A Portfolio of Study, Practice and Research

Submitted for the Doctorate of Psychology (PsychD) in Clinical Psychology, University of Surrey

Comprising Academic, Clinical and Research Dossiers

And Including:

“ADULTS WITH ACQUIRED HEARING LOSS: AN EXPLORATORY STUDY INTO THE IMPACT OF SOCIAL ANXIETY ON ABILITY TO LIPREAD AND TO LEARN LIPREADING”

VOLUME I

Lorraine Childs

2000
I certify that all of the material in this portfolio which is not my own work has been identified and that no material is included for which a degree has previously been conferred upon me.

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Introduction to This Portfolio

This portfolio contains an illustrative selection of work, completed as part of a three-year Practitioner Doctorate in Clinical Psychology at the University of Surrey, from September 1997 to September 2000.

The portfolio consists of three sections, which respectively contain academic, clinical and research work. The academic section contains 5 essays, which cover a range of theoretical issues relating to the first five placements attended during the doctorate. The clinical section is more illustrative of actual clinical experience. This contains details of each of the four core placements (Adult Mental Health, People with Learning Disabilities, Child, Adolescent and Family, Older Adults) and the two Specialist Placements (Adults who are Deaf and Forensic Psychology). There is a summary of experience gained on each placement along with a synopsis of a formal case report, the full version of which is contained in a separate volume.

The research section contains a full description of a service-related research project, carried out during the Adult Mental Health placement. There is then a literature review, preceding and relating to the related large-scale research project, which were carried out during the second and third year of the doctorate.

A separate volume (Volume II) contains a full clinical dossier, including five formal case reports and all placement documentation, including placement contracts, log-books and supervisor evaluation forms.
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“What is the role of clinical psychology in psychiatric rehabilitation?”

Essay 2: People with Learning Disabilities
“The principle aims of assessment are diagnostic and evaluative. Discuss this statement with reference to the field of learning disabilities.”

Essay 3: Child, Adolescent and Family
“Childhood Bereavement has a less deleterious effect upon children’s psychological outcome than does marital discord and divorce. Discuss.”

Essay 4: Older Adults
“What is the potential for psychotherapeutic work for people with dementia?”

Essay 5: Adults who are Deaf
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ACADEMIC DOSSIER
ESSAY 1: PSYCHIATRIC REHABILITATION

“What is the Role of Clinical Psychology in Psychiatric Rehabilitation?”

February 1998

Year 1
“WHAT IS THE ROLE OF CLINICAL PSYCHOLOGY IN PSYCHIATRIC REHABILITATION?”

Summary
The role of clinical psychology in psychiatric rehabilitation is described using a working model. This role is described in the context of a multidisciplinary approach to long term intervention. It is argued that the primary focus of the clinical psychologist should be the development and implementation of clarified philosophy and objectives. The final part of the essay describes the skills needed for this role. It is concluded that a contextual definition is necessary to provide a description, which is both conceptual and operational.

Psychiatric Rehabilitation
Providing a definition of rehabilitation is difficult because the context and practice of rehabilitation varies widely. Watts and Bennett (1983) describe rehabilitation as an ‘exercise in enabling patients to make the best use of their residual capacities.’

Anthony & Liberman (1986) quote a more goal oriented definition, suggesting that rehabilitation aims to ‘assure that the person with a psychiatric disability can perform those physical, emotional, social and intellectual skills needed to live, learn and work in the community, with the least amount of support necessary from the helping professions’ (Anthony, 1979).

It is difficult to develop a concensual definition summarising the many components of psychiatric rehabilitation. More often it is described as a philosophy or a complete model of care, but even here outlooks vary. For example, Lavender & Watts (1994) provide a comprehensive account of rehabilitation, particularly with regard to the role of clinical psychology. They discuss rehabilitation in terms of a model of social functioning and suggest determination of individual objectives to help patients ‘optimise their social performance in as normal a social context as possible.’ However, they attempt to differentiate treatment (removal of symptomatology) from rehabilitation...
(acquisition of functional skills), a perspective which is regarded by some as 'too narrow' (Bridges, Huxley & Oliver, 1994). They also fail to begin their account at the point of service entry for patients. Bridges et al provide a clear summary of how rehabilitation can address the types of disability faced by people with severe mental illness (i.e. social, environmental, physical and emotional) and the interactions between these disabilities. However, paradoxically they promote a social model of care using diagnostic criteria for service entry. They also quote government papers as the motivators of service change instead of merely the catalysts. This paper however, eliminates ‘myths’ about rehabilitation (abolition of hospital provision; objectives of ‘throughput’ and ‘resettlement’; and the separation of clinical and social care). In concluding that service function should determine its form, a message is sent to purchasers and providers of care - the social disabilities of this population prevent them from ‘fitting in’ with ‘normal’ models of care and necessitate the provision of specialist rehabilitation services.

The ‘historical, conceptual and research base’ of psychiatric rehabilitation is well defined by Anthony & Liberman. They fail to describe the role of the institutions in this process but Shepherd (1984) compensates for this exclusion. He suggests that rehabilitation has evolved to fit in with societal ideology rather than the needs of the individuals who it is supposed to be serving and perhaps unfairly portrays the institutions as social barriers for people with psychiatric disabilities.

A Social Disability and Access Model of Psychiatric Rehabilitation
The difficulties of providing an integrative model of care, with an enabling role for the institution have been overcome by Perkins (Perkins, Fisher & Choy, 1997) in her dual role as clinical psychologist and clinical director of a South London rehabilitation and continuing care service. This service is practicing a social disability and access model of care with clearly stated philosophy, aims and service elements (Perkins & Repper, 1996; Perkins, et al 1997). Although originated from Wing and Morris’s social disability model (1981), Perkins model differs by tackling disability at an individual and environmental level. It also provides a practical, instead of purely descriptive focus.
The service is directed towards a population 'who are so severely disabled by their mental health problems that the Community Mental Health Teams cannot adequately meet their needs.... The aim is to minimise the handicap arising from these disabilities and help people make the most of their lives ...(with)... access to the roles, relationships, activities and facilities that non-disabled citizens enjoy' (Perkins, Fisher & Choy, 1997, p.2). From the point of entry to services, the model reflects one of physical disability where there is a two-stage process in return to health and optimal functioning. These are a) treating the symptoms; b) assisting the person to adapt to their environment (Bennett, 1983). Maintenance is emphasised as much as improvement. Referrals are accepted if the social disability is severe enough. Diagnosis and throughput potential are not criterion for entry. Provision is denied if a less intensive service could provide more appropriate care, supporting the commitment to provide the most enabling assistance. Measures are enforced to ensure that individuals do not 'fall through the net,'. Equal importance is given to staff/carer training, supervision and individual work. The clinical psychologist has taken a leading role in the conceptualisation, planning and delivery of these service elements.

This model combines current ideology (community care) with individual need. The institution proactively assists community care. With the opportunity to return to hospital from anything from five minutes to a year clients can adapt to their illness and community life, knowing support is there if it is required. Hence, community integration is encouraged without removing the safety net of the institution. The flexibility of the service does not deny actual need (which is often ignored in an attempt at 'normalisation'; Wolfensberger, 1972) or fluctuation of mental state (i.e. not just focusing on improvement). The institution functions as a place of sanctuary and a point of congregation.
Clinical Psychology

Clinical Psychology is conceptual and therefore difficult to define. It could be termed as the study and application of scientific principles to human behaviour using a normal population as a baseline from which to determine differentiation. Even within the field of clinical psychology practitioners dispute the definitions of their profession. For example, Long & Hollin (1996) describe the current debate over the application of the scientist-practitioner model. In this essay the term ‘clinical psychologist’ will be used to refer to the practitioners of clinical psychology, regardless of chosen model of orientation. These practitioners consume, utilise and produce research to enhance a scientifically based clinical practice.

In her description of the role of the clinical psychologist in psychiatric rehabilitation, Conning (1991) utilises Liddell’s (1983) description. This infers that clinical psychologists are applied scientists, who are trained to apply their theoretical knowledge and skills to work with people with mental health problems. The specific and differentiating skills of the clinical psychologist can be summarised into four core elements - assessment, therapy, research and teaching.

The Role of Clinical Psychology in Rehabilitation

The role of clinical psychology in recent mental health service development may be summarised as the application of conceptualisation and objectivity towards individuals and environments, using research to facilitate changes with clear rationale.

For example, the drive for community care was based on sound philosophy, not well thought out objectives. The mobilisation of this ideology was finally brought about by political and financial incentives, not research validated rationale (Emerson & Hatton, 1994). Despite this, clinical psychologists have developed and implemented psychological techniques to help structure the relocation of care. Corrigan and McCracken (1995) provide a comprehensive review of the involvement of clinical psychology across the continuum from organisational to individual care. The scientist-
practitioner approach has enabled clinicians to promote monitoring of care and implement change within existing cultures, promoting ideology within a sound theoretical basis. In principle these techniques have been developed with clear objectives and defined processes, thus enabling dissemination of information so that sound psychological principles can be implemented by professionals other than clinical psychologists.

In view of the arguments proposed so far, it is feasible to suggest adding a primary skill which precedes Liddell’s four. This is the development of philosophy and conceptualisation of objectives. Conning includes this under the role of psychological therapy. However, it has been illustrated that clarity in philosophy and objectives defines roles and provides a framework within which they can be practiced. This is particularly relevant in the field of psychiatric rehabilitation where the apparent genericism of roles in the multidisciplinary team can lead to confusion or territorial alignment. This is not only de-skilling to the individuals concerned, but means that clients may lose out on valuable professional resources, by not receiving specific treatment from the most appropriately trained personnel.

From the discussion so far, the role of the clinical psychologist can be conceptualised at a number of different levels. In developing a rehabilitation service the clinical psychologist should ensure that a sound philosophy with clarified objectives exists. This should involve the co-operation of other members of the team. Lavender (1985) has argued that as clinical psychologists have no clear position in a unit’s hierarchy they are well placed to conceptualise multidisciplinary models of care without authoritarian bias. Clear philosophy and objectives can assist team performance in working together towards structured goals.

A working model of social disability has been described to illustrate how criticisms of previous models of rehabilitation could be overcome. Liddell’s core skills of clinical psychology fall within this model of rehabilitation (and others). The use and production
of research assists in the development and implementation of philosophy. Philosophy, objectives and psychological rationale and practices need to be shared with other disciplines, which often means the psychologist will engage in a teaching role. This should enhance multidisciplinary unity, through understanding and shared involvement of assessment and intervention. All of these roles are carried out at different levels of rehabilitation. For example, within the working model the involvement of a clinical psychologist is demonstrated at management, environmental, staff/carer and individual levels. Built into this multi-level framework is the assessment, monitoring and re-evaluation of care.

The final part of this essay, further describes Liddell’s four core skills of a clinical psychologist in rehabilitation. Structuring such a description is difficult as many of these roles overlap. For example, to provide appropriate care for an individual the clinical psychologist may have to: devise an assessment; train staff how to use it; evaluate the results; devise a formulation and intervention; supervise staff in its implementation; re-assess the individual and monitor the intervention. This process may involve environmental or service adaptations. Conning (1991) has previously described the role of a clinical psychologist in psychiatric rehabilitation using a task-oriented focus. Whilst this description lacks the emphasis of the importance of social role development for socially disabled individuals that has been provided by other accounts of this topic (i.e. Lavender & Watts, 1994), her account provides a clear structure which enables skills to be placed within the wider context of the conceptual issues discussed thus far. The final part of this essay will therefore use a similar structure.

Assessment

As practitioners of scientific methods clinical psychologists should be able to ask clear and relevant questions and answer them in a systematic fashion. Formulating this information into a model should allow appropriate points for intervention to be identified. Conning suggests that assessment should take place at three levels - the individual, the environment and the service.
Assessing the individual involves identifying needs and analysing particular problems. When formulating a multidisciplinary assessment the clinical psychologist should take account of the professional interpretation of the assessor (i.e. a medical practitioner may focus on physical symptomatology, without reference to the emotional distress that this may cause the individual). Bias may be minimised by involving the patient in the assessment process, i.e. individual interviewing, advocacy or qualitative techniques such as the card sort test (Waismann & Rowland, 1989). Analysis of specific problems such as behaviours involves assessment of a number clinically relevant variables (i.e. pain) usually in the form of antecedents, behaviour and consequences. There are a variety of methods available to do this such as observation and recording. Many techniques involve measuring change over time.

A wider contribution of the profession in individual assessment has been the development of reliable tools. For example, Birchwood's social-functioning scale (1990) is an ongoing assessment of social performance following family intervention. Conning suggests that standardised assessment tools can be used to assess organic or cognitive impairments and aid diagnosis. There are often a plethora of diagnoses which may apply to one individual, therefore assessment of social functioning and disability may be of more clinical utility to the psychologist and direct care staff. Lavender & Watts (1994) describe such an assessment structure. This account provides less methodological clarification, but more than a diagnostic purpose. For example, they include the person's capacity to function in various roles.

The environment affects individual and group dynamics. Psychologists had shown that the institutional environment was disabling for some individuals (Wing and Brown, 1970) before the Governments' white paper on this issue (DHSS, 1975). Environmental assessments may lead to practical adaptations in units, homes and management practices. Standardised assessments have been developed to assist this process. Lavender's Model
Standards Questionnaires (1987) provides a profile of the quality of rehabilitation settings and identifies areas that need improvement.

Recent National Health Service changes have formalised service assessment mainly focusing on accountability and auditing for purchasers. The accuracy with which quality of provision is assessed is debatable (i.e. Korner forms tend to measure clinical contact and little more) as the amount of clinical time spent facilitating care and conducting research/assessments is often not reflected. Conning indicates a number of reasons for service evaluation and suggests that clinical psychologists can contribute this process by initially discovering the philosophy of the service and it’s stated objectives. In this essay, it has been argued that this stage should precede the implementation of service provision. With defined objectives the clinical psychologist will then be able to use their assessment and formulation skills to research whether these have been achieved and if re-definition or re-focussing is needed. Lavender & Watts (1994) have suggested a framework in which a service assessment within the context of rehabilitation could take place, by assessing the physical environment, management practices and outside contacts.

Conning cites Hall’s considerations in his service evaluation project (Hall, 1986; cf. Conning, 1991). Methods used in evaluation need to account for practical and time constraints. The choice of measures may be influenced by who is to implement or answer them (users, nurses, psychologists). The evaluation should not affect the service it is looking at, and finally the information gathered should be fed back to audiences at an appropriate level.

The Treatment of Disorders by Psychological Methods (Therapy)

Treatment for people with severe and enduring mental illness needs to be delivered at a psychosocial level (Johnson, 1997). Conning suggests that the clinical psychologist can deliver such therapy via four levels - ideology or philosophy, the organisation, staff and individual patients.
The first of these levels has been examined in detail and it has been argued that if this process is clearly defined, the others can be subsequently implemented. Psychological intervention within the organisation should focus on which variables evoke change. For example token economy programmes were developed by clinical psychologists in the 1970’s but became less popular after social reinforcement was shown to be the component of change instead of the token (Hall, Baker & Hutchinson, 1977). Clinical psychologists are able to rationalise and objectify the need for change, balancing financial constraints with patient care from the level of management to users. Research can facilitate planning of services and identify hidden needs, such as those of the staff who face uncertainty in the move from hospital to community. Conning stresses the need to implement change with those who will be expected to work with the changes, accessing the views and assistance of ‘old’ as well as new staff.

Other disciplines play a key role in the implementation of assessment and interventions. Working with and through staff involves the use of personal and professional skills. In consultative, advisory, training or co-working roles it is possible to impart psychological knowledge as well as learn about the roles of other professions. This promotes team working and encourages the psychologist to review their thought processes, rationale and methods.

Working individually with the patient the clinical psychologist aims to improve (or maintain) the individual’s psychological condition (Lavender, 1985). Individual work varies from private sessions to developing a ward based behavioural programme. With little if any uni-disciplinary work in rehabilitation, communication and co-operation across the team is important. The introduction of the Care Programme Approach (Department of Health, 1990) has meant that professions have had to practice generic aspects of care for individuals who they are ‘keyworking’. For example, assisting with social security benefits, leisure pursuits and work placements.
Treating people as individuals, not patients with a disorder is important. Perkins (1992) has described ways of working with individuals who present challenges to the carer. The simple, empathic techniques she describes can be used by any profession. Making such literature available to care staff who have day-to-day contact with clients could be seen as part of the psychologist’s role. However, it is essential that the psychologist is accessible to answer enquiries about this and ensure it has not been misinterpreted.

Max Birchwood and his colleagues have researched treatment for people who have enduring mental health problems, including early intervention, relapse signatures and working with families (Birchwood and Tarrier, 1994). An important feature of this type of work is that it can help to maintain people in the community by educating the individuals and their families.

Research
Long and Hollin (1996) describe clinical psychologists as the consumers, utilisers and producers of research. This role extends to linking theory to enable development of clinical practice. This essay has demonstrated that research should be used in all roles of clinical psychology, from planning services to individual treatment.

Teaching/Training
The formal amount of teaching varies between clinical psychology posts. At a basic level, training will be informally carried out with the development of interventions involving other members of staff. Formal teaching however, should form part of the role of a clinical psychologist. For example, in the model described earlier (Perkins, Fisher & Choy, 1997), staff receive training in the practice of rehabilitation, with opportunity for more specialist training over time. This is supported by supervision to ensure correct implementation of these methods.
Conclusion
The role of clinical psychology in psychiatric rehabilitation is most clearly defined by describing the functions of its practitioners at a number of levels. An attempt has been made to overcome the difficulties of the definition of psychiatric rehabilitation by describing a working model (Perkins et al., 1997). This and supporting research has illustrated how the role of clinical psychology is active at all levels of service provision. The practical components of the clinical psychologists role have been described using the structure provided by Conning (1991). This paper provides clarity of function but it has been argued that it lacks the conceptual overview provided by other, more descriptive reviews (Lavender & Watts, 1994).

In conclusion the role of a clinical psychologist in psychiatric rehabilitation takes place within a multidisciplinary framework. The differentiating features of this role are conceptualisation and objectification. Primarily, the clinical psychologist contributes to the development of a philosophy and objectives. These are operationalised through four processes or skills - assessment, treatment, research and teaching.
REFERENCES


ESSAY 2: PEOPLE WITH LEARNING DISABILITIES

"The principle aims of assessment are diagnostic and evaluative."
Discuss this statement with reference to the field of learning disabilities.

June 1998

Year 1
"The principle aims of assessment are diagnostic and evaluative."

Discuss this statement with reference to the field of learning disabilities.

Introduction
The statement for discussion in the essay title suggests that assessment is a single, initial exercise, carried out independently of other client-related tasks. It implies that assessment ends when one has categorised the client according to established criterion.

Using research from the field of learning disabilities, this essay argues that psychological assessment is a process that goes beyond diagnosis and evaluation, towards intervention. This process uses multi-disciplinary and multi-modal assessment approaches to enable a formulation of the person's behaviour in the context of the system in which they interact.

What is Assessment?
There have been numerous definitions of assessment proposed within psychological literature. Whilst there are regular themes, many definitions are limited by the context in which they are described. When one is defining assessment for a specific purpose, such constraints are often necessary as they help to provide a focus for the process or outcome of the assessment. The breadth and multi-factorial requirements of assessment make the definition of the process difficult outside of a specific context.

For example, assessment has been described as a funnel-like process 'wherein one initially gathers general information through the use of indirect assessment techniques and proceeds to collect more specific direct assessment data in an effort to design treatment' (DuPaul & Ervin, 1996). This description summarises the aims, methods and expected outcomes of the process. It defines a purpose (to design treatment) which facilitates recognition of the context in which the assessment is being described. However, this means it does not convey the vast breadth of assessment purposes outside of this context. Hence, this definition excludes assessments that are carried out for the purposes of discrimination e.g. for employment purposes.
Carr & Collins (1992) suggest that assessment is 'the process by which we gather information about a person so that we arrive at a clear picture of that person's present state of functioning.... in many different areas e.g. cognitive, language, sensory.' This definition implies the breadth of the assessment process, but does not indicate that assessment is carried out for a specified purpose beyond knowing the person's present state of functioning (McCue, 1989). In other words it does not say why we wish to know this.

Hence, within this essay the term 'assessment' is used to indicate a process, which:

• Is an information gathering exercise.
• Is purposeful, with a specified aim (i.e. to design a treatment program), hypothesis (i.e. to determine whether a behaviour is dependent on a specific contingent) or question (i.e. is this person suitable to join this organisation?).
• Uses a variety of direct/ indirect methods, which are reliable and valid.

Before the assessment is undertaken one needs to be explicit about the purpose of assessment, and the methods that will be used during the assessment.

**Assessment within Clinical Psychology**

Assessment forms a vital part of the role of a clinical psychologist. Before undertaking research, or work with an individual or within an organisation he/she needs to be able to understand the context in which he/she will be working. This means the psychologist needs to gather information relating to the current circumstances of the subject of their work.

Historically, psychologists have been seen as the 'experts' of assessment from Binet's (1905) intelligence tests for children, to the recruitment of service personnel during and after the Second World War (Tyler, 1971). However, the limitations of assessments as tools of diagnosis or evaluation have long been recognised. For example, Baron (1989) cites research from 1926 (Hirsch & Simon, 1926), defining the cultural bias of intelligence tests. There is still debate over the validity of all forms of assessment used within a clinical context (Murphy & Davidschofer, 1994).
The 'psychologist-assessor' role changed, under the influence of political, ideological and academic factors. In the 1960's there was exposure of the conditions to which many people were subjected within institutions (Goffman, 1961) and 'anti-psychiatrists' questioned the notion of psychiatric diagnosis (Szasz, 1960). A 'diagnosis' often led to an enduring institutional internment of individuals, with little attempt at rehabilitation (Shepherd, 1984).

Developments in clinical psychology helped to meet the demand for alternatives to 'diagnosis and drug' philosophies of care. Behaviour therapy demonstrated the potential of people in psychiatric institutions to learn socially acceptable behaviour and provided an alternative to drug regimens as sole treatment agents (Foxx, 1976). Behaviour therapy and functional analysis (Owens & Ashcroft, 1982) demonstrated the influence of the environment and system in which the person existed upon the individual's behaviour. The focus of assessment shifted to being the initial stage in the development of a rehabilitation programme, which adapted the environment, not just the individual. Assessment began to focus more on social problems (Tyler, 1971), with an attempt to 'develop broad measures of a person's effectiveness in coping with the normal demands of everyday life' (Murphy & Davidschofer, 1994). These techniques could be applied even without a definitive diagnosis i.e. functional analysis. As the limitations of purely diagnostic and evaluative assessment were recognised clinical psychologists became more involved in therapeutic work - clinical psychologists began to be recognised as clinical practitioners (Marzillier & Hall, 1992).

Schlieper (1982) describes the functions of assessment as diagnostic and prescriptive. The focus of assessment, as part of an overall programme of rehabilitation has changed little in the last twenty years. Overall, the purpose of psychological assessment is to use the information gathered to develop a comprehensive formulation, which will lead to an intervention plan. Therefore the assessment process should not be started until there is a clear reason for the assessment to take place, and action is anticipated as a result of the assessment (Cullen & Dickens, 1990). This means when discussing
psychological assessment a fourth factor needs to be added to the earlier definition: To summarise, psychological assessment is a process which:

- Is an information gathering exercise.
- Is purposeful, with a specified aim, hypothesis or question.
- Uses a variety of direct/indirect methods, which are reliable and valid.
- Is carried out with the expectation of action on the basis of the results of the assessment. This action will benefit the client.

There are a number of possible purposes of psychological assessment. These include finding out whether the person has a learning disability (Marzillier & Hall, 1992); matching individuals to care/vocational settings (McCue, 1989); assessing ‘risk’ (Halstead, 1997) and providing information on specific aspects of cognitive functioning (Tolan, 1991). Ultimately the action resulting from many of these assessments will be the design and implementation of effective intervention plans, or contribution to the longer term care of the individual by assisting planning or organisation of services (DuPaul & Ervin, 1996).

**Diagnosis and Evaluation**

A broad definition can be applied to the term ‘diagnosis’. Diagnosis has been defined as the ‘identification of disease or abnormality from symptoms presented, and from a study of its origin and course: any classification of an individual on the basis of observed characters’ (English & English, 1958; p.150). This implies that a diagnostic criterion can consist of any observable characteristics, not just medical problems. Therefore, many psychological assessments can be defined as diagnostic as they frequently categorise social or behavioural problems observable in an individual, eg. challenging behaviour. Furthermore, psychological assessment may diagnose problems within the environment.

English & English (1958, p.190) define evaluation as ‘determining the relative importance of something in terms of a standard’. Within psychological assessment the standards used are ‘norm-referenced’ or ‘criterion-referenced’ (Hogg & Raynes, 1987). Norm-referenced assessment compares the performance of the individual in
relation to a set population (e.g. the WAIS-R; Weschler, 1981). Hence, others set the standards for comparison. Criterion-referenced assessment compares the individual’s own performance on a set criterion based on their adjustment to the environment or the outcome of teaching (Kieman, 1987). Criterion-referenced assessments are often iterative, in that they are repeated frequently to measure changes in the individuals functioning relating to a certain standard, i.e. risk assessment (Halstead, 1997). This may occur during or after the implementation of a treatment programme.

Psychological assessment therefore uses diagnosis (of problems) and evaluation (against standards) to formulate a picture of the functioning of the individual. However, diagnoses and evaluations of disorders do not give clinicians enough information to determine interventions (DuPaul & Ervin, 1996). Therefore, they do not conform to the definition of psychological assessment discussed earlier in this essay. This point will be discussed with reference to the diagnosis of ‘learning disabilities’.

The Diagnosis of Learning Disability
The American Association on Mental Retardation’s (1992) diagnostic criteria for ‘learning disability’ (Table 1) highlights the need to evaluate intellectual and social aspects of functioning to enable diagnosis of a learning disability. However, even when multi-modal forms of assessment are used to enable a diagnosis, this does not constitute a meaningful psychological assessment unless diagnosis leads to action beneficial to the client.
Table 1. The American Association on Mental Retardation (1992) diagnostic criteria for 'learning disability'.

Somebody who before the age of 18 has:
- Substantial limitations in present functioning
- Significant sub-average intellectual functioning, existing concurrently with related limitations in 2 or more of the following applicable adaptive skill areas:
  - Communication
  - Self-care
  - Home living
  - Social skills
  - Community use
  - Self direction
  - Health and safety
  - Functional academics
  - Leisure and work

It may be disadvantageous to the individual when a service is provided purely on the basis of diagnosis. Classifications or standards are imposed constructs that may lead to ongoing segregation when used in isolation from a context of continuing development (Halliday, 1996). Labelling a person as having a learning disability may lead to the expectation of low achievement, and therefore handicap the individual in reaching the potential that would be possible given appropriate support (Haring, Lovett, Haney & Algozzine, 1992). These findings suggest a need to incorporate factors other than the individual into the assessment and intervention process. Hence, providing teachers/carers with information on how specific defects can be compensated will encourage the individual to achieve their true potential (Tolan, 1991).
To aid this process a person’s difficulties should be diagnosed and evaluated in conjunction with their skills and motivators. This enables the problems to be regarded within a context of the whole person and the environment (Zarkowska & Clements, 1988). Hence, settings, triggers and results of a behaviour highlight functions and enable a management strategy to be clear and directive.

Thus presented, a diagnosis can be constructive, particularly as it may provide relief that an individual has a recognised problem that can be helped (Lader, 1977). Furthermore, it may provide hope that progress can be made, especially as a diagnosis of a learning disability can be a devastating experience for a family. This presentation of a diagnosis is likely to help parents adjust to the diagnosis of their child and remove feelings of helplessness.

The Current Context of Assessment
Whilst it is important to consider biological, social and psychological aspects of a person’s functioning (Jenkins & Brown, 1992), a therapist’s theoretical perspective influences the variables that he/she finds important (Hyland, 1981). Therefore, it is difficult for one profession to assess an individual in a purely holistic way. The benefits of working within a multidisciplinary team have particularly been recognised when working with problems faced by PLD (Torgesen, 1986; Mazillier & Hall, 1992). This population often needs specialist medical (Lunsky & Reiss, 1998), social and psychological care (Gregoire, 1997), so thorough assessment can result in improved quality of life and avoid unnecessary medical and social costs (Jenkins & Brown, 1992).

Sensory and perceptual difficulties may hamper functioning and adaptation to environmental demands (Tolan, 1991). Hence, they may affect the assessment process in a subtle way that may result in considerable error of interpretation. Within psychometric assessment for example, poor response may reflect an inability to hear instructions, see pictures, manipulate instruments or understand the language used, rather than lack of cognitive ability. Hence, assessment by a speech and language therapist or medical practitioner can greatly facilitate a psychological assessment and
improve validity of data gathered (Roach & Halstead, 1997). This means that during the process of assessment an individual may be diagnosed as having several difficulties, which may be biological, psychological or social in nature. Such information can be of major relevance in the development of an intervention plan.

Table 2: Categorisation of Assessment Approaches, (McCue, 1989),

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psycho-educational</td>
<td>Focussing on the intellectual and academic manifestations of specific learning disabilities.</td>
</tr>
<tr>
<td>Psychological/Neuropsychological</td>
<td>Addressing the cognitive, language, perceptual, motor and emotional manifestations of specific learning disabilities.</td>
</tr>
<tr>
<td>Medical/Neurological</td>
<td>Focussing on the medical and etiological considerations of importance to assessment and treatment of PLD.</td>
</tr>
<tr>
<td>Vocational</td>
<td>Addressing the functional manifestations of PLD with respect to work.</td>
</tr>
</tbody>
</table>

Categorisations of assessment approaches, such as McCue's (Table 2) advocate the use of multidisciplinary assessment, even where the original referral is psychological in nature. Furthermore, they illustrate the need for assessments to be multimodal, to facilitate accurate knowledge of origin, cause and maintenance of problems. One cannot provide diagnosis and prognosis through a single unidisciplinary assessment (McCue, 1989). For example, structural neuroimaging techniques can aid diagnosis by providing information about the severity of cerebral abnormality and severity and even type of learning disability (Deb, 1997). However, they do not provide information on the specific abilities of an individual or how they can be helped to overcome some of their disabilities.
Types of Psychological Assessment

Using several assessments in the assessment of PLD has been strongly advocated (Mayes & Vance, 1992). Single assessments can not provide valid diagnostic and prognostic data because problems tend to originate from more than one cause. Furthermore, no assessment technique is without validity reducing bias. All assessments are limited in how well they actually measure what they purport to be measuring. This point will be discussed in relation to types of assessment used within clinical psychology.

Formal Psychometric Assessment

Psychometric assessment in PLD has traditionally been concerned with the evaluation of intelligence and memory. The main problem with using these tests is that few are norm referenced for this population (McCue, 1989).

Intelligence tests can aid diagnosis and suggest an individual’s academic potential. However, an indication of a person’s IQ can label the person as more disabled than they really are, as their social ability may be higher i.e. they may have a mental age of 5 but can use local buses on their own (Carr & Collins, 1992). Despite this, cognitive assessment can be useful in specifying cognitive and perceptual abilities that professionals could target when trying to enhance an individual’s functional or vocational skills i.e. through specific strategies of teaching (Tolan 1991). Batteries of tests have been suggested which can meet this purpose (McCue, 1989), i.e. The Halstead-Reitan Neuropsychological battery (Reitan & Wolfson, 1985) and the Luria-Nebraska Neuropsychological test battery (Golden, Purisch & Hammke, 1980).

Some tests are being specifically developed for PLD, which incorporate measurement of adaptational skills as well as cognitive functioning (i.e. the Dementia Questionaire for Mentally Retarded Persons, Evenhuis, Kengen, Eurlings, 1990). These frequently include a component that can be completed by carers.
Interviews

An interview is a semi-structured interaction that gives the clinical psychologist opportunity to obtain information that is often not obtainable by formal testing. They facilitate the collection of good background information that helps build a picture of the person and their life and can help ascertain the historical cause of a behaviour (Zarkowska & Clements, 1988). Research suggests that interviews have limited validity as methods of gathering unbiased information as they can be affected by confirmation bias, suggestibility and inaccurate recollection (Darley & Fazio, 1980). However, no other way of obtaining the broad information gathered in interviews has yet been proposed. One of the reasons for this is that the observation of the interviewee's behaviour can provide important qualitative information about the individual (Murphy et al, 1994).

The validity of interviews can be increased by carrying out several, i.e. with the individual, a carer/parent, employer etc. People interviewed should have known the individual for a significant period of time. This also helps to see if the individual reacts differently to different people, in different environments and in different situations. One way of improving the validity of the information is to compare it with information from other sources i.e. from other interviews, from clinical records and tests.

Observation

Direct observation techniques essentially involve counting and recording the frequency and/or duration of defined behaviours (Murphy, 1987). Recording of observations can be done by the individual themselves (self-monitoring; Reese, Sherman & Sheldon, 1984) or by others i.e. care staff.

The advantages of using observation is that it can be facilitated by using prepared recording forms and it can take place in any of the individual’s natural environments (Zarkowska & Clements, 1988). Furthermore, observations may yield information on motivators of behaviour as well as frequency.

However, monitoring can affect the behaviour under observation through the
individual’s or others response to the data being collected (Reese et al., 1984; Shapiro, 1986). Also, it is difficult to monitor another’s behaviour because emotional responses are not always reliable indicators of motivators, e.g. with some individuals it may be difficult to distinguish between anxiety and excitement. Furthermore, observation can take up a lot of time and not yield clear results, i.e. results may be difficult to interpret or suggest a need to observe other types of behaviour. Observing behaviour in controlled situations can overcome some of the time-related difficulties (Zarkowska & Clements, 1988), but this means the assessment is not taking place within the natural context of the person’s behaviour.

A Model of Assessment with People who Have Learning Disabilities

This essay has emphasised that psychological assessment should take place in a diagnostic and prescriptive context, as part of a multidisciplinary, multi-modal assessment approach.

A form of assessment that effectively meets these criteria is functional analysis. This process systematically manipulates environmental variables to evaluate hypothesised functional relationships (Vollmer & Northup, 1996). The assessment process can be viewed as a funnel (Cone, 1978). Initially general information is gathered through indirect assessment techniques, i.e. rating scales, interviews. This information includes medical, psychiatric, psychological and social diagnostic statuses, as well as evaluations of the person’s functioning (skills, defects and motivators). More specific, direct assessment data are then gathered to design treatment. The latter stage may involve manipulation of variables, and the individual’s performance can be evaluated against previous behaviours. Hence, there is a direct link between assessment and intervention in this process. Furthermore, the targeting of particular behaviours enables precise monitoring to take place during or after the course of the intervention, so the effectiveness of the programme can be evaluated regularly.

The benefits of functional analysis include its treatment utility (the degree to which assessment is shown to contribute to beneficial treatment outcome) in both organisational and individual applications (Hayes, Nelson & Jarrett, 1987) and it’s
applicability in the evaluation of behaviours in the context of environmental influences (DuPaul & Ervin, 1996). However, it’s clinical utility is limited as it is not always clear which behaviours and environmental variables to assess (Hayes & Follette, 1992). Also it is time-consuming and resource-intensive in the assessment and intervention stages (DuPaul & Ervin, 1996). This creates difficulties in the context of the current NHS system, which often lacks the financial and human resources necessary for such interventions.

Conclusions
This essay has illustrated that when broad interpretations are given to the terms ‘diagnosis’ and ‘evaluation’ they play an essential part in the realisation of the overall aims of assessment. However, it has been argued that the effects of diagnosis can be enduring and disadvantageous. Hence, a responsible psychological assessment goes beyond diagnosis and evaluation, towards intervention, which improves the quality of life for a client.

Tyler (1971, p.92) has eloquently described the limitations of assessment tools - ‘They are human tools designed for human purposes. By themselves they settle no theoretical arguments, treat no patients, educate no children, solve no social problems. But in the hands of skilled workers who understand them they can help us in all these’

It therefore rests with the assessor to not just carry out the assessment, but to make sure it is carried out for a reason and interpreted in the correct context i.e. in the context of the individual and the environment in which they interact. These holistic and prognostic requirements are beyond the remit of a single diagnosis or evaluation.

Finally, all assessment techniques are prone to limitations in validity. Functional analyses overcomes many of the limitations of other assessment techniques, but even this method of assessment is prone to contextual constraints. Hence, assessments need to be multi-modal and multi-disciplinary to overcome these difficulties. This means that several types of diagnoses or evaluations may be used in the development of an intervention plan.
REFERENCES


ESSAY 3: CHILDREN, ADOLESCENTS AND FAMILIES

“Childhood bereavement has a less deleterious effect upon children’s psychological outcome than does marital-discord and divorce.”

Discuss.

April 1999

Year 2
“Childhood bereavement has a less deleterious effect upon children’s psychological outcome than does marital-discord and divorce.” Discuss.

Introduction
The causation of childhood psychological disorders is ‘complex and multifactorial’ (Cottrell, 1993). Factors that lead to a negative outcome in response to some events, but not other seemingly similar events can often be unclear.

The title of this essay suggests that it is feasible to compare three ‘events’ – bereavement, divorce and marital-discord – along a dimension of childhood ‘psychological outcome’. Such comparisons are lacking in the current literature, which suggests that research enabling such comparisons to be drawn does not exist. Drawing on examples from the literature pertaining to these ‘events’, this essay will demonstrate the limitations and complexities of making such comparisons. Firstly, the need to view ‘events’ as part of an ongoing process, which influences child development will be demonstrated, alongside the challenges that this perspective presents to researchers. Then, research findings about childhood bereavement, parental-divorce and marital-discord will be described, highlighting areas currently lacking in the literature. Mediating processes common to these three areas will then be discussed. Additional implications for clinical intervention and future research will be discussed in the conclusion.

Heterogeneous Processes, not Homogenous Events
Major life events, particularly those pertaining to the family have long been recognised for their long-term effect on the functioning and psychopathology of the individual (Holmes & Rahe, 1967). Until relatively recently attachment theory (Bowby, 1969) dominated the child development literature. This predicted that parental bereavement, divorce or marital-discord would lead to a deleterious outcome for the child and was supported by research into the effects of separation from parents, which used children exposed to parental divorce or bereavement. Such research assumed homogeneity across single-parent families. Little attention was paid to the context of the separation, or the characteristics of the child (Shaw, 1991).
More recently, contextual factors have been recognised as mediating the impact of life events, particularly with regard to child development (Goodyer, 1993). Attachment theory has been further developed to conceptualise these issues (Rutter, 1995). It has been suggested that the impact of precipitating events (triggers) needs to be considered within the context of predisposing (vulnerability) and perpetuating (maintaining) factors. Each of these factors are liable to influences from the child, family and environment (Cottrell, 1993). Hence, many constellations of factors can influence child development, limiting the plausibility of making linear attributions about cause or effect of specific events.

Familial 'events' are therefore neither singular nor unitary, but result from a series of transitions and adaptations for and within the family system. These familial processes are a significant contextual influence on child development (Framo, 1975). Therefore, child psychological ‘outcome’ can not be attributed to a single event, rather it is more likely to be a result of a continuing process of relationships in which the child grows up (Wolkind & Rutter, 1985).

This transitional model poses challenges for researchers. It is extremely difficult to control for all aspects of an ongoing process to enable measurement of the effect of a single ‘event’. Although the need for large-scale, prospective research, controlling for a wide range of individual risk and protective variables is increasingly being recognised (i.e. Chase-Lansdale, Mott, Brook-Gunn & Phillips, 1991), recent research is still failing to provide consistent or comparable findings with regard to bereavement, divorce and marital-discord. Heterogeneity of families, children and processes surrounding events, as well as methodological limitations (including inadequate definitions of ‘events’ and outcomes) continue to confound such purist comparisons.
Bereavement

This section will focus on parental death, although there are some similarities between children’s reactions to parental and sibling death (Herbert, 1996).

There has been considerable debate in the literature, as to whether childhood parental bereavement leads to later psychopathology (Kranzler, Shaffer, Wasserman & Davies, 1990; Crook & Elliot, 1980). This debate remains unresolved for many reasons, including disagreement over whether or not children grieve and what constitutes ‘normal’ grief for children.

Initially, theorists argued that children’s inability to understand ‘loss’ would prevent them from experiencing grief (Freud, 1917; Wolfenstein, 1969). However, recent evidence suggests that even very young children exhibit grief reactions not attributable to psychopathology (Sood, Weller, Weller, Fristad & Bowes, 1992; Fristad, Jedel, Weller & Weller, 1993). Reactions may differ depending upon cognitive, emotional, social and physical factors relating to development (Bowlby, 1980), but it has been suggested that children’s reactions become more similar to those of adults after the age of seven (Worden, 1991). Adult bereavement has been suggested to be a progression through a number of stages following loss (Parkes, 1972). The idea of ‘phases’ of grief (including numbness, despair and reorganisation) has been applied to children (Worden, 1983; Bowlby, 1980), and further conceptualised as an ongoing process, through which children move backwards and forwards over time (Silverman, Nickman & Worden, 1992). The most recent theory of childhood grief places it within a familial (systemic) framework (Sutcliffe, Tufnell & Cornish, 1998). This accounts more for the heterogeneity of familial processes, which influence the grief reactions of individuals. However, these theories are at a stage precluding the identification of quantifiable mediating systemic processes.

Children’s Reactions to Parental Death

Frequently reported immediate reactions of children following bereavement include shock, denial, anger, guilt, sadness, withdrawal and aggression. Longer-term reactions include depression, anxiety and yearning. Somatic complaints and sleep
and school difficulties are common (Herbert, 1996; Dyregrov, 1994). Externalising symptoms may be more likely to be seen in young children, who might regress in toileting, feeding and separation behaviours. In older children, social and emotional factors often interact, i.e. changes in familial role or school can increase the likelihood of depression or loss of motivation (Dyregrov, 1994). If witness or survivor to a sudden or traumatic parent death, children may develop post-traumatic stress disorder (Herbert, 1996). However, no specific constellations of acute or long-term symptoms have been identified as typical and the most common factor across most of the literature pertaining to parental loss is heterogeneity of outcome (Rutter, 1985; Van Eerdewegh, Clayton & Van Eerdewegh, 1985).

The death of someone close has been suggested to result in positive changes in children and adolescents, including increased maturity and coping skills (Balk, 1990; Martinson, Davies & McClowry, 1987). However, these studies have failed to account for developmental changes in the children in-between periods of follow-up (between seven and nine years during the child’s adolescence). Studies, which have taken normal developmental changes into account, have found a reduction in apparent negative outcomes of bereavement (Van Eerdewegh et al, 1985), rather than increased positive outcomes.

**Outcome Studies**

Studies of the effects of childhood bereavement have resulted in contradictory findings. Whilst some have indicated that parental death may result in problems manifested several years after bereavement (Elizur & Kaffman, 1983), others suggest that most problems have significantly reduced within one-year (Van Eerdewegh, Bieri, Parrilla & Clayton, 1982). One reason for this may be that different studies have used community and clinic samples, which are likely to yield different rates of negative outcome.

The variance in reported rates of childhood disturbance may also be due to other methodological differences across studies, most notably the use of different outcome measures. These include DSM-IIIR criterion (Weller, Weller, Fristad & Bowes, 1991); school behaviour, peer involvement and self-esteem (Fristad, Jedel, Weller &
Weller, 1993); physical and mental health (Van Eerdewegh et al, 1985); and behaviour, concentration and affect (Kranzler et al, 1990). Although such differing outcomes are difficult to directly compare, studies overall suggest that children exhibit more internalising (e.g. affective) disorders than externalising (e.g. conduct) disorders (Dyregrov, 1994).

One thirteen-month prospective study (Van Eerdewegh et al, 1982; 1985) compared a community sample of bereaved children and remaining parents with controls. Differences in outcome depending upon age and sex of the child and mental health of the surviving parent were found. Higher levels of mild depressive reaction (dysphoria), withdrawn behaviour and deterioration in school performance remained at follow-up in the bereaved sample, although significantly below initial levels. There were no differences between the samples in the presence of clinical depression, suggesting that bereavement may induce a specific reactive form of depression. Other symptoms present in the bereaved sample (particularly amongst girls) were difficulties sleeping, decreased appetite, loss of interest in activities, bedwetting and temper tantrums. In agreement with previous suggestions (Rutter, 1966), this study concluded that despite mild short-term psychopathology, parental loss did not affect normal development.

Van Eerdewegh et al provided a comprehensive, prospective, longitudinal study of a community sample, countering criticisms of previous studies which have been cross-sectional, retrospective and have used clinical samples (Kranzler et al, 1990; Crook & Elliot, 1980). However, the latter authors identified problems with the study, including the method of participant selection and the use of parent-report only, with no child interviews. Such accounts have been suggested to be unreliable (Weller et al, 1991), because parents often underestimate the distress of the child (Schyving Payne, Goff & Paulson, 1979) and children frequently refrain from demonstrating their feelings to adults for fear of hurting them (Kranzler et al, 1990).

There has been a reticence to attribute a pathological status to identified increases in levels of symptomatology in bereaved children. Instead, studies have suggested the need to differentiate the acute reactions and later processes of 'normal' grief from
indicators of later pathology (Kranzler et al, 1990). This could be done through prospective longitudinal studies, which would allow researchers to identify mediating processes within individual and familial patterns of childhood bereavement.

**Mediating Processes**

Despite limitations of studies, a number of mediating factors have been identified relating to childhood bereavement. Child-related variables include age, sex, developmental stage, and personality; familial factors include parent-child relationships, parental adjustment and communication; and environmental variables include social support, school and peer influences.

**Divorce**

In accordance with the literature on attachment, divorce was previously believed to be a traumatic event resulting in deleterious effects on children’s adjustment (Hetherington & Stanley-Hagan, 1999; Rutter & Madge, 1976). More recently it has become accepted that children are affected by the dysfunctional family life present before and after divorce (Cherlin, Furstenberg, Chase-Lansdale, Kiernan, Robins et al, 1991), although some research has failed to take this transitional perspective into consideration (Wallerstein, 1991).

Wolkind & Rutter (1985) have summarised the multiple influences that need to be considered when assessing the impact of divorce upon children. ‘To begin with, life events tend to have a long history; often divorce follows years of marital strife, but also, divorce has lasting consequences. In many cases there is a drastic reduction in the standard of living; frequently the parents go through a prolonged period of emotional disturbance; sometimes discord continues or even escalates after the marital separation; patterns of childcare alter; and in many cases there is the further ‘event’ of parental remarriage with all it’s further consequences.’ The need to recognise the many familial transitions related to the process has been documented across much of the literature (Shaw, 1991).
Epidemiology
Present trends suggest that one in four children may experience parental divorce before the age of 16 (OPCS, 1990). Rates of re-marriage (or co-habitation with new partners) have been estimated to be as high as 75% (Cherlin & Furstenburg, 1994). However, divorce rates are higher in re-marriages than first marriages, exposing children to a number of familial and role changes. Children exposed to numerous familial transitions have been shown to experience the most adverse consequences (Capaldi & Patterson, 1991). Racial differences further increase heterogeneity of 'divorce' populations. Black children are the most likely to experience parental separation or divorce, whilst their parents are the least likely to re-marry (cf. Hetherington & Stanley-Hagan, 1999).

Outcome Studies
Literature reviews report negative outcomes in relation to externalising, internalising and cognitive difficulties (Emery, 1988; Hetherington & Stanley-Hagan, 1999). Externalising disorders seem to predominate findings. Studies have reported an increased risk of anti-social and aggressive behaviour in boys, although no similar association has been found for girls (Block, Block & Gjerde, 1986; Hetherington, Cox & Cox, 1978). However, increased involvement in delinquency has been reported in both boys (Goldstein, 1984) and girls (Kalter, Riemer, Brickman & Chen, 1985) of divorced parents.

Despite the apparent strengths of these associations, findings are confounded by variables of race and socio-economic status (SES), which are also associated with single-parent status. Hence, the independent effects of divorce, race and SES need to be isolated to further develop these findings (Rutter & Giller, 1983). Furthermore, factors which often occur in relation to divorce (inconsistent discipline, inter-parental conflict) have been shown to be independently associated with externalising problems (Loeber, 1982).

Internalising disorders have been associated less strongly with divorce. There have been equivocal findings in relation to the effect of divorce on children's self-concept. Some studies suggest differences between children of recently divorced and married
parents (Forehand, McCombs, Long, Brody & Fauber, 1988), but other studies fail to corroborate this finding (Slater & Haber, 1984). As internalising disorders have been found to diminish with time, this inconsistency may be due to the longer length of time between divorce and research in the latter populations (Hetherington & Stanley-Hagan, 1999). Despite improved outcome over time, children of divorced parents seem to remain less emotionally adjusted (i.e. more withdrawn and depressed) than children of non-divorced families (Amato & Keith, 1991; Peterson & Zill, 1986). This effect has been found more in girls (Furstenburg & Allison, 1989) and in white children (McLanahan & Sandefur, 1994).

Findings relating to cognitive deficits have again been confounded by SES and single-parent variables, but when controlled for, the children of divorced parents have generally been found to perform the most poorly on academic tasks (Shaw, 1991). It has been suggested that school performance is mediated by the presence of behavioural problems following divorce (Guidubaldi et al, 1984). However, longitudinal studies have shown that the apparent effects of the divorce on behaviour problems and school achievement fall by half to non-significant levels when pre-existing behaviour problems, achievement levels and family difficulties evident before the separation are accounted for (Cherlin et al, 1991). These findings suggest that a number of processes occurring before and after the divorce affect outcome on a number of levels.

Despite the plethora of research documenting negative outcomes, some neutral and favourable outcomes have been found. Compared to their own pre-divorce development or that of their peers, children of divorce have been found to assume more responsibility and have increased empathy for family members (e.g. Weiss, 1979). However, such positive outcomes seem to be related to attributes associated with resilience, of both individuals and families (Gately & Schwebel, 1992).

**Methodological Limitations**

Individual studies are weakened by realistic methodological limitations. For example, large sociological surveys have representative samples, but tend to use single-informants and inadequate measures. Smaller, psychological studies use more sophisticated measures, but frequently use convenient non-representative samples, or small populations (Hetherington & Stanley-Hagan, 1999). There has also tended to be an absence of control or comparison groups (Kelly, 1988).

Recent research has increasingly adopted a longitudinal focus, using new statistical techniques (e.g. structural equation modelling) and multiple measures to differentiate between patterns of children's adjustment (Forgatch, Patterson & Ray, 1995).

**Mediating Processes**

A number of factors have been suggested to mediate the impact of parental divorce on children's adjustment, including developmental stage (Dowling & Gorrell Barnes, 1999) age, gender and personality (Hetherington & Stanley-Hagan, 1999). Shaw (1991) proposes a number of inter-related family process variables - inter-parental conflict; separation from attachment figure; temporal influences (child's age at the time of divorce and the length of time since divorce); parenting practices and child-parent relationships; remarriage; and family economics.

**Marital Discord**

Despite historical clinical observations of the association between parental conflict and child adjustment problems (Baruch & Wilcox, 1944; Minuchin, 1974), most research has taken place relatively recently. Research indicates that marital conflict is detrimental to the adjustment of children (Stolberg, Mullett & Gourly, 1998; Shaw, 1991) whether conflict occurs prior to divorce (Amato & Keith, 1991), following divorce (Shaw & Emery, 1987) or in families where conflict continues but the unit remains whole (Gottman, 1994). These findings have led to suggestions that marital conflict is actually responsible for many of the outcomes associated with divorce, and a divorce which results in increased harmony is less harmful to children than remaining in a distressed marriage. The complex interactions of factors have recently
be summarised. 'The evidence in response to the controversy about staying together for the sake of the children suggests that if conflict is going to continue it is better for children to remain in an acrimonious two-parent household than to suffer divorce. If there is a shift to a more harmonious household a divorce is advantageous to both boys and girls. However, even with low acrimony between the divorced parents, boys in low-conflict divorced families are disadvantaged over those in low-conflict non-divorced families' (Hetherington & Stanley-Hagan, 1999).

Differing definitions of 'marital conflict' has confounded research. Studies have used indices including 'marital satisfaction' and 'discord', which due to their covert nature may be poorly related to child outcome (Fincham & Osborne, 1993). However, a number of studies have showed 'conflict' to be significantly associated to child adjustment, whether reported by parents (Porter & O'Leary, 1980) or children (Emery & O'Leary, 1982). The term 'marital conflict' is now widely used, recognised across the literature (Davies & Cummings, 1994), and has been defined as 'conflict disharmony and lack of parental agreement between married couples of children, including separated parents’ (Reid & Crisafulli, 1990).

Outcome Studies
Marital conflict has been associated with a range of child behaviour problems in a number of family settings. Again, the outcomes have been divided into externalising, internalising and cognitive disorders (Stolberg et al., 1998). Most studies have been observational, which may be why externalising disorders are most commonly reported.

Externalising problems include conduct disorders (Emery & O'Leary, 1984); delinquency and anti-social behaviour (Mann, Bourduin, Henggeler & Blaske, 1990); and personality disorders (Porter & O'Leary, 1980). The presence of marital conflict has particularly been associated with behaviour problems in boys (Reid & Crisafulli, 1990; Emery, 1982; Fincham & Osborne, 1993). Internalising problems include anxiety, withdrawal (Porter & O'Leary, 1980) and depression (Dadds, Sanders, Morrison & Rebgetz, 1992). A reduction in school performance and peer relations has also been demonstrated (Emery & O'Leary, 1984).
**Process Theories**

The mechanisms through which marital conflict results in such outcomes have not been clearly identified (Katz & Gottman, 1993), but three theories have been proposed to suggest ways in which marital conflict affects children. The first, social-learning theory (Bandura, 1973) suggests that children learn ineffective problem solving strategies and coping skills by modelling their parents' behaviour. A number of studies have shown that children exposed to parental conflict are more likely to have behaviour problems (Hetherington, Cox & Cox, 1981); be aggressive (Johnson & O'Leary, 1987); or have difficulties in later relationships (Webster, Orbuch & House, 1995). Some research indicates that the same-sex parent acts as a model for the child (Turner, Gervai & Hinde, 1993). However, counter-theoretical evidence indicates that children who witness domestic violence do not inevitably follow similar methods of conflict resolution (Widom, 1989) and a genetic link between parental divorce-proneness and childhood behaviour problems has been suggested (Jocklin, McGue & Lykken, 1996).

Socialisation theory suggests that marital conflict affects children through disruption of parenting practices (Belsky, 1984), by increasing aggression in parent-child relationships (Patterson, 1982); weakening the appearance of unity between parents (Gilbert & Christensen, 1988); and reducing the consistency of disciplinary practices (Patterson & Stouthamer-Loeber, 1984).

The third theory, (family systems) suggests that conflict is a threat to the unity of the family system, and as such is detrimental to children, as all members have a role in the maintenance of the family unit (Kerr & Bowen, 1988). This theory could explain the heterogeneity of research outcomes, which may be due to the variable processes across different systems.

**Comparison Studies**

Fincham & Osborne (1993) suggest that child adjustment is related to the child's exposure to and appraisal of the parent's behaviour. They characterise conflict across four dimensions – frequency, intensity, duration and diversity of content. They cite research indicating that the more frequent their exposure to conflict, the more intense...
the children's reactions are to later episodes of conflict (Cummings, Zahn-Waxler & Radke-Yarrow, 1981), although these studies have only evaluated children's immediate reactions to displays of anger, not long term outcomes.

Where physical aggression has been used as a measure of intensity, children subjected to violence have been found to have more behavioural problems and depressive episodes than children who have witnessed violence. Both sets of children have more adjustment difficulties than matched controls (Jaffe, Wolfe, Wilson & Zak, 1986). Types of conflict other than physical aggressions may be intense and long-lasting. Intense, prolonged verbal and non-verbal conflict have been associated with more internalising disorders in children (cf. Fincham & Osborne, 1993). Ongoing conflict, especially when there is escalation after divorce has been associated with more difficulties in early adulthood (Amato, Loomis & Booth, 1995).

Conflict involving the child, personally or through content has been shown to result in a number of deleterious outcomes (Davies & Cummings, 1994). Mediating processes depending upon the specific nature of the child’s involvement have been identified, but it seems that whilst a child’s involvement may help decrease short-term familial tension, it is likely to exacerbate depression, anxiety and deviant behaviours in the long-term (Stolberg et al, 1998). Conclusions about child-specific conflict have been hard to draw, as research is confounded by a number of co-occurring variables. Couples who engage in such conflict are likely to argue more frequently (Kelly, 1988), and this often accompanies a deterioration of parent-child relationships, particularly during custody contention (Johnstone, Kline & Tschann, 1989).

**Mediating Processes**

A number of mediating processes have been mentioned. Others include psychopathology of parents (Shaw & Emery, 1987); parental levels of child-specific communication (Kelly, 1982); and good relationships with siblings and someone outside of the family (Jenkins & Smith, 1990). A good parent-child relationship has been shown to ‘buffer’ the child from some negative effects (Hetherington, Cox & Cox, 1978).
Methodological limitations

The use of group aggregate data and correlational analyses (Fincham & Osborne, 1993) mask differentiation of the independent effects of marital-discord, in families faced with multiple stressors, including alcoholism, parental psychopathology and low socio-economic status (Senchak, Leonard, Greene & Carroll, 1995). Each of these can independently affect child outcome (Rutter, 1995).

Studies of family violence have been criticised for their methods of data collection (i.e. using one type of report measure, small samples) and their lack of comparison groups and baseline data (Kashani, Daniel, Dandoy & Holcomb, 1992). The heterogeneity of populations and outcome measures has made conclusions hard to draw and comparisons across studies difficult, particularly where contradictory findings have emerged (Reid & Crisafulli, 1990).

Mediating Processes in the Outcome of Bereavement, Divorce and Marital Discord

Less than half of children exposed to adverse experiences, including bereavement, divorce and marital-discord will suffer from impaired cognitive, socio-emotional or behavioural adjustment. Reactive differences are due to interactive processes which are multiplicatively different for each individual, depending upon genetic, environmental, temperamental and familial characteristics (Rutter, 1985).

Identification of risk and protective processes can be useful foci for clinical intervention. Some mediating processes have been described. Space necessitates more than many more have been missed out. However, some mediators have been identified as common across bereavement, divorce and marital-discord. A few of these will now be briefly discussed.

Age

The developmental stage of the child has been suggested to be an important determinant of their reaction to separation from parents (Bowlby, 1980), although this factor tends to be operationalised in research by age comparisons. One way of conceptualising the different conclusions drawn by research is through understanding the differing responses across ages in terms of developmental factors.
Before the age of three, children require more physical proximity to their parents, hence separation tends to result in increased clinging behaviour (Heinicke & Westheimer, 1965). By about four, children show less upset if they understand the reasons for parental departure and are more able to transfer affection to other adults (Maccoby & Feldman, 1972). However, as physical dependency decreases, cognitive understanding increases (i.e. increased empathy with parents). This may be manifested in older children and adolescents as prolonged grief reactions after bereavement and inability to transfer affections to new parents, particularly after divorce (Wolkind & Rutter, 1985).

The most notable empirical support for these theories comes from the bereavement literature, which suggests that adolescents manifest more depressive symptoms, whilst younger children show more regressive behaviours (Dyregrov, 1994). Findings are conflicting as to the effect of age on post-divorce adjustment (Hetherington, 1981; Wallerstein & Kelly, 1980), although many find equally negative effects for younger and older children (Amato & Keith, 1991). The influence of age on children’s reactions to marital-discord has received little attention, although some studies have found no significant effects (Frude, 1990; Emery, 1982).

Despite equivocal findings, the literature pertaining to cognitive development does hold some clinical implications. Explanations of events will need to take the child’s developmental stage and understanding into account. For example, children less than four may not comprehend the permanence of death or divorce, or may misattribute causality through magical thinking, so they will need simple, concrete explanations. The concepts of irreversibility and universality develop between the ages of 6-9, and adolescents can generally engage in abstract thinking (Herbert, 1996). These developmental factors will affect the way the child communicates with others (i.e. by externalising behaviours or by talking), as well as how others should communicate with the child (Van Eerdewegh, 1982; Dyregrov, 1994). The importance of maintaining open and honest communication between children and parents at a level the child can understand has been recognised, although parents may need to be encouraged to engage in this (Rutter, 1966; Hetherington & Stanley-Hagan, 1999).
Sex

In general, sex differences across the divorce, marital-discord and bereavement literature, suggest an increase in externalising behaviours in boys compared to girls and controls (Kranzler et al, 1990; Wallerstein & Kelly, 1980).

Recent studies of divorce have suggested that these gender differences are less marked than previously believed. This may reflect increasing father-involvement with sons after divorce (Amato & Keith, 1991), which would mediate adjustment difficulties of boys living with a different-sex parent (Santrok & Warshak, 1979). However, increased co-parenting tends to occur in conjunction with reduced parental-conflict (Koch & Lowery, 1984). The adverse consequences of behaviour problems are often more marked for girls, who are more likely to succumb to teenage pregnancy (McLanahan & Sandefur, 1994), than girls whose fathers have died (Hetherington, 1972).

The mechanisms by which gender differences influence adjustment after parental death are similarly complex. Boys have been found to score higher than girls on internalising as well as externalising measures (Kranzler et al, 1990), but even when young they are less likely to talk about their feelings (Dyregrov, 1994). This suggests that externalising behaviours may be their way of expressing grief.

Temperamental characteristics

Resilience (the ability to cope in the face of adversity) has been described as the most influential temperamental characteristic in child adjustment (Fonagy, Steele, Steele, Higgitt & Target, 1994). Resilient children seem to be less likely to suffer a negative outcome, following divorce, bereavement or marital-discord (Herbert, 1996; Dyregrov, 1994; Frude, 1990).

Resilience involves several related elements, including a sense of self-esteem and confidence; a belief in one’s ability to deal with adaptation; and a repertoire of social problem-solving approaches. Factors identified as important in the development of resilience include protective familial and social influences, including a secure attachment in infancy (Rutter, 1995).
Research has been shown resilience to be present in families and individuals. Parents who are resilient are warm, supportive and able to remain involved with their children even during difficulties (Kolvin, Charles, Nicholson et al, 1990). Those lacking in resilience tend to be overwhelmed by difficulties and have fewer positive social interactions with their children.

Resilient children tend to have support-seeking and support-attracting characteristics. Some also possess cognitive abilities (i.e. problem-solving skills) that can buffer the effects of stressors (Milgram & Palti, 1993). Finally, resilient families have support-attracting characteristics and seek out and co-operate with professional intervention (Christ et al, 1991).

As a dynamic process ‘resilience’ provides insight into mechanisms behind variable interactions (Wolkind & Rutter, 1985). However, contextual factors described as necessary to nurture the development of resilience are associated with more positive outcomes suggesting that ‘the psychologically rich get richer and the psychologically poor get poorer in dealing with challenges’ (Hetherington & Stanley-Hagan, 1999). There has also been little attempt to conceptualise findings within a framework that could be clinically relevant.

**Family Process Variables**

A plethora of mediating processes remains, some of which will now be described in an interactive context, to demonstrate the multiplicativity between them.

Lower SES is strongly associated with single-parent status and vulnerability to stress and depression in parents following divorce and bereavement (Fundudis, 1997). Such disturbed parental adjustment can lead to neglect of responsibilities and consequently deterioration in social, behavioural and academic adjustment of children, particularly boys (Wallerstein & Kelly, 1980).

External social-support may mediate the potential consequences of lowered parental functioning after bereavement (Kranzler et al, 1990) or during discord or divorce (Lee, Picard & Blain, 1994). Increased social-support has been shown to be an
independent protective variable in the functioning of both individuals (Kashani & Sheppherd, 1990) and families (Cottrell, 1993). One clinical implication of this is that the quality and quantity of support provided by external family and friends could be assessed with a view to helping parents take advantage of extra support, including day-care centres for their children (Zoritch & Oakley, 1999).

Regular contact with the non-custodial parent has been associated with better adjustment following divorce (Hetherington et al, 1981). However, contact tends to reduce if parental-conflict continues (Koch & Lowery, 1984).

In relation to bereavement, the nature of the pre-existing relationship with the deceased parent is related to child symptomatology. Research has demonstrated that children show more symptoms if the deceased had more emotional involvement with the child than the surviving parent (Kranzler et al, 1990). If the relationship with the latter is problematic, children may turn to friends for support, but are vulnerable to friendship disruptions during this period (Gray, 1989).

The quality of parental care can inversely affect the likelihood of developing psychopathology in adulthood (Harris, Brown & Bifulco, 1986). Children who received stable and adequate parental care after bereavement were no more likely than controls to develop difficulties. Poor adjustment has been associated with a lack of stability in the home prior to the death, including if the marital relationship was discordant (Herbert, 1996).

**Conclusion**
The evidence presented suggests that children who experience parental death, divorce or marital conflict may be vulnerable to adjustment difficulties. However, most children will not develop psychopathology as a result of these experiences. Indeed the only consistent finding in the literature relating to these disorders is that children display heterogeneity of outcome and these outcomes are mediated by a complex interaction of processes. These principles may be applied to potentially adverse childhood experiences other than those discussed in this essay (e.g. children of alcoholics (Senchak et al, 1995)).
Methodological limitations and confounding variables within studies preclude the identification of specific factors predicting outcome. However, recent research has adopted a more transitional perspective and has recognised the importance of individual circumstance and mediating processes. Separation is no longer regarded as causational of deleterious child outcome, rather processes surrounding events are seen as influential.

The clinical field has developed alongside research, with increasing use of systemic formulation and intervention and recent advances in theories surrounding these areas. Further research is needed to substantiate these theories.

Methods currently being developed include working with the family members together, to try to help them communicate and relate to one another (Dowling & Gorrell-Barnes, 1999). Work with parents has included attempts to limit hostility and increase co-parenting (Hetherington & Stanley-Hagan, 1999; Stolberg et al, 1999). It is important when working with families of bereavement, divorce and discord to identify historical factors, which may need to be investigated with parent and child to reach a resolution. Such work needs to be framed within the context of the child’s cognitive understanding.

Future research may focus more on the direction of causality within systems, where the impact of the child is recognised, particularly where the child’s difficulties (i.e. disability, cognitive impairment) precede familial disruption (Mash, 1984; Cottrell, 1993; Hetherington & Stanley-Hagan, 1999). This research may help to further differentiate between confounding variables and provide further comparisons between familial reactions to adverse circumstances (Trolley, 1994; Goodyer, 1993; Clulow, 1990). In turn, these findings could inform future clinical interventions.
REFERENCES


ESSAY 4: OLDER ADULTS

“What is the Potential for Psychotherapeutic Work with People with Dementia?”

June 1999

Year 2
“WHAT IS THE POTENTIAL FOR PSYCHOTHERAPEUTIC WORK WITH PEOPLE WITH DEMENTIA?”

Introduction
This essay aims to investigate whether it is possible for people who have dementia to benefit from psychotherapy. To address this question, dementia is defined according to its diagnostic criteria and the literature pertaining to the economic, social and psychological consequences of this diagnosis is reviewed.

‘Psychotherapy’ is defined and the role it has to play within an integrated approach of dementia-care is discussed. Psychotherapies carried out with people who have dementia are then individually reviewed.

A broad conclusion is drawn as to the potential for psychotherapeutic work with people with dementia as part of an individual programme plan, with a caveat that the scarcity of outcome research makes specific conclusions hard to draw. The implications and challenges that this presents for future research are discussed.

What is Dementia?
The DSM-IV (American Psychiatric Association, 1994) describes dementia as multiple cognitive deficits, physiologically based, with multiple etiologies but common symptom presentation. ‘Cognitive deficits’ include memory impairments, aphasia, apraxia or agnosia and/or disturbance in executive functioning. These impair social and occupational functioning and represent a decline from previous levels of functioning. There are a number of different forms of dementia. The most common are dementia of the Alzheimer’s type, vascular disease and multiple etiologies. In this essay, the term ‘dementia’ refers to the diagnosed presence of an organic disease, causing irreversible, continued cognitive decline in a person aged over 65.

Types of dementia can differ in symptom-onset and presentation. For example, Alzheimers disease is associated with insidious onset after the age of 65, with slow progressive decline (APA, 1994). The onset of vascular dementia tends to be earlier and more abrupt than Alzheimers. Decline follows a stepwise and fluctuating course.
with 'patchy' loss of cognitive functioning. The constellations of symptoms between different individuals with the same form of dementia may vary considerably, with no apparent linear relationship between neuropathology and actual functioning, complicating diagnosis (APA Practice Guidelines, 1997).

The issues pertaining to differential diagnosis of dementia are too complex to discuss within the confines of this essay. Diagnostic criteria and considerations are discussed in detail elsewhere (i.e. APA 1994, 1997; Hart & Semple, 1990). However, the clinical diagnosis should reflect the type of dementia as accurately as possible, as in some cases behavioural, medical or pharmacological intervention may delay or halt decline (i.e. if dementia is caused or aggravated by general medical conditions or medication) (Semenchuk, 1994). The type of dementia may also have prognostic implications, which can affect the course of interventions.

Pseudodementia (the presence of a psychiatric condition which can give rise to symptoms similar to dementia) is a common cause of misdiagnosis of dementia with reported frequency of between 2-15% (Hart & Semple, 1990). Depression is the most common form of pseudodementia (Lishman, 1987). Differential diagnosis of dementia and depression is complicated because the cognitive and behavioural symptoms of depression in the elderly can closely resemble those of dementia (i.e. memory/concentration impairment; apathy, withdrawal) (Hart & Semple, 1990). Furthermore, depression is a common psychiatric problem in the elderly (Pitt, 1982) and affective disturbance is not always manifested or reported by the client (McAllister & Price, 1982).

The Prevalence of Dementia
Epidemiological studies suggest that the prevalence of dementia doubles for each five year age increase, so that roughly 5% of the over-65s and 20% of the over-80s may be sufferers (Paykel, Brayne, Huppert et al, 1994; cf. Woods and Roth, 1996). There are an estimated 600,000 people with dementia in Great Britain (Morris, 1993), and the annual cost for caring for Alzheimers sufferers in England is about £1139 million (Gray & Fenn, 1993). With improved social and health care, the over-75's constitute
the fastest growing section of the population (Central Statistical office, 1984). Hence, these figures will continue to rise.

**Cost to carers**

Estimated costs tend to not account for financial and social contributions made by relatives caring for people in the community. However, it has long been recognised that family support is a crucial factor in delaying institutionalisation (Arie, 1973).

Research reveals high levels of stress and depression, and increased consumption of alcohol, sedatives and anti-depressants in carers of people with dementia, (Cohen & Eisdorfer, 1988; Alzheimers Disease Society in Wales, 1992). Carers can also develop illnesses related to exhaustion, stress and physical injuries (Gilleard, 1984).

Carer stress has been found to increase in proportion to the severity of dementia (Eagles, Craig & Rawlinson, 1987), possibly due to the effects of coping with increased behavioural disturbances, and the corresponding limitations in opportunities for external social interactions (Haley & Levine, 1987). These emotions can complicate the mourning process felt by many for the loss of the person (Parker, 1990).

These problems can lead to dysfunctional patterns of 'caring', including pathological caring (Seymour, 1991), elder abuse (Homer & Gilleard, 1990) and neglect (APA, 1997). Even when such overtly dysfunctional patterns are not present, the stress placed on carers may lead them to adopt behaviours and attitudes which limit the individual's opportunities to function to their maximum potential. The result of such caring contributes to 'excess disabilities' for the individual (Cohen, 1988).

**Cost to individual**

Until recently, research has focussed on the emotional difficulties of caregivers rather than of the individual with dementia (Solomon & Szwabo, 1992). More attention is now being paid to the emotional reactions of the individual, possibly because of earlier diagnosis (brought about by improved diagnostic techniques and increased
The most commonly reported reaction of the individual following diagnosis of Alzheimer’s is depression (Soloman & Szwabo, 1992). Co-existence of depression and dementia is between 10-25% (Rovner & Morriss, 1989). Where depression is a primary response to the diagnosis (rather than primary symptoms of the dementing illness), symptomatology may be reduced (Kim & Rovner, 1994). Therefore, misattribution of depressive symptomatology to cognitive neuropathology alone can lead to excess disability in sufferers of dementia (Cohen, 1988). Medication can successfully help some individuals to overcome depression, but will be unsuitable for many because of unpleasant side-effects (Semenchuk, 1994).

The theory that depression can occur and be maintained by the absence of pleasant experiences or thoughts and the presence of aversive experiences or thoughts (Beck et al, 1979) has been applied to account for the frequent occurrence of depression in people with dementia. Patients may ruminate on lost abilities and future decline during the early stages. As the disease progresses they may be less able to participate in enjoyed activities and rely on others more for their needs, and hence risk liability to experience aversive events (Teri and Gallagher-Thompson, 1991).

Other reported emotional difficulties during the course of dementia, include anxiety and fear, suspiciousness, catastrophic reactions and sometimes psychotic symptoms (Soloman & Szwabo, 1992). It is difficult to assess emotional reactions as the disease progresses, as individuals may lose their ability to respond appropriately (Gray & Isaacs, 1979). However, increasingly symptomatic and disruptive behaviours (verbal outbursts, aggression, sleep disturbance) may be indicative of continued frustration and fear (Huckle, 1994).

**Summary**

Dementia is an organic disorder which leads to progressive cognitive impairment in the individual. A diagnosis holds economic, social and psychological implications for the individual, their relatives/carers and society as a whole. Failure to find a linear
relationship between cognitive changes and level of functioning suggest that emotional state is an important element of functioning. This opinion is validated by the known effects of depression upon the functioning of the elderly in general, and more specifically in people with dementia. Failure to address the emotional issues of the individual and/or the carer can lead to ‘excess disability’.

Dementia care – the Need for an Integrative Approach
Disillusionment following unsuccessful attempts to identify a pharmacological reversal to cognitive decline, has led to psychological interventions becoming increasingly important in recognising and meeting the social and psychological needs of individuals with dementia and their relatives (Woods & Britton, 1985). The aims of such work include reducing stress and maximising dignity (Haggerty, 1990) and removing excess disability (Cohen, 1988).

The recognition of working within a ‘no-cure’ paradigm is not unique to dementia care. Psychotherapeutic and medical interventions have been criticised for operating within a ‘curative’ perspective and it has been suggested that therapy should be viewed in a context of client ‘management’ (Kendall, 1989). This approach has been adopted within dementia care. Interventions have been described as ‘management techniques’ to overcome the implications of a curative model (Orrell & Woods, 1996).

The aims of intervention within dementia care need to be realistic, as they take place within the context of variable, progressive cognitive deterioration. Two main aims have been suggested (Woods & Britton, 1985). Firstly, to help relatives and carers to manage; secondly to remove excess disabilities from the individual themselves, either by helping them to make improvements in a particular area (specific) or by helping them to maintain skills and slow down deterioration (general). Carers and individuals should be included throughout, and progress should be monitored and addressed in a consistent and ongoing fashion. No single intervention can address all of these factors. This has led to recognition of the need for an integrative approach towards dementia care.
Defining an Integrative Approach

Woods (1995; 1999; Woods & Britton, 1985) has described an integrative approach, encompassed within an ‘individual programme planning’ (IPP) framework. Psychological therapies form part of such intervention. The aspects that exist within the IPP framework described by Woods (1999) will briefly be described, before individual psychotherapies are discussed.

The New Culture of Care

‘Malignant social psychology’ (MSP) (Kitwood, 1997) describes the social consequences of a diagnosis of dementia, where negative attitudes and practice reflecting ‘dehumanisation, invalidation and objectification’ reduce the person’s functioning, i.e. treating the dementia, not the individual. Such practices may occur because of the difficulties caregivers face in fulfilling the physical demands of caregiving. Woods (1999) describes a culture where attitudes, values and principles emphasise the value and worth of the person, with recognition of the importance of psychological and emotional, as well as physical needs. This approach has been likened to the principles of social role valorisation in the fields of learning disabilities and mental health (Woods, 1995).

The establishment of such a culture is particularly important, as trying to carry out psychotherapy with individuals who are within a culture unsupportive of such work is unlikely to be effective (Cheston, 1998).

Individualisation

This acknowledges the uniqueness of each individual (interests, personality etc.) and the uniqueness of the disease process (type and stage of dementia, area of brain affected, specific deficits etc.). As the person is less able to modify their environment they risk being shaped by their environment, resulting in further reduction in functioning and individuality (Parmelee & Lawton, 1990). Difficult behaviours may also be manifestations of the individual finding their environment aversive.
Continued Capacity to Learn

Under the right conditions, people with dementia have a limited ability to learn (Miller & Morris, 1993; cf Woods, 1999). Although registering information may take longer, rates of forgetting are similar to people without dementia (Backman, 1992). These findings indicate that change is possible, despite the cognitive deficits of dementia.

Selection of Targets and Maintenance of Benefits

Specificity and lack of generalisation in learning require targets to be limited in size, and individually and clinically relevant, (i.e. to make a difference to the person concerned), particularly as they require much effort. Whilst objective behavioural and/or cognitive changes are often focussed upon, it has been suggested that the expression of states of relative well-being (self-esteem, agency, confidence and hope) (Kitwood & Bredin, 1992), are also worthy goals in intervention. Hence, goals may be related to transitory impact within a ‘quality of life’ paradigm and assessed by the extent of the patient’s involvement in fulfilling life events, rather than being judged on cumulative effect (Woods & Britton, 1985). As maintenance is an important part of any intervention (Kendall, 1989) and perhaps more so where the primary condition is one of decline, interventions need to be ongoing, with targets reviewed as the individual’s condition changes.

The Involvement of Staff and Carers

As carer well-being has a major impact on the quality of life of the client, the consequences of approaches on the carer must be considered. Hence, not only must the needs of the carer be considered in deciding how an intervention is carried out, but the outcome should be one which enables the carer to perceive the benefits (Woods, 1999).

Individual Programme Planning

‘Individual programme planning’ (Woods & Britton, 1985) is an integrated approach where the person is treated as a complete individual. Experiences, attitudes and events that have shaped their lives are considered and their assets and resources as well as their problems and needs are focussed upon. All aspects of the person’s life
(social, physical and psychological) are incorporated and the carers and individual are included throughout the process (Woods, 1999).

To identify relevant and achievable goals, assessment includes development of an understanding of the reasons behind a person's behaviour; identification of specific neuropsychological strengths and weaknesses; and an understanding of the person's past life (Woods, 1999). An idea of the person's 'culture' can also enable identification of biases that may influence the assessment process (APA, 1994) or need to be incorporated into the intervention. The care plan should also consider the capacity and benefits of the staff in carrying them out, and improve the quality of life of the individual.

Psychotherapeutic techniques may be included within the individual programme to assist achievement of specified goals, i.e. increasing social contact and communication (Woods, 1999; Woods & Britton, 1985). Hence, they are 'subordinate to the individual planning process, but contribute significantly to .... meeting individual patients' identified needs' (Woods, 1999).

**Psychological Therapies in Dementia-care**

Frank (1996) describes empirical-scientific psychotherapies as being based on scientific principles and aiming to help the patient restore harmony within himself and with his social group. A trained practitioner attempts to relieve another's distress or disability and is guided by theory in both explanation and alleviation of distress. The medium of healing is via verbal and non-verbal communication. The outcome of therapy depends on the patient's and practitioner's beliefs that the treatment has been empirically validated.

Psychological models of treatment vary in their goals, techniques and targets of intervention. There are however, similarities across models, the 'most common element is some mechanism for the expression and resolution of feelings' (Bonder, 1994). 'Core factors' or commonalities include being theory-based, with a
relationship between research and clinical practice, (Yalom, 1985); being ethical (Karasu, 1996); and a confiding relationship and healing setting (Frank, 1996).

Approaches that have been described as psychological therapies developed for people with dementia will be described, with the above definition in mind.

Activity and stimulation
These interventions are based on the theory that people with dementia can respond to their surroundings, but are often understimulated due to social withdrawal, monotonous environments and sensory impairment. This theory is supported by research indicating that young people can become confused when they suffer sensory deprivation (Holden & Woods, 1988; 1995). The aim of this type of therapy is to therefore stimulate the individual, with sensitivity to individual preferences of activity (Woods, 1995).

A range of activities including the introduction of pets into the environment (Haughie, Milne & Elliot, 1992) and music (Gaebler & Hemsley, 1991) have been shown to increase levels of verbal and/or non-verbal interaction and benefit people with mild and severe dementia (cf. Woods & Roth, date). However, these responses have only been perceived through use of detailed observational-measurement, without which subtle responses could be missed (Woods & Roth, 1996).

Exercise has been associated with small benefits on cognitive function (e.g. Molloy, Richardson & Crilly, 1988). However, the lack of control and loose diagnostic criteria used in exercise studies preclude further understanding of its effect (cf. Woods, 1999). Furthermore, the observed behaviours cease when the stimulus is removed (Woods, 1999).

One study used activity groups to form part of a wider ecologically-valid assessment of a number of skills (Townson, 1998). However, the effectiveness of this approach in identifying individual strengths and needs was not reported. Instead it was evaluated as an intervention, showing limited benefit in measures of cognitive and behavioural functioning and carer-stress. Whilst it is important to assess the effect of
a group on individuals, interventions which aim to assist carers in providing more individualised care should be recognised as making a significant contribution to the individuals quality of life and be evaluated accordingly.

**Reality Orientation**

The aims of reality orientation (RO) have been described as to increase motivation, reduce dependency and enhance the individual’s ability to live as independently as possible within their environment (Holden & Woods, 1982). It was based on theory suggesting that orientation to the present would enhance the individual's ability to achieve such aims (Drummond, Kirchoff & Scarborough, 1978).

RO consists of three components (Taulbee & Folsom, 1966; Folsom, 1967). 24 hour RO involves environmental changes (i.e. signposting) memory aids and consistency in staff interaction with individuals. Classroom therapy involves small structured meetings, using activities and prompts. Attitude therapy involves identifying the individual’s way of coping with memory loss and responding appropriately (Woods & Britton, 1985). It has been argued that the underdevelopment of attitude therapy has led to RO becoming a mechanistic ‘memory therapy’, which fails to reflect the feelings behind the individual’s disorientated speech and behaviour (Goudie & Stokes, 1989). Furthermore, the manner in which RO is often implemented has been described as confrontational (Woods, 1995) with too much emphasis being put on ‘correcting’, rather than understanding the person (Dietch, Hewett & Jones, 1989).

Good practice of RO is not mechanistic and includes recognition of individual needs (Holden & Woods, 1982). The environment must enable individuals to exercise their abilities and individuality, otherwise orientation to a present which bears little relevance to the individual seems pointless.

Despite being a longstanding therapy, RO has been subject to few satisfactory evaluations (Woods & Roth, 1996). Attitude therapy is rarely mentioned in the literature (Holden & Woods, 1982).
Classroom RO has quite consistently been associated with improvements on measures of verbal orientation compared to control groups (Woods, 1999). However, few changes in functional ability have been demonstrated and comparisons across controlled studies are difficult, because of methodological differences such as type of RO, measures used, diagnostic stringency, types of comparison group (Holden & Woods, 1995).

24-hour RO has mainly been studied using single case studies (Woods & Roth, 1996). Specific training in use of environmental signposting has been found to help people find their way around their home (Lam & Woods, 1986), but wider cognitive changes have also been reported (Williams, Reeves, Ivison & Kavanagh, 1987).

General changes in function and behaviour have not been found to the same degree as specific cognitive changes. This may be because the measuring instruments have not been sensitive enough or the care environment has not been enabling to the individual (Woods, 1999).

**Validation therapy**

Validation therapy (VT) was developed in response to dissatisfaction with RO (Feil, 1993). It is based on the theory that the confused elderly are expressing unresolved inner conflicts through their disorientation and withdrawing from the present reality in which they have no meaningful role (Babins, 1988). VT is a method of communicating, both verbally and non-verbally (i.e. touch, eye-contact) which encourages the carer to respond to the emotional content of the individual's communication, rather than responding to the surface meaning or 'facts'. In this way it aims to restore dignity and prevent decline into a withdrawn state (Woods, 1995), observable by increased communication and reduced agitation (Feil, 1982, 1993).

Recognition of individuality, emphasis on the impact of previous life events and the development of different techniques for people at different stages of dementia appear to make VT a therapy which fits with the principles of the new culture. However, it has been suggested that the emphasis on unresolved past conflicts may lead to current devaluation being disregarded and assumptions that only people who have coped
poorly with difficulties in their lives will develop dementia (Kitwood, 1992). It has also been argued that VT attributes people with advanced dementia with analytical and abstract reasoning powers beyond their capabilities (Goudie & Stokes, 1989). Debate over whether it was intended for use with people with dementia (Stokes & Goudie, 1990) has recently been clarified, with confirmation that it is intended for use with this population (Feil, 1993).

VT can be used in group or individual settings, (Feil, 1993). However, despite wide use, it’s effectiveness has not been rigorously evaluated (Toseland, Diehl, Freeman, et al, 1997).

Studies have reported beneficial effects, including increased verbal interaction, reduction in problem behaviours and reduced mental deterioration (Babins, Dillion and Merovitz, 1988). However, methodological limitations, including small sample sizes, attrition and uncontrolled research designs limit conclusions that can be drawn from these studies.

One longitudinal study using 88 participants, assessed the effectiveness of VT compared to a social-contact and a usual-care control group (Toseland et al, 1997). They found different, but limited beneficial effects for both VT and the social-contact groups. They also found that the nursing staff involved in these groups were more likely to notice these differences than carers who were not involved. This demonstrates the importance of making carers part of the intervention. Diagnostic criteria were not applied, but participants were screened and selected on the basis of cognitive capacity, excluding those with severe dementia. It would be useful to see if similar benefits were apparent with this population.

Studies confirm previous observations suggesting that whilst it may be a useful technique, VT does not demonstrate persisting effects or greater benefits than other approaches (Woods & Roth, 1996). However, it may be a useful therapy in conjunction with other approaches including RO (Woods, 1992) and activities (Toseland et al, 1997).
Resolution therapy

Criticisms that VT focusses too much on the interpretation of past events have resulted in the development of resolution therapy (Goudie & Stokes, 1989), which assumes that disorientation and confusion are manifestations of attempts to make sense of and express feelings related to the present, (Stokes & Goudie, 1990). The aims of resolution therapy are to assist the person in coping with their current feelings, via communicative acknowledgement (using reflective listening, exploration and empathy) and environmental modifications. Hence, resolution therapy can be used in conjunction with RO. However, no outcome studies have been identified and aspects of it’s practice (who and how should carry out this therapy) need to be clarified.

Reminiscence

Reminiscence therapy aims to enhance social contact and response from the person with dementia. The principles of reminiscence therapy lie in the belief that remote memories are well preserved in people with dementia, although research suggests that over-learned memories or emotionally significant events are maintained, rather than specific events (Morris, 1994; cf. Woods, 1999). It can be carried out in individual or group setting, using artefacts, videos and music from people’s earlier years (Haight & Burnside, 1993).

Little evaluation has been carried out on the effectiveness of reminiscence. Where it has taken place, conflicting or unclear findings have often emerged. One study has found that following reminiscence groups, less impaired patients had lower levels of depression, but no improvement in cognitive or behavioural functioning (Goldwasser, Auerbach & Harkins, 1987). Another study found cognitive and behavioural improvements in patients who attended reminiscence groups after RO groups, but not for patients who attended the groups in reverse order (Baines, Saxby & Ehlert, 1987).

Whether interactions within groups increase over time is similarly unclear (Head, Portney & Woods, 1990), although conflicting findings have been suggested to be due to environmental variation, so when the usual environment is sufficiently
stimulating there may be less room for improvement (Woods, 1999). However, increased interactions are often between individuals and staff, rather than between members (Haight & Webster, 1995).

Despite the scarcity of research, results suggest that reminiscence can be a beneficial activity for even quite severely impaired individuals. Furthermore, it can enable care staff to become more familiar with the individual in the context of their past life (Gibson, 1994). Hence, it could be a useful tool in promoting individualised care.

Cognitive-Behavioural Interventions
Implementation of cognitive-behavioural therapy (CBT; Beck, 1979)) with people with dementia is based on research indicating that cognitive and behavioural manifestations of depression cause excess disabilities in the individual (Reifler, Larsen & Hanley, 1982). CBT has been hypothesised to restore functioning limited by depression (Teri & Gallagher-Thompson, 1991).

CBT may be suitable for people with mild to moderate dementia. Treatment may start with analysis of neuropsychological data, to identify individualised methods of learning (Thompson, Wagner, Zeiss & Gallagher, 1990). The application and adaptation of CBT techniques with this population have been described in the literature (Thompson et al, 1990; Teri & Gallagher-Thompson, 1991).

There have been few outcome studies of CBT with people with dementia. However, clinical applications do suggest that levels of depression can be reduced and daily functioning enhanced, even when there is cognitive slippage during the period of therapy (Thompson et al, 1990).

Behavioural therapy (Lewinsohn, Antonuccio, Steinmetz & Teri, 1984) has been more widely applied with individuals with mild, moderate and severe dementia, but there are few outcome studies (Woods & Roth, 1996). Findings indicate increases in adaptive behaviours such as social interaction (Carstensen & Erickson, 1986) and reduction of maladaptive and stereotyped behaviours (Mayer & Darby, 1991; cf. Woods & Roth, 1996). Successful application of behavioural techniques involves
highly focussed and structured training (Thompson et al, 1990) and powerful discriminant stimuli (Woods & Roth, 1996).

Both CBT and behavioural therapy need to include both patient and caregiver, as the caregiver needs to understand and share goals of therapy, and assist in the practical organisation of goal achievement (Teri & Gallagher-Thompson, 1991).

Psychodynamic Psychotherapy
Although Freud (1904) did not believe psychotherapy was possible with people with cognitive impairment or in the second half of life, the last decade has seen a number of authors describing how psychodynamic psychotherapy can be carried out with this population (Richardson, 1995). The aim of this work has been described as ‘to reduce emotional isolation’ (Hunter, 1989).

Whilst process, aims and obstacles to therapy have been described (Jones, 1995), there has been little empirical evaluation. Case studies suggest that it may help individuals to come to terms with their losses (Sinason, 1992). However, goals such as ‘development of insight’ are hard to assess. Although this appears to be an interesting developing field, it needs to establish clear outcome measures to ensure that the process is actually beneficial to the client and caregivers.
Considerations in Carrying Out Psychotherapy with Individuals who Have Dementia

There are some special considerations that need to be made when psychotherapy is applied with this population. Cheston (1998) discusses a number of areas that the therapist needs to address. These include obtaining consent before beginning the work, and ending in a facilitative fashion; using the therapy most suited for the individual’s cognitive capacities; and taking into account premorbid characteristics that may affect outcome. Aims of the work influence whether an individual or group approach is most appropriate.

Specific adaptations that can be applied to psychotherapeutic practice with this population have been suggested (Cheston, 1998; Thompson et al, 1990). A number of these are described in Table 1. It has also been suggested that the therapist can act as the patients ‘memory-bank’, with recall of previous answers and prompting.

Table 1: Modifications to CBT interventions with people who have dementia

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<tr>
<td>1</td>
<td>Shorter sessions (e.g. about 30 minutes)</td>
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<tr>
<td>2</td>
<td>More frequent sessions</td>
</tr>
<tr>
<td>3</td>
<td>Involving family members so prompting and structuring can take place in other settings, thus enhancing generalisations</td>
</tr>
<tr>
<td>4</td>
<td>Frequent repetition of therapeutic themes and interventions</td>
</tr>
<tr>
<td>5</td>
<td>Having the patient keep a record of key issues of sessions.</td>
</tr>
<tr>
<td>6</td>
<td>Using audiotapes of sessions for play back between sessions.</td>
</tr>
<tr>
<td>7</td>
<td>Encouraging the individual and their family to use external prompts and aids they have learnt about.</td>
</tr>
</tbody>
</table>
Summary and Conclusion

The consequences of a diagnosis of dementia go beyond solely cognitive decline. There are also emotional and social consequences, which can themselves be disabling for the individual and their caregivers, especially when people respond to the dementia, rather than the individual behind the disorder (Kitwood, 1992). Interventions need to address all levels of these potential consequences.

Individual programme planning (IPP) has been proposed as an approach which can achieve this, by creating a culture of care which is individualised and facilitative (Woods, 1999). Psychotherapeutic approaches can be valuable tools within such a model.

To see alternative psychotherapeutic approaches as competitors may detract from the need to find the most effective strategy for working with an individual at a particular point in time Woods (1992). It is therefore necessary to consider how approaches can complement each other, by addressing needs and abilities of the individual through consecutive or parallel application of approaches (i.e. Toseland et al, 1997; Morton & Bleathman, 1991). Psychotherapies can also be applied flexibly throughout the process of care to provide ongoing assessment of changing needs.

Involving carers in the process of therapy can help them to get to know the client, facilitating implementation of an individualised approach (Baines, Saxby & Ehlert, 1987). Carers are also more likely to notice changes if they are involved, enhancing their willingness to adopt these approaches in future care (Toseland et al, 1997). However, the focus of the intervention must remain with the individual, as part of a goal-based individual programme which provides opportunities to exhibit skills and competence, not an activity based on staff needs.

Whether the therapeutic approaches described here fulfill the definition as ‘psychotherapies’ remains in some doubt. Whilst all are based on theory and have aims which can be individualised, scientific principles behind the theories are lacking. None appear to have been sufficiently empirically evaluated.
Chambless & Hollon (1998) define ‘empirically supported therapies’ as ‘clearly specified psychological treatments shown to be efficacious in controlled research with a delineated population’. They suggest criteria for ensuring that psychological treatments have been empirically validated. To summarise, this includes comparisons with alternative or no treatment control groups in randomised control trials using a treatment manual (or it’s equivalent), a target population, reliable assessment measures and appropriate data analysis. The superiority of the therapy should be replicated in independent settings. In single case experiments, at least three cases should have been studied in each setting.

None of the therapies described in this essay fulfill this criteria. Outcome studies are few, and flawed by lack of control groups, omission of diagnostic criteria or reference to the participants stage of dementia; small sample sizes; inappropriate aims or measurement tools and lack of specificity about the intervention and the facilitators. Where there has been ‘empirical support’, this has tended to be replicated and developed by the same authors. Most studies have assessed the cumulative effectiveness of group interventions. This may reduce the application of an individualised approach, limit opportunity to assess individual gains and belittle the validity of transitory rather than cumulative gains.

If psychological therapies are to be considered as part of dementia care in the future, these issues need to be addressed, particularly as drug trials are already meeting this criteria in the field of dementia-care (Orrell, 1996).

In conclusion, there is potential for psychotherapy to be carried with people with dementia, as part of an integrative approach. However, there is a need for more evaluation and further development of proposed psychological interventions, as these methods as yet remain unproven.
Future Research

Future research needs to assess the effectiveness of psychotherapy with people at all stages of dementia. It has been suggested that this field is as yet too underdeveloped to use traditional experimental methodology, and the use of such techniques would be beyond the scope of most clinicians (Cheston, 1998). Therefore, several authors have proposed the use of case studies using time-series design, qualitative and naturalistic methods, so that more can be learnt about the process of change as well as outcome (Cheston, 1998; Bonder, 1994).

Standardised test-batteries could then be used to compare effectiveness of therapies (Orrell, 1996), although small individual benefits may not be recognised with this approach.

Another area for future research is the application of techniques that could be carried out by care-givers without increasing their workload, to benefit themselves and the individual with dementia, (Woods, 1999).

These areas of research would contribute to the application of evidence-based interventions with this population, and fulfill a moral obligation to endeavour to reduce the suffering caused by a diagnosis of dementia.
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ESSAY 5: SPECIALIST ESSAY

“Discuss why is it important that clinical psychologists understand the concept of ‘Deaf Culture’, when assessing a Deaf client.”

December 1999

Year 3

A summarised version of this essay was accepted for publication.

Reference:
"Discuss why is it important that clinical psychologists understand the concept of Deaf Culture, when assessing a Deaf client."

There are three specialist mental health services for a population of over 50,000 Deaf people who live throughout Britain (50,000). These figures suggest that non-specialist practitioners are likely to be referred Deaf clients during their career. It is therefore professionally and ethically important to be aware of cultural and linguistic factors that may impact upon clinical practice with this population. The aim of this essay is to provide hearing clinicians with a referential framework to use when they are referred a Deaf client for assessment.

Due to the space limitations, two areas of deaf psychology have been omitted—deaf children (Marschark, 1993) and adults with later onset hearing loss (McKenna & Andersson, 1998). Hence, this essay focuses on assessment of adults who are culturally ‘Deaf’. Considerations pertaining to research with a Deaf population are not described, as it is assumed that a clinician with such an interest will access more detailed texts (Pollard, 1992). However, the cultural concepts described, can be considered when the clinician reviews research, which may assist them in their clinical practice.

The essay moves towards a definition of Deaf culture, by describing the socio-historical context in which key cultural concerns have developed. This provides a conceptual, developmental framework, which is considered necessary for an understanding of any culture, (Simpson & Weiner, 1989; Kazarian & Evans, 1998). The relevance of culture to clinical psychology practice is then outlined. Features of psychopathology, with which Deaf people may present, are discussed and some assessment guidelines are described from a cultural perspective.
Introduction
There are a number of ways in which deafness can be defined, but a comprehensive way of conceptualising deafness has previously been suggested to be to divide deafness into four categories (cf. Kitson & Fry, 1990):
‘Prelingual (congenital or acquired before language development)
   a. Profound (no speech reception through the ears)
   b. Partial (some difficulty in speech reception)
Postlingual (acquired after language development)
   a. Profound
   b. Partial’

The method of speech reception used by a person with hearing loss, depends upon a number of factors, including the age of acquisition and severity of the hearing loss (Cole, 1991). Those with some hearing may benefit from amplification produced by a hearing aid and people who develop hearing loss postlingually may improve their speechreading skills. However, both of these techniques have their limitations and a person will still find it hard to follow social interactions predominated by hearing people.

It has been estimated that in Britain over seven million people have some degree of hearing loss (Jeffreys, 1995). This essay is concerned with those who use sign language as their main form of communication and who identify themselves as part of the Deaf community. In Britain, this population has been estimated to be about 50,000 (NHS Health Advisory Service, 1998). Recent convention denotes this cultural and linguistic minority as Deaf, using uppercase ‘D’ (Woodward, 1972).

No cultural group can be conceptualised as a homogeneous mass who share identical beliefs - such an assumption would lead to stereotypy. However, despite intracultural diversity, there is a fundamental basis of Deaf culture, which relates to the definition of ‘Deafness’ as a cultural and not a medical-pathological phenomenon.
Deaf Identity and The Socio-History of Deaf Culture

Deafness is defined by attitudinal factors, not audiological measurements (i.e. decibel loss). Hence, some members of the Deaf community will have a degree of hearing (Chovaz, 1998). It is also possible that hearing people may be considered part of the Deaf community. This is rare, but may occur when a hearing person has Deaf parents.

About 90% of children born to Deaf parents are hearing. Conversely, about 90% of deaf children have hearing parents1 (cf. Kitson & Fry, 1990). This pattern of parentage makes the transmission of Deaf culture almost unique, because children are usually not born into the culture.

The process by which individuals develop a Deaf identity and become part of the Deaf culture has been termed ‘enculturation’ and has been likened to the transmission of Gay culture (Glickman, 1996). This gradual process results in a perception of the self as a member of a positive community and culture, rather than as someone with a tragic medical disability (an attitude associated with the hearing construction of deafness). Enculturation occurs by mixing with one’s peers at schools, social clubs and by joining organisations such as the British Deaf Association (Hindley, 1993). This can take place at any stage in a deaf person’s life.

Within the Deaf community, there is a perception of some difference in this process for Deaf born of Deaf and Deaf born of hearing. Deaf of Deaf are born into the culture. Pride is attached to this status. For Deaf of hearing, it is necessary to go through a process of ‘learning to be Deaf’ (Padden & Humphries, 1988). This initially entails learning the most fundamental aspect of Deaf culture – Sign language.

1 These factors have made systemic therapy a valuable tool for clinicians who work with families where one or more members are Deaf (Pollard, 1994) and have led to insightful observations about the roots of transference and countertransference apparent within individual therapy (Chovaz, 1998).
Sign Language

There are two myths about sign language, which a practitioner needs to be aware of before working with Deaf people. Firstly, sign is not merely gesture, it is a way of systematically and comprehensively conveying meaning. It incorporates hand movements, facial expression and body posture. Some signs are iconic (reflecting external reality), but most are not. The second myth is that there is a single sign language, understood across the world. This is not true, and sign languages across countries differ, even where the spoken languages are similar, e.g., American and British sign languages (Crystal, 1987). Also, in a similar way to spoken languages there are regional dialects.

Sign languages have structure, grammar and rules of similar complexity to spoken languages. This was formally recognised in 1965, when W.C. Stokoe published the first dictionary of American Sign Language. Language has been defined as an essential characteristic of any group that is attempting to achieve legitimacy and recognition (Fishman, 1972), and Stokoe's publication was heralded by the Deaf Community as an important step in the recognition of their language and culture (Solomon, 1994). Since then a dictionary of British Sign language has also been published (Brien, 1992), and Sign has taken its place amongst formally recognised spoken languages (Crystal, 1987).

The documented history of Sign language dates from 1775, when Charles L'Epee developed a sign language to use in a Parisien school for the Deaf (Lane, 1972; Sacks, 1989). There followed significant developments in deaf language and education, which abruptly ended in 1880, following the conference of Milan (see below). Since then, debate about the relevance and appropriateness of Sign language has mainly taken place in the context of education for the Deaf.
Deaf Education

The history of Deaf education has been suggested to represent the 'story of the Deaf' (Solomon, 1994) and is best understood through the reading of Lane's (1972) seminal work 'When the Mind Hears'. To summarise, L'Eppes methods were successful and popular in France, and he went to America and established similar schools there (Sacks, 1989). Deaf people began to enter public life and in 1864 in America, Gallaudet College was established. This is still the only university especially for people who are Deaf and remains an important Deaf political centre.

The growing success and popularity of sign language created a threat to the traditional form of Deaf education, oralism. This was based on speechreading and teaching deaf children how to talk. It was believed that oralism would help deaf people to successfully mix with hearing people, thereby overcoming their handicap.

The Conference of Milan (1880) resulted in a ban on the use of sign language in deaf education and a return to oralism. Deaf teachers were sacked and children were punished if they used sign language in the classroom. Oralist approaches prevailed for the next hundred years, until evidence emerged of its failure. For example, Conrad (1979) showed that children from oral schools tended to leave school with an average reading age of $8\frac{3}{4}$ and their speechreading and speech skills tended to be very poor. Although a number of factors are likely to have led to these poor results, academic and biographical accounts have suggested that the focus on being able to speak, rather than reading and understanding words were predominantly responsible (Maxwell, Poeppelmeyer & Polich, 1999).

During the 1980's new educational methods were introduced. The most influential was total communication. This involved using all modes of communication (sign, English and hearing aids). However, this was criticised by the Deaf community as it was still based on spoken English, rather than the structure of sign language (Carver, 1991; Hoffmeister, 1996). More recently, Bibi (bilingualism-biculturalism) has been advocated, where sign is the predominant language used in the classroom, but English is taught separately (i.e. Mason, 1995).
The increasing acceptance of sign language in Britain has been confounded by its coincidence with the international movement towards mainstreaming children with special needs. Hence, specialist schools are being closed and deaf children are being integrated into hearing schools, which often have ‘partial-hearing units’ to provide specialist assistance. This government policy has been suggested to fail to realise that inclusion means exclusion for deaf children (Hoffmeister, 1996). For example, one study of 20 students who were the only deaf children in their respective schools, found that they only had interaction with their teachers and they were not included in peer communication (Raimondo & Maxwell, 1987). Hence, the Deaf community perceives mainstreaming to be a threat to the continuation of the Deaf culture and a violation of a child’s right to clear communication with peers (this point is illustrated by the sign for ‘oppression’, which is similar to and frequently substituted for the sign for ‘mainstream’). It has also been criticised for failing to teach basic, communication skills to deaf children, such as how to use minicombs (telephones for deaf people) and interpreters (Carver, 1991).

The oral-sign, integration-segregation debates have yet to be resolved by way of systematic research, although the need for this has been highlighted (Hoffmeister, 1996; Mason, 1995). Given the difficulties of accounting for all the variables that may influence a child’s educational and social development it is unlikely that satisfactory or conclusive research will take place. Furthermore, it has been argued that such research should not use English-oriented outcome measures, thus producing an ‘ethnocentric’ bias in interpretation of results (Carver, 1991).

Medical/Technological Advances
The Deaf community resents oralism for its perception of deafness as a disability which can be overcome by learning how to talk and lipread. In a similar way, the Deaf community feels undermined by the pathological status attributed to deafness and the continued efforts to make Deaf people hear. The most salient debate to highlight this point currently concerns cochlear implants.

Cochlear implants were developed in the 1960’s and began to be more widely used in the 1980’s. An intercochlear electrode is implanted into the cochlear and this
Components of Deaf Culture
The definition of 'culture' (Simpson & Wiener, 1989) and a model of cultural clinical psychology (Kazarian & Evans, 1998) state the need for an understanding of culture using a developmental framework:

'Culture: A particular form or type of intellectual development. Also, the civilisations, customs, artistic achievements etc. of a people, especially at a certain stage of its development in history'

Oxford English Dictionary, 1989

Therefore, with the socio-historical context provided by the previous section, it is possible to move towards a current understanding of Deaf culture.

There have been few brief definitions of Deaf culture, but the most frequently referenced definition was written by Deaf linguists (Padden & Humphries, 1988), 1988). They described Deaf culture as consisting of five aspects – language, values, rules of behaviour, traditions and identity. The first has been described. The rest are summarised below.

Values
As language is fundamental to their culture, Deaf people place great value on the parts of their body they rely on to communicate - hands and eyes (Padden & Humphries, 1988). They value Deaf meetings, as they are able to fluently communicate with all people there in their own language. Hearing people who are qualified as interpreters are seen as an important medium, that has released the hearing children of the Deaf from an often difficult role.

Rules of Behaviour
The rules of behaviour can be divided into individual and group norms. Hearing people, are seen as a threat to the Deaf culture. Hence, the Deaf community tends to be introspective and there is significant mutual aid to repel the need for dependence on the hearing (Lane, 1992).
Individually, there are rules relevant to communication and sign language including the use of eye contact (i.e. eye contact should be maintained, except when specific rules of signing preclude this); facial expressions (used for syntactic or intonative constructions); and touching (frequently used to gain attention).

Finally, there is a tendency for Deaf people to be blunt due to the visual nature of sign language, in a way that may offend some hearing people (Chovaz, 1998).

Traditions
As there is no written form of sign language, Deaf traditions and expectations are passed on by stories and jokes at group events and more recently by videos (Padden & Humphries, 1988). Again, the communicative mode of jokes means that linguistically based humour can not be translated and remain funny in visual form and vice-versa (Rutherford, 1985).

Identity
The most important aspect of Deaf identity is one’s association with the Deaf culture and participation in Deaf group activities, which enable the sharing of experiences.

Glickman (1996), a hearing psychotherapist has also summarised five key cultural concerns of the Deaf. These are described in table 1.

Table 1. Deaf Cultural Concerns (Glickman, 1996).

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<td>1.</td>
<td>A socio-cultural rather than medical-pathological understanding of deafness;</td>
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<tr>
<td>2.</td>
<td>Respect for the Deaf community and culture and for the idea of Deaf people affiliating with their own;</td>
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<tr>
<td>3.</td>
<td>&quot;Healthy paranoia&quot; towards hearing people and resentment of hearing paternalism;</td>
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<tr>
<td>4.</td>
<td>A devaluation of speech, lip reading and the use of hearing aids; and</td>
</tr>
<tr>
<td>5.</td>
<td>A basic belief in the rights and abilities of Deaf people to control their own lives.</td>
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Deaf Culture and Clinical Psychology

Recently, there has been increased focus on incorporating culture into the practice of clinical psychology to enable the provision of effective theory-driven research and clinical practice (Kazarian & Evans, 1998). Such a model requires the provision of culturally appropriate services, which entail:

1. adequate representation of students in clinical psychology training courses
2. adequate cultural content in clinical psychology training
3. meeting service needs of people from diverse cultures

In Britain, professionals have endeavoured to meet this challenge within the constraints of current resources (see Special Issue: Race and Culture, Clinical Psychology Forum, 1998). However, Britain lags far behind American counterparts who have addressed these issues with professional legislation and guidelines (APA, 1993). Amendments to this situation in Britain have begun to occur with regards to Deafness, with requests for Deaf psychologists to have access to clinical training and for all training courses to include a component on Deaf Culture (Cromwell & Atherton (in press)).

The APA’s guidelines (1993), outline the skills needed by a clinical psychologist when working with culturally diverse clients (table 2). They have also provided guidelines pertaining to service provision (table 3). Both sets of guidelines are relevant to the practice of clinical psychology with Deaf populations. They underline the need for the clinician to have a clear understanding of the clients’ culture, in order to provide culturally-appropriate, rather than ‘culturally-hybrid interventions’ (Marin, 1993), which are often used to pay lip service \(^2\) to cultural sensitivity.

\(^2\) Here, the concept of ‘lipservice’ pertains to practices, which go little further than the provision of separate meals, or translated pamphlets, of which neither practice is relevant to a Deaf person. The provision of an interpreter, whilst applicable to this population is also little more than ‘lipservice’, if the clinician does not have an understanding of the linguistic constraints of this service and the cultural background which will influence their clients presentation.
### Table 2: Skills and Knowledge for Multicultural Assessment and Intervention

1. Recognising cultural diversity
2. Understanding the role of culture, ethnicity and race in the socio-political and economic development of ethnic and culturally diverse populations
3. Understanding the significant impact of socio-economic and political factors on the psycho-social, political and economic development of groups
4. Helping clients to understand/maintain/resolve their own sociocultural identification
5. Understanding the impact of culture, gender and sexual orientation on behaviour and needs

Based on APA (1993); cited from Kazarian & Evans, 1998

### Table 3: Guidelines for Ethnic, Linguistic and Culturally Diverse Populations

1. Client education about process of psychological interventions
2. Cognizance of relevant research and practice issues pertaining to populations served
3. Recognition of the significance of culture in understanding psychological processes
4. Respect for the roles of families, community structures, hierarchies, values and beliefs within the clients culture
5. Respect for clients’ religious and/or spiritual beliefs and values, including attributions and taboos
6. Interaction in the language requested by the client, or appropriate use of interpreters
7. Consideration of adverse social, environmental and political factors in assessments and interventions
8. Attention to and elimination of biases, prejudices and discriminatory practices
9. Documentation of culturally and sociopolitically relevant factors in client’s records

Based on APA (1993); cited from Kazarian & Evans, 1998
Working with the Deaf Client

Having acknowledged the cultural differences between Deaf and hearing people, it is important to understand how these may affect the presentation of mental health problems.

Some aspects of presentation will differ from how hearing people may present, mainly due to linguistic and cultural features of sign language. The clinician has a responsibility to be aware of these to avoid misdiagnosis (Lala, 1998). Presentation differences, which relate to communication and interpretation will be discussed, to provide a context for the next section on ‘deaf psychopathology’, as in most cases, similar considerations should be given to provide the most appropriate intervention.

Interpreters and Communication

Effective communication is a pre-requisite for psychological therapy, but when working with Deaf people, communication gaps are inevitable. Hearing practitioners are unlikely to have sufficient fluency to carry out assessment in sign language. It can not be assumed that the client will be able to lipread the therapist, as lipreading is exceedingly difficult and also, the therapist may find it very hard to understand the client’s speech (if they have any!) (Vernon & Andrews, 1990).

Therapy through writing is impractical, because it is time consuming and Deaf people’s knowledge of English syntax and grammar is often limited. This can make their writing seem disorganised and an inexperienced therapist infer psychopathology from this cultural difference (Pollard, 1998). Therefore, the services of a professional interpreter are required. Using family and friends of the client to interpret is not recommended.

Qualified British Sign Language interpreters have usually undergone rigorous training. They work to a strict ethical code, where their purpose is solely to facilitate communication (CACDP, 1998). Although their training is broad, one must assume they have had no specialist mental health training. Hence it is up to the clinician to be aware of the influences and uses of the interpreter, as well as their professional responsibilities towards the interpreter and client.
The presence of an interpreter can complicate the therapeutic process because it creates an intermediary relationship (Stansfield and Veltri, 1987). Using the interpreter as part of the process of therapy, (i.e. within a systemic framework (Raval 1996)) is difficult unless one is familiar with the dynamics of an interpreter-based session.

A practitioner who is unaware of the norms of sign language may miss or misinterpret vital information. However, a qualified interpreter can help the clinician to identify any signing abnormalities, after the session. Information such as whether the individual’s signing was in accordance with their educational status, if there were phrases that were frequently repeated, or if signs of similar handshapes were grouped together in nonsensical fashions may indicate communication dysfluency, symptomatic of underlying psycho- or neuropathology. If this is suspected the clinician may feel it is appropriate to refer the client on to a specialist service (Pollard, 1998). Conversely, seemingly excitable behaviour may just be a normal mode of emphasis in a person’s signing, so psychopathology should not be assumed on this basis.

An individual’s signing ability should not be taken as a measure of intellectual ability, as the distribution of proficiency amongst the signing deaf is greater than spoken language proficiency distribution amongst the hearing, due to the variable ages and environments in which sign language has been learned (Pollard 1998). Furthermore, whilst interpreters are skilled, their proficiency on a certain day, or with particular clients may vary.

The visual nature of sign language makes literal translation difficult, and the clinician must remember that the words being used are the interpreters interpretation of the individual’s meaning. Hence, key points should be clarified with phrase changes.

During the session, the clinician should maintain eye contact with the client, hence notes are best written after the session to avoid a culture conflict (Chovaz, 1998). The client may maintain eye-contact with the interpreter. Whilst it is good practice to
prompt them to sign at you, it is common for the client to revert back to maintaining eye contact with the interpreter. The effect of this on the interpreter can be to make an already emotional event, even more difficult (DeMatteo, Veltri & Lee, 1985). It is therefore important that the interpreter is de-briefed after the session. It is also good practice to discuss the session with the interpreter just before meeting with the client, so they can work out which signs they will use and be prepared for any difficult topics which might arise.

**Deaf Psychopathology**

An understanding of psycho-pathology amongst Deaf people presenting with mental health problems is somewhat complicated by the tendency for researchers to have explored psychopathology amongst people with hearing loss, regardless of age at time of loss and cultural orientation.

Until recently, it was believed that Deaf people were more prone to suffer serious mental health problems than hearing people. Denmark (1966) found that deaf people were over-represented in psychiatric hospitals, by an approximate factor of 10. Similar trends were still apparent in 1985 in Flanders, when the average hospital stay for a Deaf patient was found to be 19.5 years, compared to 148 days for a hearing person (Timmermans, 1989).

Initially, such findings were regarded as proving a causal relationship between hearing loss and mental illness or mental retardation (Pollard, 1992). However, gradually the findings were re-interpreted as evidence of service deficiencies, at the organisational and practitioner levels (Denmark, 1966; Vernon, 1978). Today the incidence of mental illness in the Deaf population is not believed to differ markedly from the hearing population. Deaf people are likely to present with the same range of mental health problems as one would expect to find in a hearing population. Hearing loss will not necessarily be the focus of the individual’s presenting complaints, although identity concerns are not infrequent (Pollard, 1998). Further aspects of presentation to be further considered during assessment are illustrated using the examples of affective disorders, schizophrenia and psychoses and cognitive impairment.
Affective Disorders

There have been conflicting findings over the incidence of affective disorders in the Deaf population, although current opinion suggests a reduced incidence compared to the hearing population, which is likely to be an artefact of service availability, referral and presentation (Kitson & Fry, 1990).

When assessing for affective disorders, the clinician needs to be aware of misreading affect due to the nature of signed communication and not assuming the interpreter is reflecting the patient’s affect in their voicing style (Pollard, 1998).

Schizophrenia and Psychoses

No reliable research has been carried out to confirm the incidence of schizophrenia in the Deaf population, although a number of studies have indicated the prevalence is similar to the hearing population (Altshuler, 1978; Vernon, 1980).

The nature of psychotic symptoms differs from those of hearing people (Pollard, 1998). There are conflicting accounts of whether auditory and visual hallucinations occur at the same frequency as for hearing patients (Chovaz, 1998). Visual hallucinations of someone signing have consistently been found to be rare (Vernon & Andrews, 1990; Evans & Elliot, 1981), although it is common for Deaf patients to sign in response to hallucinations and thoughts. Assessment should be directed at the qualitative aspects of the stimuli, such as whether the patient has command hallucinations or ideas of reference (Pollard, 1998). Focussing on the subjective experience of hallucinations may be irrelevant, as the patient may have some residual hearing and be will most likely have been brought up with hearing parents and so be used to receiving instructions via speech or speechreading (Critchley, 1981).

In assessment, the clinician needs to particularly beware of assuming thought disorder from apparently disordered writing, or word-for-word, literal translation (Kitson & Fry, 1990). Also, abnormal ideas may be due to experiential limitations, rather than hallucinations.
Evans & Elliot (1981) carried out a small study, in which they identified discriminating and non-discriminating features of schizophrenia. This was developed for psychiatrists, but similar analysis has not been carried out by psychologists, so their findings are reproduced in table 4.

Table 4. Distinguishing Features of Schizophrenia (Evans & Elliot, 1981)

<table>
<thead>
<tr>
<th>Discriminating for Schizophrenia for Deaf Patients</th>
<th>Non-Discriminating in Deaf Patients (Psychotic or Not)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of ego boundaries</td>
<td>Poor insight</td>
</tr>
<tr>
<td>Delusional perception</td>
<td>Labile affect</td>
</tr>
<tr>
<td>Restricted affect</td>
<td>Poverty of content</td>
</tr>
<tr>
<td>Illogicality</td>
<td>Poor rapport</td>
</tr>
<tr>
<td>Abnormal explanations (experiential limitations accounted for)</td>
<td>Inability to complete a course of action</td>
</tr>
<tr>
<td>Hallucinations</td>
<td></td>
</tr>
<tr>
<td>Inappropriate affect</td>
<td></td>
</tr>
<tr>
<td>Remoteness from reality</td>
<td></td>
</tr>
<tr>
<td>Ambivalence</td>
<td></td>
</tr>
</tbody>
</table>

Finally, studies have failed to find an increased incidence of paranoia in this population (cf. Vernon & Andrews, 1990). However, people who lose their hearing in adulthood do seem to be at risk of developing paranoia and suspiciousness as a result of mishearing conversations (McKenna & Andersson, 1998).

Cognitive Impairment

Until the 1960's, trends toward comparing deaf and hearing children found deaf children wanting in intellectual measures. (Pollard, 1993). Psychologists tended to pathologise qualitative and quantitative differences, which resulted from inappropriate test materials and a lack of familiarity with the deaf population (Vernon, 1987). Recent research appears to have improved in quality (Braden, 1992). This may be because of the development of increasingly appropriate standardised tests and administration methods (Vernon & Andrews, 1990).
A meta-analysis (Braden, 1992) showed that deaf and hearing people differed little in their non-verbal IQ scores, although there were greater differences in verbal IQ scores. One of the main findings of the paper was that "poor administration such as presentation of directions using speech or writing or use of ratio IQs are associated with lower IQs". Braden remained equivocal as to the need for separate norms for a Deaf population.

The clinician will find themselves limited in the choice of intelligence tests which have been normed on a Deaf population. There are none for adults. For children, there is the Hiskey-Nebraska Test of Learning Aptitude (Hiskey, 1966), the Leiter International Performance Scale (1979); and the Wechsler Intelligence Scale for Children-Revised (Wechsler, 1974). The WISC-III has not yet been normed for Deaf children. Each of these tools has limitations and the clinician must consider carefully, in light of the referral question which may be most appropriate.

For adults, the Weschler Performance Scales have been recommended (Vernon & Ottinger, 1981), although these still leave some functions unassessed and the instructions are verbally administered (Orr, 1987). When selecting a test for a deaf person, Ziezula (1982) suggests four questions which the clinician must consider:

1. Does the test consist of verbal test items or performance items?
2. Do instructions for the test require verbal communication?
3. Do any test items discriminate against people with an auditory impairment?
4. Are hearing impaired people included in the normative sample provided by the test developer?

Accepting that the clinician may have to take a non-standardised approach to formal assessment with this population, there are some specific recommendations that can be applied. These are summarised in table 5.
Table 5. Increasing the validity of formal assessment of Deaf people

1. The reason for assessment should be clarified so results can be cautiously regarded in their appropriate context (Braden, 1992).
2. Clinicians should avoid using tests which are verbally loaded, to prevent the confounding of language achievement with intelligence (Braden, 1992).
3. The visual nature of sign language should be appreciated, so nominal tests which assess knowledge of names of people or places should be avoided (Pollard, 1998).
4. Experiential and educational deficiencies (common in this population) and lack of access to residual information (such as from the radio, television or general conversation) should not be confounded with low intelligence (Pollard, 1998).
5. The coincident incidences of visual impairment (i.e. Ushers syndrome) and neurological disorders (due to the etiologies of many forms of deafness) should be considered in formal assessment (Pollard, 1998).

Finally, when cognitive impairment is suspected to be present, the clinician should refer to a specialist agency.

Further Considerations in Assessment
Before meeting the client, it may be helpful to consult with one of the specialist Deaf Mental Health services (based in London, Birmingham and Manchester) and to read further texts to ensure that the client’s needs are being catered for as far as possible.

When one first meets the client, it is unlikely that an admission of unfamiliarity with working Deaf people would cause offence, so it is a good idea to begin work by stating one’s limitations (Chovaz, 1998) and asking the client which mode of communication they would prefer to use. As some Deaf people may have had previous negative experiences of mental health services (Lane, 1992), they may have valid anxieties about coming to see a psychologist, which should not pathologised.

Developmental histories need to include details such as the type of school that the client attended (was it signing or oral?), methods of communication used in the family home and efforts made by family members to communicate. The authors
clinical experience has been that current feelings of isolation, rejection or confusion, may be rooted in childhood familial experiences.

One needs to be cautious about any psychometric assessments that are used within assessment as they may contain cultural bias. The reading level of many instruments is likely to be higher than that of many Deaf people (Chovaz, 1998). They may also lack content or cultural validity. For example, the Minnesota Multiphasic Personality Inventory-2 (Butcher, Dahlstrom, Graham, Tellegen & Kaemmer, 1989) includes a question regarding the individual’s ability to use the telephone. Whilst one could change the wording of this question to ‘minicom’, this would still be culturally biased, as many Deaf people have had limited access and use of minicomms, so one can not assume the familiarity that hearing counterparts have with the telephone.

Finally, whilst acknowledging the possible cross-cultural biases and limitations of working with a Deaf client, it is important that hearing professionals do not underestimate their competency, which is just as likely to lead to errors in assessment. This phenomena has been termed ‘shock-withdrawal paralysis’ (Schlesinger & Meadow, 1972), and has been suggested to be the possible cause of a disproportionate number of deferred diagnoses within this population (Pollard, 1994).

Conclusion

This essay has illustrated how cultural awareness can reduce the likelihood of bias when assessing a Deaf client. Particular emphasis has been placed on the need to respect the cultural view of Deafness, rather than approaching assessment from a disability perspective.

Language and cultural differences can affect many aspects of thought, behaviour, values and interaction. Where the clinician and client differ in these interpersonal processes, error and bias may be introduced into the assessment and treatment process.
Research has shown that language and cultural differences affect psychotherapy and service delivery for deaf populations (Pollard, 1994). Therefore clinicians need to be aware of how specific socio-cultural characteristics may lead to bias or inaccuracies in the mental health setting, so these can be countered as far as possible. Disregard for cultural validity in assessment may result in practices apparent until very recently, where Deaf people received inappropriate treatment because clinicians had failed to consider cultural and linguistic differences.

Further Research
It is clear that there are still many areas of Deafness and Psychology that need further research (Clark, 1998). Regarding assessment of Deaf people by clinical psychologists, areas which require further investigation include cultural awareness, methods of referral and the impact of the interpreter on assessment and treatment.

The validity and reliability of the use of formal assessment tools needs to be established (Lane, 1992). Perceptual skills that underlie successful performance in IQ tests also need to be ascertained (Braden, 1987).

To ensure that limitations of previous research are not compounded, future research should include Deaf people in the decision making and implementation. This will help to avoid research topics having, or being perceived to have a hearing bias or hearing norms and will help to place the research question within the values and culture of Deafness (Pollard, 1992).
REFERENCES


Special Issue: Race and Culture, Clinical Psychology Forum, 118, August 1998


OVERVIEW OF CLINICAL EXPERIENCE

1997 – 2000

SUMMARIES OF CLINICAL PLACEMENTS IN:

- Adult Mental Health
- People with Learning Disabilities
- Child, Adolescent and Family
- Older Adults
- Adults who are Deaf
- Forensic Psychology
OVERVIEW OF CLINICAL EXPERIENCE

Core Placement 1: Adult Mental Health
During my adult mental health placement I worked within a Community Mental Health Team (CMHT) and a primary care service. People presented with a range of clinical problems including anxiety (hypochondriasis, panic attacks, phobia,); depression relating to life events; post-traumatic stress disorder (PTSD) and sexual problems. I developed assessment, formulation and therapeutic skills within cognitive-behavioural (CBT) and solution-focused models, and used standardised assessments to measure progress and outcome. In addition I developed a problem-solving group, for nurses to run on an acute admissions ward. I attended multidisciplinary meetings and seminars and presented information to GP’s about ‘psychological assessment’. I also carried out my small-scale research project to assist the CMHT in their decision-making processes regarding review procedures.

Core Placement 2: People with Learning Disabilities
In my placement with people with learning disabilities I was part of two Community Teams and worked within a range of settings, including day centres, staffed group homes and the community. My clients had mild, moderate and severe learning disabilities and some had additional disabilities such as autism and physical or sensory impairments. Presenting problems included obsessional behaviours, non-attendance of activities, poor social skills and challenging behaviours. I conducted a number of social skills, dementia, intellectual and outcome assessments, using standardised and non-standardised measures to make recommendations for future care. I worked mainly within a behavioural model and enhanced my skills in behavioural observation, functional analysis, formulation and devising therapeutic interventions and behaviour programmes. It was important to work in a systemic fashion to ensure that interventions were feasible within the wider context of the client’s life. In addition to individual work I developed and ran a health and sex education group for young women at a day-centre, with one of the support staff. I attended a number of training events and participated in many meetings, presenting material and consulting with staff and carers. Multi-disciplinary work and liaison with other professionals was integral to the delivery of care with this client group.
Core Placement 3: Child, Adolescents and Family

During this placement, I worked with children and adolescents of a range of ages, individually and with their parents. Presenting problems included sleep, feeding and toileting problems, anxiety, bullying and self-harm. I worked with people within CBT and systemic frameworks. I also carried out a functional analysis and a range of assessments of behaviour and cognitive functioning. Assessment and intervention took place within a multi-disciplinary framework and involved collaboration and liaison with other social and mental health professionals, teachers and parents. Risk assessment was an important part of this placement as the child protection services were involved with a number of families with whom I worked. I supported one such family, presenting information at a case conference where they were placed on the 'at-risk' register. This highlighted the complex nature of such decisions and the importance of maintaining rapport to help families to overcome serious difficulties. I also participated in a number of Team meetings.

Core Placement 4: Older Adults

Being based in three medical hospital during my older adults placement highlighted for me the different approaches needed when working in a medical as opposed to a mental health setting. I worked with clients with a range of problems, including depression, anxiety, dementia, post-stroke adjustment, PTSD, carer-stress and marital-difficulties. I employed cognitive-behavioural and psycho-dynamic approaches to develop interventions. I used a range of assessments to measure cognitive and affective state and to provide recommendations for future care. I helped to develop a ‘Fear of Falling’ group, with an occupational therapist and a nurse, developing the assessment measures and helping to maintain a holistic focus. I presented the findings of these groups and reflection on best-practice for working with people with fear of falling to the Physiotherapy Department. Since then, my supervisor and I have also written a paper on this issue, suggesting a model for psychological treatment. I also led two reminiscence groups at a day centre for people with dementia. I participated in multi-disciplinary and psychology department meetings and attended numerous seminars and training events.
Specialist Placement 1: Deaf Adults
In this placement I worked in the Community and Inpatient Mental Health Teams in a specialist service for people who are Deaf sign-language users. My clients had a range of mental health problems including anxiety, depression, generalised anxiety disorder, histrionic personality disorder, obsessive-compulsive disorder, PTSD, challenging behaviour, dementia and tinnitus. I used mainly CBT and systemic models during assessment and therapeutic intervention. This work highlighted the difficulties of working with a culturally and linguistically different population. For example, there are few standardised assessments for this population. Also, I often worked with an interpreter and had to carefully consider my use of complex language and psychological concepts. I pioneered the development of a user-involvement initiative in this service, which involved staff training and a preliminary survey and attended a number of training events, including an 18-day stage 2 signing course. However, it was a humbling but valuable experience to work in an environment where I was at times unable to adequately comprehend or convey information.

Specialist Placement 2: Forensic Psychology
For my final placement I worked in a maximum-security hospital with people detained under the Mental Health Act due to risk to themselves or others. Client’s presenting problems included chronic schizophrenia, psychopathic or borderline personality disorder, anxiety and depression. I used a number of standardised measures for risk, psychosexual and neuropsychological assessments. I also carried out interventions using a range of models, including CBT and solution-focused work. It was important to liaise with ward staff in all aspects of this work. I observed the work of specialist clinical psychologists in the administration of penile-plethysmography and electro-convulsive therapy; attended and participated in multidisciplinary meetings and case conferences; and attended training including a conference on CBT and psychosis, which I presented to the psychology department. This was a challenging but rewarding placement, which developed my understanding of the complexities of working with this high profile client group. In particular I learnt how anti-social behaviours can be socially constructed and how difficult it is to rehabilitate people back to society when they have longstanding problems and are no longer (and may never have been) a part of this society.
PLACEMENT CONTRACTS AND CASE REPORT SUMMARIES

CONTRACTS AND CASE REPORT SUMMARIES FOR CLINICAL PLACEMENTS IN:

- Adult Mental Health
- People with Learning Disabilities
- Child, Adolescent and Family
- Older Adults
- Adults who are Deaf
- Forensic Psychology
CORE PLACEMENT 1:

ADULT MENTAL HEALTH

YEAR 1:

Placement Dates

From: October 1997
To: March 1998

Placement Supervisor:

Ms. Jane Street

Placement Location:

Psychology Department
Springfield Hospital
Glenburnie Road
Tooting
London, SW18
ADULT MENTAL HEALTH PLACEMENT CONTRACT

Trainee: Lorraine Childs
Supervisor: Jane Street,
Morden Hall Medical Centre and
Psychology Department, Springfield Hospital

Dates of Placement: Mid Oct - Mid March, 1997

Bases:
1.5 days at Morden Hall Medical Centre (Primary care)
1 day at Springfield Hospital (Secondary Care)
.5 day study time per week (Friday afternoons)

Aims of Placement.

1) To provide a comprehensive first placement where I will develop and consolidate skills in
the assessment and treatment of adults with mental health problems. This will involve
gaining experience of working with a range of clients across the age span; working with
people in a range of settings including the Psychology department and outpatient clinic,
CMHT, Primary care, Ward based work and home visits. In this way a range of issues will
be covered.

2) To develop competence and competence in the practice of Clinical Psychology.

3) To complement the overall course philosophy and model of training, linking closely to the
academic teaching component.

Objectives.

Therapy/Client Related Skills

• To be able to relate to clients and relevant others in a professional manner.
• To be able to engage the client in therapy and demonstrate basic counselling skills.
• To be able to carry out an independent assessment of the presenting problems and wider
issues. To structure the interview, maintain good use of time and summarise to the client.
to be able to handle unexpected variations.
• To be able to plan and implement therapy independently using a particular model, whilst
understanding how other therapeutic perspectives can contribute to work with clients.
• To demonstrate client centred non directive therapy skills and to have obtained a level of
competence in brief focussed psychotherapy.
• To be able to identify process issues facilitating or impeding therapy. to become aware of
the stages of therapy and how to prepare the client for termination.
• To become competent in the use of questionnaires and rating scales. To use the WAIS-R
independently after observing Jane and then being observed myself. Also to demonstrate
competence in at least one other form of psychometric assessment should the opportunity
arise.
• To be able to plan, run and evaluate a structured group.
• To have an introduction to group processes and be able to apply this to client work.
Organisational Issues.

- To liaise with relevant networks appropriately. To be able to elicit and communicate information and handle confidentiality issues.
- To gain understanding of the role of the clinical psychologist and the ideas and functions of other members of the team.
- To gain awareness of issues relating to primary care verses secondary care psychological services.

Formulating Issues.

- To gain an understanding of how different models may contribute to the understanding of clients problems.
- To be able to develop and write up a formulation in one particular model and to write up a single case study incorporating different theoretical perspectives.

Methods via which Objectives will be Achieved.

a) Client/Therapy related skills

- To have a caseload of 6-8 clients. For Jane to observe some of my work either directly or indirectly, providing me with constructive feedback.
- To work with clients of both sexes, across the age span with a variety of mental health problems.
- To work independently with at least one client from a different cultural and/or Ethnic background.
- To work independently with clients with anxiety, depression, adjustment difficulties and those with problems of bereavement/loss.
- If possible to do some independent work with clients with OCD, eating disorders, survivors of physical, emotional or sexual abuse and those with substance abuse problems.
- Also, to aim to see at least one client who presents with a more somatic emphasis and one area from social skills, suicidal and parasuicidal clients, clients who have a diagnosis of personality disorder and/or those with compulsive, addictive or offending behaviour.

b) Organisational skills

- To spend time observing Jane in her role as a Clinical Psychologist.
- To observe other members of the team carrying out their various roles.
- To attend regular clinical and team meetings.
Supervisors Responsibilities

Jane will provide me with regular supervision sessions where I will have the opportunity to discuss client’s issues, professional issues and/or personal issues as appropriate.

Supervision will take place 2 hours each week, one hour being in primary care and one hour in secondary care.

Jane will undertake responsibility for ensuring there is adequate office space, clinical space and secretarial support.

Lorraine Childs  
Clinical Psychologist in Training

Date 31.10.97

Jane Street  
Principal Clinical Psychologist

Date 31.10.97
CASE REPORT SUMMARY 1:
ADULT MENTAL HEALTH

“Assessment and Treatment of Depression Using a Cognitive Behavioural Approach”

March 1998

Year 1
PB was a 30 year-old man, referred to the CMHT for depression. PB’s difficulties appeared to be long-standing. He had received counselling for depression six years earlier, but had since sustained a head-injury, which resulted in hemiplegia.

The assessment confirmed that PB was suffering from depression. Marked symptoms included self-report of depressed mood, feelings of worthlessness, fatigue and loss of interest in activities. His presentation confirmed his self-report. He was seen at home and for the first few sessions he was in his pyjamas, as he felt unable to get out of bed in the day. Administration of the Becks Depression Inventory (Beck, Steer & Brown, 1994) and the Becks Anxiety Inventory (Beck & Steer, 1990) confirmed these observations, with scores falling in the ‘severe’ range for both instruments.

PB’s presenting problems were formulated within a cognitive-behavioural framework. It was suggested that his depression had developed from an array of predisposing and precipitating factors, including parental neglect and abuse, learned behaviours (and possible genetic influence) from members of his family who had had depression and the loss of role and self-esteem following his head injury. Critical maintaining factors were proposed to be negative core-beliefs, negative automatic thoughts, social withdrawal and lack of structure in his daily activities.

Therapeutic intervention consisted of the identification and restructuring of negative automatic thoughts and thinking biases, and the introduction of a structured routine with monitoring of mastery and pleasure for activities. Progress was monitored using a ‘map’ on which PB traced his journey from a ‘dead-end’ to the ‘motorway of life’. Following 12 sessions PB reported reduced levels of depression and was engaged in a number of social and vocational activities. Objectively his scores on the BAI and BDI had reduced to minimal and moderate levels respectively. At this point the trainee left the placement but support continued to be provided by another psychologist.
CORE PLACEMENT 2:

PEOPLE WITH LEARNING DISABILITIES

YEAR 1:

Placement Dates

From: April 1998
To: October 1998

Placement Supervisor:

Dr Nan Holmes

Placement Location:

Community Team for People with Learning Disabilities
Crescent Resource Centre
New Malden
Surrey KT18
PLACEMENT CONTRACT FOR LORRAINE CHILDS
IN LEARNING DISABILITIES

Supervisor: Nan Holmes
Placement date: April - October 1998 inclusive
Base: Crescent Resource Centre, New Malden and Elmbridge Lodge,
Weston Green Road, Thames Ditton

Aims of Placement
To acquire knowledge and skills in the assessment and treatment of adults with learning
disabilities and to gain understanding of the needs of these adults, their carers and the services
they use.

Objectives
N.B. Lorraine already has experience of people with learning disabilities from her work as an
assistant psychologist.

At the end of the placement Lorraine should have:
• gained an understanding of how to assess and treat a client with learning disabilities
• learned how to administer and interpret a variety of psychometric tests for adults with learning
disabilities, e.g. WAIS-R, Leiter, BPVS, Neale, etc.
• gained an understanding and experience of the range of skills assessments used with people
with learning disabilities and have made an evaluation of their strengths and weaknesses, for
example Vineland, STAR, ABS, HALO, Whelan and Speake’s Coping Schedule, etc.
• become familiar with and had experience of using observation techniques with this client
group, e.g. direct observations, ABC charts, frequency measures etc.
• been involved with working with clients with a range of degrees of intellectual impairment
• been involved with working with clients using a range of different services (residential and
day)
• undertaken work with a client to assess and reduce problem behaviours
• worked across the age span, adolescent to 65
• undertaken work with a client from an ethnic minority group
• undertaken counselling with a client with mild learning disabilities
• undertaken work with a client to promote the development of skills
• experience of training staff
• an understanding of the network of services surrounding people with learning disabilities and
be able to describe the range of services available
• an understanding of the roles of the various professionals working with this client group
• an understanding of the role of a community team in providing services to adults with learning
disabilities and an understanding of how teams in different localities differ
• contributed to the work of a community team
• an understanding of the needs of people with learning disabilities and should know something
of their typical life experiences and have become more familiar in ways of relating to people
with disabilities
• an understanding of the issues confronting direct carers
• an understanding of the effects of disabilities on families
• become familiar with the workings of the speciality and its inter-relationship with the whole
psychology department and the Kingston & District Community NHS Trust
• become aware of the impact of legislation on services to people with learning disabilities.
These objectives will be achieved by:

- taking on clients referred by supervisor
- two hours of supervision a week
- observing supervisor
- reading appropriate literature
- attending relevant meetings and case conferences and reviews
- working directly with clients and their carers
- visiting a range of residential establishments in health, social services and the voluntary sector as her clinical work dictates
- visiting day services run by Health, Education and Social Services, e.g. Weston Green Day Unit, Causeway, Springboard, Stairway, Dysart School
- attending community team meetings
- joint work with other professionals on community teams

Specifically:

- to undertake a Leiter with a client (A.B.)
- to use a WAIS-R with a client (S.T. and C.M.)
- to undertake a HALO with a client (S.T.)
- to work with a client from an ethnic minority
- to work on a challenging behaviour
- to undertake counselling with a client with a mild learning disability (S.T.)
- to work with a family (S.T.)
- to work on skills building with a client
- to have some experience of sexuality issues, bereavement and loss, anxiety and interpersonal skills such as assertiveness and anger management
- to have experience of teaching staff
- to undertake work with direct care staff
- possibly to undertake a small piece of research related to the needs of the service, e.g. reviewing number of clients with challenging behaviour in the service
- to undertake a range of cognitive tests with a client, including how to assess a client suspected of having Alzheimer’s (A.B.) and a client with memory difficulties (C.M.)
- to undertake completing a life story book with a client (D.P.)
- group work - assisting in planning, running and evaluating
- an introduction to the psychodynamic approach with clients with a learning disability, possibly by attending Dr. Gillian Barnes’ psychotherapy seminars.

Also

- Lorraine would like to use her knowledge of sign language so would enjoy working with clients with hearing impairment and/or who use Makaton.
- Lorraine would like experience of functional analysis.

Formulation

- To gain an understanding of how different models may contribute to the understanding of clients’ problems.

NAN HOLMES
Chartered Clinical Psychologist
April 1998

LORRAINE CHILDS
Psychologist in Clinical Training
CASE REPORT SUMMARY 2:
PEOPLE WITH LEARNING DISABILITIES

"Moving Home: Assisting the Organisation and the Individual in the Residential Transition of a 51 Year Old Man with Downs Syndrome"

September 1998

Year 1
CASE REPORT SUMMARY 2:
“Moving Home: Assisting the Organisation and the Individual in the Residential Transition of a 51 Year Old Man with Downs Syndrome”

EM was a 51 year-old man with Downs Syndrome, referred to the psychology service by the manager of the home in which EM had lived for 15 years. His home was due to close and he was to move next-door in three weeks. EM found change difficult and demonstrated distress through ritualised and occasionally challenging behaviours, so staff were concerned about how he would react to the move.

Initial assessment and decisions about intervention had to be rapid as the move was imminent. A functional analysis of EM’s ritualised behaviours and challenging responses to change were formulated as a need for ‘preservation of sameness’ (Davison & Neale, 1990), precipitated by anxiety about environmental change. The poor organisational structure was perceived to maintain the need for such behaviours.

Immediate action was taken to help EM cope with the move. Structured staff observations identified routines, which could continue to be adhered to across the move. This and the Adaptive Behaviour Scale (ABS; Nihira et al, 1975) were carried out pre and post move to assess whether further maladaptive behaviours occurred. A behaviour plan was developed to involve staff and EM in preparations for the move and a post-move behaviour plan was also implemented so staff could provide a sympathetic and consistent approach towards EM in this difficult time. One month after the move there was no increase in maladaptive behaviours and a reduction in repetitive behaviours. Initially problematic behaviours had reduced, when corresponding changes in routine had been identified and subsequently redressed.

The assessment continued beyond this point, leading to further recommendations and actions to improve EM’s quality of life. Concerns about the organisation were addressed, leading to organisational change to provide long-term benefits to EM and other clients, including staff training and the implementation of Individual Personal Plans. The report highlights the difficulties of trying to work with individuals when the organisation does not operate within a structured system of care.
CORE PLACEMENT 3:

CHILD, FAMILY AND ADOLESCENTS

YEAR 2:

Placement Dates

From: October 1998
To: April 1999

Placement Supervisor:

Mr Bruce Holroyd

Placement Location:

Department of Child and Family Psychological Medicine
St. Peter's Hospital
Chertsey
Surrey
PLACEMENT CONTRACT

Setting: Department of Child and Family Psychological Medicine
St Peter's Hospital

Trainee: LORRAINE CHILDS

Supervisor: Bruce Holroyd, Chartered Clinical Psychologist

Date of start of placement: 14.10.98
Date of end of placement: 2.04.99
Date of mid-placement review:

PLACEMENT

This is a core child, adolescent and family placement. The Department of Child and Family Psychological Medicine is a multi-disciplinary service based in a General Hospital with small outreach clinics. The service sees children and adolescents from birth up to 18 years old, and their families or carers. There is extensive liaison and communication with other agencies, including Social Services, Education and Health Visitors. A full range of problems is seen within the Department, but there is only a very limited in-patient service. The Clinical Psychologists in the Team also provide multi-disciplinary Paediatric Psychology Clinics and have input to the Hospital Child Development Nursery.

AIMS OF PLACEMENT

1. Experience of working within a multi-disciplinary child and adolescent mental health service.

2. Understanding of a Clinical Psychologist's role within a multi-disciplinary team.

3. Understanding of child protection issues and awareness of the relevant literature.

4. Experience in a Paediatric Psychology setting.

5. Direct and indirect experience of working with a range of clients with various presenting problems, ages and backgrounds.

6. Psychometric assessment of at least two children.

7. Experience of working with several models including systemic and behavioural.
METHOD OF ACHIEVING AIMS

1. Observation of supervisor and multi-disciplinary colleagues.
2. Contact with clients, carers and relevant professionals.
3. Involvement in departmental meetings, seminars, service development meetings, etc.
4. Visits to other settings, eg. schools, child development nursery
5. Reading

ADDITIONAL EXPERIENCES

1. Involvement in the Department's Deliberate Self Harm service.
2. Participation in Department Team Day which focuses on team dynamics and service issues.
3. Involvement in teaching.
4. Possible small-scale research project on placement.

REPORTS OF CLINICAL ACTIVITY

Completion of reports and records of activity as required by placement setting and course.

SUPERVISION

Formal supervision will be 2 hours per week, usually

TIMETABLE

Based at St Peter's Hospital.
Occasional Wednesdays at Kingston & District Psychology Department bases.

Trainee .......................... Date 15.10.98
Supervisor ...................... Date 15.10.98

C.BH.jm
CASE REPORT SUMMARY 3:
CHILD, ADOLESCENT AND FAMILY

“A Multi-Theoretical Perspective in the treatment of a Perceived Sleeping Disorder in an Adolescent Male”

April 1999

Year 2
Tom was a 16 year-old boy, referred to the psychology service by his GP for insomnia. During assessment Tom reported that he found it difficult to fall asleep, but once asleep he slept until awoken. Tom stated that by coming to therapy he wished to reduce his sleep-onset time, of 3 hours to 1 hour and he wished to be asleep by midnight. He completed the Revised Childrens Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1978). His score was within the normal range.

Tom’s presenting problem was formulated within a cognitive-behavioural framework. Two to three years ago he had begun to go out in the evenings, resulting in later bedtimes. This and his worries about his schoolwork led to lengthier times of sleep onset. He and his parents worried about his late bed- and getting-up times, and he worried about this in bed. His problems were maintained by his sleep-onset worries and behaviours that he engaged in around bedtime, which he believed were conducive to sleep but actually seemed paradoxical to this aim. He maintained an irregular sleep-wake pattern and believed that going to bed before 1am was ‘a wasted evening’.

Therapy focussed on educational techniques, to change his core beliefs about sleep-onset and amount of sleep needed; to adapt his paradoxical bedtime behaviours; and regulate his sleep-wake cycle. Sleep diaries confirmed his overestimation of his sleep-onset time, which was close to his 1hour aim. He was unwilling to regulate his sleep-wake cycle or retire earlier, and pressed the therapist for alternative solutions!

A case review between the psychologist and her supervisor led to a psychodynamic formulation of processes within the therapeutic relationship, where the therapist was taking responsibility for Toms anxieties. Future work focussed on Tom accepting responsibility for making change. Therapy ended with a review of his achievements so far and agreement that he now had the skills to continue to effect change when his life-style was more conducive to his aims. Overall his worries about sleep-onset appeared to have reduced and his RCMAS scores were maintained at a normal level.
CORE PLACEMENT 4:

OLDER ADULTS

YEAR 2:

Placement Dates

From: April 1999
To: October 1999

Placement Supervisor:

Mr Ian Kneebone

Placement Location:

Clinical Psychology Department
Haslemere Hospital
Church Lane
Haslemere
Surrey
OLDER ADULTS PLACEMENT CONTRACT

Trainee: Lorraine Childs

Supervisor: Ian Kneebone
Haslemere Hospital
Church Lane
Haslemere

Dates of Placement: April – October, 1999

Bases: 1 day at Farnham Hospital
1 day at Milford Hospital
½ day at Haslemere Hospital

Aims of Placement

1. To provide a comprehensive placement, where I will develop and consolidate skills in the assessment and treatment of older adults with mental health problems. This will involve gaining experience of working with clients over the age of 65, in a range of settings.

2. To develop competence and confidence in the practice of clinical psychology.

3. To complement the overall course philosophy and model of training, linking closely to the academic teaching component.

Objectives

Therapy/Client Related Skills
To be able to relate to clients and others in a professional manner.
To be able to engage the client in therapy, structure the interview, maintain good use of time and deal with unexpected situations.
To be able to interview an older person, demonstrate an ability to relate appropriately to them, modify interview requirements and adapt interview styles to suit the client.
To modify approaches for clients with a sensory impairment.
To be able to work indirectly with carers as well as individuals themselves.
To be able to work ethically in dealing with issues such as risk, abuse etc.
To be able to cope with personal issues raised by ageing, severe physical illness, death and the surrounding distress.

Organisational Skills
To liaise with relevant networks appropriately. To be able to elicit and communicate information and handle confidentiality issues.
To gain understanding of the role of the clinical psychologist and the functions and skills (relating specifically to older people) of other members of the teams with which we work.
Philosophy
To be able to understand the current philosophy of service provision; the principles and models of ageing which service providers within the NHS, Social and Voluntary services use in their work; the implications both nationally and locally of the shift from hospital based services to community care.

Methods via Which Objectives will be Achieved

Therapy/Client Related Skills
To carry out interventions with between 6-10 clients (including groups), of which at least one will include individual therapy.
To carry out assessment and treatment with clients with both functional and organic conditions.
To work with clients of both sexes, with a variety of mental health problems of differing complexities.
To carry out a broad-based assessment, which includes the use and analysis of neuropsychological assessment tools.
To work with individuals, couples, families, groups, carers and staff.
To work in a variety of settings, i.e. assessment wards, continuing care wards, day hospitals etc.
To work in a client’s home.
To cover a range of treatments, including behavioural, cognitive behavioural and verbally based/psychotherapeutic work, as well as more indirect and consultative work, i.e. with carers.
To implement at least one intervention developed specifically for older people, i.e. validation therapy, reminiscence.
To work with a client where ethnic or cultural factors are salient to the work.
To demonstrate effective oral and written skills, i.e. through communication and presentations.
To gain experience in a number of assessment tools, including the CAPE, the MEAMS etc, and to be able to integrate findings from these tools about the client’s strengths and weaknesses into an overall intervention plan.

Organisational Skills
To present a session to other psychologists, as well as to other disciplines (skills transmission).
To attend team meetings whilst on placement.

Psychological theories and principles
To have a working knowledge of
• The literature on normal ageing
• Key life stages of older people.
• The interface between physical and mental health.
• Theories of social disability, including the attitude of the community towards older people.
• The relation of neurological research to presenting problems.
• The relevance and modification of behavioural interventions for older people.
• Systems theory and theories of family functioning.
**Personal Identified Learning Needs**
To have opportunity to discuss client-therapist relations and the influence that this can have on assessment/treatment/intervention.

**Supervisors Responsibilities**
Ian will provide me with regular supervision sessions, where I will have the opportunity to discuss client and professional issues.
Supervision will take place for 1½ - 2 hours weekly.
Ian will ensure there is adequate office space, clinical space and secretarial support.

Lorraine Childs  
Clinical Psychologist in Training

Date 14/5/99

Ian Kneebone  
Chartered Clinical Psychologist

Date 14/5/99
CASE REPORT SUMMARY 4:
OLDER ADULTS

"Neuropsychological Assessment of a 72 Year Old Lady, with Suspected Cognitive Decline"

September 1999

Year 2
Mrs J was a 72 year-old lady, who was referred to the psychology service by the Consultant Geriatrician of a day hospital for the elderly. The referral requested assessment of cognitive functioning, with identification of possible reasons for cognitive decline and recommendations for future care.

Assessment involved clinical interviews with Mrs J and her husband, a review of Mrs J’s medical notes, discussions with other medical and social care staff and neuropsychological testing with Mrs J. Mrs J was a well-educated lady, who had suffered a number of stressful life events in the last ten years. She had an extensive psychiatric history relating to this period of time. In the past three years she had had three diagnosed strokes and her most recent hospitalisation was for a fractured hip following a fall.

Neuropsychological assessment compared her current to previous levels of functioning and evaluated her general cognitive functioning in orientation, language, recognition and recall memory, visuo-spatial functioning and executive functioning. Results suggested a deterioration in Mrs J’s cognitive functioning compared to previous assessments. Her profile indicated specific lexical retrieval deficits, impaired ability to learn new information, interference from intervening tasks, attentional deficits and visual neglect. Overall, the results indicated global cognitive deterioration, with predominantly right-hemisphere and frontal lobe involvement. These findings correlated with medical investigations and behavioural observations of Mrs J.

The results were consistent with a diagnosis of mild to moderate multi-infarct dementia with a secondary diagnosis of depression. However, other possible causes of Mrs J’s deterioration are highlighted and findings are discussed in relation to implications for Mrs J’s future care.
SPECIALIST PLACEMENT 1:

ADULTS WHO ARE DEAF

YEAR 3:

Placement Dates

From: October 1999
To: March 2000

Placement Supervisor:

Dr. Jim Cromwell

Placement Location:

Psychology Department
National Deaf Services
Old Church
146a Bedford Hill
Balham
London, SW12
20th October, 1999

SPECIALIST PLACEMENT CONTRACT

Speciality: Adults who are Deaf

Trainee: Lorraine Childs

Supervisor: Dr. Jim Cromwell

Dates of Placement: 28th September, 1999 to 24th March, 2000

Trust: South West London and St George’s Mental Health NHS Trust

Service Address: National Deaf Services
Old Church
146a Bedford Hill
Balham
London, SW12 9HW

Telephone: 0208 675 2100 (voice), 2200 (minicom) 2266 (fax)

Base: 2½ days per week at above address, with some potential for community work

Aims of Placement
1) To enable opportunity for development and consolidation of skills in the assessment and treatment of people who are Deaf and who have mental health problems.
2) To complement the course philosophy, by linking theory to practice.

Objectives

Therapy/Client Related Skills
• To be able to relate to clients and others in a professional manner.
• To be able to engage the client in therapy, structure the interview, maintain good use of time and deal with unexpected situations.
• To be able to interview a person who is Deaf, demonstrate an ability to relate appropriately to them, modify interview requirements and adapt interview styles to suit the client.
• To modify approaches for clients who have additional sensory or physical disabilities.
• To work indirectly with carers, as well as with individuals themselves.
• To be able to work ethically in dealing with issues such as risk, abuse etc.
• To be able to cope with personal issues raised by working with people with whom there may be communication and cultural differences.

Organisational Skills
• To liaise with relevant networks appropriately. To be able to elicit and communicate information and respect and maintain confidentiality.
• To gain understanding of the role of the clinical psychologist and the functions and skills (relating specifically to people who are Deaf) of other members of the teams with which we work.
• To gain awareness of the particular duties that must be considered by a clinical psychologist working in a national specialist tertiary service.

Philosophy
To be able to understand the current philosophy of service provision to people with hearing impairments; the principles and models of hearing impairment, which service providers within the NHS, Social and Voluntary services use within their work; the implications both nationally and locally of the shift from hospital based services to community care.

Methods via which Objectives will be Achieved
The trainee and supervisor will adhere to the ‘Placement Guidelines’ stipulated in the University of Surrey, PsychD. Clinical Psychology, Specialist Placement Handbook.

Therapy/Client Related Skills
• To carry out interventions with between 6 and 10 clients (including groups), of which at least one will include individual therapy.
• To carry out assessment and treatment with clients with both functional and organic conditions.
• To work with clients of both sexes, with a variety of mental health problems of differing complexities.
• To carry out a broad-based assessment, which includes the analysis and use of neuropsychological assessment tools.
• To work with individuals, couples, families, groups, carers and staff.
• To work in more than one setting, i.e. inpatients and outpatients.
• To cover a range of treatments including behavioural, cognitive behavioural and psychotherapeutic work, as well as more indirect and consultative work.
• To work with a client for whom their Hearing Impairment is salient to the work.
• To demonstrate effective oral and written skills, i.e. through report-writing and/or presentations.
• To demonstrate a significant improvement in Sign Language and an increased awareness of the modes of communicating with someone who has a hearing impairment.
• To gain experience in a number of assessment tools, and to appreciate considerations in the application of such tools with people not included in the original standardisation population.
Organisational Skills
- To observe Jim in his role as Clinical Psychologist to people who are Deaf.
- To observe other members of the team carrying out their roles, i.e. Speech and Language therapist, Psychiatrist.
- To attend team meetings.

Psychological Theories and Principles
To have a working knowledge of:
- The literature on hearing impairment and mental health
- The developmental and psychological effects of pre-lingual hearing impairment
- The interface between hearing impairment and mental health.
- Theories of social disability, including the attitude of the community towards people who have a hearing impairment.
- Systems theory and theories of family functioning, in families who have at least one member who is hearing impaired.

Personal Identified Learning Needs - Priorities
To carry out a structured cognitive or behavioural intervention.
To work with someone who has obsessive-compulsive disorder.
To work with someone for whom their 'Deafness' is salient to their reason for being seen by a psychologist.
To work with someone who has suffered physical, sexual or emotional abuse.
To work with someone requiring anger management.

Supervisors Responsibilities
- Jim will provide regular supervision sessions, to provide the opportunity for discussion of client and professional issues.
- Supervision will take place for 1-2 hours (averaging 1½ hours weekly)
- Jim will ensure there is adequate office space, clinical space and secretarial support.

Lorraine Childs
Psychologist in Clinical Training
Date 1/11/99

Jim Cromwell
Chartered Clinical Psychologist
Date 1/11/99
CASE REPORT SUMMARY 5:
ADULTS WHO ARE DEAF

“Consultancy Within an Organisational Setting: Moving Towards User-Involvement in a Service for Deaf Adults who have Mental Health Problems”

March 2000

Year 3
CASE REPORT SUMMARY 5:

"Consultancy Within an Organisational Setting: Moving Towards User-Involvement in a Service for Deaf Adults who have Mental Health Problems"

A process of consultancy, based on systemic theory was used to help formulate and develop a strategy for implementing user-involvement within a service for Deaf Adults. The two main aims of this work were to formulate an understanding of why previous user-involvement initiatives had not been successful in this service; and to develop recommendations for a framework in which user-involvement could be sustainably integrated into the service.

Using a nine-step consultancy framework a contract was drawn up between the psychologist and permanent staff members. Staff were then informed of the process and provided feedback of their concerns about implementing user-involvement. Further data-collection involved a review of previous user-involvement initiatives in the service, the distribution of a staff survey and observations made by the psychologist during the placement.

Qualitative and quantitative analysis of the data led to the development of a formulation which drew upon systemic and psychodynamic principles. It was suggested that a lack of feedback within the system about organisational processes, contributed at a conscious and an unconscious level to the lack of sustainability of user-involvement. Recommendations for the continuing development of user-involvement were made on the basis of the formulation.

A critique of the report detailed how evaluation could be carried out on this consultancy work and the wider user-involvement initiative. The paradox of a user-involvement initiative, which to this point had not yet involved users was highlighted, but was justified by suggestions about how this work had contributed to the exploration and amendment of factors that perpetuated the failure of previous user-involvement initiatives.
SPECIALIST PLACEMENT 2:

FORENSIC PSYCHOLOGY

YEAR 3:

Placement Dates

From: April 2000
To: September 2000

Placement Supervisor:

Dr. Jonathan Foulds
Dr. Estelle Moore

Placement Location:

Psychology Department
Broadmoor Hospital
Crowthorne
Berkshire
PLACEMENT CONTRACT: SPECIALIST PLACEMENT IN FORENSIC CLINICAL PSYCHOLOGY, BROADMOOR HOSPITAL

Trainee: Lorraine Childs

Supervisor: Dr Jonathan Foulds, Principal Clinical Psychologist

Co-Supervisor: Dr Estelle Moore, Principal Clinical Psychologist


Aim of placement: To enable the trainee to develop her clinical and professional skills within a forensic context.

More specifically the following objectives can be identified:

1. To develop an awareness of the ethical, professional, organisational issues which are particularly relevant to clinical practice in an NHS forensic setting.

2. To develop assessment skills including: risk assessment, psychosexual assessment, substance use assessment and neuropsychological assessment.

3. To develop advanced therapy skills. In particular this will include (a) engaging forensic patients in therapy, (b) learning to judge the appropriate pace of therapy in a special hospital context © completing discrete blocks of therapy and negotiating this with clients.

4. To develop an understanding of the role of clinical psychology as one part of forensic mental health services, and how this relates to other services both at Broadmoor and in other forensic settings (prisons, RSUs and community settings).

Clinical experience to be gained:

1. Direct contact with at least 10 cases (including joint contact).
2. At least 4 assessment and 4 treatment cases.
3. Direct contact with both men and women, and with patients with psychotic illness and personality disorder (mental health act categories).
4. Experience of substance use, psychosexual, risk and cognitive assessments.

Other experiences to be gained:

Attendance at:
1. Clinical team meetings
2. Departmental meetings
3. Peer supervision

There will also be opportunities to observe other specialist work (e.g. PPG, EEG, ECT, group therapy where appropriate).
Personal Identified Learning Needs:

1. To develop confidence in the structuring and implementation of cognitive-behavioural interventions.
2. To work with people who have a diagnosis of Personality Disorder.
3. To spend time developing formulations about cases.

Supervision arrangements and responsibilities

The supervisor will organise an induction programme and opportunities to ensure that the placement contract can be met.

At Broadmoor one supervisor is identified as the primary supervisor (JF), but it is to be expected that elements of supervision and clinical experience will be provided by a range of psychologists, including the co-supervisor.

Supervision will include regular (weekly) meetings with the supervisor (generally 5-6pm on a Wednesday unless rearranged), observation of the trainee undertaking assessment and treatment sessions, the trainee having the opportunity of observing qualified clinical psychologists assessing and treating clients.

It is the supervisor's responsibility to provide regular feedback on the trainee's performance, including identification of any areas of weakness which cause concern.

Trainee responsibilities:

The trainee should attend and make use of supervision sessions, undertake their work in a professional manner as outlined in the BPS Code of Conduct, and regularly monitor their progress to ensure that the aims of the contract are being met. This includes continually updating the log book during the placement, and also informing the supervisor of any concerns relating to the placement.

Mid-placement feedback and review:

A mid-placement feedback meeting should be arranged and take place in addition to (preferably prior to) the formal mid-placement review undertaken by the course.

Arrangements for annual leave:

The placement shall consist of an average of two and a half days per week throughout. Annual leave should be arranged with the supervisor in writing in advance.

Signed: Lorraine Childs (Trainee)  Dr Jonathan Foulds (Supervisor)

Date 10.5.00
RESEARCH DOSSIER
SERVICE-RELATED RESEARCH PROJECT

“Review Procedures within Community Mental Health Teams: Developing a Practical Model.”

Research Supervisor: Dr Jonathan Foulds
Field Supervisor: Ms Jane Street

November 1998
Year 1
ABSTRACT

Aim
To provide recommendations to a Community Mental Health Team (CMHT), regarding the development of a structured review system, in accordance with the Care Programme Approach.

Method
Ten interviews were carried out with members of the CMHT, then interviews or questionnaires were completed by a member of each of five other similar teams within the same Trust.

Design
Using an Action-Research based approach, content analysis was used to identify key themes from the results of the interviews.

Results
The themes were operationalised in the form of a practical model. Recommendations were made for further investigation within the team, to clarify components of the model that remained inconclusive.

Conclusions
A model of a review system was proposed. It was argued that this model represented preferred review procedures within this Trust. A method of continuing the development of this system was described (action-research), so the Team could continue to monitor and adapt the system to ensure that it met their needs. The limitations of this study are discussed, and suggestions made for future quantitative research, which will help to meet the need for generalisable findings in this under-researched area of mental health care provision.
INTRODUCTION

The Care Programme Approach

The Care Programme Approach (CPA) aimed to systematise procedures and thereby improve the delivery of care to ‘people with a mental illness referred to the specialist psychiatric services’ (Department of Health, 1990). Previous breakdowns in systems of care had led to an increased risk of harm to and by people with a mental illness (Kingdon, 1991).

Kingdon provided an overview of the rationale, objectives and principles of the CPA and defined 6 key elements, shown in table 1 below:

Table 1: The Key Elements of CPA (Kingdon, 1991)

| (a) Assessment of health and social care needs. |
| (b) A key worker to co-ordinate care |
| (c) A written care plan |
| (d) Regular review |
| (e) Inter-professional collaboration |
| (f) Consultation with carers and users. |

Implementing the CPA has been difficult (McCarthy, Roy, Holloway, Atakan & Goss, 1995) and time consuming for management and clinicians. Development of systems and accountability has increased administration, without extra funding to meet costs. It has been argued that the increased administration impinges on clinical time, whilst procedures are irrelevant to the needs of specific teams (Dickinson, 1996). Furthermore, teams lack adequate resources, time and information systems to meet CPA requirements (Gilleard, 1995). Thus, some clinicians suggest that more resources are needed for the organisational changes necessary to effectively deliver the CPA, whilst others argue that the CPA is an effective management system within which lack of resources can be highlighted (Tyrer & Kennedy, 1995; Lelliot, 1997).
Practical research has illustrated effective implementation of the CPA amongst individual teams and Trusts (Matthews, 1995; Broughton & Divall, 1994; Gilleard, 1995). Sometimes this has meant adapting the CPA to meet local resources. However, it is difficult to generalise procedures or models as teams vary in their staff and patient size.

**Reviews**

A review of care is an effective method of implementing several core aspects of the CPA (Gilleard, 1995; Broughton & Divall, 1994) including:

- formalising inter-professional working;
- keeping in touch with and involving patients and carers;
- ensuring agreed services and care plans are provided, monitored for effectiveness and kept up-to-date.

Kingdon states that patients accepted by psychiatric services need to be assessed, so the complexity of their care plan can be categorised according to their needs (table 2). Review format and frequency may vary depending upon the complexity of the case, i.e. the more complex the case, the more frequent the reviews.

**Table 2. Levels of Complexity (Kingdon, 1991).**

<table>
<thead>
<tr>
<th>Level 1</th>
<th>People accepted by specialist mental health services who require assessment and management by one professional.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 2</td>
<td>People with severe mental illness requiring multi-disciplinary care and review, but who do not require care management.</td>
</tr>
<tr>
<td>Level 3</td>
<td>People with severe mental illness whose multiple needs are such that they require care management in addition to the care programme approach.</td>
</tr>
</tbody>
</table>

Some patients at risk of committing serious self-harm, violence or self-neglect may be placed on a special register (i.e. Department of Health, 1992). Local policy will determine the frequency of reviews for such patients.
The literature collectively suggests minimum standards for reviews (HC(90)23, 1990; Kingdon, 1991; Broughton & Divall, 1994; Matthews, 1995; Gilleard, 1995). These are summarised in table 3.

Table 3. Minimum Standards for Reviews.

<table>
<thead>
<tr>
<th>Reviews should:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Review the health and social care needs of individuals being treated in the community.</td>
</tr>
<tr>
<td>• Be regular, but not necessarily frequent.</td>
</tr>
<tr>
<td>• Be brief, with clear agendas.</td>
</tr>
<tr>
<td>• Be multi-disciplinary for those who are severely mentally ill or who have more than two workers involved in their case.</td>
</tr>
<tr>
<td>• Be part of the care offered to patients involved with only one or two professionals, although these may be informal, e.g. telephone conversations with other professionals.</td>
</tr>
<tr>
<td>• Involve service users in the negotiation of care plans.</td>
</tr>
<tr>
<td>• Be the responsibility of keyworkers.</td>
</tr>
<tr>
<td>• Include setting a date for the next review.</td>
</tr>
<tr>
<td>• Be documented and information should be disseminated to other professionals e.g. GP’s.</td>
</tr>
</tbody>
</table>

Objectives of the Current Study
This research was commissioned by a South London Community Mental Health Team (CMHT - Team A) who wished to improve their practice by formalising review procedures. The team requested recommendations to aid the development of a structured review system, which would acknowledge difficulties related to case load size and time constraints, whilst providing flexibility for prioritisation. The aim of this study is therefore to provide recommendations for the implementation of review procedures within a CMHT.
METHOD

Design and Setting
This study is the first stage of an action-research based process, aiming to assist with the development of formal review procedures within a CMHT. In action-research 'action and research proceed simultaneously... and attempt directly to change people’s behaviour' (Banister, Burman, Parker, Taylor & Tidall, 1994) through a continuous process of information gathering, feedback and action (Hayes, 1997). Action-research has successfully been used to facilitate change in mental health service delivery (Tobin, Dakos, Urbanc, 1997).

This study used interviews with members of Team A and comparisons with practices across other CMHT's in the same Trust (Teams 1-5), to provide practical recommendations for future review practice. All teams accepted referrals for clients who had symptoms or diagnoses of mental illness. A breakdown of team and caseload size is provided (table 4).

Participants
Table 4 describes the number of staff and caseload size of the teams that participated in this study. The CMHT’s comprised psychiatrists, clinical psychologists, social workers, occupational therapists, community psychiatric nurses and administrative staff. Of the twelve members of Team A, only ten were interviewed as two (an occupational therapist and an administrative member) were unavailable at the time of the study.

Table 4. Team and caseload size, for the teams that participated in this study.

<table>
<thead>
<tr>
<th>TEAM</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of people in team</td>
<td>12</td>
<td>17</td>
<td>14</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>No. WTE* members</td>
<td>11.5</td>
<td>12.6</td>
<td>12.0</td>
<td>12.5</td>
<td>12.5</td>
</tr>
<tr>
<td>Caseload Size</td>
<td>350</td>
<td>350</td>
<td>307</td>
<td>323</td>
<td>350</td>
</tr>
</tbody>
</table>

* Whole Time Equivalent
Clinical psychologists from three similar teams were interviewed. Members of the other two teams were unavailable at the time of the study, so questionnaires were sent to a nurse and a clinical psychologist from these teams.

**Procedures**

Table 5 describes the methods used to gather information:

<table>
<thead>
<tr>
<th>Method</th>
<th>Aim</th>
<th>Source/Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literature Review</td>
<td>To provide information:</td>
<td>A review of official documents and previously published articles about CPA.</td>
</tr>
<tr>
<td></td>
<td>a) To generate the questionnaires.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) To inform participants during interviews.</td>
<td></td>
</tr>
<tr>
<td>Semi-structured</td>
<td>To obtain Team A's views about their preferred model of review procedures</td>
<td>An interview schedule was designed, through consultation with two team members and reference to the literature.</td>
</tr>
<tr>
<td>individual interviews</td>
<td></td>
<td></td>
</tr>
<tr>
<td>with members of Team A (Appendix A).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structured questionnaires/</td>
<td>To provide information comparable with Team A's views, as well as highlighting procedural difficulties in current practice.</td>
<td>Designed as above.</td>
</tr>
<tr>
<td>interviews with members of Teams</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5 (Appendix B).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Interviews and questionnaires took 20-30 minutes to complete. They were completed during clinical hours, therefore needed to be time-limited and focussed. To emphasise the context of practical rather than ideal preference, participants were given a copy of the research proposal immediately before the interview (Appendix C).
Analysis
Data was analysed using content analysis (Miles & Huberman, 1994). This form of analysis was chosen as it enables investigation of relationships between variables (i.e. duration and frequency of review) and the presentation of data in table form. Furthermore, exploring differences within a data set and returning to participants for discussion can test findings from this analysis. Hence, content analysis was suitable to be used within a wider framework of action-research – feedback to participants could test explanations as well as determine the next stage of action.

Written recordings of interviews with Team A were individually transcribed, then collated under question headings. The interviewer then sorted quotations into common themes relating to each question. Some questions were subdivided or collated with others during this iterative process. After this, three main themes that had recurred across questions were similarly identified.

Due to time limitations a reliability check for the whole analysis was not possible. However, the collated transcripts were discussed with a psychologist who worked for a different Trust. Themes were agreed upon. This rater was then given twelve quotes and asked to allocate them to one or none of the main three themes. Ten of the quotes were allocated to the same category selected by the author, suggesting reliability of 10/12 for those items.

Where possible there is quantification of results. This does not indicate generalisability, but is included to provide the team with guidance regarding the representation of suggestions. The number of people who answered each question varied, due to the semi-structured style of interviewing and the qualitative nature of the research, which allowed continuing development of the questionnaire as interviews progressed.

Results were fed-back to the team in the form of a detailed report.
RESULTS

The main themes are discussed and supporting quotes are presented. Then a summary-table is provided of themes related to individual questions. A description follows of the issues raised by team members in response to individual questions. These are discussed and compared with processes used by other teams, with some representative quotes provided for illustration.

**The Main Themes**

Three main themes emerged from the interviews with Team A - compromise, stratification and flexibility. Quotes from team members that illustrate these themes are provided in table 6.

1. **Compromise**

   The majority of participants suggested a need for compromise between the ‘ideal’ and ‘actual’ implementation of reviews, due to time constraints and caseload size. The presence or possible pre-fix of the word ‘ideally’ and the continuation of statements to suggest why such a model could not be implemented, identified such statements. Table 6 contains the ‘ideal’ element of these statements. The areas in which it was felt there would need to be compromise related to who to review, which team members should be present, the frequency and duration of review, level of patient input and level of administration.

2. **Stratification**

   All team members suggested that the review system should be stratified according to the nature of the case, with more complex cases given priority.

3. **Flexibility**

   Most team members indicated that there was a need for flexibility to accommodate emergency discussion of cases and time limitations which may occur due to clinical or organisational issues.
<table>
<thead>
<tr>
<th>THEME</th>
<th>QUOTES</th>
</tr>
</thead>
</table>
| Compromise | ‘All patients should be reviewed... all members of the team should be present even if we are reviewing a uni-disciplinary client.’  \     |  \\
|          | ‘The team should do 5-6 reviews per week, each lasting ⅓ hour’                                                                         |  \\
|          | ‘The patient ought to be there.’                                                                                                      |  \\
|          | ‘Information in the form of a report should be circulated to everyone involved in the care of the client in advance of the reviews.’   |  \\
| Stratification | ‘There should be a tier system for simple, complex or urgent cases as each will need differing frequencies of review.’                  |  \\
|          | ‘Reviews should be 5 to 10 minutes for simple cases and 20 minutes for complex cases.’                                                 |  \\
|          | It was felt that priority should be given to:                                                                                            |  \\
|          | - ‘those with severe mental illness’                                                                                                    |  \\
|          | - ‘the problem patients’                                                                                                               |  \\
|          | - ‘those at the higher levels of the CPA’                                                                                              |  \\
| Flexibility | ‘There should be space for people to be brought up when they are needed to be discussed by the professionals. Reviews may reduce the number of times people are brought up in our weekly meetings, but there are still things out of our control... like a family crisis.’ |  \\
|          | ‘We need to have flexibility... We can’t rush through if we have lots of new referrals, or problems in the team meeting.’              |  \\

Table 7. Themes relating to individual questions produced by Team A.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>No. who agreed</th>
<th>THEME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aims</td>
<td>9/9</td>
<td>To review/ re-assess the individuals care in a multidisciplinary setting.</td>
</tr>
<tr>
<td>Frequency</td>
<td>8/9</td>
<td>The frequency of reviews should depend on the nature of the person/ case and the size of the caseload that qualifies for review.</td>
</tr>
<tr>
<td>Duration</td>
<td>8/9</td>
<td>Duration should be flexible and variable, with more time spent on more complex cases.</td>
</tr>
<tr>
<td>Multi-disciplinary Input</td>
<td>8/8</td>
<td>Multi-disciplinary clients should receive a multi-disciplinary review.</td>
</tr>
<tr>
<td>Content</td>
<td>9/9</td>
<td>The review should include a general picture of the client, followed by a summary of their needs, with identification of who was meeting these and how.</td>
</tr>
<tr>
<td>Standard format using a template</td>
<td>5/6</td>
<td>A template onto which information could just be entered on, may be useful.</td>
</tr>
<tr>
<td>Organisational and administrative responsibilities</td>
<td>10/10</td>
<td>Keyworker, with assistance from secretarial staff.</td>
</tr>
<tr>
<td>Choosing who to Review</td>
<td>4/4</td>
<td>Team should work their way alphabetically through the caseload.</td>
</tr>
<tr>
<td>Chair</td>
<td>2/2</td>
<td>Use of a chairperson to maintain structure, but the chair should not be keyworker.</td>
</tr>
<tr>
<td>Presentation Style</td>
<td>5/5</td>
<td>Verbally or verbally and written.</td>
</tr>
</tbody>
</table>
Description of Themes Relating to Individual Questions

Aims

The teams suggested a variety of aims. These could be categorised into client, team and organisational needs (Table 8).

Table 8: Aims of Reviews

<table>
<thead>
<tr>
<th>Client</th>
<th>Team</th>
<th>Organisational</th>
</tr>
</thead>
<tbody>
<tr>
<td>To ensure the multi-disciplinary team reviews all complex cases.</td>
<td>To review caseload and policies of referral and discharge.</td>
<td>To fulfill Department of Health requirements in accordance with CPA.</td>
</tr>
<tr>
<td>To provide continuity of care.</td>
<td>To provide consultation to generate new ideas in dealing with problems and developing care philosophies.</td>
<td>To fulfill Trust policies regarding review procedures:</td>
</tr>
<tr>
<td>To review/ formulate care plans.</td>
<td>To monitor the efficiency of interventions.</td>
<td>To check that referrers are being kept informed.</td>
</tr>
<tr>
<td>To assess possibility of discharge.</td>
<td>To confirm keyworker.</td>
<td></td>
</tr>
<tr>
<td>To ensure upholding of the principles of normalisation.</td>
<td></td>
<td>To educate team members.</td>
</tr>
</tbody>
</table>

All Team A’s answers reflected the need for re-assessment in a multi-disciplinary setting. However, some felt this was to ensure clarity of care, whilst others felt this was purely to comply with national regulations.

Duration and Frequency

All members of Team A suggested that more time should be spent on more complex cases. Seven respondents felt that duration and frequency should be increased with complexity, whilst two felt that either duration or frequency should be increased.

Most respondents suggested 6 monthly as the ideal time between review, with
increased frequency for 'those at risk'. A year was felt by all to be the maximum time that should elapse between reviews and was suggested to be appropriate for 'those receiving very low levels of support'.

Suggestions for duration varied between 5-15 minutes for 'simple cases' (three respondents) to one hour (two respondents) for complex cases. Other suggestions fell in-between. Five respondents suggested 20 to 30 minutes for complex cases.

In Teams 1-5, frequency depended upon complexity, but varied across teams, from 'weekly to 3 monthly' to 'between 3 to 12 months.' Those with longer between reviews tended to spend more time on each review (15 minutes (two)) compared with those who held reviews more frequently (5 minutes (two)).

Multi-disciplinary Input
All respondents from Team A felt that multi-disciplinary clients should receive multi-disciplinary reviews. Two felt that only professionals involved should attend, even if the case was uni-disciplinary. However, six felt there should always be a representative from each profession.

All other teams held representative multi-disciplinary reviews but only two did this for uni-disciplinary clients.

Content
Team members stipulated specific needs for re-assessment. The most frequently mentioned were medical/physical health and medication (6 times). Overall there were four main categories for inclusion in a multi-disciplinary review – history (including diagnosis and/or formulation), demographics, care plan and discussion.

Other teams followed a similar format. Four included keyworker opinions on progress and problems.
Using a Template

Five team members suggested using a template to provide guidance on information to be included, but another felt that this might cause offence, because “One could see it as a way of telling people to do what they do already.”

Of the other teams, two used templates and one was introducing templates. The other two felt their review process needed a more formal structure.

Organisational and Administrative Responsibilities

All respondents from Team A felt the keyworker should be responsible for organising the review and overseeing the administration. Three respondents, including the administrative member of staff suggested that the administrative staff could assist with these responsibilities.

The keyworker held these responsibilities in all other teams. In two teams the administrative staff assisted in sending information to other agencies.

Choosing Who to Review

Four people from Team A suggested that the team could rotate alphabetically through the caseload, giving priority to more complex or urgent cases. One respondent suggested organising reviews up to a year in advance.

Four other teams specified that reviews were prior arranged. Another team, reviewed clients in any empty ‘slots’ by taking clients alphabetically from the caseload. However, inadequate recording led to difficulties with this system.

Chairing the Review

Two members of Team A suggested a chairperson other than the keyworker to maintain structure, because “The keyworker should concentrate on passing on information.” One person suggested that the keyworker could chair the meeting. Four other teams had a rotating chair of between four weeks to six months. The fifth team stated that the chair was a voluntary member.
**Presentation style**

Four Team A members felt that the reviews should be “*presented verbally but prepared beforehand*”

All five other teams presented their reviews verbally.

**Issues which need further clarification**

Clear themes could not be established for three questions. An overview of responses is given below.

**No. of Reviews per Week**

The seven responses from Team A for this question ranged from 1-6 reviews per week (modal response was 3 per week - 4 respondents). Several people suggested restricting factors, such as time.

Other teams varied, from between 2-6 reviews per week. Duration of reviews did not tend to vary in relation to the number of reviews per week.

**Patient Input**

Six respondents felt that ideally the patient should be present, but factors restricted the feasibility of this, e.g. location, finding a suitable time and patient anxiety (especially in a multi-disciplinary forum). Alternative methods of patient involvement were suggested, i.e. “*through discussion, with the keyworker acting on behalf of them and bringing up what their needs are.*” Two people felt that the patient should be invited to the review to “*take part in the decision making*”

Three other teams involved the patients via keyworker discussions before and after the review. One team informed the patient of changes after the review, whilst another did not include them at all.
Minutes and Administration
Respondents felt it was necessary to record reviews. Four people thought minutes should be taken but expressed differing views over who should take them (administrative staff or team member) and whether they should be typed up and sent to other agencies. One person thought it was not necessary to take minutes.

Two people believed that the care plan should be revised and sent to other agencies after the review. Another thought the keyworker should just summarise the review in the clinical notes.

None of the other teams took minutes. Four kept a diary of reviews and one team was about to implement this to avoid repetition and ensure patients remained in the system. In another team the diary was the only administration, but they felt this was ineffective. Other teams completed the CPA forms and three changed the care plan. Two sent information to the GP's.

Additional Questions from Other Teams

Caseload Breakdown
One team kept a formal record of the complexity of their caseload, categorising cases as simple (involving one discipline) and complex (two or more disciplines). Other teams kept no formal records of the number of patients in each category, but used this criteria to determine who to review. Two teams suggested that formal classification of CPA status might aid the review process.

Effectiveness and Satisfaction with Review Procedures
Three teams believed their review procedures were quite effective. Two were quite satisfied with their procedures and one was slightly satisfied. Two teams thought their procedures were quite ineffective and were quite dissatisfied.
DISCUSSION

A Practical Model for Implementing Reviews

From the results of the interviews and literature review, a three-stage model can be suggested to Team A for implementing reviews (Diagram 1).

- Stage 1 ensures the client is included in the review system.
- Stage 2 illustrates the weekly process of review.
- Stage 3 involves the recording and sharing of information after the review.

Although presented as three stages it is a continuous and ongoing process.

Applying the Model – The Need for Clarity in Process

The results of the interviews illustrated some disparity between team members over the aims and process of reviews. Some of these processes are listed in Table 9, with suggestions for discussion based on the interview results. According to the principles of action-research these processes would continue to be monitored, discussed and changed to improve effectiveness.

Table 9: Processes Suggested for Further Discussion

<table>
<thead>
<tr>
<th>Process</th>
<th>Suggestions for Discussion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A system of chairing.</td>
<td>Other teams used a rotating chair, but some members of Team A thought the chairperson should not be presenting keyworkers.</td>
</tr>
<tr>
<td>2. Multi-disciplinary reviews of uni-disciplinary clients.</td>
<td>The lack of agreement across teams on this issue, suggests this could be left to keyworker discretion.</td>
</tr>
<tr>
<td>3. Patient attendance at reviews.</td>
<td>This model proposes the most commonly suggested method of patient input where patients are consulted without attending reviews.</td>
</tr>
<tr>
<td>4. Recording results of reviews.</td>
<td>Formal recording seemed to be the preferred model. The exact method of recording was not determined, but suggestions were made.</td>
</tr>
<tr>
<td>5. Dissemination of information to other agencies.</td>
<td>This was briefly discussed, with some preference shown for sending the care plan to other agencies.</td>
</tr>
</tbody>
</table>
Diagram 1: A 3-stage Review Model

**Stage 1: Following Referral**

1. Referral ➔ Assess case in team meeting ➔ Categorise complexity ➔ Allocate keyworker (k/w) ➔ Enter first review date into diary

   - Level 1
   - Level 3
   - Level 2

**Stage 2: The Process of the Review**

- Keyworker discusses care plan with client
- K/w & admin. staff prepare material using template
- Verbal presentation of material to team
- Discussion and change care plan if necessary
- Where there is more than one review
  - Chairperson checks diary re: next week's reviews. Fills empty slots...
- Set next review date

**Stage 3: After the Review**

- Keyworker discusses results of review with client ➔ Records results of review process ➔ Dissemination of information to other agencies
Interview results did not define duration or frequency of reviews, but indicated that a stratified approach be adopted towards time spent on reviews, i.e. increasing duration and/or frequency according to complexity. Time between initial assessment and first review may vary from the length of time between future reviews.

This model suggests checking the diary one-week in advance, to remind keyworkers of future reviews. The team may wish to extend this time. Identifying future empty review slots allows maximising use of time set aside, especially in the early stages of the system, so clients who are already part of the caseload can be included.

**Main Findings**

This study highlights a lack of clarity and consistency across the teams, about the aims, content and process of reviews. All teams felt they were implementing reviews according to the CPA, but models varied greatly. It could be argued that by identifying common themes across models, this study has identified a preferred model of practice for implementing CMHT reviews in this Trust.

This model meets recommended minimum standards (table 3). By highlighting aspects of reviews about which there was little agreement it provides a framework within which the team can tailor the process to their needs and resources on an ongoing basis. It therefore overcomes criticisms of inflexibility given to previous practice guidelines (Dickinson, 1996).

The capacity of reviews to fulfill several CPA criteria and requests by Teams in this study for more management guidance, suggests that provision of operational guidelines about reviews may be an effective use of Trust resources. Regular central reviewing of such guidelines would not only ensure clarity across the Trust, but also conformity with current government policy.

This study highlighted an area where operational guidelines could be applied— the categorisation of patients. This would help care to be directed to patients who need it
most, especially when resources restrict the application of ideal models (Kingdon, 1991). Most teams applied the terms 'simple' and 'complex' in an informal fashion, so such a system would merely formalise current procedures. These criteria could also be used within organisational audit and research.

**Criticisms of this research**

There are several limitations of this research. It has limited value in its capacity to provide generalisable information, due to the focus on qualitative, rather than quantitative information. A quantitative approach would have provided more generalisable information about issues not investigated within this study (e.g. the impact of caseload and team size on practice). However, the proposed model is not dissimilar to other reported models (i.e. Broughton & Divall, 1994), which suggests that although this study did not aim to provide generalisable guidelines, CMHT's from other Trusts may find parts of the model helpful in determining a model for reviews. A further limit to the generalisability of this study was that the selection of participants was not random. The teams were all selected from the same Trust. For teams 1-5, those interviewed were mainly clinical psychologists. There was no research-based rationale for this selection other than this being the profession of the researcher. This study was carried out by an external researcher. This may have enhanced objectivity in the analysis of results, but formal follow-up will not be possible. Therefore, the practical efficacy of the model will remain open to question.

Finally, the use of action research and content analysis allowed for the study of a complex setting, about which there was little literature from which to draw a theory (Orford, 1995), culminating in recommendations for change. Qualitative methodology enabled issues of importance to the participants to be discussed and included, thus making the model more relevant to their needs. Qualitative research has been criticised for it’s ‘subjective’ element (Good & Watts, 1989), particularly as the researcher makes interpretations and selects the data to be included in the final analysis. A small reliability check was carried out to try to overcome this criticism in this study.
Future Research
Compared to individual disorders, little attention has been paid to the systems within which treatment exists. Future quantitative research could examine the impact of caseload, team size and time spent on reviews (duration, frequency etc) to identify factors affecting effectiveness of CPA review systems. Such research may provide generalisable guidelines for teams working within this system, but may be difficult to carry out due to the current lack of systematisation within organisations.

Conclusion
This study aimed to provide recommendations to aid the development of a structured review system, which would acknowledge difficulties faced by the commissioning CMHT. Methodology was employed to enable a practical model of the review process to be proposed, and areas requiring further discussion were identified. A method of continuing the development of this system has been described (action research), so the team can progressively monitor and adapt the system, to ensure that it reflects their needs for stratification, flexibility and compromise.
REFERENCES


APPENDIXES

Contents:

Appendix A  
Semi-structured Interview Schedule, carried out with members of Team A.

Appendix B  
Structured Questionnaire/ interview schedule, carried out with members of Teams 1-5.

Appendix C  
Research proposal

Appendix D  
Letter Confirming Research was fed Back into Service
APPENDIX A

Semi-Structured Interview Schedule, Carried Out with Members of Team A.

Aim
What do you see as the main aims or point of reviews?

Frequency
With what frequency do you think individual reviews should take place?

Duration
How long do you think each review should be?

No. per week
How many reviews should be carried out every week?

Content
What do you think the content of reviews should be?
Prompt  What sort of items or issues should be covered in the review?

Multidisciplinary Input
How many disciplines need to be involved in each individual’s review?

Clarify  And if only one discipline is involved in the care of the patient?

Patient Input
Should patients be involved in the review procedure?
If so how and to what degree?
If not directly then should they be involved in another, maybe wider part of the process?

Organisation
Where should the review be held?
How should it be decided who is reviewed?
Who should organise the review?
How should the review be structured?
What administration should be involved here?
Should this be prepared beforehand?
How should this be presented?
Who should carry out this administration?

Any other comments/additional information
APPENDIX B
Structured Questionnaire/ Interview Schedule, Carried Out with Members of Teams 1-5.

NAME: ..............................................................

PROFESSION: ............................................... CONTACT NO. ............

TEAM: ........................................................................................................

Please complete the questionnaire in the spaces provided.

No. of Whole time equivalent team members, i.e. 2 Half time members is equal to 1 W.T.E. members. ...........

No of clients on the team caseload: ............

No. of clients  C.P.A. Level 1 ....... (Simple, i.e. only one discipline involved)
2 ...... (Complex, up to two disciplines involved)
3 ...... (Complex, more than two disciplines)

Does your team currently carry out ‘within team’ multidisciplinary Care Programme Approach reviews for clients on the team’s caseload? Yes / No

If Yes Please continue with the questionnaire.

If No, could you please state the reasons that your team does not carry out such reviews?

Aim
What are the main aims or objectives of your teams reviews?

Frequency
How often do reviews take place for individual clients?

Duration
How long does each review last?

No. per week
How many reviews are carried out every week?

Content
What is the content of the reviews?

Structure
How are the reviews structured?
Multidisciplinary Input
How many disciplines are involved in each individual’s review?

How many disciplines take part in the review if only one discipline is involved in the care of the patient?

Patient Input
Are patients involved in the review procedure? Yes / No
If so how and to what degree? (If not directly then are they involved in any part of the wider process? i.e. previous discussion of care plan.)

Organisation
Where is the review held?

How does the team decide or plan who is reviewed?

Who organises the review?

What administration is involved?

Who carries out this administration?

Is this prepared beforehand?

What is the format of the review?

How is information presented? i.e. verbally, on pre-distributed documents.... etc.

Who chairs the review?

Effectiveness
How effectively do you think the reviews achieve the stated aims?

| Very Effective | Quite Effective | Slightly Effective | Quite Ineffective | Very Ineffective |

Satisfaction
How satisfied are you with the process of the reviews?

| Very Satisfied | Quite Satisfied | Slightly Satisfied | Quite Dissatisfied | Very Dissatisfied |

Improvements
How do you feel this review process could be improved?
Other comments / additional information.
APPENDIX C
RESEARCH ON PLACEMENT PROPOSAL

Lorraine Childs
May, 1998

Title: Review Procedures within CMHT’s: Developing a Practical model.

Theoretical Rationale:
Currently the T Community Mental Health Team has no procedures in place for routinely reviewing clients. Reasons for this include lack of a team base and therefore no way of creating/collating multidisciplinary team notes. The current ad hoc method of reviewing client care is not satisfactory and lacks structure, regularity and is difficult to monitor. The team is developing practice within the guidelines recommended by the care programme approach, which requires a more structured review system to be in place, particularly as there are difficulties created by the size of the case load, (350). Full multidisciplinary reviews for all clients twice yearly would be unfeasible. There is little literature which has examined review procedures and little agreement across teams/services.

A need for the model and methods of reviews to be clarified within the team, was identified at a ‘team day.’ Therefore, there is a need for a review system to be developed which can acknowledge these difficulties whilst providing flexibility for prioritization.

Objectives: To propose a model of an efficient and effective system to routinely review clients, incorporating:
- frequency, duration, content and organisation of reviews
- degree of multidisciplinary input for individual reviews
- degree of patient input

Design: Qualitative, using semi-structured interviews within and across teams.

Setting: Community Mental Health Teams, each with case loads of approx. 300-400 clients.

Participants: Members of CMHT’s, encompassing Psychiatrists, Clinical Psychologists, Social workers, C.P.N.’s, O.T.;s, admin and secretarial staff. Interviews include 10 members (all) of the Tooting & Furzedown team, and 1 member from each of 5 other teams within the Pathfinder Trust.

Procedures:
- Literature review, incorporating rationale of case management and care programme approach and effectiveness studies (if I manage to find any! – little luck so far).
- Interviews with team members re: their preferences/ideas and perceived needs/proposed outcomes of reviews.
- Interviews with members of other teams re: their current procedures, identifying objectives, outcome measures and satisfaction with current system.

Main Outcome: To enable a new review model to be devised and implemented.

Statistical Analysis: None. Analysis will be qualitative: To use thematic content analysis to draw opinions and needs of interviewees together in a cohesive and understandable format.

University Supervisor: Signature:
Field Supervisor: Date:
APPENDIX D
Letter Confirming Research was fed Back into Service
LITERATURE REVIEW

“invisible Disabilities:
The Relationship Between Social Anxiety and Hearing Loss.”

August 1999

Year 2
**Invisible Disabilities:**

**The Relationship Between Social Anxiety and Hearing Loss**

**Introduction**

Approximately 1 in 8 of the adult population in Britain experience some form of hearing loss (Davis, 1987). It is therefore likely that a significant percentage of people seen in psychology clinics will have such a loss, suggesting that clinical psychologists need to be aware of psychological disorders that may be prevalent within this population and some of the processes that may contribute to these psychological disorders.

Social anxiety has been described as the ‘desire to convey a particular impression of oneself to others and marked insecurity about one’s ability to do so’ (Clark & Wells, 1995). The loss (or partial loss) of ones hearing during adulthood makes social interaction more difficult (Jeffrey, 1995) and means that new skills must be acquired to aid communication. Hearing loss and its’ accompanying social difficulties have been found to lead to significant emotional distress for the individual and their family (Morgan-Jones, 1998). Although no work has yet been directly carried out to investigate the relationship between social anxiety and hearing loss, it is feasible that hearing loss may lead to an emotional response, which lies along a social anxiety continuum.

The aims of this review are twofold. Firstly, to assess whether there is enough evidence in the psychological literature to support the hypothesis that people with hearing loss are vulnerable to experiencing social anxiety. Secondly, to demonstrate the potential mechanisms which could lead to the maintenance of social anxiety in people with hearing loss. To illustrate this, the cognitive model of social phobia is described and applied to the experience of lipreading, a situation which is often unavoidable for people with hearing loss, but which has the potential for social failure. The literature reviewed is inconclusive, due to the relative infancy of the field. However, findings provide some support for people with hearing loss being
vulnerable to experiencing social anxiety as described by the cognitive model, despite qualitative and quantitative limitations in the research. It is concluded that this may be a rewarding direction for future research, not only in terms of theory, but also to widen the accessibility of psychological treatment of people with a hearing loss, by applying current models of practice to disorders within this population.

There are a number of areas of research not included in this review, due to space limitations. The psychological advances in the fields of tinnitus and vertigo are not described, although there is a growing literature in these areas, which includes research into the prevalence of specific psychological disorders in populations who have disorders of the ears and hearing (see McKenna & Andersson, 1998 and Jakes, 1987 for reviews). Finally, this paper is examining the impact of hearing loss on communication and vulnerability to experiencing social anxiety. Hence, additional consequences of this disability, such as impaired speech production are not examined. It is feasible that findings in this area could also provide support for the theory of increased prevalence of social anxiety in people with hearing loss (see Cowie, Watson, Kerr & Douglas-Cowie (1995) for a brief review).

**Hearing Loss**

Hearing loss can be caused by a number of diverse factors (Irwin, 1987). Populations of people with hearing loss can be differentiated by causal and cultural phenomena. The most basic differentiation is between people whose hearing loss is present when they are born or before they learn they learn to speak (pre-lingual deafness), and those who acquire hearing loss post-lingually. The former are a diverse population, many of whom associate themselves with a Deaf culture and identity, where communication mainly consists of sign language. The latter group acquire hearing loss after they have learnt to communicate using mainly speech and sound. This has implications beyond changes in audiological variables as there is also a possible loss of culture, identity or sense of self. It is this group of individuals with whom this paper is concerned.
Hearing loss can be conductive (outer or middle ear dysfunction) or sensorineural (inner ear/cochlear dysfunction). The most common causes of acquired hearing loss are due to ageing or exposure to loud noises for a long period of time (Katz, 1994). Hearing loss is often described as mild, moderate, severe or profound. Hearing level is measured in decibels (dB) and these descriptions apply to losses of 25, 50, 75 and 100 dB respectively. The majority of hearing loss of 25dB or greater is sensorineural. There are few medical or surgical treatments available for sensorineural loss, although cochlear implants are available for some people. The majority of people who present with such hearing loss are therefore provided with a hearing aid (Jeffrey, 1995).

Hearing disorders of 25dB or greater have been estimated to be prevalent in 16.1% of the population over the age of 18, which is equivalent to nearly 8 million people in the UK (Davis, 1987). The prevalence tends to decrease with severity of loss and increase with age. Hence, there is the potential that 1 in 8 people who enter psychology clinics may have some hearing loss, and this may influence their presenting problems and/or subsequent treatment.

Social Anxiety

The effects of anxiety upon performance have been well documented. Findings suggest that whilst there is an optimum level of anxiety which can enhance performance, too much anxiety can inhibit performance in a diverse variety of tasks (Wilson, 1997; Boohar & Seiler, 1982; Thelwell & Maynard, 1998; Clark, Fox & Schneider, 1998).

Social anxiety has been described as a process, which can inhibit social performance (Clark & Wells, 1995). Within the DSM IV (American Psychiatric Association, 1994), social phobia has been described as consisting of ‘persistent fears of situations involving social interaction or social performance or situations in which there is the potential for scrutiny by others’. This disorder has received increasing attention from researchers since it became a defined category in DSM-III (American Psychiatric Association, 1980).
The prevalence of social phobia is assumed to be underestimated as people who have this disorder are likely to find it hard to seek help (Westenberg, 1998; Edelmann, 1995). There is also disparity in the literature, due to research employing varying diagnostic criteria. Earlier European studies have quoted the prevalence to be between 8-10% (Marks, 1970; Bryant & Trower, 1974), although these studies did not use representative community samples. A recent, larger scale study investigated prevalence within a Canadian community sample (Stein, Walker & Forde, 1994). This study found that 61% of participants reported high social anxiety in at least one of seven social situations, and this prevalence varied depending upon which situations were included in the analysis. The most frequently feared situation was public speaking. However, public speaking phobia has been suggested to be a distinct diagnostic category of social phobia (Westenberg, 1998). Hence, prevalence figures for social phobia and social anxiety may be specific to the diagnostic criteria used within the investigation, creating difficulties in the comparison of findings.

To conceptualise the diagnostic categorisation of social anxiety, for clinical and research purposes, it has been suggested that there is a social anxiety continuum, where prevalence decreases as one proceeds along the continuum. For example, it has been suggested that placing shyness at one end of the continuum and social phobia at the other (with social anxiety somewhere in the middle) would enable the majority of people with social fears to be accurately represented (Edelmann, 1995). This type of conceptualisation is useful for this review, as an individual’s social anxiety may vary across different situations, just as different people’s anxiety levels would vary across similar situations. Hence, such a representation allows a fluidity of definition, without losing the focus of the psychological phenomena under scrutiny.

A Cognitive Model of Social Anxiety

A cognitive model of social phobia has been proposed to enhance understanding of the component processes of social anxiety (Clark & Wells, 1995). This model is illustrated in Figure 1 and discussed below. It proposes that as a result of an interaction of innate behavioural predispositions and previous experiences 'social
phobics develop a set of assumptions about themselves and their social world that make them prone to believe that they are in danger in one or more social situations.

These assumptions are that (1) the individual is liable to behave in a socially inept fashion and that (2) this behaviour will result in a catastrophic loss of face, status and worth. The basis of these assumptions lie in the individual's belief that they must *always* execute a *perfect* social performance, otherwise others will judge them harshly. Such beliefs are given credence by the individual's acceptance of their own lack of worth and value.

**Figure 1. A Cognitive Model of Social Phobia (Clark & Wells, 1995)**

When the social phobic perceives a social situation as dangerous an 'anxiety programme' is automatically activated (figure 1). This programme consists of cognitive, somatic, affective and behavioural changes which have been evolved to protect people from danger (Trower & Gilbert, 1989), but when they are inappropriately activated they can create a vicious circle which maintains and increases anxiety in a number of ways. Firstly, 'somatic and behavioural symptoms... become further sources of perceived danger and anxiety' (i.e. shaking is perceived as a sign of imminent collapse). Secondly, preoccupation with somatic
responses and negative-evaluative thoughts about themselves leaves them with less resources to process social cues, which makes them more vulnerable to perceiving social threat and failure. Thirdly, their ensuing anxious behaviour (i.e. seeming to be less friendly) is likely to ‘elicit less friendly behaviour from others and partly confirm the phobic’s fears’. Finally some behavioural symptoms may increase the occurrence of undesirable and feared physiological responses (i.e. rapid speech can result in hyperventilation, increased heart rate and dizziness).

Clark and Wells (1995) define four processes which contribute to the social phobic's inability to disconfirm their negative beliefs. (1) When they fear negative evaluation, they monitor their own behaviour in detail, leaving less cognitive resources to provide them with information about how the other person really is evaluating them. They then assume that the other person is using the information that they learn about themselves to evaluate them (i.e. they assume the other person can see they are anxious and will evaluate them based on that information). (2) When in a feared situation, social phobics engage in safety behaviours (i.e. avoidance of gaze or little self-disclosure), which are actually counter-productive. For example, a man might keep his arms to his sides in case people notice sweat on his shirt, thus his sweat patches get bigger and he fails to realise that his colleagues would not have paid attention to his armpits anyway. (3) Self-preoccupation through monitoring of one’s performance and safety behaviours can lead to social phobic's behaviour being interpreted as less friendly. This can result in a perpetuating cycle of reserved interaction, providing further evidence for the individuals’ fears. (4) Ruminations before an event can lead to the individual avoiding the event or entering in a state of mind conducive to self-focussed monitoring and failure expectancy. Furthermore, the individual can conduct a ‘post-mortem’ on the event, giving their negative self-perception and anxious feelings prominence, which makes the event seem more negative than it really was. This may be added to previous examples of social failure, thus strengthening the individuals’ belief in their social inadequacy.

A plethora of research is presented to support the various components of this model (Clark & Wells, 1995), and the model has been further reviewed and supported since
(Rapee & Heimberg, 1997). The extent of this research is too vast to review here. However, it is worth noting that whilst many studies have examined social anxiety in real situations, some have used experimental or simulated situations. People who have hearing loss enter every-day social situations with a very real social disadvantage. Hearing loss may prevent an individual from reaching their social potential subjectively and objectively. It is therefore likely that hearing loss could lead to increased awareness of one’s impaired social performance and consequently anxiety. However, no research has been carried out to test this.

**Hearing Loss and Anxiety**

A number of studies have attempted to estimate the prevalence of psychiatric disorders in populations with disorders of the ear and hearing, compared to populations of normally hearing people. Several literature reviews are available which provide excellent discussions of many of these studies and their limitations (Jakes, 1987; Jakes, 1995; McKenna & Andersson, 1998) so the progression of this research base will not be described here. To summarise, many studies have found elevated levels of anxiety and depression in people with hearing loss (although there have been conflicting findings), compared to hearing populations. The severity of psychiatric disorders has tended not to be related to audiological variables. However, research has tended to dichotomize emotional disorders along the lines of psychiatric ‘caseness’ (i.e. depressed or not depressed). This has not facilitated identification of the processes which actually lead to psychological disorders in this population. More recently, studies have used measures of ‘perceived handicap’ (Habib & Hinchcliffe, 1978), which have enabled further understanding of the social consequences of hearing loss (i.e. difficulty in holding conversations). Perceived handicap has also been found to be related to emotional disturbance after hearing loss (Stephens, Lewis, Charny, Farrow & Francis, 1990; Tyler, Baker & Armstrong-Bednall, 1983), particularly anxiety (i.e. Andersson & Green, 1995).

**Hearing Loss and Social Anxiety**

No research has been carried out to assess whether people with hearing loss are more likely to experience social anxiety. However, some findings indicate that losing
ones’ hearing may lead to vulnerability towards this disorder. For example, in a study using an open-ended questionnaire, first-time patients, who had presented for fitting of a hearing aid at an audiology clinic were asked to list in order of importance all the problems that they could think of that had resulted from their hearing loss (Barcham & Stephens, 1980). The first 500 consecutive responses were analysed using a weighting (response-determined) and a frequency allocation. The most commonly reported disabilities were inability to hear TV and radio (48%) and difficulties with general conversation (34%). Only a small proportion described psychological problems. These are defined in table 1.

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Table 1 shows that the incidence of reported psychological problems are quite low in Barcham & Stephens study. This may be because the actual incidence is low, but as the study has no control group this is not possible to confirm. However, it is more likely that this result was an artefact of the assessment tool. Stephens (1980) suggested that open-ended questionnaires might be of limited utility in assessment of psychological consequences because patients may not believe that their emotional difficulties are due to their hearing loss. He suggested that structured questionnaires might be more accurate in assessing psychological consequences. However, to date there has been no follow-up of this study and ‘embarrassment’ in this population has not received further attention.
Embarrassment has been described as a form of social anxiety associated with 'actual social predicaments or transgressions' (Edelmann, 1987). This suggests that people might feel that at times their hearing loss leads them to behave in a socially inept fashion. It would be interesting to ascertain the types of behaviour that people found embarrassing and whether these behaviours were a direct result of hearing loss (i.e. misunderstanding others, or not speaking clearly themselves).

Barcham & Stephens study is limited in its support for the hypothesis that people with hearing loss may be prone to experience social anxiety. Firstly, because of the low reported incidence of psychological problems. Secondly, because understanding that at times one may behave in a socially inept fashion does not necessarily mean that one is afraid of behaving in such a fashion. To provide support for the social anxiety hypothesis one needs to demonstrate that there is an element of fear that such behaviour will be subject to negative evaluation by others.

**Fear of Negative Evaluation in People with Hearing Loss**
Research suggests that people with hearing impairment are viewed negatively by people without hearing loss. For example, people with hearing aids have been rated more negatively than people without hearing aids in experimental situations (Danhauser, Johnson, Kasten & Brimacombe, 1985). Reasons for such prejudiced evaluations have been suggested, including associations of deafness with the term 'dumb' and associations of ageing and hearing loss, resulting in impairment of 'body and mind' (McKenna & Andersson, 1998).

A small study (N=24) which investigated the reasons people attributed to an individual’s difficulty in understanding what was being said, found that hearing loss was hardly volunteered as a reason (Pichora-Fuller & Kirson, 1995). Even though people with hearing loss were included in this study, most reasons that subjects gave for potential comprehension difficulties related to unfavourable psychological states or cognitive abilities of the individual. These findings suggest that people with hearing loss may have very real reasons to feel they are being evaluated negatively by
their audience, which could increase their likelihood of feeling anxious in social situations.

Research also suggests that people with hearing loss are aware of negative evaluation or lack of understanding of their difficulties by the hearing population. For example, in a survey of 120 members of ‘Hearing Concern’ (the British association for people who are hard of hearing) members were asked what they would most like the organisation to focus upon in the future. Of the three most popular actions, two concerned changing the attitudes and educating the hearing public (cf.; Stephens, 1996). Furthermore, negative social experiences caused by lack of empathy or understanding of hearing people is referred to in personal accounts of people with hearing impairments (i.e. Kisor, 1990; Ashley, 1973).

The studies described above and Barcham & Stephens study imply that people may believe that their hearing loss will contribute to (1) socially inept behaviour and (2) harsh judgements from others on the basis of this behaviour. These are two key components of the cognitive model of social anxiety described earlier (Clark & Wells, 1995). A further major principle of this model is the individual’s acceptance of their own lack of worth and value. Research directly testing whether people with hearing loss have a diminished view of their worth has not been carried out. However, the results of one study show that this might be likely.

**Diminished Sense of Personal Worth**

McKenna & Denman (1993) used repertory grids to compare distance from the ‘ideal self’ before hearing loss, before cochlear implant surgery and again after surgery. Repertory grids were used because they were believed to ‘provide a numerical statement of an individual’s perception of him or herself’ and overcome the shortcomings of psychological measures, many of which have not been standardised for a hearing impaired population.

Ten patients who had had cochlear implants for between 1 and 5 years and who were seen consecutively at an audiology clinic took part. They were given a list of
significant people, including themselves at different points in time (past, present, future and 'ideal self'). Using a triadic card-sorting technique, ten bipolar constructs (i.e. confidence, happiness) were elicited for each subject. The main constructs related to hearing loss, social difficulties and sense of personal worth. Using a matrix, subjects then rated each element against each construct. Results were analysed using a computer package.

Eight subjects moved substantially away from their ideal self in the time between losing their hearing and receiving their cochlear implant, nine moved in the direction of their ideal self after the implant. After their implant, people were almost as close to their ideal self as they were before hearing loss. These large improvements in self-perception were not in relation to the relatively small audiological benefits provided by the implant.

McKenna and Denman acknowledge the limitations of this study, namely that it uses a small sample size because of the time-consuming nature of the technique employed and the retrospective nature of the participant’s reports. It also fails to analyse whether the length of time between hearing loss and implant affected clients’ perceptions of the self prior to surgery. For the purposes of this paper it would be useful to know more about the constructs, particularly those which related to a reduced sense of personal worth before surgery. However, it illustrates very clearly that when a person loses some or all of their hearing, their perception of themselves changes, usually for the worse. In terms of the cognitive model of social anxiety, this is likely to lead to the development of basic negative assumptions about the self, which can be activated in difficult social situations.

The research described so far indicates that people who have a hearing loss may be vulnerable to experiencing social anxiety because they may (1) believe they will behave in a socially inept fashion; (2) believe other people may evaluate their social performance negatively; and (3) perceive themselves as having a lowered sense of personal worth. The results of a recent qualitative study also suggest that people with hearing loss may engage in processes, which lead them to be less likely to disconfirm
these negative beliefs. This research was examining the psycho-social stress factors associated with lipreading (Morgan-Jones, 1998).

**Maintenance of Social Anxiety in Lipreading Situations**

Lipreading is a complex cognitive task, which involves making inferences from context, lip-movements and non-verbal communication (Jakes, 1987). It is used by most hearing people in everyday life, but this component of communication is often unnoticed until one experiences a situation where the acoustic signal is degraded (i.e. where there is loud music). For people with a hearing loss, this component of communication is then assumed to be important, as their acoustic signals are permanently degraded (Rosen & Corcoran, 1982).

The cognitive complexity of lipreading and the encroachment of this activity upon cognitive resources have been discussed previously (Cowie et al, 1995). These findings suggest that lipreading reduces the attentional resources available for the actual communication situation. If then further cognitive resources are used for the processing of anxiety related stimuli, the person with a hearing loss will be placed at a distinct disadvantage in a social situation. Research with Deaf signing students has borne out this theory with this population, as increased anxiety has been associated with reduced communication effectiveness (Booth-Butterfield & Booth-Butterfield, 1994).

The potential for lipreading to become a situational cue for anxiety was suggested over a decade ago. The very complexity of lipreading means that it is ‘a task which the individual is likely to fail at on at least some occasions. If the (lipreading) situation becomes a cue for anxiety, then a vicious cycle of anxiety and failure can be set up…..’ (Jakes, 1987). To date this hypothesis has not been investigated, despite observations that research into anxiety and hearing loss would be valuable (McKenna & Andersson, 1998).

Using a focus group of 16 hearing-impaired adults and their partners, Morgan-Jones (1998) found five psychosocial stress factors connected with lipreading. Four of the
five factors related to familial impact, but the most salient factor was stress when encountering strangers. The main concerns relating to this were ability to lipread accurately (or at all), ability to satisfactorily negotiate the social encounter and rejection by the other person.

The adults in this study described a number of things they did to try to cope with the stress of lipreading strangers. Descriptions of their coping strategies relate to the processes in Clark & Wells’ model which prevent disconfirmation of negative beliefs. For example, individuals described how they became more aware of their behaviour and focussed upon ‘making (a) good impression’ (monitoring of ones’ own behaviour). They also used partners to help them cope with social situations (safety behaviours); adopted an attitude of ‘pretence’ or lack of disclosure about their their hearing difficulties (appearing less friendly to others); and spent lengths of time preparing before entering a social situation (pre-event rumination).

If a person’s cognitive resources are divided between the lipreading task and self-monitoring due to social anxiety, they will have fewer cognitive resources with which to pay attention to the message the other person is communicating. Hence, anxiety could inhibit lipreading and communicative performance, which would make the social interaction more difficult and create more anxiety. The long term effects of this could lead to a lack of improvement in lipreading skills, hence maintaining the individual’s anxieties about the lipreading situation.
Clinical Implications

The findings and theories presented in this paper have a number of clinical implications, for both specialist and general clinical psychology practices.

Firstly, it has been demonstrated that people with hearing loss may be vulnerable to experiencing social anxiety and this could affect their rehabilitation, i.e. people with social anxiety may find it harder than those without social anxiety to learn to lipread, thus compounding their difficulties. This suggests that during the assessment process in audiological clinics, it may be useful to identify patients who may experience social anxiety and would therefore be at risk of not achieving their rehabilitative potential. An additional educational, cognitive-behavioural component could then be provided as matter of course for such patients. Such treatment could be provided on a group basis, which would be cost-effective, both in terms of clinical time and in terms of assisting patients to maximise the benefits of the other (often costly) medical and technological components of rehabilitation. Short group, cognitive-behavioural treatments (CBT) have been shown to have sustained improvements with this population (Andersson, Melin, Scott & Lindberg, 1994).

The impact of each component of CBT in such treatment is not known. It is possible that the educational nature of CBT, which makes explicit the mechanisms that can produce adverse emotional states in hearing impairment (Ramsdell, 1970), may be important, although the contribution of this component of the approach has not been independently assessed. Furthermore, the complement of cognitive and behavioural techniques may be especially useful when working with people who are anxious about situations, which involve lipreading. The cognitive components of the model have been found to be far more effective than exposure alone in reducing social anxiety in hearing populations (cf.: Edelmann, 1995). As a lipreading situation could be classed as ‘exposure’ to the feared stimulus, it is likely that cognitive techniques could increase the likelihood and effectiveness of these situations. To effectively implement such a programme, it would be necessary to identify underlying negative beliefs and assist the client in presenting challenges to these, along with
encouragement to drop safety and avoidance behaviours, shifting their attention outwards, rather than inwards.

There are further potential benefits of using CBT to try to minimise anxiety in this population. This model can acknowledge the organic component contributing to anxiety as well as the real social difficulties and stigma that hearing impairment can bring. In acknowledging these difficulties it can help the individual to learn to cope with them.

It is likely that members of this population will be seen in local as well as specialist clinical psychology departments. Hence, CBT could be applied within this setting. There are however, a number of points that clinicians unused to working with this population need to be aware of. These mainly relate to ensuring that the client understands the discussion, through environmental adaptations (i.e. well-lit, little background noise) and communicative techniques (i.e. frequent clarification and summarisation; timetabling more sessions to allow the client to become familiar with lipreading the clinician). Handouts may be particularly useful tools with this population. A number of papers are available to assist clinicians with considerations when working with someone who has a hearing loss (Trybus, 1998; Simmons, Rosenbaum & Sheridan, 1996; Leigh, Corbett, Gutman & Morere, 1996).

Conclusions and Future Research
The evidence presented in this paper suggests that people who have hearing loss may be vulnerable to experiencing social anxiety and this vulnerability may be manifested in difficult social situations, such as lipreading strangers. The processes that could maintain social anxiety have been demonstrated using the cognitive model (Clark & Wells, 1995). However, the majority of the research used to illustrate these theories has been qualitative. This limits the generalisability of findings. Therefore larger scale, quantitative research is necessary to indicate whether these theories are applicable to the wider population of people with hearing loss.
This paper has suggested that the hearing loss may create vulnerability to social anxiety. However, it is possible that this vulnerability could be a pre-morbid characteristic of an individual. Possible psychiatric pre-morbidity has been recorded in the tinnitus literature (Andersson, Melin, Hagnebo, Scott, & Lindberg 1995). Although prospective research would be difficult to do with people who develop hearing loss, it might be possible to carry out prospective research with people who have cochlear implants. If people move more towards their pre-morbid self after implant (McKenna & Denman, 1993), social anxiety may return to pre-morbid levels. One would expect such rates to vary, depending upon level of pre-morbid anxiety.

Treatment implications have been discussed, with reference to the potential contribution that psychologists could make to audiological rehabilitation programmes. A clearer understanding of the mechanisms which could lead to social anxiety in this population could also provide guidance to psychologists who may be referred people with hearing loss, but who have little experience with the particular difficulties this population face.

Despite previous recommendations, further research has not been forthcoming in the area of anxiety disorders of people who have a hearing loss (McKenna & Andersson, 1998). Future research could focus upon whether there is a higher prevalence of social anxiety in this population than in the hearing population and the potential impact of social anxiety on daily life as well as rehabilitation programmes.

Finally, this paper has not included research into anxiety and vertigo or tinnitus. These populations have been found to differ from people with hearing loss alone, on some measures of anxiety (McKenna & Andersson, 1998; Jakes, 1987). It would be interesting to investigate this phenomena further to discover whether there is differential prevalence of different types of anxiety disorders across these populations.
REFERENCES


LARGE-SCALE RESEARCH

"Adults with Acquired Hearing Loss: An Exploratory Study into the Impact of Social Anxiety on Ability to Lipread and to Learn Lipreading."

Research Supervisor: Dr Emma Dunmore

July 2000

Year 3
“O’ my fellow men who do consider me or describe me as unfriendly even misanthropic, how greatly you do wrong me. For you do not know the secret reason why I appear to you to be so. Ever since my childhood my heart and soul have been imbued with the tender feeling of goodwill, but for the last six years I have been afflicted with an incurable complaint which has been made worse by incompetent doctors.”

“Though endowed with a passionate and lively temperament and even fond of the distractions offered by society; I was soon obliged to seclude myself and live in solitude. If at times I decided just to ignore my infirmity, alas! How cruelly I was then driven back by the intensified sad experience of my poor hearing. Yet I could not bring myself to say to people “Speak up, shout for I am deaf.”

“How can I refer to the impairment of a sense that in me should be greater then in others.... so forgive me if you see me withdrawing from the company I used to enjoy.”

“My misfortune pains me doubly as it leads to me being misjudged – for me there can be no relaxation in society, no refined conversations, no mutual confidences. I must live quite alone and may creep into society only as often as sheer necessity demands: I must live like an outcast.... I must confess that I lead a miserable life.”

L.V. Beethoven,
Journal, 1805
ABSTRACT

Aim
This study aimed to explore the relationships between social anxiety and lipreading in a population of adults with acquired hearing impairment. With reference to the cognitive model of social anxiety, the hypotheses related to the possible effects of social anxiety on existing lipreading skills and on ability to improve at lipreading.

Method
A longitudinal pre and post design was used. Adults who attended lipreading classes were assessed on lipreading skills and social anxiety at the beginning of the lipreading programme and 13 weeks into the programme. Results were analysed using SPSS.

Results
There appeared to be a complex relationship between the use of avoidance and the use of safety behaviours on lipreading ability at time 1. Whilst there was no significant change in lipreading ability over time, there was a significant reduction in group means for some aspects of social anxiety.

Conclusions
The relationships between social anxiety and cross-sectional lipreading skills were discussed, based on findings of the study. Reasons for the apparent lack of improvement in lipreading ability were considered, in terms of the limitations of the study, with particular reference to the possible lack of validity of the lipreading test used. Ways in which future research could overcome these limitations were suggested. A number of clinical implications were highlighted, including possibilities for the future role of clinical psychologists with this population.
INTRODUCTION

Up to 7.5 million adults in Great Britain have some degree of hearing loss. This study is concerned with those who have acquired a hearing loss after they have learnt to speak (post-lingual acquired hearing-impairment). This population are culturally and linguistically different to people to have a congenital or pre-lingual hearing loss. The latter number about 50,000 in Britain, they tend to identify with the Deaf culture and their first language is generally Sign Language, not English (Childs, 2000a).

When people acquire a permanent hearing loss, they may undergo audiological assessment and rehabilitation to assist them in finding methods to maximise their communication potential. Research has shown that the most common methods of rehabilitation offered to clients are hearing aids (which are unsuitable for more severe forms of hearing loss) and lipreading (Alpiner, 1982). However, little attention has been paid to the effectiveness of rehabilitation techniques, such as lipreading, despite their frequent use (Andersson, Melin, Lindberg & Scott, 1996), nor has much research been carried out, looking at factors associated with ability to learn to lipread. The need for more research in the area of rehabilitation has recently been stressed in the literature (McKenna & Andersson, 1998).

Lipreading
Lipreading refers to a form of speech perception that is primarily visual, rather than auditory (Bernstein, Demorest & Tucker, 1998). Lipreading is a complex task, which involves making inferences about what is being said from context, lip-movements and non-verbal communication (Jakes, 1987). It is used by most hearing people in everyday life, but this component of communication is often unnoticed until one experiences a situation where the acoustic signal is degraded (i.e. where there is loud music). For people with a hearing loss, this component of communication is then assumed to be important, as their acoustic signals are permanently degraded (Rosen & Corcoran, 1982).
What makes a good lipreader?

There have been investigations into individual characteristics that affect lipreading skill. Earlier studies tended to compare the pre-lingually deaf against hearing people, but often failed to identify whether Sign Language or English was the first language of deaf participants. If Sign Language is the first language of an individual, they may have serious difficulties in communicating in English, whether this is in written or spoken form (Childs, 2000). These difficulties in communication would confound a test, which involved lipreading English. Not surprisingly then, such studies found that deaf people were inferior at lipreading tasks compared to hearing people (Massaro, 1987). However, one cross-sectional study which controlled for the first language of participants (i.e. Sign Language versus English) found that pre-lingually deaf lipreaders were far superior to adults with normal hearing (Bernstein et al, 1998).

Bernstein et al (1998) examined the relationships between individual variables and lipreading ability in a sample of 72 deaf students, aged between 18-41 years. Unfortunately, similar data for a hearing group were not reported. They found that in the deaf sample, people who had used their hearing aid more frequently and more recently were better at lipreading. They suggested that this might be because those who did not use a hearing aid were likely to have recently developed Sign Language and begun to depend more upon Sign Language (the participants were students at Gallaudet University, a further education establishment for Deaf people, where individual's are encouraged to learn and use Sign Language, even if they have previously relied on oral modes of communication). This suggestion was somewhat supported by a finding that use of speech at home and in public was associated with better lipreading scores. They also found that ability to read written language was significantly positively correlated with lipreading ability. No audiological variables (i.e. age of onset or degree of hearing loss) were associated with lipreading ability. With reference to previous research, they concluded that (pre-lingually) deaf individuals, with extensive oral language experience, who read well and communicate using speech are the best lipreaders.
Whilst this information is useful in identifying how to develop lipreading skills in pre-lingually deaf children, it is of limited value to individuals who acquire a hearing impairment. They need to develop lipreading skills to continue to communicate in the mode with which they and those with whom they associate communicate. Contrary to public expectations, those who lose part of or all of their hearing do not spontaneously develop superior lipreading ability (Hygge, Ronnberg, Larsby & Arlinger, 1992).

*What helps people to learn lipreading?*

There is a limited body of research investigating factors that influence ability to learn lipreading. These factors can be broadly categorised into two themes – factors relating to the teaching method and factors relating to the individual. One study has investigated how different teaching methods affect ability to learn lipreading (Binnie & Alpiner, 1969; cf. Alpiner, 1982). This study investigated whether lipreading improvement varied, depending upon whether lipreading classes focused on teaching people to learn consonants and vowels as separate visual characteristics, or whether more was learnt using sentences to illustrate visual formation of sounds. No differences between these different teaching approaches were found. Furthermore, no differences in lipreading improvement were found between either of these groups and a control group, which had received no lipreading training. The authors suggested a number of reasons for this, including small sample size (N=15) and too short a time spent in lipreading training (participants received nine, one-hour sessions). They also suggested that the lipreading test they used (the Utley silent film and word test; Utley, 1946) was too difficult. They concluded by stating that a valid and reliable lipreading measure needed to be developed and individual characteristics that led to successful lipreading needed to be determined (Binnie & Alpiner, 1969; cf. Alpiner, 1982).

Binnie & Alpiner’s (1969) findings of no improvement in lipreading skills were counter to a later study which found that people with a hearing loss who had received lipreading training did improve significantly more than people who had not received lipreading training (Walden, Erdman, Montgomery, Schwartz, & Prosek, 1981). This later study overcame the limitations described in Binnie & Alpiner’s study.
However, the lipreading training given to Walden et al’s participants was part of a wider audiological rehabilitation programme and the researchers were unable to identify whether improvement was due to specific lipreading training or to the benefits of other aspects of the rehabilitation programme. Clearly more work needs to be done on factors that affect improvement in lipreading ability in relation to the method of teaching.

Although there is little research to support the use of one method over another, current methods of teaching appear to have incorporated all aspects of earlier training methods, so they now include education about specific vowel and consonant recognition, as well as sentence and paragraph training. Also, students are encouraged to use further clues to what is being said, including the rhythm and stress of the phrase, contextual information and body language (City Lit, 1999). It would be useful to understand more about the value of each component element of lipreading training in helping people to learn lipreading, but it is likely that these components will significantly interact with the individual characteristics of the students, which will also affect ability to learn. Therefore, as Binnie & Alpiner observed, it is necessary to identify individual characteristics that affect people’s ability to learn lipreading at baseline and/or after training.

Some studies have investigated individual factors that affect ability to learn lipreading. Factors which have been significant include age, with younger people tending to score more highly, and gender with females scoring more highly than males (Dancer, Krain, Thompson, Davis & Glenn, 1994). However, the factor most frequently found to be related to ability to learn lipreading is initial lipreading scores (Crawford, Dancer & Pittenger, 1986; Rosen & Corcoran, 1982). Those who initially score higher tend to improve the most. These studies, which illustrate individual characteristics that appear to impact on people’s ability to learn lipreading are limited in their generalisability across populations as they have used normally hearing participants, small sample sizes and short term (i.e. 1 day) lipreading ‘training’. Also, these studies have not used validated lipreading tests. The researchers have
developed the tests for the purposes of their investigation (although the purpose of Rosen & Corcoran's research was to develop a valid lipreading measure).

The need for researchers to design their own lipreading tests is reflective of the dearth of valid, reliable lipreading tests that can be used within a research context (Dancer, 1999; Demorest & Bernstein, 1992). Within published studies, the main forms of lipreading tests are sentence-lists or lists of phonemes or consonants.

Walden et al (1981) developed a video-tape of 38 sentences, which incorporated 100 keywords. The sentences used material with which the participants were familiar (they were excerpts of drill technique and the population used were hearing-impaired American military personnel). In this study, there was also a consonant recognition test where the same female speaker presented single consonants on video. Participants verbally repeated what they believed the speaker to have said after the presentation of each item.

A more standardised set of sentences that has been used in a number of American studies is the Harris' Revised Central Institute for the Deaf (CID) Everyday Sentences (Harris, Haines, Kelsey & Clack, 1961). This consists of 10 lists of 10 sentences, designed to be a representative sample of colloquial American Speech (Silverman & Hirsh, 1955). Each list contains 50 keywords, which receive a score if correctly identified. Previous studies have video-taped people saying these lists and presented the videos to participants who have repeated what they have understood either verbally (Crawford, Dancer & Pittenger, 1986) or via a written response (Dancer, Krain, Thompson, Davis & Glenn, 1994).

As stated, the CID Everyday Sentences are based on American speech. The vocabulary and syntax of these sentences are different to the vocabulary and syntax of British English, making them unsuitable for the latter population (Rosen & Corcoran, 1982). However, a set of sentence lists has been developed for use with a British English speaking population (Bench & Bamford, 1979). These 21 sentence-lists each contain 16 sentences with 50 keywords. They have been investigated using video-
taped administration to provide consistency across presentations (Rosen & Corcoran, 1982). In their study Rosen & Corcoran presented all sentence lists to participants, who gave a written response. They found that there was a practice effect as more lists were presented, leading them to conclude that practice tests should be administered before scored test lists. Only one other study referred to above had given participants opportunity to practice prior to taking the test (Crawford et al, 1986). The difficulty ratings across the BKB sentences have since been further validated (Foster, Summerfield, Marshall, Palmer, Ball & Rosen, 1993), although the test remains in its original form. Rosen & Corcoran concluded that this was a sufficiently reliable and valid test of lipreading as it could be consistently administered in a form familiar to the majority of people (i.e. on the television); sentences could be matched for difficulty for test-re-test situations; and the sentences themselves were ‘naturalistic sentences with simple vocabulary and language structures’ (Rosen & Corcoran, 1982; p.247).

The use of sentences, rather than individual phonemes or consonants to test lipreading has been shown to lead to greater accuracy in assessing whether there has been any change at the sentence or connected discourse levels (Dancer, Davis & O’Neil, 1987). Furthermore, it has been argued that sentences include prosodic aspects of speech thus providing more face validity than isolated words, but without putting too severe load on the memory, as may happen with units larger than a sentence (Rosen & Corcoran, 1982).

From the limited research to date, it can be suggested that an adequate lipreading measure is one which is sentence-based, but which contains sufficient equivalent lists to enable re-administration. Presentation format needs to be consistent, but for research that takes place outside of the laboratory environment, this needs to be in a format that will enable ease of administration. Hence, video-tape has frequently been used. The test also needs to have cultural and linguistic validity, hence stimulus materials need to have been developed and be presented by native speakers.
This brief review of the literature so far, indicates that future studies investigating factors that predict improvement in lipreading, need to assess a range of demographic and hearing variables and investigate their relationship with baseline lipreading skill and degree of improvement, using a valid lipreading measure and sufficient sample sizes. However, even with improved methodology, it is unlikely that demographic and hearing variables alone would account for all variation in improvement. Acquired hearing-impairment has been repeatedly associated with negative psychological and social consequences (Mahapatra, 1974; Jakes, 1995). To date, no study has examined how these psychological factors interact with ability to learn lipreading, even though psychological phenomena, namely anxiety has been hypothesised to be responsible for increased failure in lipreading tasks (Jakes, 1987).

The Psychological Consequences of Hearing Loss

A review of the literature examining psychological and social consequences of hearing loss reveals that the majority of this work is confounded by the lack of discrimination between the populations of people with an acquired hearing-impairment and those with pre-lingual deafness. It is only recently that studies have been more discriminating in their populations and patterns of findings have begun to emerge.

The levels of general psychological disturbance in 120 people with acquired hearing loss who attended a neuro-otology clinic was found to be 42%, using independent ratings of a psychologist, physician and the 60-item General Health Questionnaire (McKenna, Hallam & Hinchcliffe, 1991; Goldberg, 1978). There was a high degree of agreement between each of these measures. This result is higher than that found by Thomas & Gilhome-Herbst (1980), who used a standardised psychiatric screening inventory (Bedford & Foulds, 1978) in a controlled study of patients at a hearing aid fitting clinic. They found that 19% of their population could be categorised as ‘psychiatically disturbed’ compared to 5% of matched, hearing controls. However, Thomas & Gilhome-Herbst cite a number of reasons for the lower than expected numbers of cases in their study, including refusal by consultants to allow them to contact patients with psychosocial problems and low response rate (48%). Although
there are methodological limitations in both of these studies (e.g. lack of randomised selection of participants) and a lack of discrimination between different types of psychological disturbance, both studies illustrate a need for psychologists to be involved in the rehabilitation of this client group.

A number of studies have examined the prevalence of different types of psychological disorders in populations with acquired hearing-impairment (i.e. Knutson & Lansing, 1990; Andersson & Green, 1995). In a recent literature review of these studies, Livneh & Antonak (1997) differentiated between childhood and adult onset of hearing loss, and concluded that ‘the prevalence of depression, anger and anxiety among persons with adventitious post-lingual deafness is somewhat higher than expected in the general population’ (Livneh & Antonak, 1997. p.282). What was striking about these findings was the lack of association between emotional and audiological variables. For example, studies had failed to find associations between severity of hearing loss and severity of psychological disorders (Livneh & Antonak, 1997).

The findings described so far suggest that acquired hearing loss may be a risk factor for psychological disturbance, but that this risk is mediated by personal, social or environmental variables, not merely audiological variables. It is possible that ability to communicate may be a mediating factor in psychological disturbance. There is some evidence to support this view. In one study of 27 people with acquired hearing loss who were awaiting cochlear implantation, ineffective communication strategies were associated with increased depression, social anxiety and isolation (Knutson & Lansing, 1990). The communication strategies investigated in this study were ‘the respondent’s attempts to maximise communication effectiveness through the use of adaptive and maladaptive verbal and non-verbal strategies’ (Knutson & Lansing, 1990. p. 657), using the Communication Profile for the Hearing Impaired (CPHI-Demorest & Erdman, 1987). Although this study used a small sample size, the mean scores for the subscales of the CPHI were comparable with those used in the development and reliability study for this instrument (N=433; Demorest & Erdman, 1987).
A further study that suggests that ability to communicate is associated with psychological factors was carried out by Hallberg & Carlsson (1991a). They randomly selected 73 participants aged between 40-60, from patient files at an audiology clinic. Sixty-two patients agreed to participate. They used a 0-100 bipolar scale to assess perceived hearing handicap and investigated the relationship between this and two coping strategies that they had identified in a previous qualitative study with different hearing impaired participants (Hallberg & Carlsson, 1991b). The two coping strategies had emerged as contrasting ways of coping with the hearing disability (i.e. people tended to fit into one or the other). The first coping strategy was described as maladaptive behaviour, ‘comprising strategies not intended to increase the hearing ability and characterised by striving to avoid confrontation with others’ (p.328). The second coping strategy was described as ‘constructive and intended to enhance the hearing ability’, comprising strategies ‘to control the social scene’ (p. 328), including dominating the conversation and asking fewer questions. Surprisingly, both strategies were positively associated with perceived hearing handicap. The authors suggested that this complex relationship may be because people who perceive their handicap as insurmountable would avoid social activities. However, people who engage in social situations may also perceive their handicap as large, but for different reasons. For them, increased involvement in everyday life and efforts to limit the disability caused to them, using ‘hearing improving’ pro-active coping strategies actually increases their attention or awareness to the disability (Hallberg & Carlsson, 1991a).

It therefore appears that psychological variables are associated with effectiveness of communication in people with a hearing loss, but that hearing loss itself places people at risk of developing psychological disturbances which can disrupt the communication process. An heuristic model to illustrate these possible processes is illustrated in Figure 1.
To date, no research has been carried out to identify the mechanisms behind these associations. Investigation of these mechanisms could lead to a further understanding of the variation in communication abilities of people with hearing loss. This would be particularly pertinent to lipreading, where little is known about the psychological factors that influence ability to learn. This proposal is not new. Jakes (1987) argued that the cognitive complexity of lipreading means that it is ‘a task which the individual is likely to fail at on at least some occasions. If the (lipreading) situation becomes a cue for anxiety, then a vicious cycle of anxiety and failure can be set up.’ (Jakes, 1987, p. 426). This type of process could explain how anxiety is maintained despite exposure to social situations where one is forced to lipread. To date this hypothesis has not been directly investigated, despite observations that research into anxiety and hearing loss would be valuable (McKenna & Andersson, 1998).

The two studies into communication effectiveness discussed above (Knutson & Lansing, 1990; Hallberg & Carlsson, 1991a) do, however, indicate that social anxiety and avoidance of social situations are involved in lowered communication effectiveness. The current study aims to examine this link further and assess whether social anxiety is associated with people’s ability to lipread and to learn lipreading.
Social Anxiety

The full diagnostic criteria for social phobia are described in appendix 1.1 (American Psychiatric Association, 1994). To summarise, for a diagnosis of social phobia, an individual must have ‘a marked and persistent fear of one or more social performance situations in which the person is exposed to unfamiliar people or possible scrutiny by others’ (p. 416). The person fears that their behaviour will be evaluated negatively by others and exposure to social situations leads to anxiety that the individual recognises to be excessive. The anxiety interferes with the individual’s social functioning to the extent that feared situations may be avoided (APA, 1994).

Clark & Wells (1995) have developed a cognitive model of social anxiety based upon this diagnostic criteria and research into the component processes of social anxiety. This model proposes that as a result of an interaction of innate behavioural predispositions and previous experiences ‘social phobics develop a set of assumptions about themselves and their social world that make them prone to believe that they are in danger in one or more social situations’ (p. 69). These assumptions are that (1) the individual is liable to behave in a socially inept fashion and that (2) this behaviour will result in a catastrophic loss of face, status and worth. The basis of these assumptions lie in the individual's conditional beliefs about how they should behave in a social situation, and what the consequences will be if they fail to achieve these excessively high standards. For example, they may believe that they must always execute a perfect social performance, otherwise others will judge them harshly or reject them. Such beliefs are given credence by the individual's unconditional acceptance of their own lack of worth and value when they are in a social situation (Clark & Wells, 1995).

Figure 2 illustrates the model that Clark & Wells present to describe the processes that are hypothesised to occur when a social phobic enters a feared situation.
According to this model, the social anxiety is maintained because the socially anxious individual engages in a number of processes that prevent disconfirmation of their negative beliefs, including:

- Self-focussed attention
- In-situation safety behaviours and avoidance
- Anxiety-induced performance deficits
- Anticipatory and post-event processing

The authors describe a range of evidence to provide support for the model. Since its initial development it has been reviewed and has been further supported (Rapee & Heimberg, 1997). These four processes are described in more detail below and the impact that each can have on a person’s ability to lipread or improve in lipreading is briefly discussed.
Social Anxiety and Hearing Loss

A recent literature review (see pages 188-210; Childs, 2000b) has discussed the evidence to support the hypothesis that people with hearing loss are vulnerable to experiencing social anxiety. This describes how people who have a hearing loss enter every-day social situations with a very real social disadvantage, which can prevent them from reaching their social potential subjectively and objectively. It is therefore likely that hearing loss could lead to increased awareness of one’s impaired social performance and consequently to the anxiety as described by Clark & Wells’ model.

In Childs’s literature review a range of research is presented, which indicates that people with a hearing loss are vulnerable to anxiety about behaving in a socially inept fashion and being negatively evaluated by others as a result of their behaviour. The literature also indicates that as a result of their hearing loss, individuals may have a diminished sense of personal worth (McKenna & Denman, 1993). These beliefs could be seen to parallel the negative assumptions about social performance and the unconditional beliefs about self-worth which are central to social anxiety in Clark & Wells model. The way in which social anxiety can be maintained is summarised below, with reference to the above four processes that prevent disconfirmation of negative beliefs in lipreading situations.

1. **Self-focussed Attention**

In feared social situations, the socially anxious individual tends to focus their attention on themselves to monitor and observe their own performance (Winton, Clark & Edelmann, 1995). They judge themselves negatively on their own performance and assume that this reflects how other people are judging them. This means that they fail to evaluate what is really happening in the social situation. Crucially, their self-preoccupation and internal focus, create an attentional bias and leave them with fewer cognitive resources to process actual events (Clark & Wells, 1995).
Self-focussed attention may affect an individual's ability to lipread in a number of ways. As a cognitively complex task, lipreading reduces attentional resources available for the actual communication situation (Cowie, Watson, Kerr & Douglas-Cowie, 1995; Ronnberg, Samuelsson & Lyxell, 1998). If further cognitive resources are then diverted to the processing of anxiety related stimuli, the person with a hearing loss will be placed at a distinct disadvantage in a social or communication situation. Furthermore, the impact of the self-focussed attention means that external cues essential for lipreading would be less likely to be picked up. Consequently, the person may be more likely to fail at the lipreading task thus maintaining their anxiety about the social situation.

2. In-situation Safety Behaviours and Avoidance

To try to limit the risk of negative evaluation, individuals who are socially anxious tend to engage in specific safety behaviours. For example, people may hold a glass more tightly to prevent their hand shaking in public. These behaviours prevent disconfirmation of negative beliefs because they neither allow the individual to see that the behaviour they fear will not get worse, nor do they have the opportunity to see that people will not judge them harshly on account of these possible behaviours. Also, these safety behaviours can make feared behaviours more likely, e.g. gripping an object tightly is likely to make a hand-shake worse (Clark & Wells, 1995). Similarly avoidance of social situations due to high levels of social anxiety prevents the person from entering the social situation and finding out that the feared behaviour will not occur or that the consequences of such behaviour are not as awful as they imagine.

Hallberg and Carlsson's study (1991) provides evidence that people with hearing loss engage in both avoidance and in-situation safety behaviours (i.e. dominating the conversation, asking fewer questions) A further study has also demonstrated that people who have a hearing loss often engage in other safety behaviours, such as getting their partner to interpret for them (Morgan-Jones, 1998). The effect of these behaviours on ability to lipread can be hypothesised to be twofold. In the first instance, these behaviours lead to fewer chances to engage in lipreading, thus
preventing disconfirmation of the individual’s negative beliefs about entering lipreading situations. Secondly, these behaviours prevent the individual from practicing their lipreading, thus in reality reducing opportunity to improve. In addition, some safety behaviours may have immediate consequences for the lipreading situation. For example, lowering eye-gaze will mean that vital clues in communication are missed.

3. Anxiety-Induced Performance Deficits
Clark & Wells indicate that some aspects of social performance can be affected by anxiety in a manner that makes socially anxious individuals behave in a less warm and friendly manner. For example, being pre-occupied with one’s own performance, lack of self-disclosure or avoiding eye-gaze. They suggest that these behavioural deficits may make other people less friendly towards them and ‘produce a negative interaction pattern that further contributes to the maintenance’ of social anxiety (Clark & Wells, 1995; p.74).

It has been indicated that some people with hearing loss tend to dominate social situations (Hallberg and Carlsson 1991b). Furthermore, it has also been found that people with a hearing loss may adopt an attitude of pretence or lack of disclosure about their hearing difficulties (Morgan-Jones, 1998). It is possible that these behaviours may be regarded as aversive or unfriendly by other people, which as stated may lead to a response that fuels an individuals’ belief in their inability to perform socially. Certainly research supports the hypothesis that disclosure about one’s hearing impairment leads to significantly more positive appraisals about an individual’s personality (Blood & Blood, 1999).

4. Anticipatory and Postevent Processing
People who are socially anxious frequently spend long lengths of time prior to a social situation reviewing what may happen, taking into account previous failures and possible negative outcomes. This process leads to increased anxiety, which may lead to the person avoiding the situation altogether. If the person does enter the situation, they are likely ‘to already be in a self-focused processing mode, to expect failure and
to be less likely to notice any signs of being accepted by other people’ (Clark & Wells, 1995; p.74). After they have left the event, their anxiety declines, but they are then likely to carry out a detailed review of what happened particularly focusing on what they perceive to be the negative details. This leads to them perceiving this as another instance of social failure, thus strengthening their beliefs in their own inadequacy.

Little research has focussed on whether people with hearing loss are liable to pre or post event ruminations, although one study has indicated that individuals are liable to spend lengths of time preparing before entering a social situation (Morgan-Jones, 1998). However, it is likely that people with hearing loss who are vulnerable to social anxiety may engage in these processes. This as discussed may lead to increased avoidance, or increased anxiety when in the social situation. This would then compound the processes described above, which affect their lipreading.

No research has yet been carried out to directly assess whether social anxiety affects ability to lipread. However, a recent qualitative study, which has been mentioned above, provides some support for the maintaining factors of social anxiety being present in lipreading situations (Morgan-Jones, 1998). This was a small (N=16) qualitative study, which used a focus group to examine psychosocial factors apparent in the lipreading process. It was found that the participants main concerns were ability to lipread accurately (or at all), ability to satisfactorily negotiate the social encounter and rejection by the other person.

The adults in this study described a number of things they did to try to cope with the stress of lipreading strangers. Descriptions of their coping strategies relate to the processes in Clark & Wells’ model which prevent disconfirmation of negative beliefs. For example, individuals described how they became more aware of their behaviour and focussed upon making a good impression (monitoring of one’s own behaviour). They also used partners to help them cope with social situations (safety behaviours); adopted an attitude of pretence or lack of disclosure about their hearing difficulties
(appearing less friendly to others); and spent lengths of time preparing before entering a social situation (pre-event rumination). It is possible that such behaviours, leading to prevention of disconfirmation of their negative beliefs, will maintain a person’s anxiety about the lipreading situation and prevent them from practicing and improving as much as individuals who are not prone to social anxiety.

To test these hypotheses it is necessary to evaluate whether baseline levels of lipreading ability and improvement in lipreading ability over time is associated with levels of social anxiety. To do this a number of component processes of social anxiety must be measured (including fear of negative evaluation, distress in social situations and maladaptive social behaviour) and compared with lipreading ability. To date, no study has addressed this.

Summary
There is little research investigating the psychological factors related to ability to lipread or to learn lipreading, despite the knowledge that hearing impairment is associated with the sort of negative consequences which are likely to impact on acquiring and utilising this complex social skill.

A particularly pertinent psychological condition associated with hearing impairment is social anxiety. A recent cognitive model of social anxiety (Clark & Wells, 1995) proposes mechanisms of the maintenance of social anxiety which might be expected to have a particular impact lipreading ability – in particular avoidance of social situations and self-focus.

The aim of this study is to investigate these associations further, with a group of hearing impaired people who attend lipreading classes.
Aim of Present Study

This study aims to identify whether social anxiety is associated with people’s initial ability to lipread and with improvement in lipreading skills over a period of time, whilst they are attending lipreading classes.

There are two sets of hypotheses in this study, the first pertaining to data recorded at time 1 (cross-sectional) and the second pertaining to data at time 2 (longitudinal).

Time 1 Hypotheses
1.1 Higher initial social anxiety (fear of negative evaluation and social avoidance) will be associated with poorer initial lipreading ability.
1.2 Increased use of safety behaviours will be associated with poorer initial lipreading ability.

Time 2 Hypotheses
2.1 Higher initial social anxiety will be associated with less improvement in lipreading.
2.2 Increased use of safety behaviours will be associated with less improvement in lipreading.
2.3 Improvement in lipreading will be associated with a reduction in social anxiety.

In the process of investigating these main hypotheses, this study also aims to further explore the relationships between social anxiety, hearing loss and lipreading.
METHOD

Design of Study
To examine the main hypotheses, a pre-and-post design was used. All participants were hearing impaired and were attending a year-long lipreading class. At time 1 (the beginning of the first academic term) participants completed a lipreading video-test and a number of measures to assess social anxiety. Other measures to assess state mood, general anxiety, depression and hearing handicap were included for control purposes (see below). Measures were completed again after a period of 13 weeks (time 2). During this time, 10 one-and-a-half hour lipreading classes had taken place. Statistical analysis using the Statistical Package for the Social Sciences (SPSS; Norusis, 1999) was used to examine the relationship between lipreading skills and social anxiety, and between lipreading skills and the other measures.

Participants
To recruit participants, two adult education establishments were contacted, and asked to pass information about the study to lipreading teachers (Appendix 2.1). Three out of a possible eight lipreading teachers responded and agreed to allow the study to be carried out with their classes. Between them these three teachers took fourteen classes (one took 7 classes, one took 6 classes and one took 1 class). When the times and dates of classes were reviewed, it was found that two classes took place at the same time. One of these two classes was taken by the teacher who took only one class. The other class, led by the teacher who took six classes was therefore selected, to maximise consistency of teaching method. The two selected teachers took a total of thirteen classes between them. One of these teachers had normal hearing (teacher 1), and the other teacher (teacher 2) was pre-lingually deaf and had communicated using speech and lipreading all her life.

Ninety people across the 13 lipreading classes were approached to take part at time 1. Of these, seven (8%) were excluded (one did not have English as a first language; two had been severely hearing impaired since early childhood; and four had no hearing impairment – three of these reported attending for recreational purposes and one was accompanying her niece). Ten people (11%) wished to undertake the lipreading test but did not want to complete the questionnaires. Therefore, 63 people
(70% of the original sample: 43 women and 20 men) completed the measures at time 1. Of those who completed the study at time 1, 40 (63%: 30 women and 10 men) also completed the video at time 2. 24 people (38%: 18 women and 6 men) completed the videos and questionnaires at both times 1 and 2. The number of people who completed each stage of the study and the number of people who did not complete the next stage of the study are summarised in figure 3.

**Figure 3:** Flow-chart to demonstrate number of completers at each stage of the study

<table>
<thead>
<tr>
<th>Time 1</th>
<th>n</th>
<th>attrition (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>completers of video</td>
<td>63</td>
<td>23</td>
</tr>
<tr>
<td>and questionnaires</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>completers of video only</td>
<td>40</td>
<td>16</td>
</tr>
<tr>
<td>completers of video</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>and questionnaires</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Of the sample who participated in time 1, 37% failed to complete any part of stage 2. This attrition limits the generalisability of findings as it increases the self-selectivity of the sample. Therefore, inferences drawn from the results are tentative and should be viewed within this context.

**Materials**

*Lipreading Ability*

The Bamford-Kowal-Bench (BKB) video sentence-list tests (Rosen & Corcoran, 1982; Foster, Summerfield, Marshall, Palmer, Ball & Rosen, 1993)

The Bamford-Kowal-Bench (BKB) video sentence-list tests were used to measure lipreading ability (Rosen & Corcoran, 1982; Foster, Summerfield, Marshall, Palmer, Ball & Rosen, 1993). These tests consist of lists of 16 sentences presented in video form, without sound.
Each sentence-list is presented in the following way on the video. Before each sentence is presented, the number of the sentence appears on the screen – this helps to indicate that a new sentence is about to be presented, and participants then know which sentence this will be. A female is then shown from the shoulders upwards. She is wearing a black choker around her throat. After a 5 second pause the lady says the sentence. The screen then goes blank for 20 seconds to allow participants to write down the sentence they have just seen. Then the process is repeated with the next sentence. At the end of each sentence list (i.e. after every 16 sentences) there is a longer pause and the number of the next sentence list is presented on screen.

Participant’s written responses are scored by allocating one mark every time the root of the keyword is correctly reported. For example, if the target sentence was ‘They walked across the grass’, (keywords underlined) then a response of ‘He walks on the grass’ would score 2 out of 4 (correct words bold). The maximum total score for each list is 50. The words for which scores are given are those that are underlined in appendix 2.2.

In total there are 21 sentence-lists, each comprising 16 sentences, in the Bamford-Kowal-Bench (BKB) sentence-lists (Bench & Bamford, 1979). The sentence-lists were developed in 1979, in a study with 263 hearing impaired children, aged 8-15. This ensured that sentences consist of simple everyday language, which is not too complex for the majority of the population. The sentences were first video-taped in 1982 (Rosen & Corcoran, 1982), for use as an audiovisual test of speech reception. Later, the video-recording and normative variables were further developed (Foster, Summerfield, Marshall, Palmer, Ball & Rosen, 1993) with 42 participants aged between 16-60 years, with normal vision and hearing.

Foster et al (1993) carried out a number of reliability checks for different methods of presentation and scoring of the BKB video sentence-lists. They recommended using at least two sentence lists for each condition, and using the scoring criteria described above to get the most reliable results. Validity checks were not carried out on these
video-lists. However, it is reported that the tests have clinical validity as assessment tools in a variety of audiological rehabilitation programmes (Foster et al, 1993).

Two pairs of sentence lists (A, B & C, D) that had been equated for difficulty in previous trials (Foster et al, 1993; Rosen & Corcoran, 1982) were selected for use in this study. In order to build participant’s confidence, a list that these previous studies had found to be easier was chosen for a practice list. The order of presentation for each set of test-lists was counterbalanced across participants in each group – half of the participants received word lists AB at time 1 and then lists C, D at time 2 and half the participants received lists C, D at time 1 and lists A, B at time 2.

This test was chosen because it met the criteria that is needed in a lipreading measure, namely being based on sentences developed by native speakers, with equivalent lists to enable re-administration. It was also available in video-format which enabled ease and consistency of presentation.

Social Anxiety Questionnaires


This self-report questionnaire (appendix 2.3) consists of 30 true/false items - 17 true scoring items and 13 false scoring items (Watson & Friend, 1969). These items relate to whether people fear negative evaluation by others, which is one of the constructs central in the definition of social anxiety. An example of a true scoring item is: ‘I am often afraid that I may look ridiculous or make a fool of myself’.

An example of a false scoring item is:

‘I rarely worry about seeming foolish to others’.

Scores range from 0-30. The higher the score, the greater the person’s fear of negative evaluation. The mean scores in Watson & Friends’ study were 13.97 for males and 16.10 for females. In this study, these figures were rounded-off to 14 and 16 respectively to provide an idea of the percentage of people in this study who scored above the mean of the normative sample.

The scale is brief and easy to complete. It was chosen for a number of reasons:
1. It excludes items about physiological signs of anxiety or impaired performance. Thus responses would not be confounded by audiological symptoms which may be present within this population that could confound other measures (i.e. dizziness).


3. Changes in rating on the FNE have been found to be correlated with long term outcome in the treatment of social phobia (Mattick & Peters, 1988).

4. It has been well validated with a number of other scales. During its development it was found to have convergent validity with a number of anxiety scales (Watson & Friend, 1969). It has also, more recently been correlated with the Social Interaction Self Statement Test (Glass & Furlong, 1990), which evaluates a number of positive and negative thoughts about social situations.


The Social Avoidance and Distress Scale (appendix 2.4) is again a self-report questionnaire, which consists of 28 true/false items (14 true scoring items and 14 false scoring items). An example of a true scoring item is:

'I try to avoid situations which force me to be very sociable.'

An example of a false scoring item is:

'I usually feel calm and comfortable at social occasions.'

This scale was developed in association with the FNE and hence shares the benefits of being resilient to confounds of physiological symptoms, having high test-retest reliability and being well-validated (Watson & Friend, 1969). In this study it was distributed with the FNE as a single questionnaire with 58 questions and a true/false response format.

Scores range from 0-28. Again, the higher the score, the greater the distress and avoidance the individual is likely to display in social situations. The mean scores in Watson & Friends' study were 11.2 for males and 8.2 for females. These figures were rounded-off to 12 and 9 respectively, again to provide an idea of the percentage of people in this study who scored above the mean of the normative sample.
Perception of the Negative Impact of Hearing Impairment in Social Situations

Hearing Attitudes in Rehabilitation Questionnaire – HARQ (Hallam, 1996)

This self-report scale (appendix 2.5.1) is a measure of attitudes to hearing impairment and provision of a hearing aid. It consists of seven factorially derived subscales. Two of these were chosen for use in this study as their contents appeared to assess perception of negative impact of hearing impairment in social situations. These were:

- Perceiving self as distressed/ inadequate in situations of auditory communication (Personal distress and inadequacy – PDI).
  
  e.g. ‘It sometimes depresses me when I can not follow a conversation’
  
  ‘In a conversational group I keep quiet for fear of saying the wrong thing’

- Perceiving self as having reduced social status and perceiving others as having negative attitudes as a result of the hearing impairment (Hearing loss stigma – HLS).
  
  e.g. ‘When you have hearing difficulties other people ignore you.’
  
  ‘I am sure that some people think I am stupid just because I have a hearing loss.’

There are a total of fourteen items in these two subscales. Norms are available for each of the subscales and the manual suggests that it is valid to use the subscales separately. During the development of the HARQ, these two subscales were correlated ($r=0.71, p<0.001$). Hallam (1996), suggested that this could mean that a ‘person who is distressed or feels inadequate because of hearing difficulty is also likely to perceive others as having negative reactions and is unlikely to minimise the degree of hearing impairment’.

The HARQ was developed, based on findings that ‘it is the emotional component of handicap rather than handicap per se’ that distinguishes groups attending rehabilitation programmes from those who do not feel the need to attend such groups (Stephens, Meredith, Callaghan, Hogan & Rayment, 1991). In other words, a measure of hearing handicap assesses the negative attitudes and beliefs towards hearing impairment, that can actually increase the disability caused by the hearing impairment itself (Hallam, 1996).
The HARQ is a self-report questionnaire. For each item the individual circles one of three responses - *True, partly true, not true*. These responses are scored 3,2,1. The score range for the PDI is 9-27 and for the HLS is 5-15. A higher score indicates that the individual holds that attitude more strongly. Appendix 2.5.2 includes the manual’s description of the interpretations of these two factors. Transformations are provided in this manual for interpretative purposes, based on the scores of the normative sample.

The HARQ was chosen for a number of reasons:

1. It contained factorial subscales relevant to the current study.
2. It is easy to administer.
3. It has been standardised on a population (N=140) similar to that in this study - middle-aged to older persons with acquired hearing loss (Hallam, 1996).
4. Each subscale of the questionnaire has a high degree of internal consistency (Cronbach’s alpha: PDI=0.90, HLS=0.76) and test-retest reliability (PDI, r=0.76; HLS, r=0.85; Hallam, 1996).
5. The factorial subscales have convergent validity with a number of other ‘hearing handicap’ scales (Hallam, 1996).

*Use of Safety Behaviours in Social Situations*

**Social Behaviour Questionnaire –SBQ (Mitchell, 1997)**

The Social Behaviour Questionnaire (Appendix 2.6) is a 28 item self-report questionnaire. It asks people how often they carry out particular behaviours when they are anxious in or before a social situation. Items include ‘use alcohol to manage anxiety’, ‘rehearse sentences in your mind’. It uses a response format of *always, often, sometimes* and *never*, which are scored 3, 2, 1, 0 respectively.

Scores range from 0-81. The higher the score, the more a person engages in safety behaviours when in social situations. The aim of these safety behaviours is to prevent feared catastrophes from occurring (Mitchell, 1997). The internal consistency of this questionnaire has been found to be high (alpha = .85; Mitchell, 1997), and items have been associated with negative cognitions when in social situations (Mitchell, 1997). Unfortunately, normative data is not available to provide interpretative information.
General Anxiety and Depression

Hospital Anxiety and Depression Scale – HADS (Zigmund & Snaith, 1983)

The Hospital Anxiety and Depression Scale (Appendix 2.7) is a 14-item, self-report measure, which controls for physical/somatic symptoms which could be mistaken for signs of anxiety and/or depression (Zigmund & Snaith, 1983). This makes it a useful instrument for a population such as the one used in this study, who may suffer from physical illnesses which could confound a questionnaire including physical symptoms to measure emotional states.

The items are divided into two subscales, which measure anxiety and depression ‘in the last week’. The individual rates each item on a four-point severity scale, which is scored from 0-3 or 3-0, depending on the item wording. The item scores delineate the degree of distress: none=0, a little=1, a lot=2, unbearably=3.

An example of an item that measures anxiety is:

**Worrying thoughts go through my mind:**
- A great deal of the time
- A lot of the time
- From time to time, but not too often
- Only occasionally

An example of an item that measures depression is:

**I look forward with enjoyment to things:**
- As much as I ever did
- Rather less than I used to
- Definitely less than I used to
- Hardly at all

Scores for each scale can range from 0-21. When correlated with psychiatric assessments, scores of seven or less were found to be non-cases; scores of 8-10 were considered to be possible cases and scores of 11+ were found to be definite cases.
Carroll, Kathol, Noyes, et al (1993) reviewed previous use of the HADS and recommended that for research purposes a cut-off of 11 was preferable. The reliability of the scale was demonstrated by inter-item correlational procedures during its development. Since then its internal consistency has been reviewed by other researchers and found to be satisfactory (Moorey, Greer, Watson, Gorman, Rowden et al, 1991; Clark & Fallowfield, 1986).

The scale’s validity was assessed by correlating results with psychiatric assessments of individuals. There was a high correlation with psychiatric assessment and with other anxiety and depression scales (Aylard, Gooding, McKenna & Snaith, 1983). The two-factor structure of the scale has also been confirmed, since it’s development (Moorey et al, 1991).

The HADS was chosen for this study because:
1. It does not include somatic items to measure emotional state.
2. It has been well validated on British samples.
3. It is easy to administer and understood by individuals.

State-Mood Rating Scales
Immediately prior to completing the video, participants were asked to rate nervous, happy and sad mood on 0-100 point scales, which increased by increments of 10. 0 was labelled ‘not at all’ and 100 was labelled ‘extremely’. The instructions and format of these scales are illustrated in appendix 2.8. The purpose of these scales was to obtain a self-report measure of each of these three mood dimensions at that moment in the study. The nervous dimension was of particular interest as a measure of state anxiety, to see if this had any effect on people’s ability to lipread the video. The other dimensions were included to make the purpose of the rating scale more opaque.

Demographic and Hearing Variables
A questionnaire which elicited information about demographic and hearing variables was distributed with the other questionnaires at time 1 (appendix 2.9). This included
variables which had been found to be related to lipreading ability and anxiety in previous studies.

Procedure
An ethics proposal was sent to the ‘Ethics Advisory Committee’ of the educational establishment to which the author was affiliated. Following receipt of approval (appendix 2.10) the author carried out a small pilot study (N=5) to see how long it took to complete all measures, and to check for comprehensibility and readability of measures. In this study, the BKB and the questionnaires were administered to five volunteers who had a hearing loss. These volunteers had been recruited from the lipreading class that was not actually used in this study. As a result of this, the written instructions of the questionnaires (appendix 2.11) and the video tests (appendix 2.12) were further developed and the format of the questionnaires was slightly altered to make them more readable. The lipreading teachers were then consulted about the timing of the test and it was agreed that due to time-limitations the questionnaires should be completed by the participants at home.

The lipreading teachers informed students about the study at the beginning of the first term of the academic year. The researcher then visited each class one-week prior to carrying out the study, to introduce herself and to describe the basic rationale and procedure. This information was presented verbally, with main points highlighted on an overhead projector. Students were invited to ask questions about the study, but were not informed of the hypotheses in case this contributed to response-bias. Information sheets and consent-slips (appendix 2.13) were distributed for return the following week.

At time 1, the researcher arrived during the second half of the class and presented a summary of the information given the week before. Consent forms were collected. Those who had not been present the week before were then given these forms to read and complete before deciding whether or not to take part in the study. The class was then divided into small groups of 4-6 for completion of the video. Those who chose not to participate in the study remained with their teacher to continue studying.
To view the video, participants were seated in a small semi-circle about two-metres from the television screen. They were given their response sheets and allowed a few minutes to read the instructions and write their names on the sheets. The researcher explained the procedure for test completion. During this explanation, participants were informed of the scoring procedure for the sentences. It was emphasised that no scores were deducted for incorrect answers and they were encouraged to guess answers if they were unsure. The participants read the instructions and completed the three-item mood scale. Then, a 10-sentence practice-list was presented. This was to enable participants to get used to the video format and the amount of time between sentences that they had to write down what they thought had been said. Then the video was stopped in case of questions. Finally, the two test-sentence lists were presented consecutively, without stopping the video. Answer sheets were collected and participants were given a set of instructions and questionnaires for completion at home. These were returned via a freepost envelope provided.

This procedure followed the same format at Time 2. Participants who had not been present for the first stage were invited to attempt the lipreading test, even though their scores would not contribute towards the study.

Anonymity was ensured by the researcher allocating each participant a code number, and then disposing of the front sheets of both the video and questionnaires. The code enabled data from time 2 to be matched with the participant’s data at time 1.

All participants were sent the results of the lipreading tests in which they had taken part (appendix 2.14) and a de-briefing letter (appendix 2.15), with information about how to contact the researcher if they had any questions or would like to receive a copy of the study after its completion.
**Statistical Analysis**

The data was coded and entered on to an SPSS database for statistical analysis. Analysis took place in several stages. In the first stage, the nine scaled variables (BKB, Lipreading improvement, FNE, SADS, SBQ, PDI, HLS, HadsANX, HadsDEP) were screened. Normal probability plots and measures of skewness and kurtosis were inspected to determine if the variable met recognised criteria for normality. All but three of the variables met these criteria (Lipreading Improvement, HLS, HadsDEP).

After some consideration, it was decided that whilst these three variables violated the assumption of normal distribution, the majority conformed to recognised criteria for normality, hence the data should be analysed using parametric tests. This decision was made because parametric tests are sufficiently robust to be ‘minimally affected by violations of population normality’ (Pagano, 1990. p. 348). Advice was then sought from two independent Statisticians. Both of these confirmed that the data should be analysed using parametric analysis. To be conservative, analysis was repeated on these variables, using non-parametric tests. There were no differences in the significant results gained using this process of analysis, therefore this process is not commented upon further in this study.

Hence, in further analysis, for scaled variables, group comparisons were conducted using a t-test, and Chi² analyses were carried out post hoc on significant results. If a variable contained more than two groups, a one-way analysis of variance was carried out and post-hoc tests were undertaken using the scheffe method. Comparisons for categorical variables were conducted using the Chi² test. If the comparisons were invalid a Fishers Exact Test was employed (test statistic denoted by FI). However, SPSS does not carry out a Fishers Exact test if there are more than 2x2 categories. Therefore a number of categories had to be collapsed to enable a valid comparison to take place. Pearson correlations were carried out to investigate whether relationships existed between scaled variables.
The second stage of analysis involved comparison between the two teacher groups on all variables, to assess whether the student samples differed according to which teacher they had had. In the third stage the relationship between BKB scores at time 1 and the demographic, hearing and psychological variables were investigated to see whether any variables affected lipreading ability at baseline. Hypotheses 1.1 and 1.2 were analysed at this point (Tables 11 and 12). The next stage compared people who had completed the second stage of the study, with those who had not, on all variables to see how these two sets of individuals differed. Finally, analysis was carried out that aimed to find out whether the demographic, hearing or psychological variables affected lipreading improvement over time. Hypotheses 2.1 and 2.2 were investigated at this stage (Table 14). Analyses for hypothesis 2.3 was not carried out due to the small sample size at this stage of the study.
RESULTS

Results at Time 1

Demographic Characteristics
The demographic characteristics of the students are shown in Table 1. Comparisons between the students taught by the two lipreading teachers were calculated and are also displayed in table 1. Sixty-three participants completed the video and at least one of the questionnaire measures at time 1. Approximately half of these attended classes with teacher 1 (49%) and half with teacher 2 (51%). More women than men participated (68% and 32% respectively).

Age categories were collapsed to enable statistical analysis, as few participants were under 45 or over 75 years old. The majority (90%) were over 45 years. Most people were retired (66%). Only two people (3%) were unemployed.

Table 1: Teacher Differences and Demographic Characteristics of the Whole Sample at Time 1.

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>Teacher 1 n (%)</th>
<th>Teacher 2 n (%)</th>
<th>Whole sample n (%)</th>
<th>Test statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>N=63</td>
<td>N=63</td>
<td>N=63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher 1</td>
<td></td>
<td></td>
<td>31 (49)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher 2</td>
<td></td>
<td></td>
<td>32 (51)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>N=63</td>
<td>N=63</td>
<td>43 (68)</td>
<td>Chi² (1, 63) = .39</td>
<td>.530</td>
</tr>
<tr>
<td>Women</td>
<td>20 (32)</td>
<td>23 (37)</td>
<td>23 (37)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>43 (68)</td>
<td>11 (17)</td>
<td>20 (32)</td>
<td>Chi² (1, 63) = .39</td>
<td>.530</td>
</tr>
<tr>
<td>Ages</td>
<td>N=61</td>
<td>N=61</td>
<td>N=61</td>
<td>Chi² (1, 63) = .39</td>
<td>.530</td>
</tr>
<tr>
<td>&lt;45</td>
<td>6 (10)</td>
<td>0 (0)</td>
<td>6 (10)</td>
<td>Chi² (2, 61) = 7.00</td>
<td>.030</td>
</tr>
<tr>
<td>45-64</td>
<td>12 (19.5)</td>
<td>14 (23)</td>
<td>26 (43)</td>
<td>Chi² (2, 61) = 7.00</td>
<td>.030</td>
</tr>
<tr>
<td>&gt;65</td>
<td>12 (19.5)</td>
<td>17 (28)</td>
<td>29 (47)</td>
<td>Chi² (2, 61) = 7.00</td>
<td>.030</td>
</tr>
<tr>
<td>Occupation</td>
<td>N=61</td>
<td>N=61</td>
<td>N=61</td>
<td>Chi² (1, 61) = 4.08</td>
<td>.043</td>
</tr>
<tr>
<td>Retired/ unemployed</td>
<td>17 (28)</td>
<td>25 (41)</td>
<td>42 (69)</td>
<td>Chi² (1, 61) = 4.08</td>
<td>.043</td>
</tr>
<tr>
<td>employed</td>
<td>13 (21)</td>
<td>6 (10)</td>
<td>19 (31)</td>
<td>Chi² (1, 61) = 4.08</td>
<td>.043</td>
</tr>
<tr>
<td>Living status</td>
<td>N=61</td>
<td>N=61</td>
<td>N=61</td>
<td>Chi² (1, 61) = 2.76</td>
<td>.096</td>
</tr>
<tr>
<td>Alone</td>
<td>16 (26)</td>
<td>10 (16)</td>
<td>26 (43)</td>
<td>Chi² (1, 61) = 2.76</td>
<td>.096</td>
</tr>
<tr>
<td>Co-habiting</td>
<td>14 (23)</td>
<td>21 (35)</td>
<td>35 (57)</td>
<td>Chi² (1, 61) = 2.76</td>
<td>.096</td>
</tr>
</tbody>
</table>
In this study, a relatively large number of the sample were older than 65 years. This suggests that the current sample may have been older than a sample used in a previous study (McKenna, Hallam & Hinchcliffe, 1991), where participants who were a consecutive series of patients presenting at an audiology clinic had a mean age of 48 years. This may be because most lipreading classes in the current study took place between 9 o’clock and 5 o’clock, when most younger people would not be able to commit to regular sessions away from work. This factor may also have accounted for there being more females than males, as previous studies using audiology clinic populations have noted there to be slightly more males than females (Hallberg & Carlson, 1991a; Hallam, 1996).

There were two significant differences in the demographic variables of the students between teacher 1 and teacher 2. Participants attending teacher 1’s classes were younger (p<0.030) and less likely to be retired than those of teacher 2 (p<0.043).

**Hearing Variables**

Table 2 summarises the ‘hearing variables’ of the participants in the study. The laterality of hearing loss was relatively evenly distributed, between left-sided weakness, right-sided weakness and equal laterality of loss. There was also a relatively even split, between the numbers of people who had a mild-moderate vs a severe-profound hearing loss. For the majority of participants (85%), the onset of their hearing loss was longer than two years ago. Sixty-one percent of participants used a hearing aid.

Participants were asked if they currently suffered from tinnitus and/or vertigo. Half of the participants self-reported that they had tinnitus and one-quarter reported suffering from vertigo.

Thirty-seven (61%) of the participants had attended lipreading classes before, and additional questions revealed that of these, 10 (17% of the total sample) had attended for one-year previously and 27 (44% of the total sample) had attended for more than one-year.
Table 2: Teacher Differences and Hearing Variables of Participants at Time 1

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>Teacher 1 n (%)</th>
<th>Teacher 2 n (%)</th>
<th>Whole sample n (%)</th>
<th>Test statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laterality of hearing loss</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N=62</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mainly left</td>
<td>8 (13)</td>
<td>9 (15)</td>
<td>17 (27)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mainly right</td>
<td>14 (23)</td>
<td>7 (11)</td>
<td>21 (34)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equally</td>
<td>7 (11)</td>
<td>13 (21)</td>
<td>20 (32)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unsure</td>
<td>2 (3)</td>
<td>2 (3)</td>
<td>4 (7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of Hearing Loss</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N=60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mild-moderate</td>
<td>19 (32)</td>
<td>15 (25)</td>
<td>34 (57)</td>
<td>Chi(^2) (1, 60) = .55</td>
<td>.455</td>
</tr>
<tr>
<td>Severe-profound</td>
<td>12 (20)</td>
<td>14 (23)</td>
<td>26 (43)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Onset of Hearing Loss</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N=60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 2 years ago</td>
<td>2 (3)</td>
<td>7 (11)</td>
<td>9 (15)</td>
<td>FI (1, 61) = .081</td>
<td></td>
</tr>
<tr>
<td>More than 2 years ago</td>
<td>29 (48)</td>
<td>23 (38)</td>
<td>52 (85)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Currently use Hearing Aid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N=62</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>18 (29)</td>
<td>20 (32)</td>
<td>38 (61)</td>
<td>Chi(^2) (1, 62) = .27</td>
<td>.602</td>
</tr>
<tr>
<td>No</td>
<td>13 (21)</td>
<td>11 (18)</td>
<td>24 (39)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presence of Tinnitus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N=62</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has tinnitus</td>
<td>17 (27)</td>
<td>14 (23)</td>
<td>31 (50)</td>
<td>Chi(^2) (1, 62) = .58</td>
<td>.446</td>
</tr>
<tr>
<td>No tinnitus</td>
<td>14 (23)</td>
<td>17 (27)</td>
<td>31 (50)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presence of Vertigo</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N=62</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has Vertigo</td>
<td>8 (13)</td>
<td>8 (13)</td>
<td>16 (26)</td>
<td>Chi(^2) (1, 62) = .00</td>
<td>1.00</td>
</tr>
<tr>
<td>Does not have vertigo</td>
<td>23 (37)</td>
<td>23 (37)</td>
<td>46 (74)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length of time previously</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>attended Lipreading Classes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N=61</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>9 (15)</td>
<td>15 (25)</td>
<td>24 (39)</td>
<td>Chi(^2) (2, 61) = 7.57</td>
<td>.023</td>
</tr>
<tr>
<td>1 year</td>
<td>3 (5)</td>
<td>7 (12)</td>
<td>10 (17)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than 1 year</td>
<td>19 (31)</td>
<td>8 (13)</td>
<td>27 (44)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These results are similar to those of previous studies, where the majority of participants had an onset of hearing loss greater than 2 years and similar percentages of individuals use a hearing-aid and have tinnitus and/or vertigo in addition to their hearing-loss (McKenna et al., 1991; Hallberg & Carlsson, 1991\(^a\)). Heterogeneity of type and severity of hearing loss has also been noted to be a feature of previous studies (Hallberg & Carlsson, 1991\(^b\)).
There were no differences between teacher 1 vs teacher 2 on the hearing variables, apart from whether or not participants had previously attended lipreading classes ($p<.023$). Half of the participants who were attending teacher 2’s classes had never been to lipreading classes before, whereas two-thirds of teachers 1’s students had attended previous lipreading classes for more than one-year.

Results of the Measures

The BKB Video-sentence Lists

At time 1, 37 participants (59%) watched and responded to video list 1 (AB) and 26 participants (41%) watched video list 2 (CD).

Table 3 shows the mean scores and standard deviations of the individual sentence-lists, the video-tests combining each set of sentence-lists (i.e. A+B vs C+D) and the overall mean for the sentence-lists at time 1. Each individual list was scored out of 50, and the combined lists (A+B and B+C) were scored out of 100.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Individual List Scores</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean for List A N= 37</td>
<td>6.3 (5.6)</td>
<td>15.0</td>
<td>14.67 (9.22)</td>
</tr>
<tr>
<td>Mean for List B N= 37</td>
<td>10.5 (7.1)</td>
<td>17.0</td>
<td>16.9 (10.33)</td>
</tr>
<tr>
<td>Mean for List C N= 26</td>
<td>6.6 (6.4)</td>
<td>14.7</td>
<td>14.81 (8.95)</td>
</tr>
<tr>
<td>Mean for List D N= 26</td>
<td>8.6 (6.3)</td>
<td>16.6</td>
<td>16.52 (9.90)</td>
</tr>
<tr>
<td>Mean for test 1 (AB) N= 37</td>
<td>16.7 (12.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean for test 2 (CD) N= 26</td>
<td>15.1 (12.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall mean at time 1 N= 63</td>
<td>16.0 (12.2)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$^A$ Standard deviations not provided in this study.

In order to determine whether the means from the sample used in the study were comparable to scores reported in other studies using the BKB, the means and standard deviations of the scores of each list were compared with the normative data described in previously published work. The scores in the current study were lower than those...
in Rosen & Corcoran (1982) and Foster et al's (1993) work. The latter two studies report comparable results (Foster et al., 1993).

A t-test was carried out to establish whether at time 1 the means for test 1 (AB) differed significantly from the means for test 2 (CD). There was no significant difference ($t(61) = .503, p < .617$), therefore the sample was combined and the overall mean for the BKB tests were used for further analysis.

The overall BKB scores were compared between students attending Teacher 1 vs Teacher 2's classes, using a t-test. The means of these two groups of participants were significantly different ($t = 2.72, df = 53.95^*, p < 0.009$). Participants who attended teacher 1's classes scored more highly than participants attending teacher 2's classes (20.13 (s.d. 13.4) vs 12.16 (s.d. 9.49) respectively).

*according to Levene's test for equality of variance.

State Mood Scores at Time 1
The results of the state-mood measures completed immediately prior to the BKB tests suggested that participants were moderately happy ($N = 61, mean = 60.8$ (s.d. 25.1)), but were somewhat nervous ($N = 61, mean = 28.0$ (s.d. 28.6)). Reports of being sad at this time were infrequent ($N = 59, mean = 13.5$ (s.d. 13.5)).

The ranges for the nervous and happy scales were both 0-100 and scores fell within a normal distribution. However, the range for the sad scale was 0-50 and the distribution was positively skewed, as the majority of scores (44 (75%)) were 0 for this scale.

State mood scores for participants attending classes of teacher 1 vs teacher 2 were compared using t-tests. There were no significant differences between the classes on any of these scores.
Social Anxiety and Other Questionnaire Measures

Table 4 illustrates the means-and standard deviations of the scores achieved on the questionnaire measures.

Table 4: Scores of time 1 questionnaire measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Mean (s.d.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fear of Negative Evaluation N=51</td>
<td>12.6 (5.3)</td>
</tr>
<tr>
<td>Social Avoidance &amp; Distress Scale N=46</td>
<td>15.0 (3.6)</td>
</tr>
<tr>
<td>HARQ – PDI N=61</td>
<td>17.2 (4.8)</td>
</tr>
<tr>
<td>HARQ – HLS N=61</td>
<td>8.0 (2.9)</td>
</tr>
<tr>
<td>Social Behaviour Questionnaire N=57</td>
<td>26.1 (11.2)</td>
</tr>
<tr>
<td>HADS – Anxiety N=61</td>
<td>6.3 (4.4)</td>
</tr>
<tr>
<td>HADS – Depression N=61</td>
<td>3.8 (2.7)</td>
</tr>
</tbody>
</table>

In order to determine whether the means from the sample used in the study were comparable to scores reported in other studies using these measures, the means and standard deviations of the composite scores of each list were compared with the normative data described in previously published work.

The mean of the FNE in the development study, with an undergraduate population (Watson & Friend, 1969) was 15.47 (s.d. 8.62). This is slightly higher than the mean gained in the current study (12.60). Only 19 men and women in the current study (30% of the sample at time 1) scored above the respective gender means (14 and 16) quoted by Watson & Friend in their study. The mean of the SADS in Watson & Friends' study was 9.11 (s.d. 8.01), which was some way below the scores gained in the current study. 44 people (96%) in the current study scored above the respective gender means (12 and 9) quoted by Watson & Friend.

Knutson & Lansing (1990) used the SADS in their study of communication problems and psychological difficulties. The mean with their sample of cochlear implantation candidates (mean age 49 years) was 11.7 (s.d.8.3). Again, this is below that found in the current study.

In the development study for the HARQ, Hallam (1996) provided the ranges of raw scores of the subscales for interpretation purposes. The ranges and frequencies of
scores were compared with those gained in the current study. Ranges of the HLS (perceiving self as having reduced social status due to hearing loss) scale were comparable across both studies. However, in the current study more scores of the PDI (perceiving self as distressed or inadequate) fell within the lower ranges. This may have been because the instrument was standardised on a clinical sample (Hallam, 1996). The ranges and frequencies for both studies are illustrated in table 5.

Table 5: Range and frequencies of the raw scores for PDI and HLS. Comparison of current study with Hallam (1996).

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Range of raw scores (Hallam, 1996)</th>
<th>% of participants falling into each range of scores (Hallam, 1996)</th>
<th>Current study</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDI</td>
<td>Low: 9-12</td>
<td>10%</td>
<td>14 (23%)</td>
</tr>
<tr>
<td>(Distress/ Inadequity)</td>
<td>Low average: 13-16</td>
<td>20%</td>
<td>10 (16%)</td>
</tr>
<tr>
<td></td>
<td>Average: 17-22</td>
<td>37%</td>
<td>28 (46%)</td>
</tr>
<tr>
<td></td>
<td>High average: 23-25</td>
<td>21%</td>
<td>6 (10%)</td>
</tr>
<tr>
<td></td>
<td>High: 26-27</td>
<td>12%</td>
<td>3 (5%)</td>
</tr>
<tr>
<td>HLS</td>
<td>Average: 5-8</td>
<td>74%</td>
<td>41 (67%)</td>
</tr>
<tr>
<td>(Hearing loss stigma)</td>
<td>High average: 9-11</td>
<td>17%</td>
<td>12 (19%)</td>
</tr>
<tr>
<td></td>
<td>High: 12-15</td>
<td>9%</td>
<td>8 (14%)</td>
</tr>
</tbody>
</table>

Dunbar, Ford, Hunt & Der (2000) carried out the HADS with 858 hearing ‘older’ people (aged 58-59). The mean scores for the anxiety and depression subscales in their sample was 7.13 and 3.54 respectively. These scores are similar to those achieved in this study. The author was unable to locate any other studies which have used the HADS with a hearing impaired population. The majority of studies investigating anxiety or depression with this population have used the Beck’s Anxiety (BAI) and/or Depression (BDI) inventories (Beck, Epstein, Brown & Steer, 1988; Beck, Ward, Mendelson, Mock & Erbaugh, 1961). Generally the means for these studies have been reported. For example, in their study of elderly hearing impaired people, Andersson & Green (1995) found that scores on the BAI (M=6.9, s.d.=5.8) were lower than scores gained in a study with younger, hearing participants drawn from a non-clinical sample (Mean=9.4, s.d.=7.2; Reynolds & Salkovskis, 1991). One study reported that 11% of an elderly hearing impaired sample scored above the cut-off for pervasive depression on the BDI (Gilhome Herbst & Humphrey, 1980). Using the HADS, the current study found that no participants achieved above the cut-off for
depression. Scores for the SBQ are not compared to previous studies, because as stated on page 238 normative data is not available to provide interpretative information.

Scores of the standardised questionnaire measures were compared between students attending the classes of teacher 1 and those of teacher 2. As table 6 shows, there were no significant differences between the two classes on any of these measures.

**Table 6: Comparison of participants of teacher 1 vs teacher 2’s standardised-measures scores.**

<table>
<thead>
<tr>
<th>Questionnaire Completion at Time 1</th>
<th>Teacher 1 Mean (s.d)</th>
<th>Teacher 2 Mean (s.d)</th>
<th>Test Statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fear of Negative Evaluation</td>
<td>13.23 (4.97)</td>
<td>11.96 (5.56)</td>
<td>t (49) = .86</td>
<td>.394</td>
</tr>
<tr>
<td>N=51</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Avoidance &amp; Distress Scale</td>
<td>15.50 (2.60)</td>
<td>14.54 (4.42)</td>
<td>t (44) = .90</td>
<td>.373</td>
</tr>
<tr>
<td>N=46</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HARQ – PDI</td>
<td>17.48 (4.68)</td>
<td>16.97 (4.95)</td>
<td>t (59) = .42</td>
<td>.677</td>
</tr>
<tr>
<td>N=61</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HARQ – HLS</td>
<td>7.74 (2.66)</td>
<td>8.30 (3.17)</td>
<td>t (59) = -.75</td>
<td>.459</td>
</tr>
<tr>
<td>Social Behaviour Questionnaire</td>
<td>25.65 (10.85)</td>
<td>26.50 (11.81)</td>
<td>t (55) = -.28</td>
<td>.779</td>
</tr>
<tr>
<td>N=57</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HADS – Anxiety</td>
<td>6.58 (4.58)</td>
<td>6.03 (4.24)</td>
<td>t (59) = .48</td>
<td>.630</td>
</tr>
<tr>
<td>N=61</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HADS – Depression</td>
<td>3.29 (2.77)</td>
<td>4.23 (2.66)</td>
<td>t (59) = -1.35</td>
<td>.181</td>
</tr>
</tbody>
</table>

**Reliability of the BKB and Questionnaire Measures**

Cronbach’s Alpha analyses were carried out to assess the reliability of the BKB and questionnaire measures. Table 7 provides the results of these analyses.

**Table 7: Reliability of the Scaled Measures Using Cronbachs Alpha**

<table>
<thead>
<tr>
<th>Scaled Measure</th>
<th>N</th>
<th>No. of Items</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>BKB List A</td>
<td>37</td>
<td>16</td>
<td>.771</td>
</tr>
<tr>
<td>BKB List B</td>
<td>37</td>
<td>16</td>
<td>.770</td>
</tr>
<tr>
<td>BKB List C</td>
<td>26</td>
<td>16</td>
<td>.815</td>
</tr>
<tr>
<td>BKB List D</td>
<td>26</td>
<td>16</td>
<td>.798</td>
</tr>
<tr>
<td>Fear of Negative Evaluation</td>
<td>51</td>
<td>30</td>
<td>.771</td>
</tr>
<tr>
<td>Social Avoidance &amp; Distress Scale</td>
<td>46</td>
<td>28</td>
<td>.565</td>
</tr>
<tr>
<td>HARQ – PDI</td>
<td>61</td>
<td>9</td>
<td>.891</td>
</tr>
<tr>
<td>HARQ – HLS</td>
<td>61</td>
<td>5</td>
<td>.867</td>
</tr>
<tr>
<td>Social Behaviour Questionnaire</td>
<td>57</td>
<td>28</td>
<td>.871</td>
</tr>
<tr>
<td>HADS – Anxiety</td>
<td>61</td>
<td>7</td>
<td>.862</td>
</tr>
<tr>
<td>HADS – Depression</td>
<td>61</td>
<td>7</td>
<td>.711</td>
</tr>
</tbody>
</table>
Most measures had an alpha coefficient of above .7, thus demonstrating adequate reliability for use in this study. However, the SADS achieved an alpha coefficient of only .565. Thus, this instrument does not demonstrate adequate reliability with this population and inferences drawn from findings with this instrument must be viewed with caution.

**Relationships Between BKB scores at time 1 and other measures**

Relationship between the BKB scores and demographic variables

T-tests and one-way ANOVA's were conducted to determine whether there were any significant relationships between BKB scores at time 1 and the demographic variables. The results of these analyses are illustrated in table 8.

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>Mean BKB score (sd)</th>
<th>Test Statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>43</td>
<td>17.6 (12.1)</td>
<td>t(61) = -1.43</td>
<td>.159</td>
</tr>
<tr>
<td>Men</td>
<td>20</td>
<td>12.9 (12.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;45</td>
<td>6</td>
<td>34.5 (10.0)a</td>
<td>F(2, 58) = 10.79</td>
<td>.000</td>
</tr>
<tr>
<td>45 - 65</td>
<td>26</td>
<td>15.6 (10.5)b</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over 65</td>
<td>29</td>
<td>12.3 (10.9)b</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retired/ unemployed</td>
<td>42</td>
<td>13.6 (10.7)</td>
<td>t(59) = -1.93</td>
<td>.058</td>
</tr>
<tr>
<td>employed</td>
<td>19</td>
<td>19.8 (13.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alone</td>
<td>26</td>
<td>13.9 (12.0)</td>
<td>t(59) = -1.08</td>
<td>.283</td>
</tr>
<tr>
<td>Co-habiting</td>
<td>35</td>
<td>17.4 (12.5)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: means with different superscripts differ significantly

A significant effect was found for age. Post hoc scheffe tests revealed that participants under 45 performed significantly better than those aged between 45 and 65 (p<0.000) and better than those over 65 (p<0.001). There was no significant difference between the latter two groups. There was also a trend towards those who were employed scoring more highly than those who were retired/unemployed (p<0.058). This is likely to have been because employed people were younger than
retired people. A Fishers exact test was conducted to examine the relationship between these two variables, using the collapsed age categories of under and over 65. This analysis showed there to be a significant relationship between age and employment ($F(1, 61), p<0.000$). No-one over 65 was employed.

Relationship between the BKB scores and hearing variables

T-tests and one-way ANOVA's were carried out to determine whether there were any significant relationships between the BKB scores at time 1 and the hearing variables. The results of these analyses are illustrated in table 9.

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>Mean BKB scores (sd)</th>
<th>Statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laterality of Hearing Loss</td>
<td>N=62</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mainly left</td>
<td>17</td>
<td>11.0 (8.9)$^a$</td>
<td>$F(2, 55)= 5.69$</td>
<td>.006</td>
</tr>
<tr>
<td>Mainly right</td>
<td>21</td>
<td>22.9 (12.4)$^b$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equally</td>
<td>20</td>
<td>13.9 (12.3)$^{ab}$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of Hearing Loss</td>
<td>N= 60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mild-moderate</td>
<td>34</td>
<td>14.5 (11.4)</td>
<td>$t(58) = -1.195$</td>
<td>.237</td>
</tr>
<tr>
<td>Severe-profound</td>
<td>26</td>
<td>18.3 (13.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Onset of Hearing Loss</td>
<td>N= 61</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 2 years ago</td>
<td>9</td>
<td>11.1 (6.7)</td>
<td>$t(19.9) = -2.103$</td>
<td>.048</td>
</tr>
<tr>
<td>More than 2 years ago</td>
<td>52</td>
<td>17.1 (12.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Currently use Hearing Aid</td>
<td>N= 62</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>38</td>
<td>16.4 (12.4)</td>
<td>$t(60) = .391$</td>
<td>.697</td>
</tr>
<tr>
<td>No</td>
<td>24</td>
<td>15.2 (12.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presence of Tinnitus</td>
<td>N= 62</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has tinnitus</td>
<td>31</td>
<td>18.2 (14.1)</td>
<td>$t (53.2) = 1.471$</td>
<td>.147</td>
</tr>
<tr>
<td>No tinnitus</td>
<td>31</td>
<td>13.7 (9.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presence of Vertigo</td>
<td>N= 62</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has Vertigo</td>
<td>16</td>
<td>18.4 (13.0)</td>
<td>$t (60) = .927$</td>
<td>.358</td>
</tr>
<tr>
<td>Does not have vertigo</td>
<td>46</td>
<td>15.1 (12.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Previously attended Lipreading Classes</td>
<td>N= 61</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>37</td>
<td>15.6 (12.8)</td>
<td>$t (59) = -.185$</td>
<td>.854</td>
</tr>
<tr>
<td>No</td>
<td>24</td>
<td>16.2 (11.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length of time previously attended Lipreading Classes</td>
<td>N= 61</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 year</td>
<td>10</td>
<td>10.6 (6.7)</td>
<td>$F (2, 58) = 1.147$</td>
<td>.325</td>
</tr>
<tr>
<td>More than 1 year</td>
<td>27</td>
<td>17.4 (14.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>24</td>
<td>16.2 (11.7)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Means with superscripts differ significantly
Two significant results emerged from this analysis. There was a significant relationship between laterality of hearing loss and BKB scores ($p<0.006$). A post hoc Scheffé test revealed that people who had predominantly right ear hearing loss scored significantly higher than those who had predominantly left ear hearing loss ($p<0.010$). There were no differences between the other two groups.

Post hoc Chi$^2$ analyses were carried out to explore any relationships between laterality of hearing loss and other variables. There was a significant relationship between age and laterality. Those with predominantly left ear hearing loss tended to be over 65 and those with right ear hearing loss tended to be younger than 65 ($F(1, 60), p<0.035$).

Table 9 also illustrates a significant relationship between time since onset of hearing loss and BKB score ($p<0.48$), with those who had hearing loss starting more than two years ago performing better.

**State Mood Scores**

Pearson correlations were carried out to assess whether there was any relationship between the state mood scales at time 1 and the BKB scores. There were no significant relationships between BKB and state scores. Similarly, there were no significant relationships between state mood scores at time 2 and BKB scores at time 2. The table of results is contained in appendix 3.1.
Social Anxiety and Other Questionnaire Measures

Pearson correlations were carried out to assess whether there were any relationships at time 1 between BKB scores and the social anxiety and other questionnaire measures. The results of these analyses are illustrated in table 11.

Two significant relationships were found. There was a significant relationship between scores on the Social Behaviour Questionnaire and BKB scores (r=0.261, p<0.049). This indicates a positive association between use of safety behaviours and lipreading skills. There was also a significant relationship between scores on the Anxiety factor on the HADS and BKB (r=0.300, p<0.019). This indicates a positive association between general anxiety and lipreading skills. Lipreading scores were not significantly associated with any of the other psychological measures.
Percentile Differences

A second way to examine relationships between BKB scores and the results of the social anxiety and other questionnaire measures at time 1 was investigated by examining the data in terms of quartiles. This method of comparison has been previously employed in studies of social anxiety (Winton, Clark & Edelmann, 1995). Those that scored on or below the 1st quartile of each questionnaire measure were compared with those that scored on or above the fourth quartile. The first and fourth quartiles on each measure were significantly different from each other at the 0.01 significance level (appendix 3.2). Scores on the BKB at time 1 were then compared using these quartiles. Results are provided in Table 10.

Table 10: Comparing quartile scores of the Questionnaire Measures with BKB time 1 scores

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Mean of BKB 1 (s.d.)</th>
<th>statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FNE 1st Quartile</td>
<td>16.25 (12.52)</td>
<td>t (20) = -0.51</td>
<td>.618</td>
</tr>
<tr>
<td>4th quartile</td>
<td>19.20 (14.80)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SADS 1st Quartile</td>
<td>25.67 (12.93)</td>
<td>t (17) = 2.02</td>
<td>.059</td>
</tr>
<tr>
<td>4th quartile</td>
<td>13.90 (12.40)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDI 1st Quartile</td>
<td>14.86 (12.35)</td>
<td>t (25) = -1.30</td>
<td>.206</td>
</tr>
<tr>
<td>4th quartile</td>
<td>20.85 (11.56)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HLS 1st Quartile</td>
<td>16.00 (14.88)</td>
<td>t (21) = .369</td>
<td>.716</td>
</tr>
<tr>
<td>4th quartile</td>
<td>14.00 (11.00)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SBQ 1st Quartile</td>
<td>8.31 (6.79)</td>
<td>t (21.06) = -3.48</td>
<td>.002</td>
</tr>
<tr>
<td>4th quartile</td>
<td>21.07 (11.76)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety 1st Quartile</td>
<td>13.58 (12.72)</td>
<td>t (23) = -1.729</td>
<td>.097</td>
</tr>
<tr>
<td>4th quartile</td>
<td>22.39 (12.71)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression 1st Quartile</td>
<td>16.18 (10.56)</td>
<td>t (23) = 0.084</td>
<td>.934</td>
</tr>
<tr>
<td>4th quartile</td>
<td>15.79 (12.63)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There was one significant result in this analysis. People who scored highly (in the fourth quartile) on the SBQ gained significantly higher scores on the BKB at time 1 than those who scored within the first quartile on the SBQ. Hence, people who engage in more safety behaviours tended to score more highly in lipreading. There was also a trend, where people who scored within the first quartile of the SADS scored more highly on the BKB than people who got high scores on the SADS. Hence, people who were less socially avoidant tended to do better at the lipreading test than people who were more socially avoidant. These results are however, based on small sample sizes so must be viewed with caution.
Table 11: Intercorrelation of measures at time 1

<table>
<thead>
<tr>
<th></th>
<th>BKB</th>
<th>FNE</th>
<th>SADS</th>
<th>PDI</th>
<th>HLS</th>
<th>SBQ</th>
<th>HADS-ANX</th>
<th>HADS-DEP</th>
</tr>
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<tbody>
<tr>
<td>BKB:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>r=</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>N</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FNE:</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>r=</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.364</td>
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<td></td>
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<tr>
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<td></td>
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<td></td>
</tr>
<tr>
<td>r=</td>
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<td>.273</td>
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<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.169</td>
<td>.066</td>
<td></td>
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<td></td>
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<td>46</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>PDI:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>r=</td>
<td>.143</td>
<td>**.475</td>
<td>*.375</td>
<td>1.000</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.273</td>
<td>.000</td>
<td>.010</td>
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<td>46</td>
<td>61</td>
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<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>r=</td>
<td>-.076</td>
<td>*.328</td>
<td>.203</td>
<td>**.694</td>
<td>1.000</td>
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<td>Sig. (2-tailed)</td>
<td></td>
<td>.560</td>
<td>.020</td>
<td>.177</td>
<td>.000</td>
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<td>46</td>
<td>61</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>r=</td>
<td>*.261</td>
<td>**.465</td>
<td>**.415</td>
<td>**.729</td>
<td>*.318</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.049</td>
<td>.001</td>
<td>.004</td>
<td>.000</td>
<td>.018</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>57</td>
<td>50</td>
<td>46</td>
<td>55</td>
<td>55</td>
<td>57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HADS-ANX:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>r=</td>
<td>*.300</td>
<td>**.573</td>
<td>-.007</td>
<td>**.470</td>
<td>*.287</td>
<td>**.554</td>
<td>1.000</td>
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</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.019</td>
<td>.000</td>
<td>.965</td>
<td>.000</td>
<td>.027</td>
<td>.000</td>
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</tr>
<tr>
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<td>61</td>
<td>50</td>
<td>45</td>
<td>59</td>
<td>59</td>
<td>56</td>
<td>61</td>
<td></td>
</tr>
<tr>
<td>HADS-DEP:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>r=</td>
<td>.046</td>
<td>**.454</td>
<td>.132</td>
<td>**.599</td>
<td>**.546</td>
<td>**.411</td>
<td>**.562</td>
<td>1.000</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.725</td>
<td>.001</td>
<td>.388</td>
<td>.000</td>
<td>.000</td>
<td>.002</td>
<td>.000</td>
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<td>45</td>
<td>59</td>
<td>59</td>
<td>56</td>
<td>61</td>
<td>61</td>
</tr>
</tbody>
</table>

*correlation is significant at the 0.05 level (2-tailed).

** correlation is significant at the 0.01 level (2-tailed).

Table 11 shows that there was a high degree of intercorrelation between the questionnaire measures at time 1. All of the significant correlations were positive. Surprisingly, the correlation between the FNE and SADS failed to reach significance. This may have been because of the tendency for people to score very highly on the SADS. The SBQ correlated with both the FNE and the SADS. The PDI (perception...
of self as inadequate in auditory situations) correlated with all measures of social anxiety and general anxiety and depression. Hearing loss stigma (HLS) was associated with all but one measure of social anxiety (SADS).

**Change in Lipreading Scores over time**

**Completers vs non-completers**

Before analyses were carried out to see if there were relationships between change over time on the BKB and other variables, it was necessary to find out whether there were any differences between those who had completed the second video test and those who had not. To do this, Chi² analyses were carried out on the demographic and hearing variables. T-tests were carried out on the state scores, questionnaires and BKB scores. Appendix 3.3 illustrates the results of these analyses.

The completers and non-completers significantly differed on only one demographic variable. Those who lived alone were significantly more likely to complete the study than those who lived with a partner or spouse (Chi² = 6.584, df = 1, 61, p<0.010). There were no significant differences across any of the hearing variables.

There were no significant differences between completers and non-completers on Time 1 BKB or state scores. However, one significant difference and one trend were apparent on the questionnaire measures. Completers scored significantly higher on the Social Behaviour Questionnaire than non-completers (t= -2.265, df= 55, p<0.027). There was also a trend on the Social Avoidance and Distress Scale for completers to score more highly than non-completers (t= -1.930, df=44, p<0.060).
BKB scores at time 1 and time 2

A paired sample t-test (N=40) was carried out to ascertain whether there was any significant improvement in BKB scores from time 1 (Mean=16.78, s.d.=11.43) to time 2 (Mean=17.70, s.d.=11.83). There was no significant difference between scores on the BKB at time 1 or time 2 (t=-1.029, df=39, p< .310). This indicates that there was no significant improvement over time on group scores.

As previous studies had found lipreading improvement to be related to pre-test scores (Rosen & Corcoran, 1982; Dancer et al, 1994) a post hoc correlation was carried out between the scores at time 1 and lipreading improvement. This was not significant (r=.177, p<.274). This indicated that there was no relationship between scores at time 1 and lipreading improvement.

Order of test

A score for 'lipreading improvement'2 was gained by subtracting individuals BKB scores at time 1 from their scores at time 2. A t-test was carried out to examine whether there was any effect of test order on change in lipreading scores. This indicated a trend, where those who took test 2 first (CD), and test 1 second (AB) were more likely to have a higher lipreading improvement score than those who took test 1 first (t=-.20, df= 18.4*, p<0.056).

*according to Levene’s test for equality of variance.

Post-hoc paired sample t-tests were then carried out to investigate whether significant lipreading improvement was gained, depending upon whether people took AB first or CD first. Neither group achieved significant improvement (AB: t=.86, df=24, p>.401: CD: t=-1.85, df=14, p>.085).

---

2 The term 'lipreading improvement' is used tentatively as the t-test had revealed that there was no improvement in lipreading over time. However, as the hypotheses related to 'lipreading improvement' this term will continued to be used to provide consistency within this report.
Relationships between lipreading improvement score and demographic variables

T-tests and ANOVA’s were conducted to determine whether there were any significant relationships between the demographic variables and lipreading improvement scores. The results of these analyses are illustrated in table 12.

Table 12: Relationships between demographic variables and lipreading improvement scores

<table>
<thead>
<tr>
<th>Variable</th>
<th>N (N=40)</th>
<th>Lip-reading improvement Mean (sd)</th>
<th>Statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher 1</td>
<td>22</td>
<td>1.31 (6.6)</td>
<td>t(38)= .479</td>
<td>.635</td>
</tr>
<tr>
<td>Teacher 2</td>
<td>18</td>
<td>0.44 (4.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>30</td>
<td>-0.60 (3.4)</td>
<td>t(38)= -979</td>
<td>.334</td>
</tr>
<tr>
<td>Men</td>
<td>10</td>
<td>1.43 (6.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;45</td>
<td>3</td>
<td>2.33 (13.6)</td>
<td>F(2, 36) = 1.499</td>
<td>.237</td>
</tr>
<tr>
<td>45 - 65</td>
<td>20</td>
<td>2.40 (5.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over 65</td>
<td>16</td>
<td>-0.75 (3.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retired/ unemployed</td>
<td>25</td>
<td>0.36 (4.7)</td>
<td>t(37)= -1.100</td>
<td>.278</td>
</tr>
<tr>
<td>employed</td>
<td>14</td>
<td>2.43 (7.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alone</td>
<td>21</td>
<td>-0.43 (3.9)</td>
<td>t(36)= 1.576</td>
<td>.125</td>
</tr>
<tr>
<td>Co-habiting</td>
<td>17</td>
<td>2.23 (6.4)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There were no significant relationships between the lipreading improvement scores and the demographic variables.
Relationships between lipreading improvement scores and hearing variables

T-tests and one-way ANOVA’s were conducted to determine whether there were any significant relationships between lipreading improvement scores and the hearing variables. The results of these analyses are shown in table 13.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N (N=40)</th>
<th>Lip-reading improvement Mean (sd)</th>
<th>Statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latersality of Hearing Loss</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mainly left</td>
<td>9</td>
<td>1.77 (5.9)</td>
<td>F(3, 35) = .137</td>
<td>.938</td>
</tr>
<tr>
<td>Mainly right</td>
<td>16</td>
<td>1.19 (5.4)</td>
<td>t(36) = .873</td>
<td>.389</td>
</tr>
<tr>
<td>Equally</td>
<td>11</td>
<td>0.91 (6.9)</td>
<td>t(37) = 0.003</td>
<td>.998</td>
</tr>
<tr>
<td>Unsure</td>
<td>3</td>
<td>-0.67 (1.5)</td>
<td>t(21.84) = .393</td>
<td>.698</td>
</tr>
<tr>
<td>Degree of Hearing Loss</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mild-moderate</td>
<td>22</td>
<td>1.50 (4.2)</td>
<td>t(36) = .873</td>
<td>.389</td>
</tr>
<tr>
<td>Severe-profound</td>
<td>16</td>
<td>0.69 (7.5)</td>
<td>t(37) = 0.003</td>
<td>.998</td>
</tr>
<tr>
<td>Onset of Hearing Loss</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 2 years ago</td>
<td>4</td>
<td>3.50 (2.5)</td>
<td>t(36) = .873</td>
<td>.389</td>
</tr>
<tr>
<td>More than 2 years ago</td>
<td>34</td>
<td>0.85 (5.9)</td>
<td>t(37) = 0.003</td>
<td>.998</td>
</tr>
<tr>
<td>Currently use Hearing Aid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>22</td>
<td>0.23 (5.0)</td>
<td>t(37) = -1.104</td>
<td>.277</td>
</tr>
<tr>
<td>No</td>
<td>17</td>
<td>2.23 (6.4)</td>
<td>t(37) = -1.104</td>
<td>.277</td>
</tr>
<tr>
<td>Presence of Tinnitus</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Has tinnitus</td>
<td>19</td>
<td>1.11 (6.9)</td>
<td>t(37) = 0.003</td>
<td>.998</td>
</tr>
<tr>
<td>No tinnitus</td>
<td>20</td>
<td>1.10 (4.3)</td>
<td>t(37) = 0.003</td>
<td>.998</td>
</tr>
<tr>
<td>Presence of Vertigo</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Has Vertigo</td>
<td>10</td>
<td>3.30 (8.0)</td>
<td>t(11.10) = 1.113</td>
<td>.289</td>
</tr>
<tr>
<td>Does not have vertigo</td>
<td>29</td>
<td>0.35 (4.5)</td>
<td>t(11.10) = 1.113</td>
<td>.289</td>
</tr>
<tr>
<td>Previously attended Lipreading</td>
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<tr>
<td>Classes</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Yes</td>
<td>25</td>
<td>0.72 (5.8)</td>
<td>t(36) = - .570</td>
<td>.572</td>
</tr>
<tr>
<td>No</td>
<td>13</td>
<td>1.85 (5.8)</td>
<td>t(36) = - .570</td>
<td>.572</td>
</tr>
</tbody>
</table>

There were no significant relationships between the lipreading improvement scores and the hearing variables.
Social Anxiety and Other Questionnaire Measures

Pearson correlations were conducted to determine whether there were relationships between lipreading improvement scores and other questionnaire measures at time 1. The results of these analyses are illustrated in table 14.

Table 14: Relationships between social anxiety and other questionnaire measures at time 1 and lipreading improvement scores

<table>
<thead>
<tr>
<th>Questionnaire Completion at Time 1</th>
<th>N</th>
<th>Statistic (Pearson Correlation)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fear of Negative Evaluation</td>
<td>33</td>
<td>r= .004</td>
<td>.980</td>
</tr>
<tr>
<td>Social Avoidance &amp; Distress Scale</td>
<td>33</td>
<td>r= .055</td>
<td>.855</td>
</tr>
<tr>
<td>HARQ – PDI</td>
<td>38</td>
<td>r= .122</td>
<td>.466</td>
</tr>
<tr>
<td>HARQ – HLS</td>
<td>38</td>
<td>r= -.038</td>
<td>.819</td>
</tr>
<tr>
<td>Social Behaviour Questionnaire</td>
<td>36</td>
<td>r= .144</td>
<td>.506</td>
</tr>
<tr>
<td>HADS – Anxiety</td>
<td>39</td>
<td>r= .125</td>
<td>.448</td>
</tr>
<tr>
<td>HADS – Depression</td>
<td>39</td>
<td>r= .207</td>
<td>.205</td>
</tr>
</tbody>
</table>

There were no significant associations between questionnaire scores at time 1 and lipreading improvement scores.

Analyses to compare the questionnaire measure quartile results with scores of lipreading improvement were not carried out because of the small sample sizes.
Post-hoc Analyses

As there were no significant relationships between change in BKB and other measures, analyses to assess the interaction between BKB scores and questionnaire measures were not initially carried out. However, a number of post-hoc analyses were conducted.

Social Anxiety and Other Questionnaire Measures – Change over time

To assess whether there had been a change in social anxiety, general anxiety or depression over time, paired sample t-tests were carried out on the measures administered at both time points. The results are illustrated in table 15.

<table>
<thead>
<tr>
<th>Paired sample (time 1 and time 2)</th>
<th>Mean (s.d.)</th>
<th>Statistic (t-test)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FNE time 1</td>
<td>13.33</td>
<td>t (23)= 2.127</td>
<td>.044</td>
</tr>
<tr>
<td>FNE time 2</td>
<td>10.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAD time 1</td>
<td>15.58</td>
<td>t (23)= 4.786</td>
<td>.000</td>
</tr>
<tr>
<td>SAD time 2</td>
<td>8.37</td>
<td></td>
<td></td>
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Scores of the FNE and the SADS had both significantly reduced between time 1 and time 2. There were no significant changes in scores on the HADS. Correlations to investigate whether change in social anxiety scores were associated with change in lipreading scores, were not significant.

If the reduction in social anxiety was a result of attending the lipreading classes, one could expect that those who had attended lipreading classes before would have lower FNE and SADS than those who had not attended before. To explore this, t-tests were carried out to investigate the relationship between scores on the FNE and SADS and previous attendance at lipreading classes. There was no significant relationship between the SADS and previous attendance. However, previous attendance at lipreading classes was significantly related to higher FNE scores (t=2.410, df=48, p<.020). However, this is a very tentative finding, as analyses between other demographic/ hearing variables and the FNE/SADS were not carried out.
DISCUSSION

Acquired hearing impairment has been repeatedly associated with negative psychological consequences. Despite the potential for social anxiety to be a particularly pertinent problem for people who have a hearing impairment few studies have investigated this. The current study has attempted to begin the research in this area by exploring possible relationships between social anxiety and lipreading abilities.

Findings of this Study

Sample Characteristics

The current study succeeded in recruiting 63 participants who were attending lipreading classes with one of two teachers. There were more female participants than males. The sample was evenly split between people over and under 65 and most people were retired. Compared to previous studies, the sample consisted of more females and appeared to be slightly older (McKenna, Hallam & Hinchcliffe, 1991; Hallberg & Carlsson, 1991a). It was suggested that this could have been because lipreading classes took place during the daytime, creating a bias towards people who did not work.

The majority of people had had their hearing loss for more than two years and the sample was evenly split between people who had a mild-moderate vs severe-profound hearing loss. Half of the sample also had tinnitus and one-quarter had vertigo. Over half of the sample had previously attended lipreading classes and the majority of these had attended for more than one year. These findings were similar to those of other studies (McKenna et al, 1991; Hallberg & Carlsson, 1991a).

A number of measures were used to assess social anxiety and other psychological variables. The mean for the Fear of Negative Evaluation Scale in this study was slightly lower than the mean gained in the validation study for this instrument (Watson & Friend, 1969), which had used an undergraduate population. However,
the mean of the Social Avoidance and Distress Scale was somewhat above the mean gained in the same validation study and was also above the mean gained in a previous study with hearing impaired people (Knutson & Lansing, 1990). The range of scores on the Hearing Loss Stigma Scale were comparable to the ranges gained in the validation sample (Hallam, 1996), which had consisted of similarly aged, hearing impaired people. However, the ranges of scores on the Perception of Self as Distressed/Inadequate scale were slightly lower than those gained in the same validation study. The means of the subscales on the Hospital Anxiety and Depression Scale (Zigmund & Snaith, 1983) were similar to means gained with a similar aged, hearing sample (Dunbar et al, 2000). However, the numbers of people above the cut-off on the depression scale was below that of a previous study which had used the Beck Depression Inventory (Gilhome-Herbst & Humphrey, 1980). This difference may be because the current study used a non-clinical population, and it has been suggested that people who attend audiology clinics have a higher level of psychological disturbance caused by their hearing difficulties than non-clinical populations (McKenna & Andersson, 1998). Further research, across clinical and non-clinical populations of people with a hearing-impairment is needed to clarify these findings.

Of these results, the most surprising was the relatively high scores gained on the SADS. At face value, this suggests that this sample is highly vulnerable to social avoidance and distress. However, the Cronbach’s Alpha test revealed that this scale had a low internal consistency (alpha=.57), which suggests that this scale is not very reliable with this particular population. It may be that the objective communication problems faced by this sample create real difficulties in social situations that confound the items in this questionnaire. Furthermore, people who have an acquired hearing impairment are likely to be aware of the difficulties that their disability presents in social settings compared to their previous experiences (Hallberg & Carlsson, 1991b). These factors could result in misleading findings in both the clinic and research setting, as these higher scores may reflect their added difficulties, not social anxiety. Therefore, to investigate whether this population is socially avoidant or distressed by social situations, this questionnaire may need some adaptation or a
more reliable instrument is needed. It is also worth noting that fewer people completed this questionnaire at time 1, than any of the other questionnaires. In the current study, this low reliability and relatively low response rate means that inferences that relate to the results of the SADS are very tentative.

As would be expected, there was a high degree of correlation between the psychological measures, which suggests a degree of validity between scales and relevance to the area being investigated in this study. The main exception to this was the SADS, which correlated only with the perception of self as distressed subscale and the Social Behaviour Questionnaire. This is consistent with the above discussion that suggests that the SADS may have a low reliability and validity with this population. It was slightly surprising that the correlation between the SADS and the FNE did not reach significance, although there was a trend towards these two scales being associated and the correlation of .27 was not far below the correlation of .32, found by Watson & Friend (1969). Indeed, in the development of these two scales there had been an attempt to ‘foster a discriminant relationship between FNE and SAD’ (Watson & Friend, 1969, p.451), hence a lack of association between the two scales is not a deviant finding.

Of particular interest were the correlations between the FNE, SBQ, HLS and PDI. These measures indicated that increased fear of negative evaluation is associated with increased use of safety behaviours in social situations. Furthermore, individuals who score highly on the FNE and SBQ are also likely to perceive themselves as more handicapped in a social situation, i.e. they perceive themselves as inadequate due to their hearing impairment and are likely to perceive others as having a negative reaction towards them. However, there are a number of reasons why these observations must be viewed with some caution. The correlations were only of moderate strength and causal relationships can not be determined on the basis of correlation alone. Furthermore, mean scores on these measures were no higher than the mean scores gained in previous studies that had used these instruments. This suggests that social anxiety is not present in or problematic for all individuals with a
hearing loss. To further explore the relationships between measures, further investigation is needed, using longitudinal and intervention studies.

*Lipreading Ability*

To assess people's ability to lipread, the video-test of the Bamford-Kowal-Bench sentence-lists was used (Rosen & Corcoran, 1982; Foster et al. 1993; Bench & Bamford, 1979). At time 1, the scores in this study were surprisingly low compared to previous administrations of the test with young, normally hearing participants (Rosen & Corcoran, 1982; Foster et al. 1993). One possible reason for these differences is that participants in this study were much older than those in these previous studies.

In the current study, there was a clear relationship between age and lipreading ability. Lipreading ability appeared to decline with increasing age. This relationship also appeared to underlie the relationships between lipreading scores and teacher, occupation and laterality of hearing loss. Age has been associated with lipreading ability in a previous study (Dancer et al, 1994), which attributed age-related differences to caution and visual acuity. Dancer et al cited another study (Honnell, Dancer & Gentry, 1991; cf Dancer et al, 1994) which had found that older participants were less inclined to guess than younger participants and were more wary of writing answers down in case they were wrong. They also cite a study which eliminated the age discrepancy when older participants were actively encouraged to guess (Farrimond, 1989; cf Dancer et al, 1994). In the current study participants had been encouraged to guess, but due to time limitations, analyses was not carried out on the response forms to see if there was an age-related difference in number of incorrect answers written down. It is also possible that older participants are less proficient in lipreading tasks because they have reduced visual acuity (Thorn & Thorn, 1989; cf Dancer et al, 1994), hence older participants are able to extract less information from rapidly changing facial movements. Unfortunately visual proficiency was not explored in this study, hence the relevance of this to the current sample can not be commented upon.
A further cause of age-related decline in lipreading ability may be related to cognitive abilities. Information-processing speed and working memory capacity have been found to partially predict sentence-based lipreading ability (Ronnberg, Samuelsson & Lyxell, 1998). These cognitive functions have been associated with age-related decline (Lezak, 1995). Further investigation is needed to identify the relationships between factors which may contribute to the perceived lower level of lipreading ability in older people.

It is clear that there are a number of age-related factors which may affect lipreading ability. It would be hard to control for all of these factors within a single study. Therefore it is important that lipreading measures are validated on an older sample, so that these age-related variables do not confound interpretation or comparison of scores. The lipreading measure used in this study had not been validated with an older, hearing impaired population. This may explain why the scores in the current study were so much lower than studies which had previously used this instrument with younger populations (Rosen & Corcoran, 1982; Foster et al, 1993).

**Relationship Between the BKB at Time 1 and Demographic and Hearing Variables**

Despite the limitations of the lipreading measure, a number of relationships between lipreading scores and other variables did occur. As discussed above, the main relationship that emerged between lipreading scores at time 1 and the demographic/hearing variables was one of age, where lipreading ability declined with increasing age. This relationship also appeared to underlie other significant relationships between lipreading ability, teacher, occupation and laterality of hearing loss. One further variable was found to be significantly related to lipreading ability. This was time since onset of hearing loss. People whose onset of hearing loss was greater than two years ago scored significantly more on the lipreading measure than those whose onset was less than two years ago. This effect is to be expected, as those who have had to rely more on lipreading for longer are likely to be better at it. It is also consistent with other studies, which have found an association between time since onset of hearing loss and lipreading ability (Ronnberg, 1995; Tillberg, Ronnberg, Svard & Ahlner, 1996). As most people had had a hearing loss for more
than two years and many people had attended lipreading classes before, a ceiling effect may have contributed to the lack of lipreading improvement apparent during the short time-scale of this study. Other possible reasons for this apparent lack of improvement are discussed later.

Relationship Between BKB at Time 1 and Psychological Measures
The hypotheses of this study postulated that increased social anxiety would be related to lower scores on the BKB and less lipreading improvement. This was suggested because the cognitive model of social anxiety (Clark & Wells, 1995) argues that people with high social anxiety are more self-focussed and it can be theorised that this will impair people’s ability to process visual lipreading cues. Furthermore, people with socially anxiety are more likely to avoid social situations and use safety behaviours to help them cope when they actually enter social situations (Clark & Wells, 1995). It was hypothesised that self-focus, avoidance and use of safety behaviours would impair people’s ability to lipread and to improve at lipreading, as these factors are counter to the factors needed to lipread well. There was mixed evidence to support these hypotheses.

With the exception of the SADS and the Hearing Loss Stigma scales, the correlations between the lipreading measure and the questionnaires were positive. However, with the exception of the anxiety subscale of the HADS, these positive correlations failed to reach significance. The negative correlations between the SADS, the hearing loss stigma subscale and the scores on the lipreading measure are in the direction of the hypotheses, however these also failed to reach significance.

The positive correlations run counter to the hypotheses. There are a number of possible reasons why this occurred. One possible reason is that the lipreading measure used a video-format. This may have led to it not being a sufficiently social task to activate a pattern of social anxiety. Participants reported that they found the test difficult because it lacked many of the social cues that they use in real life to assist lipreading. This suggests that the social context is important in lipreading ability. It is paradoxical that in this study, social anxiety was being investigated in
relation to lipreading, but the social element of the lipreading task was removed. Future research into social anxiety and lipreading may need to use a more ecologically-valid (i.e. social) lipreading measure. It is likely that such a measure would need to be administered individually and so could be rather time consuming, but it is possible that the relationships found would be affected if a lipreading measure could be devised that measured conversational lipreading ability between the individual participant and another person.

There were two significant correlations between the BKB and the psychological measures. Scores on the BKB were positively associated with scores on the SBQ and the anxiety subscale of the HADS. As stated, these findings appear counter-theoretical as the hypotheses suggested that increased anxiety and safety behaviours would be associated with a reduced lipreading score. It is possible that these findings are an anomaly caused by the relatively small sample size and the relatively large number of statistical analyses carried out on the data (Diamantopoulos & Schlegelmilch, 1997). However, alternative, tentative explanations can be suggested.

The significant but weak correlation between general anxiety and lipreading scores, suggests that those with higher anxiety performed slightly better on the lipreading measure. It may be that some people with higher general anxiety were making more effort on the task, which is congruent with theories about the effect of anxiety on performance (Masters & Johnson, 1970). However, this theory tends to relate more to state anxiety and in the current study, state anxiety did not correlate with the lipreading measure, at time 1 or time 2. This may have been because the state anxiety scale was not sensitive enough to measure actual mood. Therefore, whilst the weak correlation between general anxiety and lipreading scores is of some interest, more work is needed to identify the effects of general and state anxiety on lipreading performance.

The significant but weak relationship between the use of safety behaviours (SBQ) and lipreading scores suggests that increased use of safety behaviours is associated with better lipreading skills. This relationship was much stronger when analyses were
carried out using the quartile ranges of the SBQ. It may be suggested that safety behaviours act like coping strategies, helping people to enter social situations and hence use their lipreading skills. If this was the case, one would expect that people who entered social situations and used safety behaviours to cope, would be better at lipreading tasks than people who avoided social situations to cope with their anxiety. To a degree, this study has provided some support for this hypothesis as the BKB scores were negatively correlated with the SADS scores, which focus more on avoidance although this was not significant. A trend was more apparent in the quartile analysis, suggesting that people who rated themselves as more avoidant, scored less on the lipreading measure than people who were less avoidant. Hence it can be tentatively suggested that avoidance impairs ability to lipread, but use of safety behaviours as possible coping strategies helps people to enter social situations and thus enables them to enhance their lipreading skills. This hypothesis is however very tentative as the relationships discussed are not very strong and as they are correlational one cannot infer causality. Furthermore, reliability and validity of the SBQ and particularly the SADS with this population is questionable. Further investigation is needed to clarify the relationships between avoidance, safety behaviours and lipreading ability. It would be interesting to further explore these relationships, using a reliable lipreading measure, to see if those who are less socially avoidant, but engage in more safety behaviours actually do improve in lipreading more than those who are socially avoidant or unable to positively engage in safety behaviours.

There may be a complex relationship between these variables, similar to the relationship found by Hallberg & Carlsson (1991\textsuperscript{a}). In their study people were categorised as using either avoidance or coping strategies (safety behaviours) to deal with social situations. Both of these types of behaviours were positively correlated with increased awareness of the handicap of their hearing disability. It is worth noting that in the current study both the SBQ and the SADS positively correlated with perception of self as distressed/inadequate in social situations. Furthermore, people who scored highly on avoidance or safety behaviours were significantly more likely than their counterparts to complete the current study. These findings support those of
Hallberg & Carlsson, as they indicate an increased awareness in these individuals of the need to improve communication abilities.

**Improvement in Lipreading**

It was assumed that people attending lipreading classes would improve in lipreading. This assumption was not found to be valid as no significant improvement in lipreading ability was found. Furthermore, there were no significant relationships between lipreading improvement and any of the social anxiety measures or between lipreading improvement and any other variable tested in the study. The lack of improvement in lipreading ability may well have accounted for the lack of relationships between lipreading improvement and other variables.

The findings in this study are contrary to findings of other studies, which have found a significant improvement in lipreading (Dancer et al, 1987; Crawford et al, 1986; Walden et al, 1981), and significant relationships between lipreading improvement and other variables, namely age, gender and initial pre-test scores (Dancer et al, 1994, Crawford et al, 1986; Rosen & Corcoran, 1982). These different findings may be because of differences in the methodology employed in this compared to previous studies. With the exception of Walden et al’s study, all have used normally hearing participants, younger than those in the present study. This may indicate that there is a difference in the capacity to learn lipreading between younger, hearing participants and older, hearing-impaired individuals. The differences in improvement are particularly surprising, given that the improvements gained in the above studies have been achieved with very low levels of training. The ‘training’ given was presentation of further sentence lists (Rosen & Corcoran, 1982), with two studies providing feedback to each response (Dancer et al, 1987; Crawford et al, 1986). Hence, the ‘improvements’ achieved in these studies may actually be due to familiarity with the task rather than improvement in actual lipreading.

The participants in Walden et al’s (1981) study were aged between 19-68, although no mean age or categories of ages were provided. Half of their participants received seven hours of lipreading training as part of a wider audiological rehabilitation
programme. This is less than the number of hours of lipreading training that the participants in the current study were able to receive. However, as this study did not include 'number of classes attended' as a variable, it can not be assumed that people actually attended all of the classes. In Walden et al's study, people who had taken part in the rehabilitation programme without a lipreading component also significantly improved in lipreading ability. This suggests that either task familiarity or other aspects of their rehabilitation programme contributed to improvement in lipreading, although those who had received a lipreading component achieved the highest scores.

It would therefore appear that age, hearing ability and mode of training accounts for some of the differences between this and other studies investigating lipreading improvement. However, it is also possible that in this study, a failure to identify improvement in lipreading was due to flaws in the design of the study. One such flaw, namely a lack of control for number of classes attended has been mentioned. Furthermore, there may not have been enough time between pre and post-tests. In particular, this may have been compounded as most people had had a hearing loss for more than two years and many people had attended lipreading classes before. Hence, a ceiling effect may have contributed to the lack of lipreading improvement apparent during the short time-scale of this study. It would have been interesting to repeat the measures at the end of the year, to see if lipreading improvement was evident after a longer time. However, time-limitations preclude such an investigation.

A further reason why no improvement in lipreading was found may have been because the lipreading measure used in the current study was inadequate. The low scores achieved at both time points in this study may be indicative of a lack of sensitivity in identifying lipreading skills in this population. Certainly, in this study participants scored far less than has been observed in previous studies using this measure with younger, hearing participants (Foster et al, 1993; Rosen & Corcoran, 1982). However, the lack of published British lipreading measures meant that this was the only test available for use in this study. The results have highlighted a need
for this test to be standardised on an older, hearing-impaired sample or for further lipreading measures to be developed for use with an older British population.

The difficulty of the test was not just apparent through the low scores gained by the participants, but also from feedback given by the participants to the researcher at both stages of the study. Participants reported that there was a lack of body language, emotional expression and contextual information in the visually presented sentences. Furthermore, many reported that they do not rely solely on lipreading, but also use residual hearing to understand communication. All of these factors have been identified as important elements of lipreading in real-life situations (Johansson & Ronnberg, 1996; Kaplan, 1985). This indicates a lack of ecological validity in the test used. The author was unable to locate any lipreading measures or studies that have accounted for these factors, which suggests that future tests may need to consider how these variables can be accounted for. Participants also claimed that the choker the speaker wore around her neck prevented them from using throat movement as a clue to sounds being uttered. Although no research is available to support these claims, the validity of these objections was discussed with the deaf lipreading teacher, who agreed that throat movement can provide subtle clues in understanding what is being said. These findings support the earlier suggestion that a lipreading measure is needed that accounts more for the social factors that are apparent in a true lipreading situation.

For some participants, the difficulty of the test meant that they found it quite aversive. One lipreading class found the test so difficult that they all declined to participate in the second test. These observations about participant response have distinct clinical implications. If, as observed in previous studies, individuals attending audiology clinics are more likely to be experiencing psychologically difficulties, exposing them to a potentially aversive test seems particularly unfair. If this test is being used in clinical situations (Foster et al, 1993), the validity of this measure and the effect of this experience on the individual needs to be carefully considered.
Finally, the way the test was administered may have further reduced its sensitivity. Two sentence-lists were used to provide lipreading scores. Rosen & Corcoran, suggest that three sentence-lists provide the best validity in assessing lipreading scores. The main reason that only two were used in the current study was because of time-limitations. However, as participants found this test very difficult, it is doubtful whether adding another sentence-list would have led to significant gain. Certainly, with hindsight the author would be reticent to subject participants to a longer test of this kind. The points discussed highlight a need for a reliable, valid, non-aversive, lipreading measure to be designed for older, hearing-impaired British people.

The problems relating to the lipreading test as a measure of lipreading improvement in this study are similar to those stated by Binnie & Alpiner (1969; cf: Alpiner, 1982). They suggested that the lack of improvement in their study, comparing types of lipreading training, might have been because the lipreading tests used were not sufficiently sensitive. They also indicated that there was a lack of information regarding how much training between pre and post-test administrations is needed to establish a reliable measure of improvement. It is disappointing that similar difficulties are apparent thirty years onwards. Further research into lipreading tests and amount of training received between pre and post-test administration is necessary for future research into lipreading improvement to be meaningful.

Change in Social Anxiety

Post-hoc analyses of the psychological measures administered at time 1 and 2 demonstrated a significant reduction over time in both the FNE and SADS. This effect may be due to the psycho-social benefits of attending a lipreading class. To investigate this possibility, further post hoc analyses were carried out on the sample at time 1, to compare FNE and SADS of people who had attended lipreading classes previously with those for whom this was their first experience. Surprisingly, those who had not attended before had significantly lower FNE scores than those who had attended before. This was an interesting finding, which suggests that people who continue to go to lipreading classes are the ones who continue to experience FNE. However, caution must be exercised in the interpretation of these results as they were
based on a small, self-selecting sample and the relationships between scores on the FNE and SADS and the other demographic and hearing variables were not investigated. However, a tentative explanation for this finding, can be offered in relation to other findings of this study.

Earlier in this discussion it was noted that there was a lack of association between social anxiety and lipreading improvement. However, there was a high degree of association between the perceived handicap measures (perception of self as distressed/ inadequate; hearing loss stigma) and the FNE. This corresponds to the perceived-handicap literature, where it is perceived ability to communicate, not actual ability which is important in predicting psychological variables (Hallberg & Carlsson, 1991a; Knutson & Lansing, 1990). Hence, by attending lipreading classes, some people may perceive themselves to have improved, even though little or no improvement may be apparent on a lipreading measure. For those who perceive themselves to have improved, their anxiety may be reduced and they will not feel the need to return to lipreading classes the next year. Those who do not believe they have improved, or who do not feel that they are yet ‘good enough’ will still be anxious about their social performance and may continue to return to lipreading classes. This explanation is very tentative as ‘handicap’ variables in this study only provide cross-sectional information, so it is not possible to examine whether the reduction in social anxiety is associated with a reduction in ‘handicap’. However, these findings do suggest that more work is needed to see if self-perceived ability to communicate is linked to psychological variables.
Limitations of the Study

There were a number of limitations in the design and execution of this study. Many of these have already been discussed.

The main limitation of the study that has been discussed in some detail was the lipreading measure used which was reportedly difficult and appeared to lack sensitivity and ecological validity. This population was older than previous populations with whom this lipreading test has been administered, which has led to a question as to whether this test was appropriate for use with this population of older hearing-impaired people.

In this study a number of variables that could have been associated with ability to lipread or to learn lipreading were not assessed. The age-related variables which may affect lipreading ability (namely visual acuity, caution and changes in cognitive abilities) were not assessed. Furthermore, reading ability was not assessed. This has been related to lipreading ability in a previous study (Bernstein et al, 1998).

Although instructions were given verbally (backed up by presenting main points on an overhead projector) as well as in written form, the fact that participants had a hearing impairment meant that the verbal instructions may have been of limited use. Hence, participants may have relied heavily on the written instructions. People who had reading difficulties may have found the task hard to understand. Also, responses were given in written format. Future studies could consider administering the tests to individuals, using verbal responses (Crawford et al, 1986; Dancer et al, 1994) or a literacy test could be administered to control for this possibly confounding variable.

There were three main factors in this study, which limit the generalisability of findings. The first is that the population used in this study was not randomly selected. To a large extent, this was a self-selected population. It is possible that people who decided not to take part, or people who dropped out during the study were those who were more anxious about their lipreading performance and did not want to take part in a ‘test’. This may account for the relatively low levels of anxiety found in this study compared to others. Future studies could randomly select students attending
lipreading classes and request that those who decline to participate in the lipreading test complete the questionnaire measures. In this way psychological variables that may affect the self-selection of this population could be monitored.

Due to the lack of randomised studies in this field, the comparison of this population with a random sample of people with hearing loss is not possible. The timing of the classes (i.e. during the working day) has been suggested to be responsible for the older and more female-oriented population in this study, compared to a previous study (McKenna et al, 1991). However, the hearing variables of this population were comparable to those of other studies (McKenna et al, 1991; Hallberg & Carlsson, 1991a), which suggests that on these variables, this population does not differ greatly from those seen at an audiology clinic.

The second factor that limits generalisability, was that the findings were based on a relatively small number of people (N=63). As the study progressed a number of participants dropped out from the study, so at time 2, data was based on only 40 participants. This means that findings must be viewed with caution as several inferences have been postulated in this study, with only a limited amount of data. Hence, similar studies need to be carried out to validate these findings (Chambless & Hollon, 1998). Future, studies may need to aim to recruit a larger number of participants at time 1, to ensure sufficient sample sizes are available at time 2.

The third factor limiting generalisability of findings was that there was no control group. It would be of value to compare matched hearing controls on the measures used in this study, to see if the findings are specific to a population with a hearing-impairment. This may shed further light on the relationship between hearing impairment and social anxiety.
Clinical Implications

There are a number of clinical implications that can be drawn from this study. In the first instance, there is a need for a valid lipreading measure to be developed, to ensure that clinical evaluation of lipreading ability is not aversive and future research can be carried out with this population. The second set of clinical implications relates to the benefits of attending lipreading classes.

The findings of this study suggest a strong social component to lipreading classes. A few hearing people attended purely for the social benefits! Also, people who lived alone were more likely to complete the study than people who lived with a partner or spouse. As people who scored high on the fear of negative evaluation scale were more likely to return to lipreading classes, this suggests that lipreading classes may be perceived as a safe social event. Hence people may be attending more for psychosocial benefits than for the educational component, which at face value it purports to offer.

The findings of the study suggest that some people who attend lipreading classes experience a significant reduction in social anxiety. The suggestion that lipreading classes may serve to reduce anxiety as well as potentially teaching people how to lipread has not yet been investigated, but it does hold face validity. In the early stages of this study, when a lipreading teacher was asked how they measured improvement in lipreading, she replied that lipreading measures were not used, but the students were asked (informally) whether they felt less anxious about lipreading other people. This indicates an intuitive understanding on the part of lipreading teachers that lipreading classes reduce peoples’ anxiety about social situations. These extrapolations from the data about the clinical utility of lipreading classes are of course very tentative, as there are many limitations of this study which prevent the generalisability of findings.

As discussed, the lack of lipreading improvement found in this study, may be an artefact of the lipreading measure used. Thus it may still be possible that social anxiety actually does inhibit learning, but this failed to be identified in this study.
Although it is unclear whether social anxiety affects actual or perceived improvement in lipreading, the findings do suggest relationships between aspects of social anxiety in cross-sectional lipreading ability and continued attendance at lipreading classes. These factors indicate that it may be of benefit for clinical psychologists to work directly or indirectly with people with hearing loss to reduce the effects of social anxiety in this population. For example, clinical psychologists could work with lipreading teachers and/or audiology clinics to identify vulnerable individuals and work with them in a cognitive-behavioural fashion to reduce their social anxiety. Short group cognitive-behavioural treatments have been shown to lead to sustained improvements with people who have an acquired hearing impairment (Andersson, Melin, Scott & Lindberg, 1994). Alternatively, clinical psychologists could work with lipreading teachers to provide an additional educational component to lipreading classes, where the effects of social anxiety on the communication situation (in terms of avoidance of and emotional/behavioural responses in social situations) are addressed. Such treatments could be cost-effective in terms of clinical time and in terms of helping to maximise the benefit of lipreading classes and perhaps other costly rehabilitation techniques.

Future Research

This study has raised more questions than it has answered about social anxiety and lipreading. A number of extrapolations have been made from the data, but all are tentative and need confirmation from further independent studies.

A good place for future research to start from would be to identify the psychological benefits of attending lipreading classes using anxiety measures, as well as lipreading measures and measures of perceived improvement in lipreading. In this way, the relationships between these variables can be further explored to assist with the potential development of cognitive-behavioural treatments, which can be implemented with this population.

To carry out such research a valid and reliable lipreading measure needs to be developed, which can be used within a research setting, where time limitations are
likely to be important. Such a measure needs to account for variations in age and lipreading ability, thus it must be standardised on an older hearing impaired population. Furthermore, this measure needs to be non-aversive and must have face-validity, where possible taking account of other communication cues (i.e. body language and context). The development of such a measure is likely to be difficult task, but would enable a new level of research to take place in this currently under-researched area. Also, measures of social anxiety, specific to people with a hearing-impairment need to be developed. Alternatively, validation of the current measures of social anxiety with this population could be carried out to make their use more meaningful.

This study has highlighted the disparity in the literature about general psychological disturbance, including anxiety and depression. The psychological consequences of hearing loss needs to be further investigated via randomised controlled studies, comparing people with a hearing loss with those without a hearing loss. The mechanisms that lead to disturbance in some people, but not others need to be identified within such work. If this occurs, such individuals can be targeted as they present at audiology clinics, then cost-effective psychological treatment can be offered to these individuals to help to maximise the benefits of other components of audiological rehabilitation. This study has begun to address these needs, by using a validated model, to attempt to place specific psychological variables of a defined population with an acquired hearing impairment, within a psychological framework.
REFERENCES


## APPENDIXES

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<td></td>
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<td>320</td>
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<td>321</td>
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</tbody>
</table>
Diagnostic Criteria for Social Phobia (300.23)


A. A marked and persistent fear of one or more social performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others. The individual fears that he or she will act in a way (or show anxiety symptoms) that will be humiliating or embarrassing. **Note:** In children, there must be evidence of the capacity for age-appropriate social relationships with familiar people and the anxiety must occur in peer settings, not just in interactions with adults.

B. Exposure to the feared social situation almost invariably provokes anxiety, which may take the form of a situationally bound or situationally predisposed Panic Attack. **Note:** In children, the anxiety may be expressed by crying, tantrums, freezing, or shrinking from social situations with unfamiliar people.

C. The person recognises that the fear is excessive or unreasonable. **Note:** In children this feature may be absent.

D. The feared social or performance situations are avoided or else are endured with intense anxiety or distress.

E. The avoidance, anxious anticipation, or distress in the feared social or performance situation(s) interferes significantly with the person’s normal routine, occupational (academic) functioning, or social activities or relationships, or there is a marked distress about having the phobia.

F. In individuals under age 18 years, the duration is at least 6 months.

G. The fear or avoidance is not due to the direct physiological effects of a substance (e.g. a drug of abuse, a medication) or a general medical condition and is not better accounted for by another mental disorder (e.g. Panic Disorder With or Without Agoraphobia, Separation Anxiety Disorder, Body Dysmorphic Disorder, a Pervasive Developmental Disorder, or Schizoid Personality Disorder).

H. If a general medical condition or another mental disorder is present, the fear in criterion A is unrelated to it, e.g. the fear is not of Stuttering, trembling in Parkinson’s disease, or exhibiting abnormal eating behaviour in Anorexia Nervosa or Bulimia Nervosa.
Appendix 2.1 – Letter to Lipreading Teachers

UNIVERSITY OF SURREY

Department of Clinical Psychology

Dear Teacher of Lipreading

I am a Psychologist, employed by the South West London Community NHS Trust in the final stages of my doctoral clinical training. I am writing to request your co-operation in carrying out a investigative research into how specific features of anxiety may affect people’s ability to learn lipreading.

The NHS and the University of Surrey have so far provided and will continue to provide the funding for this study. The first stages (experimental design and rationale) have already taken place. The study is being carried out under the supervision of Clinical Psychologists at the University of Surrey.

Rationale: It is well known that hearing loss increases anxiety due to factors such as difficulty in social situations. Lipreading can help people to communicate and therefore reduce such anxiety. However, no research has been carried out to determine how anxiety can affect people’s capacity to learn lipreading (i.e. if people withdraw from social situations, they will not practice or develop confidence in their lipreading skills, and therefore, even with the best teaching they will not improve as much as may be expected). A clearer understanding of what may inhibit performance will help those of us working in this field to tailor services more towards individual’s needs.

Method: This study will investigate improvement in lipreading over time and compare this to levels of anxiety. To do this, students will be requested to complete several questionnaires (10-20 minutes completion time, depending upon student’s reading and response speed) and watch an 18-minute video, at both the beginning and end of the autumn term. The questionnaires measure a range of emotional and behavioural factors and the video requires students to write down lists of spoken sentences. A number of measures will be in place to control for factors which may affect improvement, including age, marital status, degree of hearing loss etc.

To carry out the study I will need to visit your class(es) three times during the term. The first visit will be during the second class of term, for about five minutes, when I will tell your students about the study and ask if they would be willing to participate. The second visit, in the third class, will require half an hour of your lecture time to complete data collection (taking out two groups of students for twenty minutes a
Some students will be requested to stay an extra 10-15 minutes (this will be stated the week before), so as little time as possible is taken from the class. The students will have the option of completing the questionnaires at home in between classes 2 and 3, or during class 3.

**Results:** Results will be given to the City Lit to aid programme development, as well as being published for wider use to assist the practice of other professionals, ultimately benefiting individuals who have a hearing loss. I would be happy to personally present findings to yourself and colleagues and provide feedback on potential service development in light of the findings.

The study is not an audit of student’s improvement. All answers are anonymous and confidential. However, a coding system will be used so students (and their tutors) can be given individual feedback at the end of the study if they wish.

The study has been discussed and your colleagues at the City Lit have granted agreement for it to take place. However, the study will encroach upon teaching time and therefore it has been agreed that it is up to the individual teachers whether or not they choose to allow their students to be given the option of taking part.

To make the study scientifically valid we need to complete the study with at least 80 participants. I am aware that this is a significant proportion of your students. As a relatively large number of subjects are needed it would be most helpful to know if you are interested in the study. Could you please complete the form below and return this in the envelope provided to indicate whether or not you would be willing to allow your students to be approached for participation in the study? Not returning this form does not hold you to taking part. However, knowing how many classes may or may not be participating will enable other institutions to be invited to take part should it seem that too few participants will be available at the City Lit. It would be most beneficial to the study however, if the population was all taught at the same institution, as therefore the standard of teaching would be consistent.

I appreciate that you are all very busy, and that the beginning of term is especially challenging. However, my colleagues and myself would be very grateful for your cooperation in this study. The participation of teachers and students is entirely voluntary, and declining the request to participate will not affect the high regard attributed towards yourselves as teachers of lipreading within the City Lit.

Thank you for your time in considering this proposal. If you have any enquiries regarding the study please contact me at the above address or phone number.

Yours Sincerely

Lorraine Childs  
Trainee Clinical Psychologist
I am willing / do not wish to participate in the psychological study of the effect of anxiety on ability to learn lipreading. *Please delete as appropriate.*

Signed ___________________________ Name ________________________________

No. of lipreading classes *you* will be conducting this academic year (1999-2000) ___
APPENDIX 2.2

The BKB Sentence Lists


Test 1: Lists A&B

**List A**

1. The children dropped the bag.
2. The dog came back.
3. The floor looked clean
4. She found her purse
5. The fruit lies on the ground
6. Mother fetches a saucepan.
7. They washed in cold water. (4)
8. The young people are dancing
9. The bus went early
10. They had two empty bottles (4)
11. A ball's bouncing along
12. The father forgot the bread
13. The girl has a picture book
14. The orange was quite sweet
15. He's holding his nose
16. The new road's on the map.

**List B**

1. A man's turning the tap
2. The fire was very hot
3. He's sucking his thumb
4. The shop closed for lunch
5. The driver starts the engine
6. The boy hurried to school
7. Some nice people are coming
8. She bumped her head
9. They met some friends (4)
10. Flowers grow in the garden
11. The tiny baby was pretty
12. The daughter laid the table
13. They walked across the grass (4)
14. The mother tied the string
15. The train stops at the station
16. The puppy plays with a ball
Test 2: Lists C & D

List C
1. A tea towel's by the sink
2. The cleaner used a broom
3. She looked in her mirror (4)
4. The good boy's helping
5. They followed the path
6. The kitchen clock was wrong
7. The dog jumped on the chair (4)
8. Someone's crossing the road
9. The postman brings a letter
10. They're cycling along
11. He broke his leg
12. The milk was by the front door
13. The shirts hang in the cupboard
14. The ground was too hard
15. The buckets hold water
16. The chicken laid some eggs.

List D
1. The boy got into trouble
2. They're going out
3. The football hit the goalpost
4. He paid his bill
5. The teacloth's quite wet
6. A cat jumped off the fence (4)
7. The baby has blue eyes
8. They sat on a wooden bench (4)
9. Mother made some curtains
10. The oven's too hot
11. The girl caught a cold
12. The raincoat's hanging up
13. She brushed her hair
14. The two children are laughing
15. The man tied his scarf
16. The flower stands in a pot.
Appendix 2.3

Fear of Negative Evaluation Scale


The following questionnaires aim to find out how comfortable you feel in various social situations. Please answer each one by circling ‘TRUE’ or ‘FALSE’.

Try not to miss any questions out. Please do not spend too long on each question, try to identify your immediate reaction to each statement.

1. I rarely worry about seeming foolish to others  TRUE  FALSE
2. I worry about what other people think of me even when I know it doesn’t make any difference  TRUE  FALSE
3. I become tense and jittery if I know someone is sizing me up  TRUE  FALSE
4. I am unconcerned, even if I know people are forming an unfavourable impression of me  TRUE  FALSE
5. I feel very upset when I commit some social error  TRUE  FALSE
6. The opinions that important people have of me cause me little concern  TRUE  FALSE
7. I am often afraid that I may look ridiculous or make a fool of myself  TRUE  FALSE
8. I react very little when other people disapprove of me  TRUE  FALSE
9. I am frequently afraid of other people noticing my shortcomings  TRUE  FALSE
10. The disapproval of others would have little effect on me  TRUE  FALSE
11. If someone is evaluating me I tend to expect the worst  TRUE  FALSE
12. I rarely worry about what kind of impression I am making on someone  TRUE  FALSE
13. I am afraid that others will not approve of me  TRUE  FALSE
14. I am afraid that people will find fault with me  TRUE  FALSE
<table>
<thead>
<tr>
<th></th>
<th></th>
<th><strong>Other people's opinions of me do not bother me</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>15.</td>
<td>TRUE</td>
<td>FALSE</td>
<td></td>
</tr>
</tbody>
</table>

|   |   | **I am not necessarily upset if I do not please someone** |   |
|16.|TRUE|FALSE|

|   |   | **When I am talking to someone I worry about what they may be thinking about me** |   |
|17.|TRUE|FALSE|

|   |   | **I feel that you can't help making social errors sometimes, so why worry about it** |   |
|18.|TRUE|FALSE|

|   |   | **I am usually worried about what kind of impression I make** |   |
|19.|TRUE|FALSE|

|   |   | **I worry a lot about what my superiors think of me** |   |
|20.|TRUE|FALSE|

|   |   | **If I know someone is judging me it has little effect on me** |   |
|21.|TRUE|FALSE|

|   |   | **I worry that others will think I am not worth while** |   |
|22.|TRUE|FALSE|

|   |   | **I worry very little about what others may think of me** |   |
|23.|TRUE|FALSE|

|   |   | **Sometimes I think I am too concerned with what other people think of me** |   |
|24.|TRUE|FALSE|

|   |   | **I often worry that I will say or do the wrong things** |   |
|25.|TRUE|FALSE|

|   |   | **I am often indifferent to the opinions others have of me** |   |
|26.|TRUE|FALSE|

|   |   | **I am usually confident that others will have a favourable impression of me** |   |
|27.|TRUE|FALSE|

|   |   | **I often worry that people who are important to me won't think very much of me** |   |
|28.|TRUE|FALSE|

|   |   | **I brood about the opinions my friends have about me** |   |
|29.|TRUE|FALSE|

|   |   | **I become tense and jittery if I know I am being judged by my superiors** |   |
|30.|TRUE|FALSE|
### Social Avoidance and Distress Scale


<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>I feel relaxed even in unfamiliar social situations</td>
<td>TRUE</td>
</tr>
<tr>
<td>32</td>
<td>I try to avoid situations which force me to be very sociable</td>
<td>TRUE</td>
</tr>
<tr>
<td>33</td>
<td>It is easy for me to relax when I am with strangers</td>
<td>TRUE</td>
</tr>
<tr>
<td>34</td>
<td>I have no particular desire to avoid people</td>
<td>TRUE</td>
</tr>
<tr>
<td>35</td>
<td>I often find social occasions upsetting</td>
<td>TRUE</td>
</tr>
<tr>
<td>36</td>
<td>I usually feel calm and comfortable at social occasions</td>
<td>TRUE</td>
</tr>
<tr>
<td>37</td>
<td>I am usually at ease when talking to someone of the opposite sex</td>
<td>TRUE</td>
</tr>
<tr>
<td>38</td>
<td>I try to avoid talking to people unless I know them well</td>
<td>TRUE</td>
</tr>
<tr>
<td>39</td>
<td>If the chance comes to meet new people, I often take it</td>
<td>TRUE</td>
</tr>
<tr>
<td>40</td>
<td>I often feel nervous or tense in casual get togethers in which both sexes are present</td>
<td>TRUE</td>
</tr>
<tr>
<td>41</td>
<td>I am usually nervous with people unless I know them well</td>
<td>TRUE</td>
</tr>
<tr>
<td>42</td>
<td>I usually feel relaxed when I am with a group of people</td>
<td>TRUE</td>
</tr>
<tr>
<td>43</td>
<td>I often want to get away from people</td>
<td>TRUE</td>
</tr>
<tr>
<td>44</td>
<td>I usually feel uncomfortable when I am in a group of people I don’t know</td>
<td>TRUE</td>
</tr>
<tr>
<td>45</td>
<td>I usually feel relaxed when I meet someone for the first time</td>
<td>TRUE</td>
</tr>
<tr>
<td>46</td>
<td>Being introduced to people makes me tense and nervous</td>
<td>TRUE</td>
</tr>
<tr>
<td>47</td>
<td>Even though a room is full of strangers, I may enter it anyway</td>
<td>TRUE</td>
</tr>
</tbody>
</table>
48 I would avoid walking up and joining a large group of people  TRUE  FALSE
49 When my supervisors want to talk with me I talk willingly  TRUE  FALSE
50 I often feel on edge when I am with a group of people  TRUE  FALSE
51 I tend to withdraw from people  TRUE  FALSE
52 I don’t mind talking to people at parties or social gatherings  TRUE  FALSE
53 I am seldom at ease in a large group of people  TRUE  FALSE
54 I often think up excuses in order to avoid social engagement  TRUE  FALSE
55 I sometimes take the responsibility for introducing people to each other  TRUE  FALSE
56 I try to avoid formal social occasions  TRUE  FALSE
57 I usually go to whatever social engagements I have  TRUE  FALSE
58 I find it easy to relax with other people  TRUE  FALSE
## Appendix 2.5.1

**The Hearing Attitudes in Rehabilitation Questionnaire**


The purpose of this questionnaire is to find out what you think about your ability to hear and, assuming you have a hearing loss how this affects your attitudes.

Please tick the answer that best applies to you for each statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>TRUE</th>
<th>PARTLY</th>
<th>NOT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It sometimes depresses me when I cannot follow a conversation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I dread meeting new people since I have become hearing impaired</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. My poor hearing sometimes makes me feel really inadequate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I find myself avoiding conversation because conversation is too much effort</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. When you have hearing difficulties other people ignore you</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. In a conversational group I keep quiet in fear of saying the wrong thing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. As I see it, I am less of a person because of my hearing difficulty</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. I am sure that some people think I am stupid just because I have a hearing loss</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. When several people are chatting, it bothers me that I often lose the thread of the conversation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. I get the feeling that other people find it a strain to talk to me</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. It really upsets me when I realise I've got the 'wrong end of the stick' in a conversation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Some people avoid me because of my hearing difficulty</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. My hearing loss makes me feel isolated from other people</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. I have to admit that deep down I feel restricted by my hearing loss</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix 2.5.2

The Hearing Attitudes in Rehabilitation Questionnaire

(Factorial Subscales, PDI & HLS)


Personal distress/ inadequacy (PDI)
9 items: no’s – 1, 2, 3, 4, 6, 9, 11, 13, 14

The items on this scale imply that the person recognises the existence of difficulties in communication and that these are having a significant impact on well-being. The person is liable to feel isolated from others and expresses a sense of inadequacy. Failures of communication lead to emotional upset and occasionally to depressed mood. The person attempts to cope by either avoiding social situations, especially if they involve meeting new people, or by keeping quiet in conversation. Low scorers on this scale do not regard impaired hearing as having these adverse effects on them.

Hearing loss stigma (HLS)
5 items: no’s - 5, 7, 8, 10, 12,

This scale focuses on how the person perceives that others are influenced, especially negatively, by their hearing impairment. For example, above average scorers are concerned that they will be regarded as ‘stupid’ or ‘too much of a strain’ to be worth talking to. Other people are perceived as being likely to ignore or avoid them as a result of their hearing impairment.
### Appendix 2.6

**The Social Behaviour Questionnaire**


Please circle the word which best describes how often you do the following things when you are **anxious in or before a social situation**.

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Use alcohol to manage anxiety</td>
<td><strong>ALWAYS</strong></td>
<td><strong>OFTEN</strong></td>
<td><strong>SOMETIMES</strong></td>
</tr>
<tr>
<td>2</td>
<td>Try not to attract attention</td>
<td><strong>ALWAYS</strong></td>
<td><strong>OFTEN</strong></td>
<td><strong>SOMETIMES</strong></td>
</tr>
<tr>
<td>3</td>
<td>Make an effort to get your words right</td>
<td><strong>ALWAYS</strong></td>
<td><strong>OFTEN</strong></td>
<td><strong>SOMETIMES</strong></td>
</tr>
<tr>
<td>4</td>
<td>Check you are coming across well</td>
<td><strong>ALWAYS</strong></td>
<td><strong>OFTEN</strong></td>
<td><strong>SOMETIMES</strong></td>
</tr>
<tr>
<td>5</td>
<td>Avoid eye contact</td>
<td><strong>ALWAYS</strong></td>
<td><strong>OFTEN</strong></td>
<td><strong>SOMETIMES</strong></td>
</tr>
<tr>
<td>6</td>
<td>Talk less</td>
<td><strong>ALWAYS</strong></td>
<td><strong>OFTEN</strong></td>
<td><strong>SOMETIMES</strong></td>
</tr>
<tr>
<td>7</td>
<td>Avoid asking questions</td>
<td><strong>ALWAYS</strong></td>
<td><strong>OFTEN</strong></td>
<td><strong>SOMETIMES</strong></td>
</tr>
<tr>
<td>8</td>
<td>Try to picture how you appear to others</td>
<td><strong>ALWAYS</strong></td>
<td><strong>OFTEN</strong></td>
<td><strong>SOMETIMES</strong></td>
</tr>
<tr>
<td>9</td>
<td>Grip cups or glasses tightly</td>
<td><strong>ALWAYS</strong></td>
<td><strong>OFTEN</strong></td>
<td><strong>SOMETIMES</strong></td>
</tr>
<tr>
<td>10</td>
<td>Position yourself so as not to be noticed</td>
<td><strong>ALWAYS</strong></td>
<td><strong>OFTEN</strong></td>
<td><strong>SOMETIMES</strong></td>
</tr>
<tr>
<td>11</td>
<td>Try to control shaking</td>
<td><strong>ALWAYS</strong></td>
<td><strong>OFTEN</strong></td>
<td><strong>SOMETIMES</strong></td>
</tr>
<tr>
<td>12</td>
<td>Choose clothes that will prevent or conceal sweating</td>
<td><strong>ALWAYS</strong></td>
<td><strong>OFTEN</strong></td>
<td><strong>SOMETIMES</strong></td>
</tr>
<tr>
<td>13</td>
<td>Wear clothes or make up to hide blushing</td>
<td><strong>ALWAYS</strong></td>
<td><strong>OFTEN</strong></td>
<td><strong>SOMETIMES</strong></td>
</tr>
<tr>
<td>14</td>
<td>Rehearse sentences in you mind</td>
<td><strong>ALWAYS</strong></td>
<td><strong>OFTEN</strong></td>
<td><strong>SOMETIMES</strong></td>
</tr>
<tr>
<td>15</td>
<td>Censor what you are going to say</td>
<td><strong>ALWAYS</strong></td>
<td><strong>OFTEN</strong></td>
<td><strong>SOMETIMES</strong></td>
</tr>
<tr>
<td>16</td>
<td>Blank out or switch off mentally</td>
<td><strong>ALWAYS</strong></td>
<td><strong>OFTEN</strong></td>
<td><strong>SOMETIMES</strong></td>
</tr>
<tr>
<td>17</td>
<td>Avoid talking about yourself</td>
<td><strong>ALWAYS</strong></td>
<td><strong>OFTEN</strong></td>
<td><strong>SOMETIMES</strong></td>
</tr>
<tr>
<td></td>
<td>Keep still</td>
<td>Always</td>
<td>Often</td>
<td>Sometimes</td>
</tr>
<tr>
<td>---</td>
<td>------------</td>
<td>--------</td>
<td>-------</td>
<td>-----------</td>
</tr>
<tr>
<td>18</td>
<td>Ask lots of questions</td>
<td>Always</td>
<td>Often</td>
<td>Sometimes</td>
</tr>
<tr>
<td>19</td>
<td>Think positive</td>
<td>Always</td>
<td>Often</td>
<td>Sometimes</td>
</tr>
<tr>
<td>20</td>
<td>Stay on the edge of groups</td>
<td>Always</td>
<td>Often</td>
<td>Sometimes</td>
</tr>
<tr>
<td>21</td>
<td>Avoid pauses in speech</td>
<td>Always</td>
<td>Often</td>
<td>Sometimes</td>
</tr>
<tr>
<td>22</td>
<td>Hide your face</td>
<td>Always</td>
<td>Often</td>
<td>Sometimes</td>
</tr>
<tr>
<td>23</td>
<td>Try to think about other things</td>
<td>Always</td>
<td>Often</td>
<td>Sometimes</td>
</tr>
<tr>
<td>24</td>
<td>Talk more</td>
<td>Always</td>
<td>Often</td>
<td>Sometimes</td>
</tr>
<tr>
<td>25</td>
<td>Try to act normal</td>
<td>Always</td>
<td>Often</td>
<td>Sometimes</td>
</tr>
<tr>
<td>26</td>
<td>Try to keep tight control of your behaviour</td>
<td>Always</td>
<td>Often</td>
<td>Sometimes</td>
</tr>
<tr>
<td>27</td>
<td>Make an effort to come across well</td>
<td>Always</td>
<td>Often</td>
<td>Sometimes</td>
</tr>
</tbody>
</table>
Appendix 2.7

Hospital Anxiety and Depression Scale


Please read each item and underline the reply which comes closest to how you have been feeling IN THE PAST WEEK. Don’t take too long over your replies, your immediate reaction will probably be more accurate than a long thought-out response.

1. **I feel tense or ‘wound-up’**:
   - Most of the time
   - A lot of the time
   - From time to time, occasionally
   - Not at all

2. **I still enjoy the things I used to enjoy**:
   - Definitely as much
   - Not quite so much
   - Only a little
   - Hardly at all

3. **I get a sort of frightened feeling as if something awful is about to happen**:
   - Very definitely an quite badly
   - Yes, but not too badly
   - A little, but it doesn’t worry me
   - Not at all

4. **I can laugh and see the funny side of things**:
   - As much as I always could
   - Not quite so much now
   - Definitely not so much now
   - Not at all

5. **Worrying thoughts go through my mind**:
   - A great deal of the time
   - A lot of the time
   - From time to time, but not too often
   - Only occasionally

6. **I feel cheerful**
   - Not at all
   - Not often
   - Sometimes
   - Most of the time
<table>
<thead>
<tr>
<th></th>
<th>Statement</th>
<th>Rating Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.</td>
<td>I can sit at ease and feel relaxed</td>
<td>Definitely, Usually, Not often, Not at all</td>
</tr>
<tr>
<td>8.</td>
<td>I feel as if I am slowed down</td>
<td>Nearly all the time, Very often, Sometimes, Not at all</td>
</tr>
<tr>
<td>9.</td>
<td>I get a sort of frightened feeling like ‘butterflies’ in the stomach:</td>
<td>Not at all, Occasionally, Quite often, Very often</td>
</tr>
<tr>
<td>10.</td>
<td>I have lost interest in my appearance</td>
<td>Definitely, I don’t take as much care as I should, I may not take quite as much care, I take just as much care as ever</td>
</tr>
<tr>
<td>11.</td>
<td>I feel restless as if I have to be on the move</td>
<td>Very much indeed, Quite a lot, Not very much, Not at all</td>
</tr>
<tr>
<td>12.</td>
<td>I look forward with enjoyment to things</td>
<td>As much as ever I did, Rather less than I used to, Definitely less than I used to, Hardly at all</td>
</tr>
<tr>
<td>13.</td>
<td>I get sudden feelings of panic</td>
<td>Very often indeed, Quite often, Not very often, Not at all</td>
</tr>
<tr>
<td>14.</td>
<td>I can enjoy a good book or TV programme</td>
<td>Often, Sometimes, Not often, Very seldom</td>
</tr>
</tbody>
</table>
Appendix 2.8

Mood Rating Scales

Using the Scales below, please circle the number which best represents how you feel at the moment.

Nervous

0 10 20 30 40 50 60 70 80 90 100
Not at all

Sad

0 10 20 30 40 50 60 70 80 90 100
Not at all

Happy

0 10 20 30 40 50 60 70 80 90 100
Not at all
Appendix 2.9

Demographic and Hearing Variables Questionnaire

Could you please complete the following questionnaire, as accurately as you can. Circle the answer that best applies to you. If there are any questions that you are unsure of please try to answer them to the best of your knowledge. If you feel uncomfortable answering any questions they may be omitted. All answers will be treated with the strictest of confidentiality.

<table>
<thead>
<tr>
<th>1. Are you:</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. What is your age? 16-18</th>
<th>18-24</th>
<th>25-34</th>
<th>35-44</th>
<th>45-54</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>55-64</td>
<td>65-74</td>
<td>75-84</td>
<td>over 85</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. What is your occupation?</th>
<th>...............</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retired…...</td>
<td>Unemployed …...</td>
</tr>
<tr>
<td>(if either of the above, please indicate the type of occupation you were last employed in)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. Do you live (please tick)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alone</td>
</tr>
<tr>
<td>With your partner/spouse?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. Is English your first language?</th>
<th>Yes / No</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>6. In which ear do you have the most hearing loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7. What is your degree of hearing loss?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8. When did you first realise that you had hearing difficulties?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than six months ago</td>
</tr>
</tbody>
</table>
9. Do you use a hearing aid? Yes/No
If no, have you ever tried using a hearing aid? Yes/No

10. Have you attended lipreading classes before? Yes/No
If yes, how long did you attend for?

<table>
<thead>
<tr>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 day</td>
</tr>
<tr>
<td>1 year</td>
</tr>
<tr>
<td>more than 1 year</td>
</tr>
</tbody>
</table>

11a. Do you suffer from tinnitus? Yes/No
11b. Do you suffer from vertigo? Yes/No

Thank you for completing this questionnaire. If you have any comments about the questionnaire please write them below.
Please continue to complete the other questionnaires that you have been given.
13 September 1999

Ms Lorraine Childs
Department of Psychology
University of Surrey

Dear Ms Childs

Adults with acquired hearing loss: The impact of social anxiety on ability to learn lipreading. (ACE/99/41/Psy)h

I am writing to inform you that the Advisory Committee on Ethics has considered the above protocol and subsequent information supplied, and has approved it on the understanding that the Ethics Guidelines are observed.

This letter of outline approval relates only to the study specified in your protocol (ACE/99/41/Pysch). The Committee should be notified of any changes to the proposal, or if the study is terminated earlier than expected (with reasons). I enclose a copy of the Ethics Guidelines booklet for your information.

Yours sincerely

Helen Schuyleman (Mrs)
Secretary, University Advisory Committee on Ethics

cc: Professor L J King, Chairman, ACE
Dr Emma Dunmore, Co-Investigator, Department of Psychology

Enc
Appendix 2.11

Instructions for Questionnaires

Attached are a set of questionnaires which ask some questions about you.

Please try to answer all questions, without missing any out. Answer with the first response that comes to mind, do not spend long considering how to answer each question. Additional instructions are provided at the top of each questionnaire.

If you find any questions too difficult to answer, or if you would prefer not to answer any questions, then please omit them.

All answers are strictly confidential and will only be seen by the investigator. To ensure anonymity a code will be issued to each individual’s answer sheet. For this reason could you please write your name, your teacher’s name and the date below. I will then issue you with a code and affix this to your response sheets and remove the sheets on which you have written your name.

Thank you for taking part.

Name: ..........................................................

Lipreading teacher ...........................................

Date: ........................................................

For investigators use only

Code ..........................
INFORMATION SHEET

Thank you for considering taking part in this study. All the information which you provide is strictly confidential. Only the investigator will have access to individual results.

The study is investigating which factors can affect people’s ability to learn the skills needed in lipreading. The results of the study will help us to understand specific difficulties in learning to lipread and will help us to improve services that can be offered to lipreading students.

The study involves watching a short video, which assesses lipreading skills and completing some straightforward questionnaires. These questionnaires first ask some background questions about yourself. Then there are some scales to complete, which ask about the way you feel and how you react in certain situations. The video lasts twenty minutes, and the questionnaires take about 15-20 minutes to complete.

Part of this process (the video and shorter questionnaires) will then be repeated in the final lesson of the term. This is to enable measurement of improvement in lipreading skills.

Participation in the study is entirely voluntary. You do not have to answer any questions which you do not want to answer. You are also free to leave the study at any point in time, without giving a reason. Declining to take part will not affect the service you receive from your lipreading teacher. Participation will however provide you with an opportunity to practice your ‘pure’ lipreading skills. If you wish, you can receive the results of your lipreading assessments after the second assessment, which will provide you with some guidance of your progress and individual feedback about your lipreading strengths. This service is not normally available to lipreading students. Individual data is confidential, although you may choose to share this with your teacher. Your participation will also help us to improve and develop services for other lipreading students in the future.

Should you agree to participate the study will take place during a pre-arranged lipreading class.

If you would like any further information, please contact Lorraine Childs, using the above address or phone number.
CONSENT FORM, TO TAKE PART IN THE RESEARCH BEING
UNDERTAKEN BY MS. LORRAINE CHILDS

Name of Principal Investigator: Lorraine Childs

Have you read the information sheet? Yes / No
Please delete as necessary

Have you received enough information about the study? Yes / No

Do you understand that you are free to leave the study
• At any time
• Without giving a reason for leaving? Yes / No

Do you understand that all responses are strictly confidential? Yes / No

Signature ..........................................................

Name (in block capitals) .............................................

Date ........................................................................
Appendix 2.14

Feedback Form

8th March, 2000

Dear

Thank you very much for taking part in this research study. Your contribution has been extremely valuable. You may remember that I said I would write with the results of your lipreading tests. This letter explains your what your results are, in the context of the study.

A large number of people took part. 79 people took part in the first set of tests and 60 people took part in the second set. As this was a research study we needed to use a standard measure of lipreading. As you may be aware, many people found the tests quite difficult.

The main reason why people found the tests difficult was because it was not like lipreading in a natural situation, i.e. there was no context, body language or facial expression; the sentences were very short; and lipreading from a video is much harder because it is 2 dimensional and there are no profile views of the person. Also, the video was played with no sound, whereas normally, most people have some hearing and did not have to rely totally on lipreading.

There was a good range of scores on the test, which reflected the amount of lipreading experience that people had. I have written how your score compares with scores that other people got in the study. I have also made some comments on the type of errors that were made. Scores for each set of tests are out of 100.

You scored .......... on the first test and .......... on the second test. These scores were ................................the average range of scores in the study.

Individual feedback section

I would like to thank you all again for taking part. If you have any queries about your results or would like a copy of the study when it is complete, please contact me at the above address.

The best of luck in learning lipreading in the future,

Yours Sincerely
Lorraine Childs (Trainee Clinical Psychologist)
Appendix 2.15
De-briefing Letter

8th March, 2000

Dear Student

Thank you very much for taking part in this study.

The results of the study will be useful in providing guidance to teachers of lipreading and clinicians who work with people with hearing loss.

As you know the study is investigating factors which may influence people's ability to learn lipreading skills. It is based on previous research, which shows that social situations can become more difficult after hearing loss. Some people may find such situations more difficult than others and may try to deal with their worries by, for example, avoiding social situations. It is anticipated in this study that people who have more difficulties in social situations may find it harder to learn lipreading.

If we do find that people who have difficulties in social situations find it harder to learn lipreading, then it will help clinicians in audiology clinics to identify these individuals and provide them with some ways of making social situations easier to cope with. It may also lead to some adaptations in the way lipreading is taught, so that these individuals will have more confidence in entering social situations which will enable them to practice their lipreading skills.

If you wish, you may receive a summary of the results of the study after these are available, in July/August, 2000. If you would like a copy of the findings, please contact the investigator at the address above closer to this time, providing details of your home address so they may be sent to you.

If you have any further questions or would like any more information, please do not hesitate to contact me.

Yours Sincerely,

Lorraine Childs
Trainee Clinical Psychologist

Dr. Emma Dunmore
Chartered Clinical Psychologist
Appendix 3.1

Pearson correlations to assess associations between lipreading measure (BKB) and state mood scores at time 1 and time 2 (page 255).

<table>
<thead>
<tr>
<th>State Scores</th>
<th>N</th>
<th>Test statistic</th>
<th>p-value</th>
<th>Test statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Pearson Correlation</td>
<td></td>
<td>Pearson Correlation</td>
<td></td>
</tr>
<tr>
<td>Nervous</td>
<td>39</td>
<td>$r = -0.113$</td>
<td>0.494</td>
<td>$r = 0.126$</td>
<td>0.452</td>
</tr>
<tr>
<td>Sad</td>
<td>38</td>
<td>$r = 0.050$</td>
<td>0.768</td>
<td>$r = 0.066$</td>
<td>0.695</td>
</tr>
<tr>
<td>Happy</td>
<td>39</td>
<td>$r = 0.096$</td>
<td>0.560</td>
<td>$r = 0.002$</td>
<td>0.993</td>
</tr>
</tbody>
</table>
## Appendix 3.2

**T-tests to show significant differences between upper and lower quartiles of time measures**

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Mean (s.d.) of Quartile Group</th>
<th>Test statistic t-test</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>1st Quartile</strong></td>
<td><strong>4th Quartile</strong></td>
<td><strong>1st Quartile</strong></td>
</tr>
<tr>
<td>FNE</td>
<td>5.92 (2.64)</td>
<td>19.90 (2.92)</td>
<td>t(20) = -11.78</td>
</tr>
<tr>
<td>SADS</td>
<td>10.00 (4.00)</td>
<td>19.20 (1.23)</td>
<td>t(17) = -6.938</td>
</tr>
<tr>
<td>PDI</td>
<td>10.86 (1.23)</td>
<td>23.85 (2.15)</td>
<td>t(25) = -19.418</td>
</tr>
<tr>
<td>HLS</td>
<td>5.0 (0.00)</td>
<td>12.92 (1.78)</td>
<td>t(11) = -15.39</td>
</tr>
<tr>
<td>SBQ</td>
<td>13.23 (3.90)</td>
<td>41.36 (5.20)</td>
<td>t(25) = -15.807</td>
</tr>
<tr>
<td>Anxiety</td>
<td>0.92 (0.90)</td>
<td>12.77 (1.48)</td>
<td>t(23) = -23.92</td>
</tr>
<tr>
<td>Depression</td>
<td>0.36 (0.50)</td>
<td>7.93 (0.92)</td>
<td>t(23) = -24.531</td>
</tr>
</tbody>
</table>
## Appendix 3.3

Table to show differences between completers (any part of qu. 1 and videos 1 and 2) and non-completers (video and questionnaires at time 1, but no video at time 2).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Non-Completers</th>
<th>Completers</th>
<th>Test Statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DEMOGRAPHICS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher 1</td>
<td>11 (15)</td>
<td>22 (30)</td>
<td>$\chi^2(1, 73) = 3.427$</td>
<td>.064</td>
</tr>
<tr>
<td>Teacher 2</td>
<td>22 (30)</td>
<td>18 (25)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Order of LR Test n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test 1 first</td>
<td>15 (20.5)</td>
<td>25 (34)</td>
<td>$\chi^2(1, 73) = 2.121$</td>
<td>.145</td>
</tr>
<tr>
<td>Test 2 first</td>
<td>18 (25)</td>
<td>15 (20.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>19 (26)</td>
<td>30 (41)</td>
<td>$\chi^2(1, 73) = 2.488$</td>
<td>.115</td>
</tr>
<tr>
<td>Men</td>
<td>14 (19)</td>
<td>10 (14)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 65</td>
<td>9 (15)</td>
<td>23 (38)</td>
<td>$\chi^2(1, 61) = 1.841$</td>
<td>.175</td>
</tr>
<tr>
<td>Over 65</td>
<td>13 (21)</td>
<td>16 (26)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupation n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retired/unemployed employed</td>
<td>17 (28)</td>
<td>25 (41)</td>
<td>$\chi^2(1, 61) = 1.138$</td>
<td>.286</td>
</tr>
<tr>
<td>employed</td>
<td>5 (8)</td>
<td>14 (23)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living status n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alone</td>
<td>5 (8)</td>
<td>21 (34)</td>
<td>$\chi^2(1, 61) = 6.584$</td>
<td>.010</td>
</tr>
<tr>
<td>Co-habiting</td>
<td>18 (30)</td>
<td>17 (28)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handedness n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left-handed</td>
<td>2 (3)</td>
<td>5 (8)</td>
<td>$\chi(1, 62) = 1.000$</td>
<td></td>
</tr>
<tr>
<td>Right-handed</td>
<td>21 (34)</td>
<td>34 (55)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HEARING VARIABLES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laterality of Hearing Loss n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mainly left</td>
<td>8 (13)</td>
<td>9 (14)</td>
<td>$\chi^2(3, 62) = 3.098$</td>
<td>.377</td>
</tr>
<tr>
<td>Mainly right</td>
<td>5 (8)</td>
<td>16 (26)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equally</td>
<td>9 (14)</td>
<td>11 (18)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unsure</td>
<td>1 (2)</td>
<td>3 (5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of Hearing Loss n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mild-moderate</td>
<td>12 (20)</td>
<td>22 (37)</td>
<td>$\chi^2(1, 60) = 0.064$</td>
<td>.801</td>
</tr>
<tr>
<td>Severe-profound</td>
<td>10 (17)</td>
<td>16 (26)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Onset of Hearing Loss n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 2 years ago</td>
<td>5 (8)</td>
<td>4 (7)</td>
<td>$\chi^2(1, 61) = 1.432$</td>
<td>.231</td>
</tr>
<tr>
<td>More than 2 years ago</td>
<td>18 (29)</td>
<td>34 (56)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Currently use Hearing Aid n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>16 (26)</td>
<td>22 (36)</td>
<td>$\chi^2(1, 62) = 1.055$</td>
<td>.304</td>
</tr>
<tr>
<td>No</td>
<td>7 (11)</td>
<td>17 (27)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variable</td>
<td>Non-Completers</td>
<td>Completers</td>
<td>Test Statistic</td>
<td>p-value</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>----------------</td>
<td>------------</td>
<td>-----------------</td>
<td>---------</td>
</tr>
<tr>
<td><strong>Presence of Tinnitus n (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has tinnitus</td>
<td>12 (19)</td>
<td>19 (31)</td>
<td>Chi² (1, 62) = .069</td>
<td>.793</td>
</tr>
<tr>
<td>No tinnitus</td>
<td>11 (18)</td>
<td>20 (32)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Presence of Vertigo n (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has Vertigo</td>
<td>6 (10)</td>
<td>10 (16)</td>
<td>Chi² (1, 62) = .002</td>
<td>.969</td>
</tr>
<tr>
<td>Does not have vertigo</td>
<td>17 (27)</td>
<td>29 (47)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Previously attended Lipreading Classes n (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>12 (20)</td>
<td>25 (41)</td>
<td>Chi² (1, 61) = 1.113</td>
<td>.291</td>
</tr>
<tr>
<td>No</td>
<td>11 (18)</td>
<td>13 (21)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Length of time previously n (%) attended Lipreading Classes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 year</td>
<td>3 (5)</td>
<td>7 (12)</td>
<td>Chi² (2, 61) = 1.148</td>
<td>.563</td>
</tr>
<tr>
<td>More than 1 year</td>
<td>9 (15)</td>
<td>18 (29)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>11 (18)</td>
<td>13 (21)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Questionnaire Completion at Time 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fear of Negative Evaluation mean (s.d)</td>
<td>11.4 (5.9)</td>
<td>13.2 (4.8)</td>
<td>t(49) = -1.171</td>
<td>.247</td>
</tr>
<tr>
<td>Social Avoidance &amp; Distress Scale mean (s.d)</td>
<td>13.7 (4.8)</td>
<td>15.8 (2.5)</td>
<td>t(44) = -1.930</td>
<td>.060</td>
</tr>
<tr>
<td>HARD – PDI mean (s.d)</td>
<td>16.5 (5.6)</td>
<td>17.7 (4.2)</td>
<td>t(59) = -.954</td>
<td>.344</td>
</tr>
<tr>
<td>HARQ – HLS mean (s.d)</td>
<td>8.1 (3.3)</td>
<td>7.8 (2.7)</td>
<td>t(59) = .146</td>
<td>.884</td>
</tr>
<tr>
<td>Social Behaviour Questionnaire mean (s.d)</td>
<td>21.8 (11.4)</td>
<td>28.6 (10.5)</td>
<td>t(55) = -2.265</td>
<td>.027</td>
</tr>
<tr>
<td>HADS – Anxiety mean (s.d)</td>
<td>6.1 (5.0)</td>
<td>6.3 (4.0)</td>
<td>t(59) = -.172</td>
<td>.864</td>
</tr>
<tr>
<td>HADS – Depression mean (s.d)</td>
<td>4.2 (3.3)</td>
<td>3.5 (2.3)</td>
<td>t(59) = 1.015</td>
<td>.314</td>
</tr>
<tr>
<td><strong>State Scores</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nervous mean (s.d)</td>
<td>32.6 (29.0)</td>
<td>24.9 (27.1)</td>
<td>t(68) = 1.146</td>
<td>.256</td>
</tr>
<tr>
<td>Sad mean (s.d)</td>
<td>7.3 (13.4)</td>
<td>5.5 (12.9)</td>
<td>t(66) = .562</td>
<td>.574</td>
</tr>
<tr>
<td>Happy mean (s.d)</td>
<td>62.9 (22.1)</td>
<td>58.7 (25.9)</td>
<td>t(68) = .716</td>
<td>.468</td>
</tr>
<tr>
<td><strong>Lipreading Scores</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Score at Time 1 mean (s.d)</td>
<td>14.4 (12.9)</td>
<td>16.7 (11.4)</td>
<td>t(71) = -.835</td>
<td>.407</td>
</tr>
<tr>
<td>Amount of Improvement mean (s.d)</td>
<td>1.3 (5.7)</td>
<td>.92 (5.7)</td>
<td>t(47) = .195</td>
<td>.847</td>
</tr>
</tbody>
</table>