

## REVIEW

# The assessment of intellectual disability with deaf adults

**Kevin Baker<sup>1,2</sup> and Felicity Baker<sup>3</sup>**

*1. National Deaf Mental Health Service, Birmingham and Solihull Mental Health NHS Foundation Trust, Jasmine Suite, The Barbary, Vincent Drive, Birmingham.*

*2. Community Assessment and Treatment Team, Learning Disability Service, Nottinghamshire Healthcare NHS Trust, Lindsay Close, Mansfield, Nottinghamshire.*

*3. Health in Mind, Specialist Services Directorate, Nottinghamshire Healthcare NHS Trust, Newbrook House, Nottingham.*

## ABSTRACT

In this paper we review the construct of intellectual disability (ID) in relation to working with prelingually deaf people. Intellectual disability can sometimes be missed as a contributory factor to a deaf person's mental health difficulties. Despite some significant criticisms of the diagnosis or categorisation of ID, this often acts as a gatekeeper to specialised services in many countries and has legal implications. There are a number of issues to be considered in the process of an assessment of ID which can influence the outcome. An awareness of these criticisms and issues is helpful when considering how an assessment of ID is adapted when working with a deaf person. We briefly review the high incidence of additional disabilities that are often concomitant with a cause of deafness and highlight the difficulty in assessing deaf adults in comparison with deaf children. We end with a discussion of how an assessment of ID can be carried out with a deaf person that is equitable with that of a hearing person.

## KEYWORDS

intellectual disability assessment, cognitive assessment, adaptive behaviour assessment

Mental health services for deaf people often receive referrals of patients who experience difficulties in adjusting to mainstream hearing society, and where an intellectual disability is suspected<sup>1</sup>. ID commonly occurs alongside deafness for a number of reasons, often because deafness and ID can share the same aetiology. However, as with some mental health problems<sup>1,2</sup>, ID can easily be missed as a contributing factor to a deaf person's difficulties because the difficulties can be misattributed to communication problems between hearing and deaf people. This can lead to further problems where a person who is not coping due to a combination of deafness and cognitive disabilities is not assessed for ID and consequently does not receive appropriate services<sup>3</sup>. Where services are provided without a full awareness of a person's specific difficulties, they are likely to be inaccessible to the client and unhelpful.

It is important therefore that we consider the incidence of ID in deaf people in order to be able to help and support them in ways that are useful to them. However, carrying out an assessment to determine whether a deaf person has an intellectual disability is not straightforward. Tests and classification systems for ID have usually been standardised on a hearing population. For want of a better system of assessment, professionals have attempted to adapt these measures to deaf clients by omitting language-based tests and focusing on non-verbal or performance based tests. There are difficulties with this approach, which we will discuss later along with adaptations to tests that need to be applied in the assessment of a deaf client in order to evaluate their intellectual ability/disability.

In this paper we initially discuss the construct of ID and some of the problems with measurement and classification of ID generally. We subsequently explore how difficulties with the assessment and classification of ID have influenced the assessment of prelingually deaf people with additional disabilities. Finally, we describe general adaptations to the typical intelligence test battery that will enable a more equitable approach to evaluating ID with deaf people.

### **The classification or diagnosis of intellectual disability**

In Europe and the US, there has been a general consensus about the classification or diagnosis of intellectual disability. The American Association for Intellectual Disability<sup>4</sup> defines it operationally as:

*‘Mental retardation is a disability characterized by significant limitations both in intellectual functioning and in adaptive behaviour as expressed in conceptual, social and practical adaptive skills. This disability originates before age 18’.*

The classification systems of the World Health Organisation<sup>5</sup> (ICD-10) and the

American Psychiatric Association<sup>6</sup> (DSM-IV-TR) have similar definitions. Psychologists are usually called upon to carry out the assessment because of their training in assessing intellectual ability using IQ tests.

However, the diagnosis, label, classification, or categorisation of mental retardation or intellectual disability is problematic. The first hint of difficulty is suggested by the variety of phrases used. The more recent terms of ‘mental retardation’, ‘mental handicap’, ‘learning disability’ and ‘intellectual disability’ have replaced 18th century terms such as ‘idiot’, ‘cretin’, ‘moron’ and ‘the feeble minded’<sup>7,8</sup>. In part, these terms changed due to new groups of professionals claiming to develop expertise about why some people could not function independently in society<sup>7,8,9,10</sup>. From the late 19th century onwards, psychologists asserted their scientific credentials and applied knowledge of human behaviour in this area, most notably with the IQ test<sup>11,12</sup>.

### *Psychometrics*

IQ testing developed from Binet’s attempts to predict school achievement, later being applied to adults and then on an industrial scale in the context of army recruitment in the US and other countries<sup>13</sup>. With the application of psychometric methods to assess intelligence, the intelligence quotient has come to be part of the diagnostic process for the classification of intellectual disability. The cut-off score of 70, being 2 standard deviations below the mean of 100, has been interpreted as representing a point at which a person’s intellectual ability is now described as ‘significantly impaired’ and refers to a hypothesised 2.27% of the population who have an ID.

The construction of intelligence, first of all as something identifiable and secondly as something measurable, is contentious due to the assumptions that are made in connection

with its use. Spearman<sup>14</sup> is often quoted as the person who suggested 'g' or a general factor of intelligence to describe general intellectual ability. The general factor 'g' is a product of correlational research which suggests that a collection of different subtests contribute to the measurement of something else: something hypothetical called 'g'. Jensen<sup>15</sup> is the modern defender of 'g' who has promoted the idea of general intellectual ability which is now often used as a justification for the structure of some intelligence tests. Debates continue about the validity of 'g', suggesting it is solely a construction based on statistical analysis<sup>16,17</sup>.

Despite these concerns about the theoretical validity of 'g' and the unstable foundations of IQ testing and intellectual disability<sup>7,12</sup>, it is evident that general intelligence has come to be a widely accepted construct used in intellectual assessment. Whereas the construct of intellectual disability has come to be elaborated as a consequence of the 'psycho-metrication' of intelligence, exploring the intelligence of people born deaf has posed some searching questions.

Many early reviewers of intelligence research with Deaf children supported an audist<sup>18</sup> view that Deaf people have an inferior intelligence<sup>19</sup>, suggesting that being deaf in itself is enough to affect cognitive development in many areas of cognitive ability. This view persisted for several decades<sup>18</sup>. Myklebust's<sup>20,21</sup> work represented a slightly more progressive view that deaf children's development is necessarily different due to their reduced access to language, suggesting that their thoughts are characterised by concrete thought in comparison to the implied advanced abilities of abstract thought. However, as with the majority of 20th century theorists and researchers, their interpretations of language belied their assumption that sign language was not a 'proper' language<sup>18</sup>. Furth<sup>22,23</sup> directly addressed the question of the

relationship between language and intelligence. He was adamant that deaf people's poorer performance on cognitive tests was due to restricted access to general knowledge and the testing conditions which favoured spoken language. He asserted that deaf people can understand and use symbolic concepts as well as hearing people<sup>22,23</sup>.

For the psychologist who is under pressure to conform to an assessment of ID, an awareness of the theoretical assumptions, historical contexts and implications is important and has to be balanced with the outcome of an assessment. This is especially true when the assessment has the power of gatekeeping access to services in many countries. Following pressures to continue to use an intelligence test without a critical awareness will mean that interpreting the results are going to lead to difficulties. Without theoretical knowledge, how will we explain to teachers, parents, carers and the people we test, that the test results explain the referral problem.

### **Considerations of the assessment process**

In addition to the theoretical assumptions underlying our understanding of IQ testing and intelligence, we can identify a number of other issues that we think ought to be considered in the process of assessment with a deaf person. These can artificially influence the outcome of the assessment and suggest how the assessment can be interpreted:

1. In the assessment of ID, both intelligence and adaptive/social behaviour is often assessed through standardised assessments that are norm-referenced. The aim of norm-referenced testing is to compare one person's performance to a normative group. This can be problematic if the sample on which the normative group is based, is not fully representative and does not, for example, include samples of deaf people<sup>24</sup>. This is an acknowledged problem in IQ testing with some versions of the WAIS and WISC tests

not including people with ID in their samples<sup>25</sup>. An ideal IQ assessment would include standardised norms that include representation of the populations being assessed. Deaf people with ID are rarely, if ever, included.

2. Measurement is less effective, or rather it is more sensitive to error, at extremes of the normal distribution. For any application of psychometrics we must be aware that scores beyond the boundary of 2 standard deviations beyond the mean are less reliable. Measurement error, or variation in how a person responds to questions and situations will have bigger effects in the outcome of the norm-referenced test.

3. The ability to give a number, or quotient, as part of an assessment of ID can be seductive and has been the source of discussion since its inclusion. The score of 70 is essentially an arbitrary cut-off<sup>7</sup>. However, the diagnosis of ID is important as it has implications for eligibility of educational, vocational, financial and family support. In some countries, like the USA, it can determine whether an individual faces the death penalty or not<sup>26,27</sup>. Balancing the arbitrary nature of a cut-off point with the importance of access to support services puts the assessor in an ethical situation.

4. The arbitrariness of a cut off point for ID psychometric classification, is put into sharper focus given our awareness of changes in the performance of populations on IQ tests, such that most western countries have been improving, described as the Flynn-effect<sup>26,28,29</sup>. The rates of change cannot be used to correct for a test as we know that the rates of change vary by country. Recent data from Norway and Denmark, where the Flynn effect has been persistently evidenced in the past, suggests that increases in IQ have recently stopped or even declined<sup>30,31</sup>. There is little research on cultural differences and

the Flynn effect, and it is unknown how it has been influenced by changes in deaf education. However, these observations suggest that regular standardisation of tests is necessary.

5. The additional criteria for the classification of an intellectual disability, that there must be evidence of disability before the age of 18, is perhaps the simplest but most important part of the assessment process and can hide some complexity. Establishing that a person's current intellectual abilities are representative of their abilities as a child is indicative of the assumption that intellectual abilities are somehow fixed or represent something essential about a person. However, there is some debate about this, with evidence that IQ can be influenced up or down by environmental factors, such as pre-school support and specific educational training<sup>32,33</sup>. There is certainly some compelling evidence of IQ increases across generations<sup>26</sup> such that if our relatives from the early part of the last century were tested with today's assessments (e.g. the WAIS-IV), a very large number of them would fall within the ID category. Debating the complexities of this issue is outside the scope of this paper, suffice it to say that the issues are relevant and useful to consider when adapting an assessment for deaf people. We return to this issue below.

6. In general, research on ID has moved away from assessing general intelligence and has become more concerned with addressing the many different presentations of people with ID who present with varying rates of development, who show 'islands of ability', and those who may have specific cognitive disorders within the context of a delay in intellectual development<sup>34</sup>. It is within this context, that a full clinical assessment of ID can be used, in much the same way as a cognitive/neuropsychological assessment of abilities can inform difficulties with social adjustment. More recently still, research has tended to focus on cognitive systems (e.g.

attention, working memory, etc.), rather than describing general low IQ, that seek to explain specific functional impairment<sup>34</sup>. This approach suggests a more clinical interpretation of test results.

7. A further problem that needs to be considered when assessing ID with people who have other disabilities is that of diagnostic overshadowing. Diagnostic overshadowing can disrupt the assessment process quite dramatically. For example, a deaf child who ignores his/her parents and seems to prefer repetitive actions, may initially be thought to be acting strangely because they are deaf and isolated in their hearing family with the repetitive movements thought to provide some containment and predictability. However, it is also possible that this deaf child is displaying behaviours indicative of autism. A full assessment would include consideration of the child's deafness together with the possibility of autism explaining the behaviour.

8. Diagnostic overshadowing exemplifies a central and significant problem in assessment. It can be interpreted as an indication of the cultural difference between the professional attempting to carry out an assessment, and the person who is being assessed. In a study investigating children's responses to match the word FLY with pictures of an elephant, a bird and a dog, Mehan and Wood<sup>35</sup> discussed the adult-child cultural understanding of the assessment whereby children who identified the elephant as 'Dumbo' matched it with the word FLY, but the test administrator judged this as an incorrect response which should be 'bird'. Similarly, the cultural difference between an assessor (usually hearing, well adjusted and rewarded by the mainstream) and the deaf person being assessed (with possible additional difficulties caused by brain damage at birth, poor educational experience and linguistic deprivation, with probable negative experiences of the mainstream such as bullying, teasing, abuse,

etc...) are rarely acknowledged within the assessment process.

### **Deafness and intellectual disability**

The incidence of deafness and ID often share the same cause. Anoxia at birth, measles, mumps, meningitis, and genetic factors all can affect intellectual development as well as causing deafness. Black and Glickman<sup>36</sup> found that of the 64 deaf people referred to a specialist psychiatric inpatient service, around 40% had a cause of deafness due to rubella, meningitis or prematurity, and 25% were diagnosed with a developmental disorder such as Aspergers syndrome, mental retardation or pervasive developmental disorder. It has been found that the prevalence of hearing impairment is 40 times higher in people with intellectual disability compared with the general population<sup>37</sup>.

The Gallaudet Research Institute's<sup>38</sup> annual survey of deaf children suggests that around a half of all deaf children have additional difficulties, including further sensory needs, physical disabilities, mental retardation and difficulties with learning and attention. Crocker and Edwards<sup>39</sup> have provided a review of the overlap of deaf children with additional difficulties. These additional difficulties can be linked through a genetic syndrome, congenital causes, and/or acquired causes. Syndromes of symptoms related to chromosomal abnormalities that can cause ID include: CHARGE syndrome, Waardenburg syndrome, Alport syndrome, Usher syndrome, as well as Down syndrome amongst others. Congenital causes of deafness and ID can include intra-uterine rubella infection, prematurity, intrauterine cytomegalovirus infection, hypoxia/anoxia during birth, hyperbilirubinemia, and untreated toxoplasmosis. Acquired causes can include meningitis infection and encephalitis from other infections (e.g. measles, mumps, rubella, etc.), head trauma, leukaemia and ototoxic medication.

Of all these causes, bacterial meningitis seems to continually produce the most significant number of children with acquired deafness each year. It has been reported that between 9 and 14% of children who experience a meningitis infection lose their hearing, and between 9 and 13% experience some developmental delay or learning disability<sup>40,41</sup>. Kelly et al<sup>42</sup> found that children at a residential school for the deaf with acquired deafness, which included rubella infection and meningitis, were significantly more likely to experience difficulties with attention than children whose deafness had a genetic aetiology. Lorenz<sup>43</sup> has suggested that around 50% of the children who survive being born prematurely, have more than one disability. Unfortunately, our understanding of deafness and additional disabilities is often limited by existing research, which tends not to report the interaction between deafness and other disabilities, but rather focuses on each individually.

#### *Deaf children and adults*

The research literature on assessment of ID with deaf children and adults suggests some contrast exists between them. The bulk of literature on intellectual assessment with deaf people is focused on children. A quick search on a literature database for the purpose of this paper, suggests that the vast majority of the papers discussing intellectual assessment are concerned with deaf children, educational practice and achievement. There are few, if any, papers concerned with the assessment of deaf adults with intellectual disability. This may suggest that we can apply knowledge of assessment gained from assessing children to assessing adults, but this is rarely possible because of the lack of standardisation and norms of psychometric tests with deaf adults.

Assessing deaf adults has the added complication of a multitude of possible cultural and developmental experiences that may contribute to a deaf person being

presented as not being able to cope with adult life and consequently being referred for an assessment of ID. Some deaf adults may never have attended a special school, instead they may have 'survived' education within a special education unit in a mainstream school. Families may have chosen a mainstream school near the home rather than a specialist school some distance away. This may especially be the case if the family's culture encourages care and support within the family rather than the state. Consequently, a deaf adult may never have learnt any fluency in any language, including a sign language. The parents and non-specialist professionals around them may have assumed that any educational/social/cognitive delay was due to the person's deafness and difficulties with communication rather than due to any other cause. The deafness will have overshadowed any other explanation for the difficulties the growing child presents until he or she has grown into an adult and requires supports to gain a level of independence.

It is the aim of the assessment to unpick and describe the difficulties a deaf person may be experiencing and provide evidence for possible explanations. An intellectual disability may be one of these reasons and will include an assessment of social/adaptive behaviours and intellectual ability.

#### *A) Adaptive/social behaviour assessment with deaf people*

The 2010 definition of intellectual disability by the AAID<sup>4</sup> describes the use of standardised tests to measure IQ and adaptive behaviour. It describes adaptive behaviour as comprising three areas of skill:

- Conceptual Skills: language and literacy; money, time and number concepts; and self-direction.

- Social Skills: interpersonal skills, social responsibility, self-esteem, gullibility, naivete (i.e. wariness), social problem solving, and the ability to follow rules/obey laws and to avoid being victimised.
- Practical Skills: activities of daily living (personal care); occupational skills, healthcare, travel/transportation, schedule/routines, safety, use of money, use of the telephone.

The aim of the assessment is to determine in which areas a person may benefit from a support plan. The AAID is careful to outline that ‘professionals must take additional factors into account, such as the community environment typical of the individual’s peers and culture. Professionals should also consider linguistic diversity and cultural differences in the way people communicate, move and behave’<sup>4</sup>. However, assessments of adaptive/social functioning often include questions related to how a person communicates that conflate spoken language ability with communication skills. For example, the ABAS-II<sup>44</sup> includes items such as:

‘Calls to find out if a repair or order is ready’

‘Finds somebody’s telephone number in the phone book’

‘Answers the telephone appropriately’

These questions would mean that a deaf person would automatically lose points on such items and depress their scores on the skill areas such as Communication if a literal meaning of the items were used. The ABAS-II includes an answer option of ‘0’ if the person is not able to carry out a task if, for example, they have a ‘physical condition that prevents the behaviour’. Usefully, this may not be an invalid response for some Deaf

people. A Deaf person with good adaptive behaviour may be quite happy and able to use a translation service, such as a sign-speech relay service, to call a shop when a repair is ready. However, the norms for such behaviour will be different for Deaf people, as hearing people have more easy access to developing ways of contacting people they do not know.

Adaptations for Deafness on a measure of social/adaptive behaviour can be made in a straightforward way. For example, the item ‘Answers the telephone appropriately’ can be substituted to address the underlying adaptive skill of ‘Using communication technology for indirect contact with another person in an appropriate way’. Although this is not a standardised adaptation of the ABAS-II, it has long been established that adapting behaviour assessments to take into account alternative means of communication is good practice<sup>45</sup>.

The Vineland Adaptive Behavior Scales<sup>46</sup> has in some way attempted to address the possibility of skills being distributed differently in deaf people than in hearing people. The VABS provides supplementary norm groups for deaf children in residential care/education, but only for age groups from 6 to 13.

The AAID now attempts to stress that the ‘overarching reason for evaluating and classifying individuals with intellectual disabilities is to tailor supports for each individual, in the form of a set of strategies and services provided over a sustained period’<sup>4</sup>. The frequently asked questions document adds: ‘The goal is to enhance people’s functioning within their own culture and environment in order to lead a more successful and satisfying life. Some of this enhancement is thought of in terms of self-worth, subjective well-being, pride, engagement in political action, and other

principals of “disability identity”<sup>44</sup>.

*B) Intellectual assessment with deaf people*

It has long been argued that when using a verbal ability-based assessment it is unclear whether a deaf person’s performance is due to access to information, linguistic delay or other differences rather than general cognitive ability<sup>47</sup>. Indeed, it has long been shown that there is a lack of concurrent validity between performance and verbal scales when assessing deaf people<sup>48,49</sup>. It is for this reason that most studies of cognitive assessment with deaf people focus on non-verbal or performance tasks.

Blennerhassett<sup>24</sup> and Braden<sup>47</sup> have both reviewed the inappropriate nature of some tasks and items used in standardised testing, and have described the general modifications needed when administering, scoring and interpreting an intellectual assessment with deaf people. Not surprisingly, the main adaptation is communicative and indicates that most clinicians select the performance or non-verbal subtests. Although this is understandable when attempting to control for the bias inherent in verbal subtests, Blennerhassett<sup>24</sup> summarised two main difficulties with this. Firstly, performance-based tests are not completely non-verbal as they require some complex instruction and understanding. Secondly, any alteration to the items themselves or the instructions to the subtests, will represent some level of invalidation of the test’s standardisation rendering the scores unreliable. Although Blennerhassett<sup>24</sup> goes on to describe three tests of intelligence that were standardised for use with deaf people, these are all tests for use with children and, of course, cannot be used with adults.

Most measures of general intelligence consist of several subtests, which have been designed to cover a range of intellectual abilities. Some of them make explicit or implicit reference to

a ‘g’ factor. Regardless of the details, the intelligence test batteries usually include the two broad categories of non-verbal or performance subtests and verbal ability subtests. The older WAIS-III described the aggregation of each of these groups as performance IQ (PIQ) and verbal IQ (VIQ)<sup>50</sup>. These roughly translate to assessments of fluid and crystallised intelligence. This structure has been replaced in the revised version of the WAIS-IV with four ‘index’ factors of perception (PRI), performance speed (PSI), working memory (WMI) and verbal comprehension (VCI) rather than the two IQs of PIQ and VIQ, which aggregate to the Full Scale IQ<sup>51</sup>.

In the UK, the Raven’s Progressive Matrices have often been used to estimate the general intelligence of deaf adults as well as children. This is a non-verbal test that presents the examinee with a progression of visual puzzles. Johnson et al.<sup>52</sup> suggested that although the Raven’s loaded highly on the factor analytically derived ‘g’ factor, many verbal tests loaded more highly. However, a study personally communicated to the authors of the WAIS-IV handbook<sup>53</sup>, suggested that some of the non-verbal subtests of the WAIS-IV also have strong loadings on ‘g’.

Regardless of the debate of verbal or nonverbal subtests loading onto g, assessing intelligence solely using non-verbal tasks means that interpretation of the examinee’s performance is limited to a description of non-verbal abilities, and does not assess any verbal abilities or how a person may draw knowledge from their environment through communication.

The WAIS has always incorporated a mix of several subtests that assess non-verbal/fluid and verbal/crystallised intelligence to estimate a measure of general intelligence. This introduces an added complication in that combining a larger number of subtests to estimate a hearing person’s Full Scale IQ, is



different from estimating a deaf person's FSIQ from the smaller number of non-verbal/performance sub-tests. For example, a hearing person who performs at a borderline level in the indices of the WAIS-IV can be categorised within the Intellectual Disability range of performance using the tables in the handbook: PRI = 73, PSI = 74, WMI = 74, VCI = 74 giving a FSIQ = 69 (Administration and Scoring Manual<sup>51</sup>). Consequently, it would be inequitable to assert that a deaf person who gains non-verbal index scores of PRI = 73 and PSI = 74 to have a FSIQ of based on the index scores of being estimated between 73 and 74, or 'an IQ over 70'. As well as providing a restricted interpretation of 'general intelligence', limiting testing to non-verbal tasks prevents any interpretation of language abilities, aspects of social behaviours and crystallised abilities.

A conclusion from this argument then, is that it is currently impossible to offer an estimate of a deaf person's IQ that is equitable to an estimate given for hearing people. However, it is possible to combine assessments that address the equivalent aspects of intellectual abilities that are tested with hearing people, and to offer a clinical opinion of the category of intellectual ability of a deaf person. Currently, using the WAIS-IV, an IQ estimate of a hearing person is based on combining the assessments of non-verbal abilities (PRI and PSI), verbal/linguistic comprehension abilities (VCI) and (verbal) working memory (WMI)<sup>51</sup>. With a deaf person it is possible to assess non-verbal abilities in the same way (PRI and PSI), and working memory by using a non-verbal equivalent, such as the Spatial Span subtest of the WMS-III<sup>54</sup>. It is also possible to assess linguistic abilities using clinical judgement and careful investigation, although this part of the assessment is plainly non-standardised for many deaf adults whether they use spoken or signed languages. Hopefully, this weakness in our assessment process can be eliminated by clinicians and researchers developing standardised

assessments of linguistic abilities in the future.

A good description with a wider range of cognitive abilities can inform an assessment of the specific difficulties a person may be experiencing and may include information relevant for inferring, for example, ADHD, depression or Aspergers syndrome. The ID assessment may be able to contrast a general overall level of ability against contrasting levels of abilities. For example, in AS you might expect a higher level of verbal ability than non-verbal abilities, whereas in Autism you may expect the opposite<sup>55</sup>. Without assessments of verbal/linguistic ability in prelingually deaf people and some understanding of the potential developmental norm for that population, our assessments will always be very restricted. Metz, Miller and Thomas-Presswood<sup>56</sup>, amongst others, have suggested that our understanding and awareness of the variety of additional disabilities of deaf people is underestimated because of the traditional reliance on non-verbal measures of cognitive ability.

### **Two case examples**

We have developed an argument above that suggests that although there are difficulties in adapting an assessment of intellectual disability with deaf adults, attempts should be made to make the assessment 'equitable'. By this we are suggesting that adaptive/social behaviours can be assessed within the cultural and educational context a deaf person lives, and that intellectual assessment should include aspects of cognitive ability which are linked with gaining and remembering linguistic information in addition to non-verbal abilities; with the assessment being as equitable with that carried out with a hearing person. We have written the following two cases for comparison based on experiences of assessing both deaf and hearing people for an intellectual disability. These cases suggest how an inequitable assessment occurs when adaptations related to verbal/language

abilities are omitted.

*Jasmine is a Deaf woman who grew up in an Asian family in a major UK city. She became deaf following a meningitis infection at the age of 18 months. Her parents did not want to send her to a boarding school and the family could not move so she went to the nearest mainstream school with a special unit for people with special educational needs. Jasmine was the only deaf person in the school. None of the teachers or support assistants in the special school could use BSL, but they did use Makaton with her. She did not begin to use sign language until the age of 15 when she was eventually sent to a school for Deaf children because of the evident difficulties she had in learning in a mainstream environment and her increasingly challenging behaviours.*

*As an adult, there was some questioning whether Jasmine should be given support by the local ID services. Testing focused on a number of non-verbal tasks in the WAIS-IV on which Jasmine performed variably, with standardised scores varying from the 1st percentile to the 16th percentile. Overall, her perceptual reasoning index was 73, and her processing speed index was 79. She appeared to use finger-spelling very well, had very neat handwriting and could do simple addition. However, she was not able to subtract, multiply or divide numbers, and she relied heavily on others to do her shopping and pay for goods. Because her IQ was judged to be over 70, it was thought that there was no point assessing her social/adaptive behaviour. Consequently, Jasmine was refused support from the local ID services (both mental health and social services), because it was deemed that she did not satisfy the criteria for ID and that there was not strong enough evidence that she had an ID before the age of 18. Her difficulties at school were put down to her deafness and challenging behaviours.*

As you can imagine, the consequence of Jasmine's IQ assessment was that she did not have access to ID support services. Although, this is so for many vulnerable people with IQ's above 70-75, Jasmine's IQ assessment was not equitably carried out when compared to a mainstream assessment of a hearing person. Jasmine's assessment did not include an assessment of her verbal or language abilities or indeed her social/adaptive behaviour. Contrast Jasmine's case with that of Bobby's:

*Bobby is a hearing man who grew up in the economically-deprived ex-mining villages of the midlands of the UK. He and his sister survived their parents' chaotic lives and alcoholism. During the rare times when he was settled as a child, which was usually during periods of foster care, he attended a school for children with special educational needs. Despite being talkative and popular, his teachers and social worker suspected from Bobby's language and conversation that he was not able to learn as other children, even accounting for his difficult family life. Bobby's performance on the WAIS-IV was 73 on the perceptual reasoning index, 74 on the processing speed index, 74 on the working memory index, and 74 on the verbal comprehension index. His full scale IQ was rated at 69. On a measure of adaptive/social behaviour, Bobby achieved a composite score overall of 68. He experienced some significant difficulties with functional academics (e.g. budgeting and planning meals) and health and safety (cleaning his house and clothes). He also was deeply suspicious of other people and consequently had poor motivation with social skills. With this profile, Bobby was accepted for services from both the mental health team for people with ID, and also the local social services team for people with ID.*

The most striking thing about Bobby's assessment is that his assessment was relatively straightforward and conclusive,

even though his scores lied just within the limits for ID classification. His FSIQ was just under 70 and, despite his significant difficulties in social/adaptive behaviours, he had good use of spoken language to help him integrate into mainstream society. In contrast, Jasmine has virtually no spoken language with which she could develop some independence in her social behaviours. She would struggle to go into a shop and ask if they sold dried pasta. In addition, Jasmine has little fluent sign language to use an interpreter effectively or to mix with other Deaf people. We may expect that a social/adaptive behaviour assessment will describe her as significantly impaired in at least the areas of functional academics and communication. These could be areas where appropriately designed supports could vastly improve her quality of life.

Jasmine's assessment is also incomplete due to her IQ being judged to be over 70 based solely on the non-verbal subtests she completed. She may not be significantly impaired on tasks involving fluid intelligence, but it seems that her verbal abilities, and hence comprehension and general knowledge, are in many ways more handicapping than any of Bobby's skills. There may be an argument that she does not have a 'general impairment of intellectual ability' due to a variable profile of index scores (i.e. above the category of impairment for non-verbal intellectual abilities, but estimated as impaired on verbal intellectual abilities), but this is not the same as an 'impairment of general intellectual ability' (where abilities are aggregated to estimate a 'g'). Referring to our earlier discussion, it is argued that both are socially constructed<sup>7</sup>.

## **Conclusion**

In this paper we have reviewed the construct of ID in relation to deafness. Of particular concern is the impact of not recognising the consequences of ID for a person and how this can inadvertently affect outcomes in the

mental health or support services they may seek<sup>3</sup>. Conversely, where language and learning challenges have been identified, there are limitations to what an adult mental health approach can do for a deaf person<sup>1</sup>. A good assessment of intellectual ability should be able to inform service delivery, in particular by identifying how a deaf person will respond differently to different forms of support and treatment offered, depending on their specific verbal and non-verbal intellectual abilities.

Although this paper has described an argument that the construct of ID is problematic, this on its own is not enough to provide much direction as to how to proceed following a referral for an assessment of a deaf person with a suspected ID. Contextualising the construction of ID and the assessment process historically and epistemologically is important, but this is not all that a psychologist draws on. Rather, by drawing on good clinical skills, an assessment should contribute to our understanding of a deaf person's experienced difficulties not only in the present situation but also in terms of their educational, developmental and social backgrounds.

We have argued the importance of not limiting assessment to non-verbal or performance abilities. To ignore the intellectual abilities related to language in deaf people is not equitable or helpful, either for the diagnosis of ID or for the clinical use of a good assessment. It is interesting to note the observations of Valerie Sinason<sup>57</sup>, who has commented on the historical changes in terminology used in ID. She suggested that these changes may act as a defensive process to wish away the reality of actual damage and difference that people with ID can represent to the rest of society. Perhaps the tendency to 'pass over' verbal or linguistic abilities in assessing deaf people with possible ID is another example of this denial process? We have also hinted that assessing intellectual and communicative 'difference' has ethical and

moral implications which can be explored within a social constructionist critique<sup>7</sup>. However, we argue that at the very least, an assessment that is equitable in its content and aim with assessments available to hearing people, is the best way to provide a service for deaf people with suspected intellectual disabilities.

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