., Banks, J. S. &	2000	Knowledge of display rules in prelingually deaf and hearing children.	Family/ Parent relations and behavioural problems not investigated

Macaulay, M. C.			
Kelly, D., Forney, J. Parker-Fisher, S. & Jones, M	1993	The challenge of attention-deficit disorder in children who are deaf or hard-of-hearing.	Review of the literature
Knutson, J.F., Johnson, C. R. & Sullivan, P. M	2004	Disciplinary choices of mothers of deaf children and mothers of normally hearing children.	Behaviour problems not included as an outcome measure
Konuk N., Erdogan A., Atik L., Ugur M.B., Simsekyilmaz, O.	2006	Evaluation of behavioural and emotional problems in deaf children by using the child behaviour checklist	Behavioural problems in relation to parent child interactions not measured
Lampropoulou, V. & Konstantareas, M. M.	1998	Child involvement and stress in Greek mothers of deaf children.	Behaviour outcome not measured
Lederberg, A. R., Everhart, V. S.	2000	Conversations between Deaf children and their hearing mothers: Pragmatic and dialogic characteristics	Behaviour problems not included as an outcome measure
Lederberg, A. R. & Goldbach, T.	2002	Parenting stress and social support in hearing mothers of deaf and hearing children: A longitudinal study	Behaviour problems not included as an outcome measure
Lindert, B. R.	2002	Hearing families with deaf children: Linguistic and communicative aspects of American sign language development	Dissertation abstract
Marschark. M.	2000	Beyond parent education: The impact of extended family dynamics in deaf education	Behaviour problems not included as an outcome measure
Mathos, K. & Broussard, E.	2005	Outlining concerns of children who have hearing loss and their families.	Review of the literature
Meadow-Orlans, K.P.	1995	Stress support and deafness: Perceptions of infant's mothers and fathers	Population younger than 12 months
Meadow-Orlans, K.P.	1995	Sources of stress for mothers and fathers of deaf and hard of hearing infants.	Population younger than 12 months
Moore, B. L	1973	Behaviour Management of the preschool deaf	Dissertation abstract
Moores, D., Jatho, J. & Dunn, C.	2001	Families with deaf members:	Review of articles
Pipp- Siegal, S., Sedey, A. L. &	2002	Predictors of parental stress in mothers of young children with	Behaviour of children and

Yoshinaga-Itano, C.		hearing loss.	adolescents not measured
Polat, F	2003	Factors affecting psychosocial adjustment of Deaf students	Population includes disabilities and behaviour not measures as an outcome of parent-child interactions
Quittner, A. L.	1988	Maternal adaptation to a hearing impaired child: A comparison of the mediating and moderating effects of social support and personality	Dissertation abstract
Reivich R.S., Rothrock I.A.	1972	Behaviour problems of deaf children and adolescents. A factor analytic study.	Behavioural problems in relation to parent child interactions not measured
Rieffe, C. & Terwogt, M. M.	2006	Anger communication in deaf children	Behaviour measures and family/parent relations are not investigated
Robert, C. & Hindley, P.	1999	Practitioner review: The assessment and treatment of deaf children with psychiatric disorders.	Review of literature for practitioners
Schum, R.L.	1991	Communication and social growth: A developmental model of social behaviour in deaf children.	Proposal for a cognitive development study
Schnittjer, C. J. & Hirshoren, A	1981	The prevalence of behaviour problems in Deaf children	Behavioural problems in relation to parent child interactions not measured
Sloman, L. & Springer, S.	1987	Strategic family therapy interventions with deaf member's families.	Case study
Spencer, P. E	1993	The expressive communication of hearing mothers and deaf infants.	Population younger than 12 months
Smith, S.C., Haggard, M.P & Multicentre Otis Media Study Group.	1999	Communication tactics used by parents of children with OME (glue ear).	Behaviour problems not included as an outcome measure
Stern, J.D.	2003	Analogue observation of parent-child communication with children who are deaf or hard of hearing	Dissertation abstract

Stevenson,J., McCann, D., Watkin,P., Worsfold, S, & Kennedy, C.	2010	The relationship between language development and behaviour problems in children with hearing loss	Behavioural problems in relation to parent child interactions not measured
Szarkowski, A. A. (2006)	2006	Positive aspects of parenting a Deaf child: Development of a positive perspective	Dissertation abstract
Tasker, S. L.	2006	Joint attention in mother-child dyads involving deaf and hearing toddlers: Implications for socioemotional development	Dissertation abstract
Vaccari, C. & Marschark, M	1997	Communication between parent's and deaf children: Implications for socio-emotional development	Overview of research
Van- Eldik, T.	1994	Behaviour problems with deaf Dutch boys	No parental-child interaction exposure
Van-Eldik, T., Treffers, P. D., Veerman, J. W. & Verhahulst, F.C.	2004	Mental health problems of deaf Dutch children as indicated by parent's responses to the child behaviour checklist.	No parental-child interaction exposure
Vostanis, P., Hayes, M., De Feu, M. & Warren, J.	1996	Detection of behavioural and emotional problems in deaf children and adolescents: Comparison of two rating scales.	96.4% of parents preferred language was BSL / BSL and speech. Indicating parent sample were deaf / deafened
Watson, S. M., Henggeler, S. W., & Whelan, J. P.	1990	Family functioning and the social adaptation of hearing-impaired youths,	Population includes children with disabilities

Appendix 4

Quality Assessment Form for Cross Sectional Studies

Date of Quality Assessment:

Study Author and Date:

Study Title:

Threshold Criteria:

1. Did the study ask a clearly focused question?

Population

- | | | | |
|--|---|-----|---|
| - Was the population defined as children and / or adolescents between the ages of 2-18? | Y | N/S | N |
| - Did the population have a diagnosis of deafness defined as moderate, severe, profound? | Y | N/S | N |
| -Did the study provide a definition of moderate, severe and profound deafness? | Y | N/S | N |

Exposure

- | | | | |
|---|---|-----|---|
| -Were parental symptomologies / interactions with children clearly defined? | Y | N/S | N |
| - Were communication methods between parent and child clearly defined | Y | N/S | N |

Comparator

- | | | | |
|---|---|-----|---|
| - Were comparative samples clearly defined? | Y | N/S | N |
|---|---|-----|---|

Outcome

- | | | | |
|---|---|-----|---|
| - Was behaviour measured clearly as an outcome of the exposure? | Y | N/S | N |
| -Was behaviour clearly defined? | Y | N/S | N |
| -Was the assessment process to determine behaviour as an outcome clearly defined? | Y | N/S | N |

2. Was the design of the study appropriate to meet the research question?

- | | | | |
|---|---|-----|---|
| - Was a cross sectional study an appropriate method to answer the question under the circumstances? | Y | N/S | N |
| -Did it address the research question? | Y | N/S | N |

Continue to quality assessment if the threshold criterion is achieved.

Detailed Questions

Scoring Criteria (Total for overall quality assessment score)

YES: 2 PARTLY: 1 NO: 0 UNCLEAR: U

3. Was the sample recruitment acceptable?

(Selection bias; may compromise the generalisability of the findings)

3.1. Was the sample representative of the deaf children and adolescent population with hearing parents without diagnosis of mental and physical problems? 2 1 0 U

3.2. Was the sample selected from an appropriate pool of deaf children and adolescents with hearing parents? 2 1 0 U

3.3. Did all of the population have an equal opportunity to participate in all stages of the study? 2 1 0 U

3.4 Was the sample sufficient in size? 2 1 0 U

4. Was exposure accurately measured to minimise bias?

(Measurement or classification bias)

4.1. Were objective measures employed? 2 1 0 U

4.2. Were exposures objectively defined and validated? 2 1 0 U

4.2. Was the exposure measured by individuals other than parents of the children in the research sample? 2 1 0 U

4.3. Was the same method employed to measure exposure for all of the participants? 2 1 0 U

5. Was outcome accurately measured to minimise bias?

(Measurement or classification bias)

5.1. Were objective measures of outcome employed? 2 1 0 U

5.2. Were standardised measures of outcome employed? 2 1 0 U

5.3. Were the outcome measures standardised for use in the Deaf population? 2 1 0 U

5.4. Was the outcome measured by an objective party? 2 1 0 U

5.5.If self report instruments were used did children and parents have equal opportunity to respond? 2 1 0 U

5.6. Did the measures consider influencing factors on the outcome? 2 1 0 U

5.4. Were the sample and / or the outcome assessor blind to exposure? 2 1 0 U

6. Did the research identify all important confounding factors?

6.1. Were all confounding factors considered? 2 1 0 U

Parental emotional response to diagnosis of deafness?

Example:

Parental knowledge and experience of deafness?

Parental support from external agencies?

Parental views of child's language development?

Parental view of their child's deaf identity?

Child's view of deafness and identity?

Child's view of interactions with hearing parents?

Child's view of behaviour deemed problematic?

6.2. Did the researchers take into account confounding 2 1 0 U

factors in the design and / or analysis?

7. Did the research consider the attrition loss?

7.1. Did the research report the drop out rates? 2 1 0 U

7.2. Are those who completed the study similar to those 2 1 0 U
who did not?

The Results

8. What are the results?

8.1. Were the results clearly defined? 2 1 0 U

8.2. Did the results report the effect / association 2 1 0 U
between child parent relations and the demonstration of
behaviour problems?

Was the analysis of the results appropriate for the study 2 1 0 U
design?

9. How precise are the results?

9.1. Were the size of the confidence intervals appropriate 2 1 0 U
for the statistical analysis employed?

10. Are the results believable? (Reverse Scores for questions 10.1 and 10.2)

10.1. Could the results be due to bias or 2 1 0 U
confounding factors?

10.2. Are the design/ methods sufficiently flawed 2 1 0 U
to render the results unreliable?

11. Can the results be applied to the U.K. population?

11.1. Were the participant's representative deaf children and adolescents aged 2 to 18 living with hearing parents in the UK?

11.2. Was the exposure typical to that experienced by deaf children and adolescents aged 2 to 18 living with hearing parents in the UK?

11.1. If the study was completed outside of the U.K are the findings equally as relevant to the U.K. population?

Total Quality Assessment Score:

Appendix 5

Quality Assessment Form for Cohort Studies

Date of Quality Assessment:

Study Author and Date:

Study Title:

Threshold Criteria:

2. Did the study ask a clearly focused question?

Population

- | | | | |
|--|---|-----|---|
| - Was the population defined as children and / or adolescents between the ages of 2-18? | Y | N/S | N |
| - Did the population have a diagnosis of deafness defined as moderate, severe, profound? | Y | N/S | N |
| -Did the study provide a definition of moderate, severe and profound deafness? | Y | N/S | N |

Exposure

- | | | | |
|---|---|-----|---|
| -Were parental symptomologies / interactions with children clearly defined? | Y | N/S | N |
| - Were communication methods between parent and child clearly defined? | Y | N/S | N |

Comparator

- | | | | |
|---|---|-----|---|
| - Were comparative samples clearly defined? | Y | N/S | N |
|---|---|-----|---|

Outcome

- | | | | |
|---|---|-----|---|
| - Was behaviour measured clearly as an outcome of the exposure? | Y | N/S | N |
| -Was behaviour clearly defined? | Y | N/S | N |
| -Was the assessment process to determine behaviour as an outcome clearly defined? | Y | N/S | N |

2. Was the design of the study appropriate to meet the research question?

- | | | | |
|--|---|-----|---|
| - Was a cohort study an appropriate method to answer the question under the circumstances? | Y | N/S | N |
| -Did it address the research question? | Y | N/S | N |

Continue to quality assessment if the threshold criterion is achieved.

Detailed Questions

Scoring Criteria (Total for overall quality assessment score)

YES: 2 PARTLY: 1 NO: 0 UNCLEAR: U

3. Was the cohort recruitment method acceptable?

(Selection bias; may compromise the generalisability of the findings)

3.1. Was the cohort representative of the deaf children and adolescent population with hearing parents without diagnosis of mental and physical problems? 2 1 0 U

3.2. Was the cohort selected from an appropriate pool of deaf children and adolescents with hearing parents? 2 1 0 U

3.3. Did all of the population have an equal opportunity to participate in all stages of the study? 2 1 0 U

3.4 Was the cohort sufficient in size? 2 1 0 U

4. Was exposure accurately measured to minimise bias?

(Measurement or classification bias)

4.1. Were objective measures employed? 2 1 0 U

4.2. Were exposures objectively defined and validated? 2 1 0 U

4.2. Was the exposure measured by individuals other than parents of the children in the research sample? 2 1 0 U

4.3. Was the same method employed to measure exposure for all of the participants? 2 1 0 U

5. Was outcome accurately measured to minimise bias?

(Measurement or classification bias)

5.1. Were objective measures of outcome employed? 2 1 0 U

5.2. Were standardised measures of outcome employed? 2 1 0 U

5.3. Were the outcome measures standardised for use in the Deaf population? 2 1 0 U

5.4. Was the outcome measured by an objective party? 2 1 0 U

5.5.If self report instruments were used did children and parents have equal opportunity to respond? 2 1 0 U

5.6. Did the measures consider influencing factors on the outcome? 2 1 0 U

5.4. Were the sample and / or the outcome assessor blind to exposure? 2 1 0 U

6. Did the research identify all important confounding factors?

6.1. Were all confounding factors considered? 2 1 0 U

Example:

Parental emotional response to diagnosis of deafness?

Parental knowledge and experience of deafness?

Parental support from external agencies?

Parental views of child's language development?

Parental view of their child's deaf identity?

Child's view of deafness and identity?

Child's view of interactions with hearing parents?

Child's view of behaviour deemed problematic?

6.2. Did the researchers take into account confounding factors in the design and / or analysis? 2 1 0 U

7. Was the follow up of subjects complete?

7.1. Was the follow-up period long enough for effects to be revealed? 2 1 0 U

7.2. Were attempts made to contact all participants included in the original study? 2 1 0 U

7.3. Was consideration given to the potentially different outcomes between those lost to follow-up and those available for assessment? 2 1 0 U

The Results

8. What are the results?

8.1. Were the results clearly defined? 2 1 0 U

8.2. Did the results report the effect / association between child parent relations and the demonstration of behaviour problems? 2 1 0 U

Was the analysis of the results appropriate for the study design? 2 1 0 U

9. How precise are the results?

9.1. Were the size of the confidence intervals appropriate for the statistical analysis employed? 2 1 0 U

10. Are the results believable?

Reverse Scores for questions 10.1 and 10.2)

10.1. Could the results be due to bias or confounding factors? 2 1 0 U

10.2. Are the design/ methods sufficiently flawed to render the results unreliable? 2 1 0 U

(Reverse Scores for questions 10.1 and 10.2)

11. Can the results be applied to the U.K. population?

11.1. Were the participant's representative deaf children and adolescents aged 2 to 18 living with hearing parents in the UK?

11.2. Was the exposure typical to that experienced by deaf children and adolescents aged 2 to 18 living with hearing parents in the UK?

11.1. If the study was completed outside of the U.K are the findings equally as relevant to the U.K. population?

Total Quality Assessment Score:

**Appendix 6
Data Extraction Form**

Date of Data Extraction:

Author:

Date:

Article Title:

Source (Volume, Pages, Country of origin):

	Population Characteristics	
Target Population (Described)		
Inclusion Criteria		
Exclusion Criteria		
Recruitment Procedure		
	Characteristics of Children Participants at the Commencement of the Study <i>(Including comparator hearing group where stated)</i>	
Total Number	Deaf:	Hearing:
Age	Deaf Range: Deaf Mean:	Hearing Range: Hearing Mean:
Sex	Deaf Male: Deaf Female:	Hearing Male: Hearing Male:
Ethnicity & Percentage	Deaf:	Hearing:
Definition of deafness		
Cause of Deafness		
Age of deafness diagnosis	Range:	Mean:
Only deaf member in the family	Yes:	No:
First / Preferred Language		
Years communicating in first / preferred language		
Method of communication		

during interactions with parent(s)	
Method of communication in education environments	
	Characteristics of Parent Participants at the Commencement of the Study
Total Number	Deaf: Hearing:
Age	Deaf Range: Hearing Range: Deaf Mean: Hearing Mean:
Sex	Deaf Male: Hearing Male: Deaf Female: Hearing Female:
Ethnicity & Percentage	Deaf: Hearing:
First Language	
Communication methods during interactions with deaf child(ren)	
	Number of Participants in Each Condition <i>(where there are not specific conditions, determine the differences amongst participants in regards to the factors explored within the studies)</i>
Condition A Name: OR Factors:	Deaf Children: Hearing Children: Parents of Deaf: Parents of Hearing:
Condition B Name: OR Factors:	Deaf Children: Hearing Children: Parents of Deaf: Parents of Hearing:
Condition C Name: OR Factors:	Deaf Children: Hearing Children: Parents of Deaf: Parents of Hearing:

Condition D Name: OR Factors:	Deaf Children: Parents of Deaf:	Hearing Children: Parents of Hearing:		
Comparability of Sample Groups				
Were the participants comparable in terms of their characteristics / demographic detail?	Yes: No: Unsure:			
Methodological Quality of Study				
RCT Quasi – Experimental Cohort Cross sectional Case Control	Yes: (tick to demonstrate method used in study)			
Unit of allocation (registration records, order in treatment)				
Was a quality assessment completed?	(Tick to demonstrate) Yes: No:	Score:		
Exposure				
	Exposure 1	Exposure 2	Exposure 3	Exposure 4
Focus of exposure (method of communication, discipline, child- rearing, parental symptomology, and family unit).				
Raters of exposure (parent, teacher, child, researcher)				

Delivery of each exposure (parent, family unit, single parent, mother, father)				
Measurements employed for exposure				
Validity of exposure measures				
	Outcome			
	Outcome 1	Outcome 2	Outcome 3	Outcome 4
What was measured (behaviour defined)				
Raters of outcome (parent, teacher, child, researcher)				
Measurements employed for outcome				
Are measures standardised?	Yes: No:	Yes: No:	Yes: No:	Yes: No:
Are measures valid and reliable to be used in the deaf population	Yes: No:	Yes: No:	Yes: No:	Yes: No:
Do the measures need to be used with another assessment tool?	Yes: No:	Yes: No:	Yes: No:	Yes: No:
What other assessment tools are needed?				
If an assessment measure was missing can it be applied to the deaf population?				
Was there any attempt to reduce informant bias?	Yes: No:	Yes: No:	Yes: No:	Yes: No:

Provide Detail:													
	Analysis												
What were the statistical techniques employed?													
Do the techniques adjust for confounding variables? Provide detail:	Yes: No:												
What was the unit of analysis?													
Attrition rates overall?													
Was attrition dealt with appropriately?													
Number/ percentage of participants followed up from each condition	<table border="0"> <tr> <td>Condition 1</td> <td>Condition 2</td> <td>Condition 3</td> <td>Condition 4</td> </tr> <tr> <td>N=</td> <td>N=</td> <td>N=</td> <td>N=</td> </tr> <tr> <td>%=</td> <td>%=</td> <td>%=</td> <td>%=</td> </tr> </table>	Condition 1	Condition 2	Condition 3	Condition 4	N=	N=	N=	N=	%=	%=	%=	%=
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	Results												
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Condition 1	Condition 2	Condition 3	Condition 4										
Behaviour indicated by measures in relation to exposure for all conditions													
Pre Exposure Exposure Difference for all conditions													

Quantitative Results (estimates of effect sizes)	
Qualitative Results (Summary of findings)	
Implication of findings	

Notes:

Appendix 7 Professional's CJS Questionnaire

This questionnaire is part of a Department of Health funded study on Deaf people in the criminal justice system. The study is being carried out by Dr Sue O'Rourke and Catherine Smith from St. George Healthcare Group. As an integral part of our study we are gathering the views and experiences of various professionals who have worked with Deaf people in the criminal justice system. You will remain anonymous but if you wish to be contacted with feedback from this study, please outline this when you respond and we will be happy to send you information after publication. Thank you very much for agreeing to take part.

Profession	
Number of years working with deaf people	
Level of sign-language ability (circle/bolden the font as appropriate)	None Basic Level 1 level 2 Level 3 Level 4

Section One - Police Interview

On roughly how many occasions have you witnessed a police interview involving a deaf person?

- If none, skip to Section Two
- If there has been one occasion, please *circle/bolden the font of this sentence* and answer the following questions with regard to that occasion
- If there has been more than one occasion, please *circle/bolden the font of this sentence* and answer the questions with regard to your experiences in general

1) Was a BSL interpreter present? If not, why?

2) How well do you think the police monitored the understanding of the interviewee?

3) Did the police officers resort to using any written communication with the interviewee?

4) Any other comments regarding police interviews?

Section Two - Court

On roughly how many occasions have you witnessed a court hearing involving a deaf person?

- If none, skip to Section Three
- If there has been one occasion, please *circle/bolden the font of this sentence* and answer the following questions with regard to that occasion
- If there has been more than one occasion, please *circle/bolden the font of this sentence* and answer the questions with regard to your experiences in general

Please bolden the font to indicate multiple choice answer if completing electronically

1) Did the court make use of:

- A BSL interpreter? Yes / No

- A relay interpreter?	Yes / No
- An intermediary?	Yes / No
2) How well do you feel the court monitored the understanding of the deaf person?	
3) If the intermediary was used, how useful was his/her role in your opinion?	
4) Any other comments regarding deaf people in court?	

Section Three - Prison

On roughly how many occasions have you worked with a deaf inmate in prison?

- If none, skip to Section Four
- If there has been one occasion, please *circle/bolden the font of this sentence* and answer the following questions with regard to that occasion
- If there has been more than one occasion, please *circle/bolden the font of this sentence* and answer the questions with regard to your experiences in general

Please bolden the font to indicate multiple choice answer if completing electronically

1) How would you describe the deaf awareness of the prison staff?	
2) Can you describe the attitudes of prison staff members towards the deaf inmates' difficulties?	
3) Were you aware of the deaf inmate being able to attend any classes/training? Was there an interpreter available?	
4) Did they have a minicom?	Yes / No
5) Did they have a subtitled TV?	Yes / No
6) Did they have contact with any other deaf inmates?	Yes / No
7) Were you aware of any deaf inmates or hearing inmates who could sign being used as interpreters?	
8) Were you aware of the inmate having any mental health problems in prison? If so, can you describe them? And what support was on offer?	
9) Any other comments on deaf people inside prisons?	

Section Four

Any further comments about/accounts of deaf people in the criminal justice system?

Appendix 8 Interpreter Questionnaire

This questionnaire is part of a Department of Health funded study on Deaf people in the criminal justice system. The study is being carried out by Dr Sue O'Rourke and Catherine Smith from St. George Healthcare Group. As an integral part of our study we are gathering the views and experiences interpreters who have worked with deaf people in the criminal justice system. You will remain anonymous but if you wish to be contacted with feedback from this study, please outline this when you respond and we will be happy to send you information after publication. Thank you very much for agreeing to take part.

Number of years as a qualified interpreter	
--	--

Questionnaire guidelines

Please bolden the font to indicate multiple choice answer if completing electronically

Police	
1) How often are police suspect interviews videoed instead of audio-recorded?	ALWAYS USUALLY OCCASIONALLY NEVER
2) How often are police witness/victim interviews videoed instead of audio-recorded?	ALWAYS USUALLY OCCASIONALLY NEVER
3) Describe any issues that can arise in the absence of a video-recording:	
4) In general, do you think the police are able to accurately monitor the Deaf person's level of understanding during an interview? Please use examples if necessary.	
5) Can you evaluate the way in which the police generally deal with a Deaf person when issues around communication and understanding arise? Please use examples if necessary.	
6) How often do you have an opportunity to discuss any communication/understanding issues with the police before/after the interview?	ALWAYS USUALLY OCCASIONALLY NEVER
7) Have you had any specialist interpreter training for working with the police?	YES NO
8) Do you feel you have had sufficient training/supervision to work effectively with the police?	
9) How would you describe the deaf awareness of the police during the interview process	
10) Overall how confident are you about the accuracy of police interviews using a BSL interpreter?	
11) Are there any other issues in relation to Deaf people and the police which you would like to tell us about?	

Court	
1) Is it preferable to meet the Deaf person/solicitor/court staff before the hearing starts? If so, why?	
2) How often is there a chance for any prep in court with the Deaf person/solicitor/court staff?	ALWAYS USUALLY OCCASIONALLY NEVER
3) In court, is there anyone monitoring the interpretation?	ALWAYS USUALLY OCCASIONALLY NEVER
4) If there are difficulties in communication, how receptive have the court been to your concerns?	
5) In general, how well do you think the court is able to accurately monitor the Deaf person's understanding of the court proceedings? Please use examples if necessary.	
6) Can you evaluate the way in which the court generally deals with a Deaf person when issues around communication and understanding arise? Please use examples if necessary.	
Prison	
1) Under what circumstances have you worked in prisons?	
2) How would you describe the deaf awareness of the prison staff?	
3) Do you have any further comments about Deaf people in prisons?	
In General	
1) Are there any particular signs in BSL/English words/phrases/concepts you believe are problematic within the CJS? – do focus group with interps	
2) Describe any other issues that can arise in your experience of deaf people in the CJS:	
3) What do you feel the key things are that could be done to help deaf people at any point to improve the way Deaf people are dealt with in the CJS?	
4) Any other comments?	

Appendix 9
Police Officer Questionnaire

Years with the service.....

Department and Rank.....

	Circle as appropriate		Comment
	YES	NO	
Have you had any compulsory/voluntary training in deaf awareness/BSL?			
Would you arrest a deaf person using the same procedure as you would with a hearing person?			
If you had to interview a deaf person would you always get an appropriate adult?			
Using which method would you record an interview with a deaf person using an interpreter?	AUDIO-TAPE	VIDEO	
Are you aware of the PACE guidelines regarding deaf people?			
Under what circumstances would you interview a deaf person without an interpreter?			
What extra help would you need if you had to interview a deaf person?			
Have you ever interviewed a deaf person? If not, you can skip the remaining questions			
Is there always an opportunity to discuss any communication or understanding issues with the interpreter before/after the interview?			
Is there always an opportunity to discuss any communication or understanding issues with the interpreter before/after the interview?			
Are you always able to obtain a BSL interpreter for an interview with a deaf person?			
Describe any difficulties you face dealing with a deaf person using an interpreter			
What do you think could help in your dealings with deaf people?			

Appendix 10

Screening Assessment

The screening assessment is used initially to determine the necessary code book for each questionnaire coded.

- 1) **Case #:** Three digit research identification number labelled on questionnaire
- 2) **Coder:** The individual coding the screening assessment
 - 1) Catherine Smith
 - 2) Second Coder

3) **Screening Date:** / /.....

The day, month and year the screening assessment was completed

- 4) **Required Code Book:** Indicate the questionnaire being screened.
 - 1) Professional CJS Questionnaire
 - 2) Interpreter Questionnaire

The screening assessment is complete. Using the appropriate codebook (Codebook: Professional or Codebook Interpreter) complete the coding procedure.

Codebook: Professional

The majority of variables are listed in the order they appear on the questionnaire. However some variables may need to be returned to later in the coding process. Information that is missing is coded '99' unless directed otherwise.

General

1) Case #: Three digit research identification number labelled on questionnaire

2) Coder: The individual coding the screening assessment

- 1) Catherine Smith
- 2) Second Coder

3) Date Coded: / /.....

The day, month and year the screening assessment was completed

4) Profession: Report the profession of the participant who completed the questionnaire

- 1) Clinical Psychologist
- 2) Consultant Forensic Psychiatrist
- 3) Social Worker
- 4) Criminal Solicitor
- 5) Registered Intermediary
- 6) Solicitor
- 7) Other

N.B If the participant has stated their profession as 'interpreter' terminate the coding and return to screening assessment; amend as necessary.

5) Professional Experience: Report the number of years that the participant has worked with deaf people

- 1) 0
- 2) 1-4
- 3) 5-9
- 4) 10-14
- 5) 15-19
- 6) 20-24
- 7) 25-29
- 8) 30+

6) BSL Level: Report the participant's level of sign language

- 1) No sign language ability
- 2) Basic (Level One)
- 3) Intermediate (Level Two)
- 4) Advanced (Level 3)
- 5) Advanced Plus (Level 4)
- 6) Native BSL User

EXPERIENCE OF POLICE INTERVIEW

1) Interview Experience: Report the number of Police interviews the professional has been involved in:

- 1) Never
- 2) Once
- 3) More than Once
- 4) 10 or more

POLICE AWARENESS : FOLLOWING PACE GUIDLINES

1) Interview Interpreter Presence: Professional specifies the presence of a BSL interpreter in a Police interview

- 1) Never : *None of the time*
- 2) Occasionally : *Some of the time*
- 3) Usually : *Most of the time*
- 4) Always : *All the time*

89) N / A : *N/A or Professional has no relevant experience*

2) Interview Absent Interpreter: Professional specifies the reason for an interview to be conducted without an interpreter

- 1) Unable to access: *Police unable to access an interpreter*
- 2) Unaware: *Police unaware of need to access an interpreter*
- 3) Other: *Specify*
- 79) Undetermined: *Reason cannot be determined*

89)N / A : *N/A or Professional has no relevant experience*

3) Non Interpreter: Professional specifies who interprets the interview if it was not a qualified /registered interpreter

- 1) Professional Themselves
- 2) Police Officer
- 3) Solicitor
- 4) Appropriate Adult
- 5) Family member
- 6) Other (Specify)

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Professional has no relevant experience*

POLICE AWARESS: MONITORING UNDERSTANDING AND COMMUNICATION

1) Police Ability to Monitor: Professional specifies the police's ability to monitor the interviewees understanding

- 1) Poor: *Police rely on others to monitor*
- 2) Satisfactory: *Police able to monitor with support*
- 3) Good: *Police able to monitor without support*
- 79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Professional has no relevant experience*

2) Police The Monitor: Professionals specifies who monitors the interviewees understanding of deaf person during the Police interview

- 1) Police
- 2) Interpreter
- 3) Deaf Relay/ Intermediary
- 4) Professional themselves
- 5) Deaf Person: *Interviewee is presumed responsibility of making Police aware of them not understanding*
- 6) Other (Specify)

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Professional has no relevant experience*

3) Police Monitoring Process: Professional specifies the practices implemented by the Police to facilitate the deaf person's understanding and minimise communication issues during the interview process

1) Breaks: *Frequent breaks provided to clarify information*

2) Plain English: *Police used plain English to simplify procedure*

3) Rephrase Question: *Rephrase questions to simplify procedure*

4) Other: *Specify*

5) None: *No practices implemented*

79) Undetermined: *Cannot be determined from the information report*

89) N / A: *N/A or Professional has no relevant experience*

4) Police Receptivity: Professional specifies that the Police were receptive in implementing practices to facilitate deaf person's understanding and reduce issues of communication and understanding during the interview process

1) No

2) Variable

3) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Professional has no relevant experience*

POLICE AWARENESS: DEAF ISSUES

1) Police Deaf Aware: Professional specifies the Deaf Awareness of the Police when interacting with a Deaf person

1) Lack Deaf Aware: *No Deaf awareness when interviewing member of the Deaf Community*

2) Some Deaf awareness: *Some Deaf awareness when interviewing member of the Deaf Community*

3) Deaf Aware: *Deaf aware when interviewing member of the Deaf Community*

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Professional has no relevant experience*

POLICE AWARENESS: DEAF ISSUES: MONITORING UNDERSTANDING AND COMMUNICATION

1) Police Written Communication: Professional specifies that the Police resorted to using written communication with the interviewee

1) No

2) Variable / Sometimes

3) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Professional has no relevant experience*

2) Signed Written Documents: Professional specifies that the Police presented written documents for the interviewee to sign

1) No

2) Variable / Sometimes

3) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Professional has no relevant experience*

3) Interviewee Reading Comprehension: Professional specifies the interviewee's ability to read the written documents presented

1) Poor: *Unable to read*

- 2) Satisfactory: *Able to read with support*
- 3) Good: *Able to read*
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Professional has no relevant experience*

4) Response to Police Written Document: Professional specifies the response of the deaf person when presented the written document

- 1) Read: *Deaf person read statement*
- 2) Did not read: *Deaf person did not read statement*
- 3) Anger/ Frustration: *Deaf person became angry / frustrated*
- 4) Other (*Specify*)
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Professional has no relevant experience*

EXPERIENCE: COURT PROCEEDINGS

1) Court Experience: Professional specifies the number of court hearings they have been involved in

- 1) Never
- 2) Once
- 3) More than Once
- 4) 10 or more

COURT AWARENESS: FOLLOWING DISCRIMINATION DISABILITY ACT

1) Interpreter Presence in Court: Professional specifies the presence of a BSL interpreter in court proceedings

- 1) Never : *None of the time*
- 2) Occasionally : *Some of the time*
- 3) Usually : *Most of the time*
- 4) Always : *All the time*

89) N / A : *N/A or Professional has no relevant experience*

2) Deaf Relay Presence in Court Professional specifies the presence of a Deaf Relay in court hearings

- 1) Never : *None of the time*
- 2) Occasionally : *Some of the time*
- 3) Usually : *Most of the time*
- 4) Always : *All the time*

89) N / A : *N/A or Professional has no relevant experience*

3) Deaf Intermediary Presence in Court: Professional specifies the presence of a Deaf Intermediary in court hearings

- 1) Never : *None of the time*
- 2) Occasionally : *Some of the time*
- 3) Usually : *Most of the time*
- 4) Always : *All the time*

89) N / A : *N/A or Professional has no relevant experience*

COURT AWARENESS: MONITOR UNDERSTANDING AND COMMUNICATION

1) Court Ability to Monitor: Professional specifies the court's ability to monitor the deaf person's understanding

- 1) Poor: *Court rely on others to monitor deaf persons understanding*
- 2) Satisfactory: *Court has some ability to monitor with support*
- 3) Good: *Court able to monitor without support*

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Professional has no relevant experience*

2) Court Monitoring Process: Professional specifies the practices implemented by the Court to facilitate the monitoring of the deaf person's understanding and minimise communication issues

1) Breaks/ time: *Frequent breaks/ time provided to clarify information*

2) Plain English: *Court officials used plain English to simplify procedure*

3) Rephrase Question: *Follow interpreter guidance to rephrase question to simplify procedure*

4) Deaf Relay/ Intermediary: *Use Deaf Relay / Intermediary*

5) None: *No practices implemented to facilitate monitoring*

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Professional has no relevant experience*

COURT AWARENESS: INTERPRETATION TEAM ROLE AND RESPONSIBILITY

1) Effective Intermediary: Professional specifies the effectiveness of the intermediary during the court process

1)) Poor: *Not effective*

2) Satisfactory: *Was effective some of the time*

3) Good: *Effective all of the time*

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Professional has no relevant experience*

COURT AWARENESS: MONITORING AND UNDERSTANDING COMMUNICATION: INTERPRETATION TEAM ROLE AND RESPONSIBILITY

1) Court & Interpreter Characteristics: Professional specifies that the understanding of the deaf person depends on the interpreter's ability to meet their needs by informing the courts of any issues arising

1) No

2) Variable / Sometimes

3) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Professional has no relevant experience*

COURT AWARENESS: LEGAL TERMINOLOGY / COMPLEX CONCEPTS

1) Court Communication Difficulties: Professional specifies that communication difficulties arise in court proceedings due to language

1) No

2) Variable / Sometimes

3) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Professional has no relevant experience*

2) Court Interpreting Problems: Professional specifies that some words, phrases, concepts used by the court were difficult to interpret from English to BSL

1) No

2) Variable / Sometimes

3) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Professional has no relevant experience*

COURT AWARENESS: ATTITUDE

1) Court Attitude: Professional specifies the court attempts to meet the needs of the Deaf person

- 1) No
- 2) Variable / Sometimes
- 3) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Professional has no relevant experience*

COURT AWARENESS: DEAF ISSUES

2) Court Deaf Aware: Professional specifies the Deaf Awareness of the Court during court proceedings

- 1) Lack Deaf Aware: *No Deaf Awareness during a court procedure involving member of the Deaf Community*
- 2) Some Deaf awareness: *Some Deaf awareness during a court procedure involving member of the Deaf Community*
- 3) Deaf Aware: *Deaf Aware during a court procedure involving member of the Deaf Community*
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Professional has no relevant experience*

COURT AWARENESS: DEAF ISSUES: MONITERING UNDERSTANDING AND COMMUNICATION

1) Minimal Language Skills: Professional specifies the courts awareness of Minimal Language Skills (MLS)

- 1) Poor: No awareness of MLS and no practices implemented
- 2) Satisfactory: Some awareness of issues related to MLS and implements some strategies
- 3) Good: Aware of issues related to MLS and implements strategies
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Professional has no relevant experience*

EXPERIENCE: OF PRISON

1) Prison Experience: Professional specifies the number of prison visits the professional has been involved in

- 1) Never
- 2) Once
- 3) More than Once
- 4) 10 or more

PRISON AWARENESS: FOLLOWING DISCRIMINATION DISASBILITY ACT

2) Minicom: Professional specifies the prison provided a minicom

- 1) No
- 2) Variable / Sometimes
- 3) Yes
- 89) N / A: *N/A or Professional has no relevant experience*

3) TV Subtitles: Professional specifies the prison provided TV subtitles

- 1) No
- 2) Variable / Sometimes
- 3) Yes
- 89) N / A: *N/A or Professional has no relevant experience*

4) Deaf Inmates: Professional specifies that deaf inmates had access to other deaf inmates

- 1) No

2) Variable / Sometimes

3) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Professional has no relevant experience*

5) Inmate Interpreter: Professional specifies the prison used other inmates who could sign as in house interpreters

1) No

2) Variable / Sometimes

3) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Professional has no relevant experience*

6) Double Sentence: Professional specifies that deaf inmates suffer a double sentence for deaf inmates due to a lack of communication

1) No

2) Variable / Sometimes

3) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Professional has no relevant experience*

PRISON AWARENESS: FOLLOWING DISABILITY DISCRIMINATION ACT: REHABILITATION

1) Education / Vocational Training: Professional specifies that deaf inmates had access to educational / vocational training

1) Denied Access: *Not able to access educational / vocational training*

2) Varied Access: *Deaf inmates occasionally can access education/training*

3) Access: *Able to access educational / vocational training*

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Professional has no relevant experience*

2) Education / Training Denied: Professional specifies the reason deaf inmates were unable to access educational and training programmes

1) No Interpreter

2) High risk: *Inmate deemed too higher a risk to attend*

3) Transferred: *Will be transferred before programme ends*

4) Other (*Specify*)

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Professional has no relevant experience*

3) Offender Programmes: Professional specifies that deaf inmates have access to offender rehabilitative programmes

1) Denied Access: *Not able to access offender programmes*

2) Varied Access: *Deaf inmates occasionally can access offender programmes*

3) Access: *Able to access offender programmes*

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Professional has no relevant experience*

4) Offender Programmes Denied: Professional specifies the reason deaf inmates are unable to access offender rehabilitative programmes

1) No Interpreter

2) High risk: *Inmate deemed too higher a risk to attend*

3) Transferred: *Will be transferred before programme ends*

4) Unsuitable: *Suitability assessment found inmate to be unsuitable for programme*

- 5) Inmate Choice
- 6) Other (*Specify*)
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Professional has no relevant experience*

5) Rehab Interpreter Access: Professional specifies that the deaf inmate when accessing a programme has access to an interpreter

- 1) No
- 2) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Professional has no relevant experience*

PRISON AWARENESS: FOLLOWING DISABILITY DISCRIMINATION ACT: MENTAL HEALTH

1) Prevalence of Mental Health: Professional specifies that Deaf inmates suffer mental health problems

- 1) No
- 2) Variable / Sometimes
- 3) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Professional has no relevant experience*

2) Mental Health Diagnosis: Professional specifies the identified mental health problems of deaf inmates

- 1) Schizophrenia
- 2) Bi Polar
- 3) Depression
- 4) Personality Disorder
- 5) Learning Disability
- 6) Schizophrenia / LD / PD
- 7) Other (*specify*)
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Professional has no relevant experience*

3) Mental Health Treatment: Professional specifies that treatment for mental health problems was provided

- 1) No Treatment
- 2) Variable / Sometimes provided treatment
- 3) Provided Treatment
- 89) N / A: *N/A or Professional has no relevant experience*

PRISON AWARENESS: MONITOR UNDERSTANDING AND COMMUNICATION

1) Prison Staff Communication: Professional specifies the ability of the prison staff to communicate with a deaf inmate without an interpreter

- 1) Poor: *No ability to communicate, no understanding of communication between both parties*
- 2) Satisfactory: *Some ability to communicate, both parties have some understanding of the communication*
- 3) Good: *Able to communicate, both parties understand communication*
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Professional has no relevant experience*

PRISON AWARENESS: ATTITUDE

1) Prison Staff Attitude: Professional specifies the attitudes of prison staff towards deaf inmates

- 1) Negative: Viewed negatively compared to other inmates
- 2) Variable: Dependent on prison officer / prison
- 3) Positive: Viewed equal to other inmates
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Professional has no relevant experience*

2) Prison Negative Attitudes: Professional specifies the negative attitudes demonstrated by the prison staff

- 1) Ignorant/ Hostile: *Ignorant / Hostile to Deaf needs and not willing to attempt to support / accommodate*
- 2) Punitive: *Challenge Deaf inmate when they do not respond to verbal instruction*
- 79) Undetermined
- 89) N / A: *N/A or Professional has no relevant experience*

PRISON AWARENESS: DEAF ISSUES

1) Prison Staff Deaf awareness: Professional specifies the Deaf awareness of the Prison Staff

- 1) Lack Deaf Aware: *No understanding of Deaf Awareness*
- 2) Some Deaf awareness: *Some Deaf awareness when interacting with a member of the Deaf Community*
- 3) Deaf Aware: *Deaf aware when interacting with member of the Deaf Community*
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Professional has no relevant experience*

DEAF COMMUNITY AWARENESS: RIGHTS OF THE INDIVIDUAL: INVOLVED IN PROCESS

1) Prison Process: Professional specifies that deaf persons understand the prison process

- 1) No
- 2) Variable / Sometimes
- 3) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Professional has no relevant experience*

CRIMINAL JUSTICE SYSTEM: FOLLOWS DISABILITY DISCRIMINATION ACT

1) Deaf Equality: Professional specifies that deaf people's experience of the CJS is equal to that of the general population

- 1) No
- 2) Variable / Sometimes
- 3) Yes
- 79) Undetermined: *Cannot be determined from the information reported*

CRIMINAL JUSTICE SYSTEM AWARENESS: IMPROVING THE DEAF EXPERIENCE

1) Improve Deaf Experience: Professional specifies that the CJS needs to make changes to improve the experience of Deaf people within the system

- 1) No
- 2) Yes
- 79) Undetermined: *Cannot be determined from the information reported*

**Code Book: Professional
Coding Form**

General Information

Case #:	Coder:	Date Coded:	Profession:	Professional Experience:	BSL Level:

EXPERIENCE OF POLICE INTERVIEW

Interview Experience	
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POLICE AWARENESS : FOLLOWING PACE GUIDLINES

Code Description	Quantitative Description	Qualitative Evidence
Interpreter Presence		
Absent Interpreter		
Non Interpreter		

POLICE AWARENESS: MONITORING UNDERSTANDING AND COMMUNICATION

Police Ability to Monitor		
Police The Monitor		
Police Monitoring Process		
Police Receptivity		

POLICE AWARENESS: DEAF ISSUES

Police Deaf Aware		
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POLICE AWARENESS: DEAF ISSUES: MONITORING UNDERSTANDING AND COMMUNICATION

Police Written Communication		
Signed Written Documents		
Interviewee Reading Comprehension		
Response to Written Document		

EXPERIENCE: COURT PROCEEDINGS

Court Experience	
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COURT AWARENESS: FOLLOWING DISCRIMINATION DISASBILITY ACT

Interpreter Presence		
Deaf Relay Presence		
Deaf Intermediary Presence		

COURT AWARENESS: MONITOR UNDERSTANDING AND COMMUNICATION

Court Ability to Monitor		
Court Monitoring Process		

COURT AWARENESS: INTERPRETATION TEAM ROLE AND RESPONSIBILITY

Effective Intermediary		
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COURT AWARENESS: MONITERING AND UNDERSTANDING COMMUNICATION: INTERPRETATION TEAM ROLE AND RESPONSIBILITY

Court & Interpreter Characteristics		
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COURT AWARENESS: LEGAL TERMINOLOGY / COMPLEX CONCEPTS

Court Communication Difficulties		
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COURT AWARENESS: LEGAL TERMINOLOGY / COMPLEX CONCEPTS

Court Interpreting Problems		
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COURT AWARENESS: ATTITUDE

Court Attitude		
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COURT AWARENESS: DEAF ISSUES

Court Deaf Aware		
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COURT AWARENESS: DEAF ISSUES: MONITERING UNDERSTANDING AND COMMUNICATION

Minimal Language Skills		
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EXPERIENCE: OF PRISON

Prison Experience	
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PRISON AWARENESS: FOLLOWING DISCRIMINATION DISASBILITY ACT

Minicom		
TV Subtitles		
Deaf Inmates		
Inmate Interpreter		
Double Sentence		

PRISON AWARENESS: FOLLOWING DISABILITY DISCRIMINATION ACT: REHABILITATION

Education / Vocational Training		
Education / Training Denied		
Offender Programmes		
Offender Programmes Denied		
Rehab Interpreter Access		

PRISON AWARENESS: FOLLOWING DISCRIMINATION DISASBILITY ACT: MENTAL HEALTH

Prevalence of Mental Health		
Mental Health Diagnosis		
Mental Health Treatment		

PRISON AWARENESS: MONITOR UNDERSTANDING AND COMMUNICATION

Prison Staff Communication		
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PRISON AWARENESS: ATTITUDE

Prison Staff Attitude		
Prison Negative Attitudes		

PRISON AWARENESS: DEAF ISSUES

Prison Staff Deaf awareness		
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DEAF COMMUNITY AWARENESS: RIGHTS OF THE INDIVIDUAL: INVOLVED IN PROCESS

Prison Process		
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CRIMINAL JUSTICE SYSTEM: FOLLOWS DISABILITY DISCRIMINATION ACT

Deaf Equality		
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CRIMINAL JUSTICE SYSTEM AWARENESS: IMPROVING THE DEAF EXPERIENCE

Improve Deaf Experience		
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QUALITATIVE COMMENTS

Comments	
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Appendix 11

Screening Assessment

The screening assessment is used initially to determine the necessary code book for each questionnaire coded.

- 1) **Case #:** Three digit research identification number labelled on questionnaire
- 2) **Coder:** The individual coding the screening assessment
 - 1) Catherine Smith
 - 2) Second Coder

3) **Screening Date:** / /.....

The day, month and year the screening assessment was completed

- 4) **Required Code Book:** Indicate the questionnaire being screened.
 - 3) Professional CJS Questionnaire
 - 4) Interpreter Questionnaire

The screening assessment is complete. Using the appropriate codebook (Codebook: Professional or Codebook Interpreter) complete the coding procedure.

Codebook: Interpreter

The majority of variables are listed in the order they appear on the questionnaire. However some variables may need to be returned to later in the coding process. Information that is missing is coded '99' unless directed otherwise.

General

3) Case #: Three digit research identification number labelled on questionnaire

4) Coder: The individual coding the screening assessment

3) Catherine Smith

4) Second Coder

3) Date Coded: / /.....

The day, month and year the screening assessment was completed

4) Profession: Report the profession of the participant who completed the questionnaire

8) Interpreter

N.B if the participant has stated a profession different to an interpreter terminate the coding and return to screening assessment; amend as necessary.

5) Interpreter Experience: Report the number of years that the participant has worked as a BSL interpreter

1) 0

2) 1-4

3) 5-9

4) 10-14

5) 15-19

6) 20-24

7) 25-29

8) 30+

EXPERIENCE OF POLICE INTERVIEW

1) Interview Experience: Interpreter specifies that they have interpreted in Police interviews involving deaf people using British Sign Language

1) Yes

2) No

POLICE AWARENESS: INTERVIEW PROCEDURE

1) Suspect Filmed: Interpreter specifies the frequency the police film interviews with a deaf suspect

1) Never : *None of the time*

2) Occasionally : *Some of the time*

3) Usually : *Most of the time*

4) Always : *All the time*

89) N / A : *N/A or Interpreter has no relevant experience*

2) Non Suspect Filmed: Interpreter specifies the frequency the police film interviews with a deaf witness / victim

1) Never : *None of the time*

2) Occasionally : *Some of the time*

3) Usually : *Most of the time*

4) Always : *All the time*

89) N / A : *N/A or Interpreter has no relevant experience*

3) Audio- Only Interview: Interpreter specifies that problems arise when police interviews with deaf people are not filmed

1) No

- 2) Variable /Sometimes
- 3) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

INTERPRETER CONFIDENCE: CONFIDENCE IN ACCURATE INTERPRETATION /COMMUNICATION / UNDERSTANDING

1) Confidence in Audio: Interpreter states that they are confident in the quality / accuracy of an audio – only recorded interviews with deaf people

- 1) No
- 2) Variable /Sometimes
- 3) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

2) Clarity of Interpretation: Interpreter specifies their confidence in the accuracy of an audio-only interview is less than a filmed interview because the interpretation cannot be checked for clarity, repaired or challenged at a later date

- 1) No
- 2) Variable /Sometimes
- 3) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *Interpreter has no experience of police interview*

3) Confidence in Films: Interpreter states that they are confident in the quality / accuracy of an visually recorded interviews with deaf people

- 1) No
- 2) Variable /Sometimes
- 3) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

POLICE AWARENESS: INTERVIEW PROCEDURE

1) Police Audio Awareness: Interpreter states that the Police are aware of the issues related to audio-only recorded interviews

- 1) No
- 2) Variable
- 3) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

POLICE AWARENESS: MONITORING UNDERSTANDING AND COMMUNICATION

1) Police Ability to Monitor: Interpreter specifies the Police’s ability to monitor the interviewees understanding:

- 1) Poor: Police rely on others to monitor
- 2) Satisfactory: *Police able to monitor with support*
- 3) Good: *Police able to monitor without support*
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Professional has no relevant experience*

2) Police & Deaf Idiosyncrasies: Interpreter states that Deaf idiosyncrasies affect the ability of the Police to monitor communication and understanding during an interview with a deaf person:

- 1) No
- 2) Variable
- 3) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

3) Interview Structure / Language: Interpreter states that the structure / language of the interview causes communication problems and affects the deaf person's understanding of the interview procedure

1) Yes

2) No

3) Variable

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter l has no relevant experiences*

4) Police Process & Awareness :Interpreter specifies that Police are aware of the communication issues that may arise during the Police process other than the interview (arrest, charge, detention) with a deaf person

1) No

2) Variable

3) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

5) Police Ability to Cope: Interpreter specifies the Police's ability to cope when issues with communication and understanding arise during the police process with a deaf person without preparation / Deaf Awareness education from interpreter

1) Poor: *No practices implemented*

2) Variable: *Some Police implement some suitable practices*

3) Good: *Police implement suitable practices*

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

POLICE AWARENESS: INTERPRETER ROLE AND RESPONSIBILITY

1) Police 'Expert' in Monitoring: Interpreter specifies that the Police views the Interpreter as the 'Expert' and therefore assumed that the interpreter is responsible for monitoring the understanding of the Deaf person during the Police interview process:

1) No

2) Variable /Sometimes

3) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter l has no relevant experience*

POLICE AWARENESS: ATTITUDE

1) Police Receptivity: Interpreter states that the Police are receptive to interpreter guidance during the Police process involving a deaf person

1) No

2) Variable

3) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

2) Professional Receptivity: Interpreter states that the professional involved in the case with a deaf person are receptive to interpreter guidance during the police process

1) No

2) Variable

3) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

POLICE AWARENESS: INTERPRETER ROLE AND RESPONSIBILITY

1) Police Preparation / Debrief: Interpreter specifies the frequency that interpreters prepare / debrief the Police about the communication and understanding issues

- 1) Never : *None of the time*
- 2) Occasionally : *Some of the time*
- 3) Usually : *Most of the time*
- 4) Always : *All the time*
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

2) Police & Interpreter Role: Interpreter specifies that the Police understand the role of the interpreter within the Police process

- 1) No
- 2) Variable
- 3) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

2) Educating the Police: Interpreter specifies that the Police's Deaf Awareness and ability to implement Deaf Aware procedures are dependent on education provided by the interpreter

- 1) No
- 2) Variable
- 3) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

INTERPRETER CHARACTERISTICS: INTERPRETER TRAINING / SUPERVISION

1) Interpreter Training: Interpreter specifies they have received specialist interpreter training for working with the Police

- 1) No
- 2) Yes
- 89) N / A: *N/A or Interpreter has no relevant experience*

2) Sufficient Training / Supervision: Interpreter specifies they have received sufficient training / supervision for working with the Police

- 1) No
- 2) Yes
- 89) N / A: *N/A or Interpreter has no relevant experience*

POLICE AWARENESS: DEAF ISSUES

1) Police Deaf Aware: Interpreter specifies the Deaf Awareness of the Police during the interview process

- 1) Lack Deaf Aware: *No Deaf Awareness during a police procedure involving member of the Deaf Community*
- 2) Some Deaf awareness: *Some Deaf awareness during a police procedure involving member of the Deaf Community*
- 3) Deaf Aware: *Deaf Aware during a police procedure involving member of the Deaf Community*
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

INTERPRETER CONFIDENCE IN ACCURATE INTERPRETATION / COMMUNICATION / UNDERSTANDING

1) Confidence in Accuracy of Interview: Interpreter specifies that they are confident in the accuracy of police interviews using BSL interpreters

- 1) Not confident: *No confidence in the accuracy of the interviews carried out by the Police using BSL*
- 2) Some Confident: *Some confidence in the accuracy of the interviews carried out by Police using BSL*
- 3) Confident: *Confident in the accuracy of the interviews carried out by Police using BSL*
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

2) Police & Sufficient Resources: Interpreter specifies that the resources available are sufficient throughout the Police process and ensure understanding of the deaf person as well as meeting the deaf person's needs

- 1) No
- 2) Variable
- 3) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

3) Police & Interpreter Characteristics: Interpreter specifies that the accuracy of an interview with a Deaf person is associated with the confidence / assertiveness of the interpreter during the Police process

- 1) No
- 2) Variable: *Dependent on Police attitude*
- 3) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

EXPERIENCE: COURT PROCEEDINGS

Court Experience: Interpreter specifies that they have interpreted in court hearings involving deaf people using British Sign Language

- 1) No
- 2) Yes

COURT AWARENESS: MONITORING UNDERSTANDING AND COMMUNICATION

1) Court Preparation Preferable: Interpreter specifies it is preferable to meet the Deaf person/ solicitor/court staff before the hearing

- 1) No
- 2) Variable /Sometimes
- 3) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experiences*

2) Frequency of Court Preparation: Interpreter specifies the frequency that they are able to prepare in court with the Deaf person/ solicitor/court staff before the hearing

- 1) 1 Never : *None of the time*
- 2) Occasionally : *Some of the time*
- 3) Usually : *Most of the time*
- 4) Always : *All the time*
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experiences*

3) Frequency Court Interpretation Monitored: Interpreter specifies the frequency that the interpretation is monitored in court

- 1) Never : *None of the time*
- 2) Occasionally : *Some of the time*

- 3) Usually : *Most of the time*
- 4) Always : *All the time*
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experiences*

4) Court Communication Difficulties: Interpreter specifies that communication difficulties arise during court process involving a deaf person

- 1) No
- 2) Variable /Sometimes
- 3) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

COURT AWARENESS: ATTITUDE

1) Court Receptivity: Interpreter states that the Professionals (Solicitor, Barrister, Judge, court staff) involved in the court case with a deaf person are receptive to interpreter guidance during the court procedure

- 1) No
- 2) Variable
- 3) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

COURT AWARENESS: MONITORING UNDERSTANDING AND COMMUNICATION

1) Court Ability to Monitor: Interpreter specifies the Police's ability to monitor the deaf person's understanding:

- 1) Poor: *Court rely on others to monitor*
- 2) Satisfactory: *Court able to monitor with support*
- 3) Good: *Court able to monitor without support*
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

2) Court Ability to Cope: Interpreter specifies the Court's ability to cope when issues of communication and understanding arise during the court process involving a deaf person

- 1) Poor: *No practices implemented*
- 2) Satisfactory: *Court implements some suitable practices*
- 3) Good: *Court implements suitable practices*
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

3) Court Structure / Language: Interpreter states that the structure / language of the Court procedure causes communication problems and effects the deaf person's understanding of the court process

- 1) No
- 2) Variable
- 3) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter l has no relevant experiences*

4) Court & Deaf Idiosyncrasies: Interpreter states that Deaf idiosyncrasies affect the ability of the court to monitor communication and understanding during a court hearing with a deaf person:

- 1) No
- 2) Variable
- 3) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

COURT AWARENESS: INTERPRETER ROLE AND RESPONSIBILITY

1) Court 'Expert' in Monitoring: Interpreter specifies the Court views interpreters as the 'Expert' and therefore interpreters are assumed to be responsible for monitoring the understanding of the Deaf person during the court process:

1) No

2) Variable /Sometimes

3) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

2) Court Understand Interpreter Role: Interpreter specifies that the Courts understand the role of the interpreter within the court process

1) No

2) Variable

3) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

3) Educating the Court: Interpreter states that the Court's Deaf Awareness and their ability to implement Deaf Aware procedures are dependent on education provided by the interpreter

1) No

2) Variable

3) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

INTERPRETER CHARACTERISTICS: CONFIDENCE IN ACCURATE INTERPRETATION /COMMUNICATION / UNDERSTANDING

1) Court & Sufficient Resources: Interpreters specifies that the resources are sufficient throughout the Court procedures to ensure understanding of the deaf person

1) No

2) Variable

3) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

2) Court & Interpreter Characteristics: Interpreter specifies that the Deaf person's understanding of the court process is associated with the confidence / assertiveness of the interpreter during the court procedure

1) No

2) Variable /Sometimes

3) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

EXPERIENCE: PRISON

1) Experience: Interpreter specifies that they have interpreted in prison for deaf people using British Sign Language

1) No

2) Yes

PRISON AWARENESS: DISCRIMINATION DISASBILITY ACT

1) Request of the prison: Interpreter specifies that they were employed at the request of the prison to interpret meetings /reviews/ training / interviews

- 1) No
- 2) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

2) Lifer / Panels Parole Hearings: Interpreter specifies that they were employed to interpret meetings reviews in Lifer panels / parole hearings

- 1) No
- 2) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

3) Professional Visits: Interpreter specifies that they were employed to interpret for professionals (Solicitor, social worker, Police, Probation) when visiting their deaf client in prison

- 1) No
- 2) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

4) Mental Health Assessments: Interpreter specifies that they were employed to interpret during the mental health assessment of a Deaf inmate

- 1) No
- 2) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

5) Rehabilitation / Vocational Programmes: Interpreter specifies that they were employed to interpret for deaf inmates undertaking rehabilitation / vocational programmes

- 1) No
- 2) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

6) Other Parties: Interpreter specifies that they were employed to interpret in prison for other parties

- 1) No
- 2) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

7) Prison Staff / Inmate Interpreters: Interpreter specifies that prisons are choosing to use prison officers/ inmates as BSL interpreters

- 1) No
- 2) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Professional has no relevant experience*

PRISON AWARENESS: DEAF ISSUES

1) Prison Staff Deaf Aware: Interpreter specifies the Deaf Awareness of the prison staff / prison system

- 1) Lack Deaf Aware: *No Deaf Awareness*
- 2) Some Deaf awareness: *Some Deaf awareness*
- 3) Deaf Aware: *Deaf Aware*
- 89) N / A: *N/A or Interpreter has no relevant experience*

PRISON AWARENESS: ATTITUDE

1) Prison Receptivity: Interpreter specifies the prison staff's / prison's system's receptivity in meeting the needs of a deaf inmate

- 1) Poor: *Prison staff are non receptive to deaf inmates needs*
- 2) Satisfactory: *Prison staff/system demonstrates some receptivity to needs of deaf inmate*
- 3) Good: *Prison staff/system receptive to needs of deaf inmate*
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

PRISON AWARENESS: DISCRIMINATION DISABILITY ACT

1) Prison Practices for Meeting Deaf Inmates Needs: Interpreter specifies the Prison's ability to cope when communicating and attempting to meet the needs of a deaf inmate

- 1) Poor: *No practices implemented*
- 2) Satisfactory: *Prison / Prison staff implements some suitable practices*
- 3) Good: *Prison / Prison staff implements suitable practices*
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

2) Prison & Sufficient Resources: Interpreters specifies that the resources available are sufficient throughout the Prison System to ensure that communication needs and other needs of deaf inmates are met

- 1) No
- 2) Variable
- 3) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

3) Double Sentence: Interpreter specifies that deaf inmates lack access to communication causing them to be isolated and vulnerable in the prison system

- 1) No
- 2) Variable /Sometimes
- 3) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

4) Mental Health / Emotional/ Behaviour: Interpreter specifies that the lack of communication experienced by the deaf inmate effects their Mental Health, emotional well being and or behaviour

- 1) No
- 2) Variable /Sometimes
- 3) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

5) Rehabilitation / Vocational Programmes: Interpreter specifies the deaf inmates are able access rehabilitation and/or vocational programmes during their prison sentence

- 1) No
- 2) Variable /Sometimes
- 3) Yes
- 79) Undetermined: *Cannot be determined from the information reported*
- 89) N / A: *N/A or Interpreter has no relevant experience*

CJS AWARENESS: MONITORING AND UNDERSTANDING COMMUNICATION LEGAL TERMINOLOGY / COMPLEX CONCEPTS

1) BSL in the CJS: Interpreter specifies signs in BSL/ English words/ phrases/concepts that are problematic when interpreting in the Criminal Justice System

1) No

2) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

2) BSL & CJS Processes: Interpreter specifies that particular processes within the Criminal Justice System (Caution, Oath, Plea, etc) are problematic when interpreting into BSL

1) No

2) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

3) BSL & the charge: Interpreter specifies that the English words / phrases used to define charges in Criminal Justice System (assault, weapon, arson, etc) are problematic when interpreting into BSL

1) No

2) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

4) CJS Professional Responsibility: Interpreter specifies that the professionals working in the Criminal Justice System (Police, Solicitor, Judge) are responsible for explaining problematic concepts to the deaf person

1) No

2) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

CJS AWARENESS: IMPROVING DEAF EXPERIENCE

1) CJS ability to meet Deaf Needs: Interpreter specifies the Criminal Justice System's ability to meet the needs of a deaf person in the CJS

1) Poor: *No practices implemented*

2) Satisfactory: *CJS implements some suitable practices*

3) Good: *CJS implements suitable practices*

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

2) Improve the Deaf experience: Interpreter specifies that the Criminal Justice System needs to make changes for the experience of deaf people to improve in the CJS

1) No

2) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

3) CJS Deaf Awareness: Interpreter specifies that a Deaf Aware Criminal Justice System is required for improving the experience of a deaf person involved in the CJS

1) No

2) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

4) More Interpreter Training: Interpreter specifies that BSL interpreters require an increased amount of training specific to working in the CJS

1) No

2) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

5) Interpreter Role Training: Interpreter specifies that the Criminal Justice System requires an increased amount of training regarding the role of the interpreter in the CJS

1) No

2) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

6) Interpreting Resources: Interpreter specifies that the Criminal Justice System requires improved interpreting resources (interpreter, deaf relay, deaf intermediary, appropriate adults)

1) No

2) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

7) BSL Information: Interpreter specifies that deaf people require information in BSL when an interpreter is not present when involved in the Criminal Justice System

1) No

2) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

8) Deaf Access to CJS: Interpreter specifies that deaf people require better access to the Criminal Justice System

1) No

2) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

9) Deaf Education: Interpreter specifies that deaf people require education regarding the Criminal Justice System's process / rights / expectations

1) No

2) Yes

79) Undetermined: *Cannot be determined from the information reported*

89) N / A: *N/A or Interpreter has no relevant experience*

**Code Book: Interpreter
Coding Form**

GENERAL INFORMATION

Case #:	Coder:	Date Coded:	Profession:	Professional Experience:

EXPERIENCE OF POLICE INTERVIEW

Interview Experience	
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POLICE AWARENESS: INTERVIEW PROCEDURE

Code Description	Quantitative Description	Qualitative Evidence
Suspect Filmed		
Non Suspect Filmed		
Audio- Only Interview		

POLICE AWARENESS: CONFIDENCE IN ACCURATE INTERPRETATION /COMMUNICATION / UNDERSTANDING

Confidence in Audio		
Clarity of Interpretation		
Confidence in Visual Interview		

POLICE AWARENESS: INTERVIEW PROCEDURE

Police Audio Awareness		
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POLICE AWARENESS: MONITORING UNDERSTANDING AND COMMUNICATION

Police Ability to Monitor		
Police & Deaf Idiosyncrasies		
Interview Structure / Language		
Police Process &		

Communication Issues		
Police Ability to Cope		

POLICE AWARENESS: INTERPRETER ROLE AND RESPONSIBILITY

Police 'Expert' in Monitoring		
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POLICE AWARENESS: ATTITUDE

Police Receptivity		
Professional Receptivity		

POLICE AWARENESS: INTERPRETER ROLE AND RESPONSIBILITY

Police Preparation / Debrief		
Police & Interpreter Role		
Educating the Police		

INTERPRETER CHARACTERISTICS: INTERPRETER TRAINING / SUPERVISION

Interpreter Training		
Sufficient Training / Supervision		

POLICE AWARENESS: DEAF ISSUES

Police Deaf Aware		
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POLICE AWARENESS: CONFIDENCE IN ACCURATE INTERPRETATION / COMMUNICATION / UNDERSTANDING

Confidence in Accuracy of Interview		
Police & Sufficient Resources		

Police & Interpreter Characteristics		
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EXPERIENCE: COURT PROCEEDINGS

Court Experience	
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COURT AWARENESS: MONITORING UNDERSTANDING AND COMMUNICATION

Court Preparation Preferable		
Frequency of Court Preparation		
Frequency Court Interpretation Monitored		
Court Communication Difficulties		

COURT AWARENESS: ATTITUDE

Court Receptivity		
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COURT AWARENESS: MONITORING UNDERSTANDING AND COMMUNICATION

Court Ability to Monitor		
Court Ability to Cope		
Court Structure / Language		
Court & Deaf Idiosyncrasies		

COURT AWARENESS: INTERPRETER ROLE AND RESPONSIBILITY

Court 'Expert' in Monitoring		
Court Understand Interpreter Role		

Educating the Court		
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COURT AWARENESS: CONFIDENCE IN ACCURATE INTERPRETATION /COMMUNICATION / UNDERSTANDING

Court & Sufficient Resources		
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Court & Interpreter Characteristics		
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EXPERIENCE: PRISON

Prison Experience	
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PRISON AWARENESS: DISCRIMINATION DISASBILITY ACT

Request of the prison		
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Lifer / Panels Parole Hearings		
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Professional Visits		
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Mental Health Assessments		
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Rehabilitation / Vocational Programmes		
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Other Parties		
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Prison Staff / Inmate Interpreters		
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PRISON AWARENESS: DEAF ISSUES

Prison Staff Deaf Aware		
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PRISON AWARENESS: ATTITUDE

Prison Receptivity		
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PRISON AWARENESS: DISCRIMINATION DISASBILITY ACT

Prison Practices for		
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Meeting Deaf Inmates Needs		
Prison & Sufficient Resources		
Double Sentence		
Mental Health / Emotional/ Behaviour		
Rehabilitation / Vocational Programmes		

CJS AWARENESS: MONITERING AND UNDERSTANDING COMMUNICATION LEGAL TERMINOLOGY / COMPLEX CONCEPTS

BSL in the CJS		
BSL & CJS Processes		
BSL & the charge		
CJS Professional Responsibility		

CJS AWARENESS: IMPROVING DEAF EXPERIENCE

CJS ability to meet Deaf Needs		
Improve the Deaf experience		
CJS Deaf Awareness		
More Interpreter Training		
Interpreter Role Training		
Interpreting Resources		
BSL Information		
Deaf Access to CJS		
Deaf Education		

Comment	
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