CAREER DEVELOPMENT AND ADOLESCENTS
WHO ARE HARD OF HEARING: CAREER MATURITY,
CAREER DECISION-MAKING AND CAREER BARRIERS AMONG
HIGH SCHOOL STUDENTS IN REGULAR CLASSES

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ABSTRACT

In Australia, as in most English-speaking countries, increasing numbers of children with significant hearing loss are being educated in regular classes with the support of itinerant teachers of the deaf, rather than in segregated settings. These students primarily use their amplified residual hearing and communicate orally, and may be functionally defined as hard of hearing.

This thesis reports on a study investigating the career development of hard of hearing high school students attending regular Year 10, 11, and 12 classes with itinerant teacher support in the Australian states of Queensland and New South Wales. The students had bilateral sensorineural hearing losses ranging from mild to profound. The study sought to identify and analyse the key factors that influence the career development of this population. The design of the study was informed by Social Cognitive Career Theory (Lent, Brown, & Hackett, 1994), with its emphasis on cognitive variables, personal agency, diversity, and contextual influences, and the developmental theory of Donald Super and its associated concept of career maturity (Super, 1980; Super, Savickas, & Super, 1996). The study also investigated the social participation of hard of hearing adolescents and the relationship among the students’ perceptions of their social participation, their social self-concept, and their career decision-making.

The research was conducted using a three-phase, mixed methods approach incorporating two major phases, one quantitative and one qualitative, preceded by a minor, preliminary phase. The preliminary, exploratory phase of the study was included in order to guide the design of the survey instrument, and in particular the section covering perceived career barriers, an area not discussed in the literature for this population. Interviews were conducted with four hard of hearing Year 12 school students and four hard of hearing first-year university students who were recent school-leavers.

In phase two, sixty-five hard of hearing students were compared with a matched group of normally hearing peers on measures of career maturity, career indecision, perceived career barriers, social participation and three variables associated with Social Cognitive Career Theory: career decision-making self-efficacy, outcome expectations, and goals. In addition, predictors of career maturity were tested for both groups.
Phase three comprised the collection and analysis of qualitative data from interviews with a proportion of the survey respondents to explore the quantitative results in greater depth. Twelve students with hearing losses ranging from moderate to profound participated in these interviews.

Results of the quantitative analysis indicated that (a) the two groups did not differ on measures of career maturity or social participation, (b) the Social Cognitive Career Theory variables were less predictive of career behaviours for the hard of hearing students than for the normally hearing students, and (c) perceived career barriers related to hearing loss predicted lower scores on the measure of career development attitudes for the hard of hearing students. The quantitative data also showed that survey respondents reported high levels of anticipation of some hearing-related barriers to achieving their educational or career goals, particularly “people not understanding my hearing loss.”

The results of the qualitative analysis extended many of the quantitative findings, yielding information and insights inaccessible through traditional quantitative methods. The qualitative findings revealed ways in which students perceived potential barriers, how they felt about them, and ways in which their perceptions of barriers influenced their career choice and decision-making. In addition, the qualitative findings revealed a complex interaction among students’ social participation with their peers, their experiences of other people’s negative reactions, their self-consciousness about their hearing loss, their fears about mishearing people, and their career decision-making.

In sum, the study identified potential career barriers as a key factor influencing the career development of this group of hard of hearing students, and clarified understanding of the way in which their social self-concept interacted with their career development. The study’s findings contribute to current knowledge and understanding of the career development of adolescents with significant hearing loss who attend regular classes with itinerant teacher support in two states of Australia. The thesis discusses implications for theory and for practice that have arisen from the study, and sets out recommendations for ways in which the career development and transition of this population might be improved.
STATEMENT OF ORIGINALITY

This work has not previously been submitted for a degree or diploma in any university. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

Signed: _____________________________________
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CHAPTER ONE - INTRODUCTION

For most people, work is a primary factor in determining the overall quality of life. Work provides a setting for satisfying practically the whole range of human needs – physiological, safety, social, ego, and self-actualization (using Maslow’s typology); achievement, affiliation, and power (using McClelland’s trilogy); and other needs, such as aggression and altruism, autonomy, and applause.

(Hall, 2002, p. 12).

Introduction

For the great majority of adults, work is a major facet of life, not only crucial for economic survival but also instrumental in meeting myriad social and psychological needs. Success in one’s work and satisfaction in one’s work are subjective concepts with different meanings for different individuals, but few people do not value and seek them.

The development of adaptive career exploration skills and career decision-making attitudes and abilities is considered critical for adolescents to successfully negotiate the school-to-work transition and achieve optimal career outcomes (Blustein, 1997a; Patton, 2000; Sweet, 1998). For young people who are deaf or hard of hearing, communication difficulties combined with environmental and attitudinal barriers constitute potential disadvantages in achieving educational and career outcomes. It is important for these young people to engage in careful career exploration and planning in order to minimize these potential disadvantages and avoid the cycle of unemployment and underemployment that has characterized the lives of many deaf and hard of hearing people (Schildroth, Rawlings, & Allen, 1991; Schroedel & Geyer, 2000, 2001).

Little empirical research has been conducted to investigate the career development of adolescents with significant permanent hearing loss, particularly those
who are educated in regular classes with itinerant teacher of the deaf support and who communicate orally. This study sought to identify and analyse the key factors that influence the career development of this population.

This chapter first provides information on the nature of hearing loss and its prevalence in Australia. It then outlines the terminology used to describe people with hearing loss and explains the use of the term *hard of hearing* in this study. It discusses the issue of hearing loss being considered a disability, and relates this to the World Health Organization’s (1980) classification of impairment, disability and handicap. It then outlines a number of relatively recent developments that have had significant implications for children with hearing loss. It proceeds to a discussion of current trends in the educational placement of deaf and hard of hearing primary and secondary school students. The significance of the study is outlined. Finally, the choice of a mixed methods approach and its relevance to the study’s key research questions are explained.

**Hearing loss in Australia**

Hearing loss is common among the overall population of Australia, affecting 13.5% of Australians, according to a National Health Report (Australian Bureau of Statistics, 2001). An earlier survey that gathered extensive statistics on hearing impairment, the 1993 report, *Disability, Ageing and Carers Australia, Hearing Impairment*, reported the figure at 6% (Australian Bureau of Statistics, 1993). The great majority of these individuals acquired their hearing loss in maturity: 21% of Australians aged 60 years or more had a hearing loss, and only 3.2% of the population aged less than 60 years had a hearing loss in 1993. The survey reported that there were 33,400 young people with hearing loss attending school in Australia. However, the reporting of demographic data on people with hearing loss is problematic. As Schein (2001) pointed out, “defining deafness or even degree of hearing loss remains one of the key issues in
accurately collecting demographic data” (p. 30). In addition, prevalence figures for disabilities among school students in Australia are difficult to determine due to a lack of consistency among state education authorities in definitions of disability and criteria for eligibility to disability programs (The Senate Employment Workplace Relations and Education References Committee, 2002).

A sensorineural hearing loss that is present at birth or develops prelingually (before the natural acquisition of language) can have serious and long-term consequences for children’s development and education. While many children have conductive hearing losses, caused by damage or blockage to the sound-conducting mechanisms of the ear, these are nearly always medically or surgically treatable. Sensorineural loss, however, results from damage to the cochlea or the auditory nerve, is as yet untreatable medically or surgically, and is irreversible (Northern & Downs, 1991; Power, 1998). When significant sensorineural hearing loss occurs congenitally or prelingually it is very difficult for children to acquire a spoken language, and the consequent impact on their personal, social and educational development is usually considerable (Power, 1998). The age of three years is commonly given to indicate the demarcation between prelingual and postlingual deafness, “although no firm evidence confirms this age as the most critical” (Powers, 2003, p. 58).

Hearing loss is assessed across frequencies, measured in Hertz (Hz), and intensity, measured in decibels (dB). Thresholds are reported for classification purposes as a pure-tone average of the better ear across the frequencies within the range of human speech sounds, usually from 250 to 4,000 Hz. Australian Hearing, a national organisation providing government-funded audiological services and hearing aids to Australians up to the age of 21, as well as to aged pensioners and war veterans, classifies hearing loss into five levels, shown in Table 1 (Australian Hearing, 2001).
**Table 1**

*Classification of Hearing Loss*

<table>
<thead>
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<th>Classification</th>
<th>Degree of Hearing Loss</th>
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<tbody>
<tr>
<td>Mild</td>
<td>21 – 45 dB</td>
</tr>
<tr>
<td>Moderate</td>
<td>46 – 60 dB</td>
</tr>
<tr>
<td>Moderately severe</td>
<td>61 – 75 dB</td>
</tr>
<tr>
<td>Severe</td>
<td>76 – 90 dB</td>
</tr>
<tr>
<td>Profound</td>
<td>&gt; 91dB</td>
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In the United States and the United Kingdom, classifications may vary slightly but are generally similar to these Australian levels, although often do not include the category “moderately severe” (Harrell, 2002; Marschark, Lang, & Albertini, 2002; Powers, Gregory, & Thoutenhoofd, 1998). Children with greater than 45dB, that is, moderate to profound, hearing losses are likely to experience the most difficulties, although even mild hearing losses have been found to adversely affect children’s psychosocial and educational development (Bess, Dodd-Murphy, & Parker, 1998; Davis, Elfenbein, Schum, & Bentler, 1986; Stenton, 2004).

**Terminology - hearing-impaired, deaf, and hard of hearing**

While the term *hearing-impaired* has been used in the past to describe all individuals with hearing loss, regardless of their level of auditory impairment, recently its use has been rejected by most consumer organizations and professionals in the field in favour of the terms *deaf* and *hard of hearing*. The term hearing-impaired has been largely discarded both because it fails to differentiate between these two categories (International Federation of Hard of Hearing People, 2002) and because it can be considered a pejorative term (Moores, 2001). However, it continues to be used within education systems in Australia. In the UK, the word deaf is often used as a general term in the literature and in education to cover the range of levels of hearing loss, although
the term hearing-impaired remains in use in education settings, usually implying an oral, sound-based linguistic approach (Powers et al., 1998). In the USA, the term deaf and hard of hearing is commonly used in the literature to refer to children and adults with hearing losses across the full range of levels.

Definitions and usage of the terms deaf and hard of hearing are themselves subject to inconsistencies, and may embody a medical, psychological or cultural perspective (Calderon & Greenberg, 1997). The word deaf includes those people who consider themselves culturally and socially Deaf, usually written with an upper case “D”, who identify with the Deaf community and use a sign language (in Australia, Australian Sign Language, known as Auslan) as their primary mode of communication (Ozolins & Bridge, 1999; Power, 1998). Most people who identify with this culture in Australia are deaf children of deaf parents, or are people who make the decision to do so after reaching adulthood (Power, 1997). For some people, the boundary between identities can be fluid in time and space as they move between Deaf and hearing cultures (Skelton & Valentine, 2003). In Australia, the Deaf community is less numerous and has fewer resources and facilities than the Deaf community in the USA, and it seems that some Auslan users do not consider that they are part of a Deaf culture. Using in-depth interviews, Freebody and Power (2001) discovered three ways in which adult postsecondary students who were Auslan users thought about their deafness. These were as a disability, impairment or disorder; essentially as a logistic problem, especially in contacts with hearing people; and as a social community/culture in its own right.

It has been estimated that, out of Australia’s total population with hearing loss of at least 1.8 million, there exists a Deaf population of between fifteen and sixteen thousand (Hyde & Power, 1992), a number which, it has recently been suggested, is declining significantly (Johnston, 2004). It is apparent, then, that most people with
hearing loss are not Deaf in this sense; rather they operate with varying degrees of difficulty and of success in the hearing world, communicating through speech, amplified residual hearing and lipreading (Power, 1998).

The medical perspective of the terms deaf and hard of hearing involves a consideration of the degree of auditory impairment. Generally included in the deaf category are people with severe and profound levels of hearing loss, and in the hard of hearing category people with mild and moderate losses. However, in recent years the functional perspective has become a more common defining factor of people with hearing loss. The Joint Committee of the American Speech-Language-Hearing Association and the Council on Education of the Deaf (1998) pointed out that basing descriptors upon audiometric levels of hearing loss may misrepresent an individual’s communication functioning. The Annual Survey of Deaf and Hard of Hearing Children and Youth, conducted by the Gallaudet Research Institute since 1968, has included since its 1997-98 survey a teacher estimate of students’ functional hearing ability in the instructional setting, taking into account regularly used assistive devices such as hearing aids, cochlear implants and personal frequency modulation radio aid (FM) systems. This has extended its previous focus on obtaining audiological measurements of students’ hearing (Holden-Pitt & Diaz, 1998; Karchmer & Allen, 1999). Moores (2001) pointed out the value of a consideration of individuals’ normal listening conditions when the movement towards early diagnosis of hearing loss and fitting of hearing aids is growing. In addition, children with very similar hearing threshold levels may respond quite differently to speech, and some children with severe and profound losses are able to make remarkable use of their residual hearing (Power, 1998).

Thus, the majority of current definitions of the terms deaf and hard of hearing refer either explicitly or implicitly to individuals’ functional hearing ability. The
Conference of Educational Administrators Serving the Deaf (Frisnia, 1974, cited in Moores, 2001, p. 11) adopted the following definitions which are still used today:

- **A deaf person** is one whose hearing is disabled to an extent that precludes the understanding of speech through the ear alone, with or without the use of a hearing aid.

- **A hard of hearing person** is one whose hearing is disabled to an extent that makes difficult, but does not preclude, the understanding of speech through the ear alone, with or without a hearing aid.

Similarly, but somewhat confusingly, the US Department of Education defines the terms as follows:

- **Deaf** – means a hearing impairment that is so severe that the child is impaired in processing linguistic information through hearing, with or without amplification, which adversely affects educational performance.

- **Hard of hearing** – means a hearing impairment, whether permanent or fluctuating, which adversely affects a child’s educational performance, but which is not included under the definition of “deaf” in this section. (Bienenstock & Vernon, 1994, p. 129).

Increasingly, the primary mode of communication is used as the major defining factor. An individual is deaf if their “communication development and current primary communication mode is visually based (either sign language or speech reading)”; a person is hard of hearing if their “linguistic development is primarily auditory-based, with vision serving as a secondary and supplemental channel” (Ross, 1990b, p. 320).

An important factor to be considered in the use of terminology is the preference and choice of people with hearing loss, with major organisations recognizing that terminology should reflect the personal preference of the individuals involved (International Federation of Hard of Hearing People, 2002; Joint Committee of the
The use of the terms deaf and hard of hearing in the literature varies widely. Many studies refer to deaf and hard of hearing students without distinguishing between the two groups. However, there is a growing tendency in the literature to consider hard of hearing children and youth and to include all levels of hearing in this category. Israelite, Ower and Goldstein (2002), in their study of the identity construction of hard of hearing adolescents, used a functional definition embracing “not only individuals with mild and moderate losses…but also individuals with moderately-severe, severe and even profound loss so long as they prefer oral communication and the use of residual hearing (typically supplemented with speechreading, hearing aids, and technical devices)” (p. 135). Other writers similarly define hard of hearing children and adolescents.

This study focuses on young people who are hard of hearing according to the definition outlined above, that is, who have a significant sensorineural hearing loss and who primarily depend on their amplified residual hearing, supplemented by speechreading, and communicate orally.

**Deafness and disability**

Deafness has generally been considered a disability or an impairment, hence it is useful here to consider the meaning of these terms. The International Classification of Impairments, Disabilities and Handicaps (ICIDH), published by the World Health Organisation in 1980, has had a considerable impact on thinking in the health and disability fields in countries around the world (Badley, 1993). It classifies impairment, in the context of health experience, as any loss or abnormality of psychological, physiological or anatomical structure or function. Disability is defined as any restriction
or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being. Handicap is classified as a disadvantage for a given individual resulting from an impairment or disability, that limits or prevents the fulfilment of a role that is normal (depending on age, sex, social and cultural factors) for that individual. This concept relates to the disadvantages for individuals that arise from a discordance between their abilities and performance and the expectations and norms of the society or community of which they are members. Thus, handicap is created for people with impairment or disability by environmental barriers and societal attitudes (Badley, 1993; World Health Organization, 1980). A revised version of the ICIDH, the International Classification of Functioning and Disability, replaced the term “disability” with “activity limitation” and “handicap” with “participation limitation” (World Health Organization, 1999).

These concepts are closely related to a growing recognition of the sociocultural nature of disability and to the increasing replacement of the medical model of disability with a social/environmental/political model. Many writers and researchers who themselves have a disability, such as Morris (1991), Oliver (1993) and Hahn (1993), have explored a model of disability as a social construct, emphasising the social exclusion of people with disabilities that can result from societal attitudes, values, prejudices and discrimination. Hahn asserted that public attitudes of prejudice and discrimination based on “visible or physical differences” are responsible for virtually all kinds of environmental and societal restraints (p. 47). In addressing the issue of stigma and disability some four decades ago, Goffman (1963) pointed out that societal responses are often more disabling to individuals than the functional limitations caused by their impairments. Pertaining to deafness, Beazley and Moore (1995) viewed “disabling barriers and oppressive environments which undermine deaf children’s chances of an ordinary and fulfilled life as the major problem” (p. 2).
People who identify with a Deaf community generally do not consider themselves disabled. Embracing a sociocultural model of deafness and their identity as a linguistic and cultural minority group, they view deafness as a natural variation rather than a disability (Jambor & Elliott, 2005; Parasnis, 1996), and as “a social issue and not one of impairment or pathology” (Leigh, 2001, p. 156). Whether hard of hearing people think of themselves as having a disability is not apparent in the literature, in which there is little investigation of this matter. In a study of Canadian hard of hearing youth, Warick (1994) explored “the dilemma of hard of hearing youth viewing themselves as being the same as everyone else, and being perceived as such due to the invisible nature of their disability, yet growing up with different experiences because of hearing loss” (p. 253). It is generally agreed that individuals who rely on their residual hearing and lip-reading do not regard themselves as members of a minority group linked by common values or traditions. However, these individuals face the difficulty of being without the benefits of group identification yet needing to be continually striving for optimal functioning in a hearing world (Jambor & Elliott, 2005). Regardless of their self-identity, however, both Deaf and hard of hearing people in Australia are classified as having a disability by service providers such as education departments and vocational rehabilitation services, and need to identify as such in order to receive support services from disability services offices in tertiary institutions (McLean, Osborne, McAuliffe, Housden, & Revens, 1999).

Clearly, viewing deafness as a disability can lead to the stigmatising and marginalising of deaf children (Marschark et al., 2002). While recognising both the potential negative implications of labelling any individual as disabled and the diversity and heterogeneity of “people with disabilities”, this study does, at times, refer to individuals who are deaf or hard of hearing in the context of people with disabilities. This occurs largely in considering what career development theory and research has to
say about people whose career development is affected by the “activity limitation” or “disability” created by functional limitations in their everyday activities, and by environmental barriers or negative societal attitudes that constitute the “participation limitation” or “handicap” that the World Health Organization (1980, 1999) describes.

**Students who are “hard of hearing” rather than “deaf”**

Several trends suggest that, out of all children with prelingual hearing loss, more may fit into the hard of hearing category – that is, relying primarily on oral communication and the use of residual hearing - in the future than have in the past. These trends include a decreased incidence in severe and profound hearing losses; advances in hearing assessment, the increasing adoption of neonatal hearing screening, and subsequent very early intervention; technological advances in assistive listening devices; and the development of multichannel cochlear implants. These trends are discussed in more detail below.

**Decreased incidence in severe and profound hearing losses**

In recent years demographic studies have revealed a decrease in the number of children with severe and profound hearing losses, and an increase in children with mild and moderate losses. These changes result from etiological shifts and from improved identification of milder impairments (Garstecki & Erler, 2000; Holden-Pitt & Diaz, 1998). Moores (2001) concluded that the educational system in the USA is accommodating a growing number of hard of hearing children. While clear statistics for Australia are lacking, similar trends in etiology and identification make it probable that Australia is experiencing a growth in the number of children with mild and moderate hearing losses in relation to the number of children with greater degrees of hearing loss.
Hearing assessment and early identification

Recent advances in hearing assessment, particularly the measurement of transient evoked otoacoustic emissions and auditory brainstem response audiometry, have enabled the identification of hearing loss in very young infants (Robinshaw, 1995). The implementation of universal neonatal hearing screening (UNHS) using such audiological assessment is becoming standard in many industrialised countries (Cone-Wesson, 2003). In the UK, implementation of UNHS began in June 2001; the majority of the states of the USA have also mandated for such screening; and many countries in Europe, Africa and South America are also adopting UNHS (Russ, 2001; Yoshinaga-Itano, 2003). In Australia, a consensus statement calling for the introduction of UNHS was ratified by the Australian National Hearing Screening Committee in November, 2001, and many regions are now implementing UNHS programs. The forum which drew up the statement pointed out that 250 to 400 babies each year are born with significant permanent hearing impairment (more than 40dB HL bilaterally) in Australia. The median age of identification of Australian children with profound hearing loss was reported to be between 12 and 18 months, with detection of children with moderate losses (40-60dB) as late as between four and five years. In contrast, some centres carrying out universal newborn screening have reported that the average age of diagnosis of hearing loss is as low as three months (Australian National Hearing Screening Committee, 2001).

Current research indicates that children whose hearing impairment is identified before the age of six months, and who then receive appropriate intervention, have significantly better spoken language development than those diagnosed later. This has been shown to apply to both children with severe and profound hearing losses (Robinshaw, 1995) and children with mild, moderate and moderately severe losses (Yoshinaga-Itano & Apuzzo, 1998a, 1998b). Yoshinaga-Itano (2003) summarised the
research findings from studies of children enrolled in the Colorado Home Intervention Program, which began in 1970. In 1992, UNHS was introduced in Colorado, and studies thenceforward included larger numbers of early identified children. Yoshinaga-Itano concluded that these studies indicate that diagnosis of hearing loss within the first few months of life allows the opportunity to begin early intervention services for families with infants and that this early identification and early intervention results in significantly better language, speech, and social-emotional development. (p. 26)

Intensive habilitation is available to Australian children soon after the diagnosis of their hearing impairment through early intervention centres mainly located in the major cities but now extending their services to reach more rural and regional families. Many of these centres use oral-aural methods, and some adopt the auditory-verbal method. The auditory-verbal approach works from the premise that young children with hearing loss can be educated to use even minimal amounts of amplified residual hearing; it involves intensive therapy sessions focusing on aided residual hearing to develop listening skills and language development and aims for the fullest educational mainstreaming possible for each student (Estabrooks, 1994; Goldberg & Flexer, 2001; Queensland Department of Education, 1996).

The gradual introduction of UNHS throughout Australia and the consequent very early intervention and its related benefits is likely to mean that more children with congenital severe to profound hearing loss will be oral-aural in their linguistic development and primary communication mode.

*Technological advances in assistive devices*

Within the last ten to fifteen years, spin-offs from work within the electronics industry at large have contributed to technological innovations in audiological devices, leading to improved access to spoken language for many people with hearing loss. The application of digital technology to hearing aids has enabled the digital hearing aid’s
gain to be contoured to better suit the wearer’s needs than is possible with an analogue aid. Digital hearing aids are more able to reduce background noise and amplifier noise, thus improving hearing of the desired signal. As well, acoustic feedback, a common problem for children with severe and profound losses, is better controlled in digital hearing aids (Brett & McCracken, 1998).

In addition to improvement in hearing aids, personal frequency modulation (FM) systems, used in classroom situations to bring the teacher’s voice to within critical distance of the child’s hearing, have recently improved in effectiveness. Equally important, particularly for adolescent wearers who tend to be concerned with the conspicuousness of the FM system, much smaller and more unobtrusive units have been developed (Crandell & Smaldino, 2002). While not all these technologically improved devices are yet available to all Australian children who may benefit from them, most such children are receiving considerable audiological benefits from the advances. These benefits include increased access to spoken language and, it is to be expected, improved language development for children with hearing loss.

*Cochlear implants*

Despite these improvements in audiological devices, there remain some severely and profoundly deaf children who can gain little or no benefit from hearing aids. Many of these children are now candidates for cochlear implantation. The cochlear implant provides access to sound for such children, but intensive, long-term habilitation including auditory, speech and language training is essential if it is to be of maximum use for understanding speech (O'Donoghue, Nikolopoulos, & Archbold, 2000; Samson-Fang, Simons-McCandless, & Shelton, 2000). Debate concerning the usefulness, effectiveness and ethical correctness of implanting children has been intense. Commentators from the Deaf community have questioned the moral and ethical aspects of cochlear implantation as a “treatment” for deafness, and have suggested that any
improvements in spoken language skills may be insufficient for full functioning in the hearing community (Crouch, 1997; Enersvedt, 1999; Lane & Grodin, 1997; Power, 2001).

There is a considerable body of research indicating that cochlear implantation can lead to significant oral communication gains for prelingually profoundly deaf children. Studies of speech perception and spoken language results that compared implanted children with matched groups using hearing aids or tactile aids found that the progress of the former group equalled or exceeded that of the other two groups after three years, achieving language levels close to the hearing aid users whose hearing was, on average, 20dB better (Geers & Brenner, 1994; Geers & Moog, 1994). An Australian study of nine children six years after implantation discovered increases in the children’s phonetic inventories leading to increasingly intelligible, although not completely natural, speech (Blamey, Barry, & Jacq, 2001). Investigating the higher communication levels of lexical, grammatical and discourse skills, researchers using story retell protocols and sentence comprehension tests found prelingually deaf children with at least three years of cochlear implant use performed significantly better than a matched group who used hearing aids (Tomblin, Spencer, Flock, Tyler, & Gantz, 1999). In addition, views of parents on the progress of their children with cochlear implants have been sought. Nikolopoulos, Lloyd, Archbold and O’Donoghue (2001) found that 98% of parents saw an improvement in their child’s communication with others after implantation, with 88% recording an improvement in listening to speech and 86% in spoken language.

Despite these positive findings, there is a wide variation in the effectiveness of cochlear implants, and while many children make considerable gains with their implants, some do not. For instance, a study of children who had received cochlear implants between the ages of 14 and 38 months found a great variability in the
children’s language performance outcomes, and continuing delays in language development for most of the participants (Spencer, 2004). Certain factors have been found to contribute to the gains in speech perception and language development of children with cochlear implants. Young age at implantation and the use of an oral communication mode appear to be the most important predictors (O'Donoghue et al., 2000; Pisoni, Cleary, Geers, & Tobey, 1999). In the United States, 12 months is now considered an appropriate age to implant children, and some centres are implanting children at an even younger age (Zwolan, 2002). A study of children implanted between the ages of nine months and 25 months suggests that such children can develop language at rates equal to normally hearing peers and so should ultimately attain age-appropriate speech and language skills (Novak et al., 2000). Implanted children in oral educational settings, or using predominantly speech within a total communication setting, have performed significantly better on a range of speech and language measures than have children who used sign after implantation (Cullington, Hodges, Butts, Dolan-Ash, & Balkany, 2000; Geers, Spehar, & Sedey, 2002). In addition, children with cochlear implants tend to increase their degree of mainstreaming. North American studies have shown that the improved speech perception achieved after implantation and a period of habilitation leads to an increasing number of children moving out of special education classrooms or settings and into regular classes (Daya, Ashley, Gysin, & Papsin, 2000; Francis, Koch, Wyatt, & Niparko, 1999).

Among the variability of findings in the studies of implanted children’s outcomes, and throughout the debate about the merits and ethics of cochlear implantation of children, one factor remains clear: Cochlear implant technology does not restore lost hearing or turn a deaf person into a hearing person. Children with implants still have delayed language development compared to their hearing peers; they need a long period of intense habilitation in order to be able to understand and produce
speech; they must wear external devices (microphone, transmitter coil, and speech processor) that may be as onerous and conspicuous as hearing aids (Enerstvedt, 1999; Moores, 2002). However, for some children with profound hearing loss who can receive little or no benefit from hearing aids, the cochlear implant provides access to sound and speech and may result in them becoming more like a child with a lesser degree of hearing loss who benefits from the use of hearing aids. It is an option that many parents are choosing for their children and it seems likely that greater numbers will do so in the future (Enerstvedt, 1999; Meadow-Orlans, 2001). Current trends towards earlier age of implantation and relaxation of audiometric criteria to include some children with less than profound hearing loss suggest further growth in the number of children having cochlear implants (Christiansen & Leigh, 2002). Johnston (2004) recently reported the rapidly increasing rate of cochlear implantation of severely and profoundly deaf children in Australia. This growth is likely to contribute to a further increase in the number of students with hearing loss functioning as hard of hearing students in regular classes, making an increased research focus on hard of hearing adolescents even more appropriate.

In her keynote address reflecting on the past and future of research and deaf education, Kathryn Meadow-Orlans (2001) discussed the implications of advancing technology in both the communications and medical areas to the conduct of research into the education and welfare of children who are deaf or hard of hearing. She stressed the need for research into subgroups of deaf children such as those with mild and moderate losses, and pointed out the difficulties of conducting research with low-incidence populations.
Educational placement of deaf and hard of hearing students

In Australia, as in most English-speaking countries, the educational placement of deaf and hard of hearing students has increasingly moved away from special settings towards regular classes. This shift has occurred in response to several broad social and political forces of the last forty years that have affected the lives of many people, particularly those belonging to minority groups. The racial, gender, and other civil rights movements that burgeoned in the USA during the 1960s instigated political activism and a demand for integration into mainstream society among people with disabilities (Scotch, 1988). These influences, combined with the move towards normalisation of services that originated in Scandinavia in the 1970s, led to legislative reform that has contributed to significant educational changes for most children with disabilities. Legislation such as the All Handicapped Children’s Act of 1975 and its replacement, the Individuals with Disabilities Act (IDEA) of 1990, established the right to “a free and appropriate education in the least restrictive environment”. This has led to a change in service delivery to deaf and hard of hearing students in the United States. In the two decades between the 1977-78 and the 1996-97 surveys of deaf and hard of hearing youth conducted by Gallaudet University’s Research Institute, the percentage of students attending special schools for the deaf (residential and day) declined from 51% to 28%, and the number attending local regular schools increased from 46% to 69% (Holden-Pitt & Diaz, 1998). A more recent estimate suggests that approximately 83% are now educated, at least part-time, in regular classes in local schools (Luckner & Muir, 2001). The UK has also experienced a move away from educating students with hearing loss in special schools and, according to recent estimates, may educate up to 85% of students with hearing loss within mainstream schools; however, many of these are attending special education units within regular schools (Fortnum, Marshall, Bamford, & Summerfield, 2002; Lynas, Lewis, & Hopwood, 1997).
While Australia currently has no federal or state legislation guaranteeing a right to inclusive education, anti-discrimination legislation of the 1980s and 1990s has strongly influenced service providers in this country. The Commonwealth Disability Services Act of 1986 and Disability Discrimination Act of 1992, along with similar legislation in the states, have had major implications for educational provisions for students with disabilities (Casey, 1994; Education Queensland, 1998). Australia has a particularly high rate of integration of students with significant hearing loss, with an estimated 84% of deaf and hard of hearing students currently attending regular classes with support from itinerant teachers of the deaf. Most of the remainder are placed in special education units in regular schools, where most are taught daily with other deaf students by teachers of the deaf as well as attending the schools’ regular classes to varying degrees (Hyde & Power, 2003; Power & Hyde, 2002). A small number of children, usually those ascertained with very high support needs or with an additional disability, attend special schools for deaf students (Hyde & Power, 2004a). However, most Australian schools that in the past have operated as special schools serving deaf and hard of hearing students have now closed, or combined with regular schools to allow their students to be partially integrated into regular classes, with children travelling between the special school and mainstream settings as part of individual integration timetables for each student (Byrnes, Sigafoos, Rickards, & Brown, 2002; Paterson, Truscott, & Vetoretto, 1995).

Most children with hearing loss in Australian primary and secondary schools have an oral-aural approach as their primary communication and education mode. The estimated 84% of children with hearing loss who attend regular classes in their local school with the support of itinerant teachers are considered not to need the addition of manual communication; most of the remaining 16% who are identified through ascertainment processes as requiring the highest level of specialist support attend
special education units where a form of manual communication (either Auslan or Australasian signed English) is used (Hyde & Power, 2004a; Queensland Department of Education, 1996).

Recently, some schools have begun to offer “bilingual-bicultural” programs. In the USA, where the Deaf community has fought for the acceptance of ASL as the natural and legitimate language of the Deaf, there was a growth of such programs in the early 1990s, but this growth has subsided and has not spread to public schools (Moores, 2004). These programs incorporate the classroom use of two languages - ASL (in America) or Auslan (in Australia) and English – and the promulgation of two cultures – Deaf culture and hearing culture (Miller & Moores, 2000; Ozolins & Bridge, 1999). In Australia, these programs are small, and few in number (Hyde & Power, 2004a). Indeed, the maintenance of such programs over time is difficult without a moderately large population of deaf students (Stinson & Kluwin, 2003).

The large majority of deaf and hard of hearing students in Australia, then, attend regular schools, with full-time regular class placement and varying levels of support from itinerant teachers of the deaf and specialist aides. A recent large-scale study which surveyed itinerant teachers in most states of Australia identified important information about these students (Hyde & Power, 2003, 2004a; Power & Hyde, 2002). The study’s findings revealed a surprisingly large number of students with severe or profound hearing loss being educated in regular classes. Seven per cent of the itinerant teachers’ students were reported to have a mild hearing loss, 30% a moderate loss, 32% a severe loss and 32% a profound loss. Thus, a significant number of children with severe and profound losses are being educated in regular classes rather than in special education units. These students largely rely on their residual hearing and oral communication; consequently they may be functionally described as hard of hearing.
In educational settings and in the literature, the use of terminology to describe the education of students with disabilities in regular schools and classes has tended to be inconsistent. The terms *integration* and *mainstreaming* have often been used interchangeably (Powers, 1996). In Australia, there is currently a tendency to refer to mainstreaming as the participation of students in regular classes, and to integration as the attendance of students at a regular school, but also at a special education unit or class within that school (Elkins, 2002; Foreman, 2001). However, recently the use of the term mainstreaming has decreased in Australia, often being replaced with the term *inclusion* (Elkins, 2002). Inclusion embraces the principles of integration and mainstreaming, but goes further in that it implies a philosophical stance that encompasses all children as part of the normal, diverse nature of society and propounds that schools must provide appropriate supports to enable all children to be educated in the regular classroom (Foreman, 2001; Powers, 1996). The term denotes “the complete acceptance of a student with a disability in a regular class, with appropriate changes made being made to ensure that the student is included in all activities of the class” (Elkins, 2002, p. 77). The philosophy of fully inclusive education and the educational reforms necessary for its practice remain strongly debated; inclusion is an evolving rather than a universally accepted movement in education (Winzer, 2000). Hyde and Power (2004a) report that “even when inclusion is strongly supported by national or state policy or legislation, there is concern that despite the nature of such legislation and policy proclamations, the observable or reported practices in schools remain substantially unchanged or at least demonstrate significant delays in their funding or implementation” (p. 85).

The placement of a deaf or hard of hearing student in a regular classroom is not in itself sufficient for effective inclusion (Antia, Stinson, & Gaustad, 2002; Hyde & Power, 2004a; Powers, 1996). In investigating factors influencing the career
development of hard of hearing students, the current study explores participants’ experiences of social participation at school. In addition to academic participation, successful social participation is an important aim of inclusion. However, as further reported in Chapter Two, the social inclusion outcomes experienced by deaf and hard of hearing students who are attending regular classes have frequently been found to be unsatisfactory (e.g., Byrnes et al., 2002; Hyde & Power, 2002; Kent, 2003; Stinson & Whitmire, 1996).

Regardless of whether these students are “included” in the full meaning of the term, there is no doubt that full placement in regular classes with itinerant teacher support has increasingly become the major educational approach for students with significant hearing loss in Australia, a trend that seems likely to continue.

Significance of the study

Thus, it is apparent that technological advances in the communicative, audiology and medical fields, combined with trends in early intervention and educational placement, mean that the proportion of children with hearing loss who are placed in regular classes and who may be functionally described as hard of hearing is increasing in relation to the overall numbers of children with significant permanent hearing loss. While differing in their needs from deaf students who use a sign language, these young people face difficulties not faced by their normally hearing peers. One area in which more needs to be known about this population’s experiences is that of career development and the school-to-work transition, especially as one of the likely expectations of parents, teachers and the students themselves is that the inclusion of these students will continue into vocational settings.

Career theorists and researchers emphasise the importance of the development of career exploration and career decision-making skills and attitudes for adolescents to
successfully negotiate the school-to-work transition and achieve optimal career outcomes, particularly in the rapidly changing world of work that currently exists in Western societies (Blustein, 1997a; Patton, 2000; Sweet, 1998). The development of these skills and attitudes involves the concept of career maturity, which implies the readiness of an individual to make informed, age-appropriate career decisions (Super, 1957). Career maturity in adolescence has been empirically linked to later career success and satisfaction (Super & Jordaan, 1982; Super, Kowalski, & Gotkin, 1967; Super & Overstreet, 1960), and is particularly crucial for young people with disabilities if they are to overcome the disadvantages associated with their disability and succeed vocationally (Ochs & Roessler, 2001).

Careful career exploration and planning is likely to enhance the school-to-work transition and lead to better career outcomes for any young person (Savickas, 2002). For deaf and hard of hearing adolescents, such exploration and planning is essential if they are to minimise their potential disadvantage and place themselves in the best possible position to deal with the environmental and attitudinal barriers they are likely to encounter in the world of work (Bullis, Davis, Bull, & Johnson, 1997). In addition, strong career decision-making skills are likely to reduce the alarmingly high (estimated at 75%) rate of non-completion of university degrees among this population (Stinson & Walter, 1997).

Thus, career maturity levels and career decision-making abilities are of crucial importance to young deaf and hard of hearing people. However, there is some evidence that adolescents with hearing loss have a lower level of career maturity, involving reduced career awareness and lower career decision-making competencies, than normally hearing adolescents (Furlonger, 1998; Schroedel, 1991, 1992). Such a deficit, particularly in combination with the circumscription and compromise (Gottfredson, 1981) that may accompany their, and others’, perceptions of the limited accessibility of
some occupations to them because of their hearing loss, is likely to contribute to poor educational and vocational choices among deaf and hard of hearing adolescents. This may lead to personal dissatisfaction and the unemployment and underemployment that has characterised the lives of many deaf and hard of hearing people (Bullis, Bull, Freeburg, & Sendelbaugh, 1990; Schildroth et al., 1991; Schroedel & Geyer, 2000, 2001).

As Chapter Two of this thesis elucidates, there is a paucity of research into the career development of adolescents with hearing loss. The studies that have been conducted have concentrated on students attending segregated settings, often with the use of a sign language. Most of these studies investigated groups in North America. The present study focussed on adolescents who attend regular schools with support from itinerant teachers of the deaf, and who are hard of hearing according to the definition outlined above; that is, who primarily depend on and effectively use their amplified residual hearing and communicate orally, regardless of the level of their hearing loss.

Hard of hearing children and adolescents have been described as “forgotten” because their needs may not be as fully understood or met as those of deaf children (Meadow-Orlans, Sass-Lehrer, Scott-Olson, & Mertens, 1998; Ross, 1990a). A recent large U.S. study that surveyed and interviewed parents of deaf and hard of hearing children born in 1989 and 1990 concluded that services were not sufficient for children with mild and moderate losses. Families believed that their children were disadvantaged through being “not deaf enough”, and professionals often assumed that these children could function like normally hearing children once they were fitted with hearing aids (Meadow-Orlans, Mertens, & Sass-Lehrer, 2003). In addition, hard of hearing children and adolescents have been overlooked by researchers, who have tended to focus on the deaf. Schroedel (1992) asserted that the lack of research on the needs of hard of hearing people has contributed to “astonishing gaps in information about these individuals,
including in such areas as their secondary and postsecondary education, career
development, vocational rehabilitation, and employment” (p. 44). Since that comment
was made, studies focusing specifically on hard of hearing children, adolescents and
young adults have emerged from several countries. These studies have investigated this
population’s experiences of educational inclusion in the USA (Leigh, 1999) and Canada
(Israele et al., 2002), postsecondary education in the USA (Schroedel, Kelley, &
Conway, 2002; Schroedel, Kelley, & Conway, 2003), level of functioning and support
received in regular schools in Norway (Kvam, 1993), self-concept in Canada (Hughes,
2001), and identity issues and health behaviours in New Zealand (Kent, 2003). A survey
of hard of hearing Canadian youth aged from 13 to 25 covered several educational,
social, psychological and access issues (Warick, 1994).

In recent years, several Australian studies of school students who may be
defined as hard of hearing have been reported. These studies have investigated factors
including academic achievement, friendship patterns and speech intelligibility (Roberts
& Rickards, 1994a, 1994b), demographic characteristics and academic and social
participation (Hyde & Power, 2003, 2004a; Power & Hyde, 2002), and satisfaction with
educational placement (Byrnes & Sigafoos, 2001; Byrnes et al., 2002). However, no
studies investigating the career development of hard of hearing adolescents, in Australia
or elsewhere, appear in the literature. Given the emphasis placed on career maturity and
vocational knowledge as key outcomes of school systems, and the critical nature of
these outcomes for young people who are hard of hearing, it is important for this issue
to be investigated for this particular population.

**Purpose of the study and key research questions**

The aim of this study was to gain knowledge and understanding of the
experiences and perceptions of hard of hearing secondary school students in Years 10,
11, and 12 in relation to their career decision-making, career maturity, and perception of
career barriers. The study sought to identify and analyse the key factors that influence the career development of this population.

Because of the scarcity of empirical studies in this area, and the divergence in the findings that do exist, specific hypotheses were not formulated. The study posed the following research questions:

1) Do hard of hearing adolescents differ from their normally hearing peers in levels of career development indicators such as career maturity, career decision-making self-efficacy, and perception of career barriers?

2) Which demographic and career development variables are predictive of the career behaviours of hard of hearing adolescents?

3) In what ways is the Social Cognitive Career Theory (Lent, Brown, & Hackett, 1994) model relevant to hard of hearing secondary school students?

4) Do hard of hearing students feel more socially isolated than their normally hearing peers? What are this group’s experiences in relation to their social participation and acceptance by hearing peers? Does a relationship exist among hard of hearing students’ social participation, social self-concept and career aspirations and behaviours?

5) What barriers to their educational and career goals or advancement are perceived by hard of hearing adolescents? Do they perceive their hearing loss as a potential barrier? If so, which aspects or consequences of their hearing loss do they most perceive as barriers, and does this perception lead them to limit or compromise their vocational goals?
Mixed method approach to the study

The study employed a mixed method approach, combining quantitative and qualitative methods. The studies that have been conducted into the career development of young people who are deaf have relied almost entirely on quantitative methods, even though the use of qualitative methods may also be beneficial to the investigation of this topic. Researchers and theorists have suggested that qualitative methods are needed to contribute insight into the career development experiences of adolescents (Blustein, 1997b; Paa & McWhirter, 2000). Blustein asserted that “qualitative research that builds on the subjective experience of adolescents may yield new ideas and relationships that current theoretical models have either neglected or overlooked” (p. 386). In particular, qualitative approaches have been seen as useful in exploring perceived career barriers. McWhirter (1997) considered that in-depth interviews “might help clarify the nature and meaning of perceived barriers in the future plans of adolescents” (p. 138). Similarly, Lent, Brown, and Hackett (2000) suggested that qualitative research methods could be particularly helpful in “ferreting out” (p. 48) the phenomenological aspects and personal constructions of career barriers.

Others have suggested that qualitative research can be well suited to the investigation of the experiences of school students, particularly those with special needs (Peck & Furman, 1992), and can be especially effective in improving understanding of the complex interaction between career development and disability (Szymanski, Hershenson, Enright, & Ettinger, 1996). Researchers investigating deaf and hard of hearing secondary school students have also suggested the value of using qualitative methods with this population. Pointing out that students who are deaf and hard of hearing are a heterogeneous group, Byrnes et al. (2002) stressed the need for qualitative research to “ensure that the wide range of student views is acknowledged” (p. 254).
Increasingly, researchers are acknowledging that the complex nature of phenomena under study in the social sciences necessitates multiple perspectives for as full an understanding as possible (Ponterotto & Grieger, 1999). Eschewing the dichotomous positioning of the positivist and constructivist paradigms, many researchers are now embracing a new paradigm, termed pragmatism, which allows for the combination of quantitative and qualitative approaches in social and behavioural research. Tashakkori and Teddlie (1998) asserted that “pragmatists consider the research question to be more important than either the method they use or the worldview that is supposed to underlie the method” (p. 21). Pragmatism involves the use of pluralistic approaches – “what works” - to understand and find solutions to problems, and to maximise the complementary strengths and minimise the weaknesses of quantitative or qualitative approaches used alone (Creswell, 2003; Tashakkori & Teddlie, 1998).

In mixed methods studies, researchers systematically use the quantitative research paradigm for one phase of the study, and the qualitative paradigm for another phase. Each phase includes its own – quantitative or qualitative – objectives, methods of data collection, and methods of data analysis. The phases may be conducted concurrently or sequentially, but are usually kept intact and separate from one another. The mixing or integration generally occurs at the level of the interpretation of the entire analysis (Creswell, 2003; Johnson & Christensen, 2004).

In a comprehensive review of theoretical literature and a large sample of mixed methods evaluation studies, Greene, Caracelli, and Graham (1989) identified five purposes for mixed methods studies: triangulation, complementarity, development, initiation, and expansion. Of these, triangulation, complementarity and development are purposes which drove the design of the present study.
Triangulation has often been seen as an attempt to find compatibility between findings from different methods. As Caracelli and Greene (1993) state, “in the classic sense, *triangulation* seeks convergence, corroboration, and correspondence of results across the different method types” (p. 196). However, Patton (2002) argues that the belief that the purpose of triangulation is to yield the same result from different data sources or inquiry methods is a common misconception. Rather, different kinds of data may yield somewhat different results because different types of inquiry are sensitive to different real world nuances. Thus, an understanding of inconsistencies in findings across different kinds of data can be illuminative and important. Finding such inconsistencies ought not to be viewed as weakening the credibility of results, but rather as offering opportunities for deeper insight into the relationship between inquiry approach and the phenomenon under study. (p. 556)

Thus, method triangulation involves a comparative analysis of findings rather than a search for convergence, providing an opportunity for further understanding of the complexities of the phenomenon under investigation.

Complementarity is indicated when quantitative and qualitative methods are used to measure overlapping facets of the topic under investigation, and the results from one method type are intended to provide enhancement, elaboration, illustration or clarification of the results from the other. In this way, the strengths of one method can be used to overcome the weaknesses of the other. This study employs the qualitative method of in-depth interviews in order to enhance, clarify and elaborate on the results of the quantitative phase of the study and to complement the quantitative findings by providing depth and detail about the participants’ experiences that cannot be revealed through the use of quantitative instruments alone.

Development is the term used when the different method types are used sequentially so that the results of one method can be used to help develop or inform the other method. Development can include sampling, implementation, and measurement decisions. In the present study, the results from preliminary interviews were used to
inform the choice and adaptation of measures used in the quantitative phase. The results of the quantitative phase were then used to guide the choice of questions and topics addressed in the final, qualitative, phase of the study.

Clearly, some of this study’s research questions are more appropriately addressed using quantitative methods, and some using qualitative methods. Questions 1, 2, and 3, involving differences between groups on certain variables, and the relationships among variables, can be addressed through quantitative measures and analysis, particularly as appropriate established instruments with proven reliability and validity exist for the constructs involved in these questions. In addition, qualitative methods provided an opportunity to discover details about students’ experiences and perceptions of career exploration activities and career and decision-making that quantitative methods could not provide.

The three parts of Question 4, exploring students’ experiences of social participation, demanded the use of mixed methods. To discover if hard of hearing students, on average, feel more socially isolated than their normally hearing peers, a quantitative scale can be used. Such an instrument cannot, however, reveal the complexities of participants’ experiences of social participation or isolation; this requires a qualitative approach, through which the details of participants’ experiences and their feelings about and reactions to these experiences can be explored. Further, the semi-structured interview process can be most useful in teasing out the relationship between hard of hearing adolescents’ perceptions of social participation, their social self-concept and their career aspirations and behaviours.

The investigation of hard of hearing adolescents’ perceptions of career barriers (Question 5) can be best conducted through a combination of methods. In a preliminary, qualitative phase, this study sought to identify barriers related to hearing loss that could be included in a measure designed to assess barriers in normally hearing young people.
Because of the lack of literature reporting on the perception of career barriers by young people with hearing loss, this use of interviews to inform the creation of items on a barriers scale was essential. The ensuing scale was able give useful quantitative information on the levels of participants’ perceptions of these barriers. Further qualitative exploration through interviews could clarify the nature of these perceived barriers and determine their influence on the hard of hearing students’ career aspirations and behaviours.

Thus, the clear value of a combination of quantitative and qualitative methods to best address the study’s research questions led to the choice of a mixed methods approach for this research project and its design as a three-phase study in which one phase was used to complement and guide the development of the next.

**Overview of the thesis**

This chapter has provided a brief overview of the research project and some background information about the population under investigation. It has discussed the significance of the study, outlined the key research questions and justified the choice of a mixed methods approach to address these questions.

Chapter Two reviews the literature relevant to the issues involved in the career development of young people with hearing loss. It reviews the data on employment outcomes for people who are deaf or hard of hearing and discusses the environmental and attitudinal barriers that can influence the career outcomes and advancement of this population. It considers the potential impact of hearing loss on the career maturity and career decision-making of adolescents and critiques the small number of studies that have investigated this topic. The chapter also explores the role of peer relations, social participation and social self-concept in the career development of deaf and hard of hearing adolescents.
Chapter Three provides an overview of the career development theories that form a framework for the study and of the theoretical constructs that underlie the research questions. In particular, Super’s developmental theory and its associated concept of career maturity (Super, 1980; Super et al., 1996) and the Social Cognitive Career Theory of Lent, Brown, and Hackett (Lent et al., 1994; Lent, Brown, & Hackett, 2002) are discussed.

Chapter Four provides information on the overall design of the study and on the processes of recruitment of participants, ethical clearances, data collection and analytical methods for the minor, preliminary phase and the first of the major phases, the quantitative phase. Chapter Five contains the results and discussion of the quantitative phase of the study.

Chapter Six provides information about the method for the major qualitative phase of the study. It covers the recruitment of participants for the interviews, the design of the interview guide, a discussion of the issues pertinent to the interview process, and the methods used to analyse the interview data. The results of this qualitative phase are reported and discussed in Chapter Seven.

The final chapter draws together the quantitative and qualitative findings in an integrated analysis. While the discussions in both Chapters Five and Seven include implications for practice and policy, these implications and recommendations are integrated and summarised in the concluding chapter. Limitations of the study are outlined and directions for future research are suggested.
CHAPTER TWO – ISSUES SURROUNDING CAREER DEVELOPMENT AND
HEARING LOSS

Introduction

This chapter reviews the literature relevant to the issues involved in the career
decision-making of young people with hearing loss. It begins by examining the
implications of current labour market trends for young people, in particular for those
with an additional disadvantage. It then reviews the data on employment outcomes for
deaf and hard of hearing people, and discusses the environmental and attitudinal barriers
that can influence the career outcomes and advancement of this population. It considers
the impact of hearing loss on the career maturity and career decision-making of
adolescents. The role of peer relations in adolescent career development and the issues
of social isolation, social participation and social self-concept that are especially
pertinent to children and adolescents with hearing loss are also considered. This review
identifies the significant gaps in the literature which the present study was designed to
address.

Current labour market trends and their implications for young people

In recent decades, advanced industrial countries such as the United States, the
United Kingdom and Australia have experienced massive social and economic changes,
moving from industrially-based to technologically-based societies, their labour markets
characterized by shrinking manufacturing sectors and burgeoning service sectors. These
changes, along with related factors such as economic globalization and organizational
restructuring and downsizing, have had powerful effects on labour markets. In general,
advanced industrial societies demand better-educated and more technically skilled
workforces (Carpenter & Inkson, 1999; Furlong & Cartmel, 1997). However, there is
also a growth in poorly paying, low-skill work with minimal prospects, often comprising part-time and casual employment (Murphy & Noad, 1995). Even for highly qualified workers, in many organizations permanent full-time positions have been replaced by contract positions, often short-term and performance-based (Hall & Mirvis, 1996). Outsourcing of tasks means that more employees work for small and medium-sized rather than large organizations and more people are self-employed. Within organizations, teamworking, multiskilling and continually changing technologies necessitate good communications skills, flexibility and the ability to be a continuous learner (Mirvis & Hall, 1996; Watts, 1997). The traditional notion of career and job security is no longer a reality; for individuals to thrive in this environment, qualities such as adaptability, flexibility and self-direction are essential (Hall & Mirvis, 1996).

For youth, these changes have made the transition from school to work far more complex than it used to be: It has become more protracted, more fragmented, and less predictable (Furlong & Cartmel, 1997). Full-time job opportunities have decreased dramatically for teenagers leaving school, and this group’s unemployment rates have increased. In the United States, the unemployment rate in mid-2003 for people aged 16 to 19 was 19%, compared to only 6.2% for the population as a whole (Bureau of Labor Statistics, 2003). Similarly, 22.5% of 15 to 19 year-olds in Australia were unemployed in the year 2000-01, compared with 6.4% of the general population (Australian Bureau of Statistics, 2002b). The full-time jobs that do exist for this population have increasingly tended to involve lower-paid and less skilled work (Sweet, 1998). The growing service sector provides the majority of jobs in which young people are most readily employed. However, “youth jobs” can become a trap in which young people initially enjoy earnings and the benefits of employment, but which rarely offers advancement in responsibility, income and security (Hamilton & Hamilton, 2000).
These major changes in the labour opportunities for teenagers have contributed to higher school retention rates and levels of participation in higher education. Australian Commonwealth government policy has aimed at increasing school retention to Year 12 for the last two decades (te Riele & Crump, 2003), and the rate of retention to the final year of secondary school has risen from 52% in 1986 to 75.4% in 2001 (Australian Bureau of Statistics, 2002a). Opportunities for access to higher education are available to many more young people than in the past; by the late 1990s, 40% of young Australians were entering university degree or Technical and Further Education college (TAFE) associate diploma courses after leaving high school, compared to 20% in 1980 (Long, Carpenter, & Hayden, 1999). However, school-leavers now face additional pressures, such as increased competition for higher education places and the difficulties involved in negotiating an increasingly complex transition. A far greater diversity and complexity of school and post-school options and pathways now exists, with the provision of vocational education and training in the senior school years, the possibility of transfer from TAFE colleges to universities, and the establishment of private colleges for postsecondary education ( Athanasou, 2002).

School-leavers who do not participate in higher education, vocational training or apprenticeships are vulnerable to marginalization in the work-force, moving from school into low-paid, part-time or temporary work and finding it difficult to break out of a cycle that intersperses periods of part-time work with periods of unemployment (Sweet, 1998; Vondracek & Porfeli, 2003). A recent study highlights this situation in Australia. Extensive data from the Longitudinal Survey of Australian Youth, which investigated the post-school experiences of two cohorts who left school in the late 1980s and mid 1990s, revealed that 32% of the school-leavers who did not go on to obtain a postsecondary qualification experienced a problematic transition period characterized by part-time work and periods of unemployment, compared to only 6% of students
obtaining a university degree or TAFE diploma. Early school-leavers are at even more risk: The rate of unemployment among those who leave at Year 10 is well above that of those who complete Year 12. Students with disabilities experience particular difficulties in making the school-to-work transition. Considerably higher rates of long-term unemployment (13% among those with a disability compared to 7% among peers without a disability), mainly part-time work (8% compared to 4%) and complete non-participation in the labour force (18% compared to 5%) were found in this study (Lamb & McKenzie, 2001).

Thus, Australian young people’s transition from school to a working life is an increasingly complex and uncertain experience, and, for some, one that leads to long-term marginalization. For people with disabilities in general, and for young deaf and hard of hearing people in particular, the transition is likely to be especially problematic. This is of particular concern in the light of the difficulty deaf and hard of hearing people have had achieving parity of employment outcomes with normally hearing people.

**Employment outcomes for people who are deaf or hard of hearing**

It is difficult to draw conclusions about the employment achievement of deaf and hard of hearing people as this is a highly heterogeneous population. In addition, most studies do not differentiate between people who rely on a sign language and those who are primarily oral-aural in their communication. However, evidence from the United States indicates that deaf and hard of hearing people have been under-represented in professional and managerial occupations, and over-represented in blue-collar occupations, especially in manufacturing (Bullis et al., 1990; Schildroth et al., 1991). Relative to their hearing peers, deaf adults have been found to be less educated, to experience more unemployment and underemployment, and to have lower incomes; deaf women have been found to be even more affected in these ways than deaf men.
Underemployment is generally considered to occur when people possess more education, training, or experience than their job requires, when they are involuntarily employed outside of their field of expertise, and when they are working less hours than they wish to (Feldman, 1996).

Studies of the employment outcomes of deaf and hard of hearing Australians are scarce. Reflecting the North American findings, a study of South Australian deaf adults aged 18 to 50 years found higher levels of unemployment and underemployment for its sample, particularly among the women, compared to South Australian and national averages for all employed persons (Winn, 1997). A survey conducted in 1986 by the Australian Deafness Council (Queensland) and the Division of TAFE (Queensland) explored the employment status and educational needs of young people with hearing loss in Queensland and found an extremely high level of unemployment (37%), with the majority of those employed working in areas such as labouring or clerical activities. This is not surprising considering that 75% of the sample left school before Year 11, only 9% had attempted Year 12, and only 9% reported having gained any sort of postsecondary qualifications, despite 49% having attempted TAFE courses (Hyde, 1988). The study emphasised the strong need for continuing secondary education, guidance in course selection, and support services such as interpreters, note-takers and tutoring in postsecondary educational settings. These areas of need have been addressed to some extent and the situation for students with hearing loss has improved since the 1980s. Under the provisions of the Commonwealth Disability Discrimination Act (1992) and state anti-discrimination legislation, educational institutions are obliged to provide services or facilities necessary to students with disabilities, except where such provision would impose “unjustifiable hardship” on the educational authority, and all universities and TAFE colleges now have offices of disability services. For deaf and hard of hearing students, services may include interpreters, note-takers, access to written
versions of lectures, and the use of adaptive technology such as audio loops or FM transmitters in lectures and tutorials (McLean et al., 1999). However, the lack of available statistics makes it difficult to gauge the effects of such improvements on the outcomes of deaf and hard of hearing young people in Australia.

Considerably more research into this area has been conducted in the USA, where postsecondary programs catering specifically to the needs of students with hearing loss have been increasingly implemented. Institutions such as Gallaudet University and the National Technical Institute for the Deaf have been serving deaf students for some decades, and more recent federal government initiatives have led to the establishment of vocational and technical programs for the deaf at existing regional facilities, and the provision of programs for the deaf at many universities (Moores, 1994).

A major study was conducted by the University of Arkansas Rehabilitation Research and Training Center for Persons who are Deaf or Hard of Hearing over a period of 15 years based on a national longitudinal survey of deaf and hard of hearing graduates of two-year and four-year colleges and technical institutes (El-Khiami, 1993; Schroedel & Geyer, 2000, 2001). Approximately 70% of the respondents considered themselves to be deaf and 30% stated that they were hard of hearing. El-Khiami, reporting on the employment status and career experiences of the sample five years after the completion of their postsecondary program, described an extremely positive college-to-work transition for the respondents, with only 4% not having joined the workforce, and the remainder finding jobs immediately or within a few months after graduation. Over 29% of graduates reported working in a professional or management occupation, with 46% working in the technical and clerical areas. Seven years later, Schroedel and Geyer (2000) reported that the percentage of respondents working in professional, management and technical occupations had increased, with a parallel decrease in the percentage of those working in clerical occupations. Many of the respondents had also
become better educated in the interim, with some who had formerly had vocational or associate’s degrees having since obtained bachelor’s degrees, and some previous bachelor’s degree graduates having obtained master’s degrees.

However, Schroedel and Geyer (2000) also found that 5% of the alumni were unemployed and 15% were underemployed (defined as being a worker with educational attainments that exceed the educational attainments usually required for the occupation in which the worker is employed; in this study, bachelor’s degree holders working in clerical or crafts occupations were considered to be underemployed). In examining the career advancement of their sample, Schroedel and Geyer (2001) reported a relative paucity of promotions, with 45% of respondents having only limited experience of promotions during the past ten years of their careers.

In addition, the authors reported that the educational, occupational and economic attainments of hard of hearing alumni were significantly lower than those of deaf alumni (Schroedel & Geyer, 2000). More than 62% of the deaf graduates, but only 38.5% of the hard of hearing, were employed in professional, management and technical jobs; 36.5% of the hard of hearing respondents were employed in crafts, machine operative and labour occupations, compared to 14% of the deaf respondents. Level of education was a related factor: Deaf alumni obtained higher levels of postsecondary education than their hard of hearing counterparts. While pointing out that the hard of hearing respondents in this study attended colleges providing support programs and may differ from hard of hearing alumni of colleges without support programs, the authors did not speculate on the reasons for the deaf students obtaining higher educational levels than the hard of hearing students. Schroedel and Geyer (2000, 2001) emphasised the critical importance of achieving college educations for the career advancement of deaf and hard of hearing people. They recommended that deaf and hard of hearing young people should receive career counselling interventions that strengthen
their career decision-making skills and encourage them to obtain the highest level of education they can achieve.

Alumni of postsecondary educational institutions are not, of course, representative of all young people who have left school. Other studies have included broader populations and have compared postsecondary education rates and employment outcomes of deaf and hard of hearing young people with those of hearing peers. A study comparing the transition experiences of 217 deaf young adults with a similar number of hearing peers 3 to 4 years after leaving high school in the northwestern United States discovered significantly lower rates of attendance in postsecondary education, of employment, and of pay for the deaf group than for the hearing group (Bullis, Bull, Johnson, & Peters, 1995). While the authors did not specify participants’ levels of hearing loss, they reported that almost 60% the deaf group had attended residential schools for the deaf, with the remainder having attended mainstream settings, and that 48% of the residential group and 36% of the mainstreamed group had additional disabilities, compared to 9% of those in the hearing group.

A longitudinal study conducted in the UK interviewed parents of 122 young deaf children in the early 1970s and 18 years later interviewed many of the same parents and their children, then aged 18 to 24 (Gregory, Bishop, & Sheldon, 1995). The second stage of the study reported barriers encountered in the young people’s transition from school to their working lives. As described by the young people and their parents, they included a paucity of vocational guidance and careers advice, low expectations of professionals, difficulties during job interviews, and fear, ignorance and stereotyped expectations of deafness among potential employers. The authors reported that there was evidence of underemployment and underachievement in the sample. A majority of the young people in this English study had attended special schools or resource units for
the deaf and preferred to use British Sign Language or Sign Supported English, with 37% primarily using oral communication.

An extensive U.S. study, based on a survey of high school students with hearing losses of over 70dB, was conducted in 1987, with a follow-up in 1991, by the Centre for Assessment and Demographic Studies, Gallaudet University (Allen, 1994; Lam, 1994; Rawlings, 1994). Rawlings reported postsecondary education rates among the follow-up sample to be similar to those of hearing peers, with approximately two-thirds enrolled in or having attended postsecondary educational programs. In investigating the 34% of the sample who did not attend postsecondary education, Lam (1994) found only 54% in full-time or part-time employment, the remainder being unemployed. Of the employed, 72% were in blue-collar jobs such as clerk/typist, kitchen worker, cleaner, and assembler. Minimal wages, little hope of promotion, and part-time work were common factors for these workers. It is pertinent, however, that 47% of the non-college bound sample had disabilities additional to their deafness, compared with 20% of the group who attended postsecondary educational programs.

Deaf and hard of hearing people who are intellectually gifted often fail to reach their academic and occupational potential. A study of 57 adults with hearing loss and performance or verbal IQs of 130 or more revealed that only 25.5% graduated from four-year colleges, only 18.4% attended graduate school, and about one third were in professional or supervisory work. The authors suggested that an average level of achievement at school may have been considered satisfactory for these students, even though “for a gifted child to do average academic work is as unacceptable a realization of that child’s potential as is an average student getting failing grades” (Vernon & LaFalce-Landers, 1993, p. 433).

A Swedish study used semi-structured interviews to compare the decision processes and transition outcomes of two groups of hard of hearing young adults five
years after completing secondary schooling - those who had attended university, labelled in the study “the University Group”, and those who had not, labelled “the Labour Market Group” (Danermark, Antonson, & Lundstrom, 2001). The Labour Market Group had a somewhat lower academic achievement level than the University Group, but slightly better hearing status. All participants attended the National School for the Hard of Hearing and used oral-aural communication. Students in this study who had chosen narrow, vocationally-oriented courses for their postcompulsory secondary school years were, five years later, disappointed with their occupational experiences, which included unskilled, poorly paying jobs and unemployment.

It is clear that the attainment of a postsecondary qualification leads to better employment opportunities and career advancement for deaf and hard of hearing people just as it does for hearing people. It has also been estimated, albeit using data from small samples, that deaf and hard of hearing college graduates in the USA have similar earnings to graduates without hearing loss, and that “to the extent that those who were hard of hearing earned less, it appears likely to be because of less education than the hearing population” (Jones, 2004, p. 461). While the number of deaf and hard of hearing students attending postsecondary education has increased in the USA and Australia (Ozolins & Bridge, 1999), rates of participation of this group still do not match those of the hearing population (Bullis et al., 1995). In particular, U.S. statistics indicate an alarmingly high rate of non-completion of degree programs. An estimated 75% of deaf and hard of hearing students leave before completion of their degrees in both two-year and four-year colleges, compared to 58% of hearing students in two-year colleges and 30% in four-year colleges (Stinson & Walter, 1997).

In summary, it appears that the deaf and hard of hearing population, despite a normal distribution of intelligence and aptitudes, continues to be more at risk of
problematic transition, less postsecondary education and higher rates of unemployment and underemployment than the hearing population.

Potential barriers to the career development of deaf and hard of hearing people

Several barriers that may impede the occupational outcomes and career development of people with hearing loss have been identified. Among them are the low literacy and educational achievement levels of some of this population, and a range of environmental and attitudinal barriers which they often encounter.

Literacy and educational achievement levels

Lower levels of English literacy and numeracy compared to their hearing peers have constituted a serious obstacle to postsecondary education, initial employment and advancement in the workforce for deaf and hard of hearing people (Bat-Chava et al., 1999). The educational achievement and literacy levels of deaf and hard of hearing children have generally been reported as being considerably below those of their hearing peers. Many studies measuring reading comprehension levels report average reading ages many years lower than the children’s chronological ages. Power (1998) found that 66% of a sample of Australian 11-year-olds with hearing loss had reading ages more than four years below their chronological ages. U.S. studies of the early 1980s found an average of only third grade reading levels among deaf students aged 15 (Allen, 1986). Students entering postsecondary education at the National Technical Institute for the Deaf (NTID) were found to have an average reading level of slightly below eighth grade, putting them in the top 10 to 15% of all deaf high school graduates in the United States (Welsh, 1993), but below the average reading level for hearing high school graduates, which has been reported as being at tenth grade (Allen, 1986). In a UK study, Conrad (1979) tested 469 students aged 15 to 16 using the Wide Span
Reading Test. All students had hearing losses of over 70dB and attended oral education settings. Only 25% of the sample achieved reading levels above 11 years.

Nevertheless, several experts now suggest that many children with severe and profound hearing loss achieve higher literacy levels than has previously been thought. Power (1998) pointed out that standardized reading tests underestimate students’ comprehension, which is shown to be greater when assessment techniques emphasizing context and a search for meaning are employed. Moores (2001) reported that his personal experience of postsecondary students has led him to believe that much higher literacy levels, in both reading and writing, have been achieved by deaf students in recent years than in the past.

Studies have confirmed that high literacy levels do exist among deaf and hard of hearing students. Geers and Moog (1989) studied 100 pre-lingually profoundly deaf (>85dB HL) 16- and 17-year old students in mainstream, oral programs in schools across the United States and Canada. Using a wide range of tests measuring reading, writing and spoken language, they found a mean grade level for reading comprehension of eighth grade, with 30% of the sample demonstrating reading abilities at or above tenth grade level, and only 15% at third grade level. While the majority of the students did not achieve literacy levels commensurate with same-age hearing students, the study revealed considerably better levels than previously reported for deaf and hard of hearing students. The researchers concluded that children with a profound hearing loss and a combination of the favourable factors experienced by their sample (early intervention, oral communication mode and strong family support) have the potential to achieve much higher literacy and spoken language skills than has generally been expected for deaf and hard of hearing young people.

In England, Lewis (1996) assessed the reading abilities of 82 students in the final year of secondary schooling, using the same test as Conrad (1979). The students
were educated using an oral-aural approach and had hearing losses in the severe and profound range. The study found a quarter of the subjects to have reading levels at or above their chronological age, and more than 75% were above the functional literacy level of 11 years. While acknowledging that there is still much to be done for the reading attainments of deaf children, Lewis emphasized the much improved nature of these findings compared to those of Conrad’s study.

While indicating that there is still a considerable gap between the average literacy levels of deaf and hard of hearing students and their hearing peers, these studies reveal the potential of students with severe and profound hearing losses to achieve age-appropriate literacy levels. Several of the factors predictive of such achievement appear to be those that increasingly exist for the majority of deaf and hard of hearing students in Australia: early identification and intervention, mainstreaming and the use of an oral-aural communication mode. However, other factors, such as family socioeconomic status, parental support and parental hearing status, also appear to be important, and the reports of many studies are not clear how representative of the wider population of deaf and hard of hearing students their samples were (Powers, 2003). Overall, it appears that, although literacy and educational achievement levels continue to contribute to the transition difficulties of many deaf and hard of hearing school-leavers, low literacy levels are becoming less of a barrier to achievement in education and career for deaf and hard of hearing people.

**Attitudinal and environmental barriers**

Difficulties in gaining appropriate employment and advancement in employment are experienced by people with hearing loss even when their literacy and educational levels are adequate or more than adequate. Environmental and attitudinal barriers in the workplace contribute to these difficulties, as they do for most people with disabilities. Vocational rehabilitation experts Szymanski and Hershenson (1998) asserted that “the
limitations of disabilities are not inherent within individuals, but rather in individuals’ interactions with their environments” (p. 332). Environmental barriers comprise physical or structural impediments, and as such have the potential to cause an impairment to become a disability, in the terms of the World Health Organization’s definitions (1980). For people with hearing loss, such barriers include the necessity to use telephones, background noise in the workplace, and auditory rather than visual alerting signals (DeCaro & Egleston-Dodd, 1982; Laroche, Garcia, & Barrette, 2000; Winn, 1997). Jobs in the growing services-oriented sector usually require considerable amounts of spoken verbal interaction with customers or clients; this interaction is certainly possible but can be problematic for deaf and hard of hearing people (Schildroth et al., 1991). The most difficult workplace situations reported by deaf and hard of hearing people, however, involve group situations such as departmental and staff meetings, in-service training sessions, and work-related social functions – all situations that are important for career maintenance or advancement (Laroche et al., 2000; Scherich, 1996; Scherich & Mowry, 1997). Deaf and hard of hearing workers often feel socially isolated and lonely in the workplace, reporting exclusion from the “office chatter” and social interactions during lunch breaks (Steinberg, Sullivan, & Montoya, 1999).

People with hearing loss can become extremely fatigued from the effort and concentration required to cope in a work environment, particularly noisy environments that make it additionally difficult to understand others’ spoken communications. A Swedish study of 41 adults with acquired or congenital hearing losses found that participants reported feeling exhausted at the end of their working day more often than did a control group of normally hearing workers. In addition, the hard of hearing participants indicated higher levels of anxiety than members of the control group (Backenroth-Ohsako, Wennberg, & af Klinteberg, 2003).
The provision of accommodations is a major means of reducing environmental barriers by the altering of workplace conditions. Enacted in 1990, the Americans With Disabilities Act requires employers of 15 or more persons to make reasonable accommodations so that qualified workers with disabilities have equal employment opportunity (Dowler & Walls, 1996; Geyer & Schroedel, 1999; Harlan & Robert, 1998). In the United Kingdom, the employment provisions of the Disability Discrimination Act 1995 apply to employers with 20 or more employees and require reasonable adjustments to be made (Disability Discrimination Act 1995, sections 6 & 7). In Australia, the Disability Discrimination Act 1992 requires employers to provide services or facilities to enable a suitably qualified person with a disability to perform the “inherent requirements of the particular employment” as long as such provision would not impose an “unjustifiable hardship” on the employer (Disability Discrimination Act 1992 Australia, section 15, 4).

The wide range of accommodations that can benefit deaf and hard of hearing people in the workplace is illustrated by the report of a study of 56 British companies employing deaf and hard of hearing staff. The report listed these adjustments (in order of the number of companies making them): textphones, sign language interpreters, loops, Deaf Awareness Training, flashing alarms, amplified phones, notetakers, lipspeakers, better lighting, speech-to-text, and video conferencing (Bradshaw, 2002, p. 26). A U.S. study reported a similar range of accommodations available to workers, with the inclusion of adjustments such as changed job duties or training, rearrangement of the physical environment to facilitate seeing other people better, and having hearing people answer the telephone (Geyer & Schroedel, 1999).

In addition, the telecommunications innovations of recent decades have provided great benefits for people who are deaf or hard of hearing. The internet, electronic mail, and Short Message Service (SMS) text messaging provide visual means of
communication that have been enthusiastically embraced by deaf and hard of hearing people (Bowe, 2002; Harkins & Bakke, 2003; Power & Power, 2004). These means of communication are commonly present in many workplaces and may be available to deaf or hard of hearing workers either through the normal course of their job or as special accommodations.

However, many studies from the USA and the UK have shown that necessary, reasonable accommodations are difficult to obtain or not forthcoming for many workers with disabilities in general (Harlan & Robert, 1998) and hearing loss in particular (Geyer & Schroedel, 1999; Harris & Bamford, 2001; Scherich, 1996; Scherich & Mowry, 1997; Schroedel, Watson, & Boone, 2004; Stika, 1997; Wheeler-Scruggs, 2002). Scherich and Mowry found that the accommodations most commonly provided to deaf and hard of hearing workers were assistive devices such as amplified telephones and text telephones. The use of support personnel tended to be on an informal rather than a formal basis; for example, a co-worker might agree to make telephone calls for the worker with hearing loss. A majority of respondents (62%) stated that their present accommodations did not meet their needs, and 31% reported that they had been denied a requested accommodation. This study found that employers recognized the needs of hard of hearing workers less than those of deaf workers. Schroedel and his colleagues reported a low level of use of job accommodations among a representative sample of hard of hearing adults from 43 states of the USA. They found that workers who reported more assertive work coping behaviours obtained more accommodations than those who were less assertive, and that many workers reported using more passive, reactive coping behaviours at work (Schroedel et al., 2004).

In an earlier study of 232 deaf and hard of hearing adults, Geyer and Schroedel (1999) found that higher status employees – that is, those with higher levels of education and those in professional and managerial roles - were more likely to receive
accommodations than lower status workers. The authors hypothesise that this may occur for two reasons: Employers have a greater investment in higher status workers, and so may be more likely to feel that an accommodation can be justified; and employees in higher status positions may be proficient in gaining information and communicating their needs related to accommodations. The investigators also found that being promoted was positively associated with the number of times an employee asked for accommodations (although this changed to a negative association once the number of requests reached five). They suggested that employees who had supportive supervisors were likely to receive both promotions and needed accommodations, but whether receiving accommodations made workers more suitable for promotion or being promoted led to more requests for accommodations is not clear (Schroedel & Geyer, 2001).

The majority of these studies found that hard of hearing workers were often reluctant to ask for necessary accommodations. Such reluctance perhaps reflects the apprehension about disclosing their hearing loss to employers or potential employers, due to the fear of being stigmatized or seeming less than competent on the job that has been reported in studies of hard of hearing adults (Hallberg & Carlsson, 1993; Hétu & Getty, 1993; Laroche et al., 2000; Stika, 1997). Stika’s focus group study of 107 members of Self Help for the Hard of Hearing found that many participants, fearful of seeming different or deficient, did not ask for accommodations even when their employers were aware of their hearing loss, and believed that employers were reluctant to hire or promote them because of their hearing loss.

Clearly, negative reactions of employers, supervisors and co-workers constitute attitudinal barriers that people with hearing loss frequently encounter in the workplace. Anecdotal evidence from adults with hearing loss illustrates some of the attitudes to be faced. A profoundly deaf psychologist has related his experiences in becoming qualified
and working as a psychologist in the UK and the attitudes of other professionals towards him. He encountered attitudes such as amazement at his achievements among professionals working with the deaf, reflecting "their negative attitudes about what is possible for deaf people", and suspicions, "probably due to fear, that a deaf person had managed to work his way up to their level" (Jones, 1991, p.145). Earlier, he had been precluded from training as a teacher of the deaf or as an educational psychologist because of a clause requiring candidates to hear a conversation within twenty feet. A young Australian has described surmounting the barriers involved in becoming a veterinary surgeon. He first had to convince a university admissions panel that he was capable of carrying out the tasks inherent in the job; he then designed and produced surgical masks with transparent plastic windows so that he was able to read the lips of his teachers during surgical training; finally, he needed to overcome potential employers’ reluctance to employ him because of concerns about his hearing loss (Kennedy, 2001). Similarly, Hauser, Maxwell-McCaw, Leigh, and Gutman (2000) recounted incidents of negative attitudes and additional hurdles encountered by deaf and hard of hearing applicants for internships with American Psychological Association programs.

Attitudinal and environmental barriers encountered at postsecondary educational and training institutions can impede the transition of deaf and hard of hearing young people and contribute to the high rate of non-completion of degree programs among this population (Stinson & Walter, 1997). Stinson and Walter reported a 75% withdrawal rate among deaf and hard of hearing students attending both two-year and four-year colleges in the USA, compared to an average among normally hearing students of 30% for four-year colleges and 58% for two-year colleges. Many barriers to deaf and hard of hearing students’ completion of higher education programs have been identified (Lang, 2002). Undoubtedly, barriers arise from academic difficulties, exacerbated by limited
access to the content of lectures and tutorials, despite the provision of support services such as interpreters or note-takers (Spradbrow & Power, 2000; Stinson & Walter, 1997). Another major barrier for many deaf and hard of hearing tertiary students is a lack of social integration or inclusion.

It has been recognized that social and personal factors can be critical in influencing the persistence of students in tertiary institutions (Tinto, 1975, 1993). Stinson and Walter (1997) assessed the model of college persistence developed by Tinto for its relevance to students with hearing loss attending both a large program – the National Technical Institute for the Deaf – and small programs, typically serving few deaf students and with limited support services, in postsecondary colleges across the United States. Tinto’s model posits that persistence results from students’ experiences of integration into the social and academic life of an institution, and that withdrawals result more from unsatisfactory integrative experiences than from academic difficulties. Stinson and Walter concluded that this model, with some modifications, was applicable to deaf and hard of hearing students. They emphasised that social integration was particularly problematic for students with hearing loss in mainstream colleges. Pointing out that, once provided with services such as interpreting and notetaking, deaf and hard of hearing students are expected to be on an equal footing with their hearing peers, Stinson and Walter further explained:

Consideration is rarely given to the fact that the student is being deprived of access to the full spectrum of life on the college campus. Such isolation, or lack of integration into the educational community, may be an important cause of attrition among deaf persons attending college. This point especially relates to the access students have to the social life of the institution. (p. 22)

Concurring, Lang (2002) recommended that future research on persistence among deaf and hard of hearing students should focus on social as well as academic factors.
Difficulty choosing a major and lack of a career direction have been cited as significant barriers to the persistence of deaf and hard of hearing tertiary students (Lang, 2002; Stinson & Walter, 1997). Stinson and Walter asserted that students are more likely to have the commitment to college that contributes to persistence when they have a goal and can decide on a major: “for students to be committed, they must have given sufficient thought to a career and to their future so that the goals of college have some meaning” (p. 18). These authors maintain that career education and counselling are critical for this population, both while attending university or college (Stinson & Walter) and while students are still in primary or secondary schools (Lang).

To investigate barriers encountered in postsecondary education, Lehman, Davies, and Laurin (2000) conducted a study investigating the perspectives of 35 U.S. college students who had a variety of disabilities, including “hearing impairment and deafness” (p. 60). Barriers encountered by the students at their postsecondary institutions included a lack of understanding and acceptance concerning their disabilities on the part of fellow students, staff and faculty; a lack of services appropriate to their disability-related needs; a lack of financial resources, exacerbated by limited opportunities for part-time employment and a need to devote as much time as possible to studying; and a lack of self-advocacy skills. An Australian Commonwealth government enquiry found that tertiary students with disabilities reported similar difficulties, despite the existence of universities’ disability support policies and procedures (The Senate Employment Workplace Relations and Education References Committee, 2002). In addition, an Australian study investigating deaf and hard of hearing students’ transition to tertiary education found that many participants believed they had been unprepared for the hearing-related difficulties they encountered at TAFE or university (McLean et al., 1999). This is not surprising given that, on leaving high school, young people can no longer rely on support services provided on the initiative of
parents or educators but must be responsible themselves for identifying their needs and appropriate accommodations and requesting services (English, 1997; Luckner, 2002).

Various visible disabilities can pose continuous difficulties as the individual is faced with negative attitudes on a daily basis (Noonan et al., 2004). However, the more invisible nature of hearing loss means that hard of hearing people are faced with particular types of negative attitudes. People often do not realise that they are speaking to a person who has a hearing loss, and if the hard of hearing person mishears or fails to hear a spoken communication and responds inappropriately or not at all, the hearing person is likely to misinterpret this response and react with impatience, irritation, blame and misunderstanding (Davis, 2002; Getty, Hétu, & Jones, 1993). Even when aware of another’s hearing loss, normally hearing people are often confused by the varying nature of the functional effects of that loss. They perceive that the individual can hear well in some situations or with some people, and so do not understand the difficulties in other situations or with other people; as well, they often expect hearing aids or cochlear implants to remedy the individual’s hearing loss.

Even disability service providers in postsecondary educational institutions may fail to provide appropriate services to hard of hearing students because of similar misconceptions (Davis, 2002; Schroedel et al., 2002; Spradbrow & Power, 2000). Schroedel, Kelley, and Conway (2002, 2003) describe hard of hearing college students as an “invisible population”. Many of these students choose not to identify themselves as hard of hearing and do not ask for special services. They deny or minimise the communicative and social disadvantages associated with their hearing loss in an attempt to avoid stigmatisation and negative reactions from others. These authors claim that many disability service providers misunderstand the functional and psychosocial effects of hearing loss, and need specialised training, including an understanding of the needs of people who are hard of hearing and how they differ from those who are Deaf, and
knowledge (as far as possible, given the complex and rapidly changing nature of this area) of the technology available to assist people with hearing loss. Indeed, they suggest that hard of hearing people themselves sometimes do not fully realise the extent to which subtle environmental differences affect their ability to hear and understand others, and the scarcity of useful information compounds the problem both for people with hearing loss and for professionals. Given these difficulties, it is not surprising that, frequently, hard of hearing people do not know how best to advocate for themselves and obtain needed accommodations and that educators, employers or others may be reluctant to provide them.

Thus, in both workplaces and postsecondary educational institutions, attitudinal barriers can interact with environmental barriers to affect the career outcomes and advancement of individuals with hearing loss. As well, attitudinal barriers that influence career outcomes can exist for deaf and hard of hearing school students in the form of limited parent, teacher, or career counsellor expectations. Studies in several countries of parents’ and teachers’ attitudes towards advising deaf youth to train for different occupations found that parents and teachers would give more encouraging advice to hearing people across a range of occupations than they would to equally qualified deaf people. The difficulties of interpersonal communication and safety issues were reasons given for the less encouraging advice to deaf persons, with occupations dealing primarily with data and things rather than people deemed by advisers to be the most suitable for deaf people (DeCaro, Evans, & Dowaliby, 1982; DeCaro, Mudgett-DeCaro, & Dowaliby, 2001; Parasnis, DeCaro, & Raman, 1996).

Although these studies pertain to youth who attended segregated schooling for the deaf and who were largely signing, the problem of limited expectations appears to exist for hard of hearing youth also. In a Canadian study of hard of hearing youth, 20% of the respondents reported that their parents’ suggested career options were limited by
considerations of the young person’s hearing loss, despite 89% of the sample reporting that their parents were understanding and supportive (Warick, 1994). A Swedish study investigating the school-to-work transition of hard of hearing young adults five years after completing secondary school considered that parents were so supportive of whatever choices of upper-secondary programs their children made that they had – in the researchers’ words – “abdicated” their responsibility in helping their children towards optimal outcomes, perhaps, the researchers speculate, because of lower expectations of their children’s futures than parents of normally hearing children (Danermark et al., 2001).

Parental and teacher expectations can have a powerful effect on young people’s perceived self-efficacy, as “the goals held for others convey to them belief in their capability to fulfil them” (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001, p. 189). Self-efficacy beliefs in turn influence career aspirations (Bandura, 1997). Consequently, it is a matter for concern if parents, teachers or counsellors convey low expectations or exclude certain career options from exploration by young people with hearing loss. It may seem sensible to encourage hard of hearing youth to pursue careers which require a minimum of verbal, particularly vocal, interaction with people and a maximum of work with data or things. However, to limit career exploration in this way is detrimental in two ways. First, as has been discussed above, most occupations in the current employment environment require multiple skills, including a variety of communication skills. Second, applying such limits risks neglecting the individual’s interests, intellectual capacity, values and personality characteristics. Career theory and practice have long assumed that the fit of these factors to one’s chosen occupation is essential for the achievement of career success and satisfaction; if this is the case for the general population, it is hard to imagine that it should not be so for people with hearing loss.
Career maturity and career decision-making of adolescents with hearing loss

The presence of many types of disabilities poses risk factors for young people’s career development. Although many students without disabilities are not ready to make career choices by the time they finish secondary school, students with disabilities, affected perhaps by experiential deficits while growing up, may be less ready (Szymanski, 1994). It can be harder for people with disabilities to have confidence in their ability to find occupations appropriate to their condition, and this lack of confidence may lead to poorer career exploration and decision-making skills (Feldman, 2002). A tendency for parents and teachers to advocate for and make educational and vocational decisions for school-age students with disabilities may also impede the growth of these students’ confidence in their career decision-making abilities (Luzzo, Hitchings, Retish, & Shoemaker, 1999).

These risk factors are relevant to young people with significant hearing loss, whose career development may also be affected by several additional factors. First, the career-related information casually picked up by normally hearing children through listening to others talking and to television and radio may be missed by deaf or hard of hearing children who have less auditory access to this kind of incidental learning (Furlonger, 1998; King, 1992). In reporting their extensive study of deaf young people in Britain, Gregory, Bishop, and Sheldon (1995) stressed the consequences of the young people’s difficulty in accessing incidental information for their developing understanding of the world; they found that this applied to both young people who signed and those who used spoken language. Second, some parents may be more protective of their deaf or hard of hearing child than they would be of a normally hearing child (Gregory, 1998; Luterman, 1999; Morgan-Redshaw, Wilgosh, & Bibby, 1990; Warick, 1994), and consequently may limit their child’s age-appropriate opportunities to explore the world and his or her own capabilities (King, 1992).
A third factor which may put the career maturity of adolescents with hearing loss at risk is the possibility that these students have less experience of part-time employment during their secondary school years than their normally hearing peers. Working in part-time jobs while at school has become a normal part of the transition to adulthood for most adolescents and can provide them with many potential benefits. These include an increased sense of responsibility, learning appropriate ways of behaving in the workplace, acquiring understanding about the labour market, and growing in interpersonal skills and confidence. All these benefits were reported in qualitative interviews with young adults in the Youth Development Study, an extensive longitudinal study of work through adolescence and early adulthood conducted at the University of Minnesota (Mortimer, Zimmer-Gembeck, Holmes, & Shanahan, 2002). Many of the participants also reported that their high school jobs taught them what they did not want to do in the future – they realised that they did not want to work in menial jobs all their lives and, consequently, they became more motivated to succeed academically. Results from the Youth Development Study’s annual surveys of approximately 1,000 young people over a period of 12 years indicated that, after controlling for social and demographic factors, high school work experience positively influenced postsecondary educational investment and the acquisition of full-time work (Mortimer, Staff, & Oesterle, 2003).

Other studies have indicated career development benefits associated with adolescent students’ part-time work experience. In their study of relationships between part-time work and career development in high school students, Skorikov and Vondracek (1997) found that early work experience was associated with central work values, and concluded that such experience “contributes to a more meaningful pattern of values associated with work” (p. 230). In a study of a large sample of Australian high school students, Creed and Patton (2003a) found that having paid work experience was
associated with having higher career maturity levels as measured by the career development attitudes scale of the Australian version of the Career Development Inventory (Lokan, 1984). However, a high intensity of work, with long hours spent in paid work, has been associated with harmful consequences such as reduced educational attainment (Johnson & Mortimer, 2002). Most investigations of adolescent work and its relationship to other variables have involved cross-sectional or short-term longitudinal studies, and longitudinal studies of longer duration are needed to draw clearer conclusions (Creed, O'Callaghan, & Doherty, 2004; Skorikov & Vondracek, 1997). However, it appears overall that a balanced work pattern during senior school years benefits aspects of adolescents’ development, including career development.

The rate of part-time work among high school students who are deaf or hard of hearing has not been reported in the literature. However, it seems likely that fewer such young people obtain part-time jobs than their normally hearing peers. The types of after-school and holiday jobs obtained by many secondary school students can pose particular difficulties for adolescents who are deaf or hard of hearing. Jobs for high school students typically involve serving in shops or restaurants, which requires constant vocal interactions with a wide range of customers, or cooking in busy fast-food outlets, which often involves receiving rapidly expressed oral requests and instructions. These situations are likely to impose particular stresses upon people whose hearing is less than optimal and whose speech may lack clarity or may sound unusual to others, and such jobs may be either avoided or not easily obtained by adolescents who have a hearing loss.

For several reasons, then, it seems probable that deaf and hard of hearing adolescents may have lower levels of career maturity than their normally hearing peers. However, there is a dearth of empirical evidence about the career development of adolescents and young adults with hearing loss, as the few researchers who have
investigated this area have pointed out (Furlonger, 1998; King, 1990a; Schroedel, 1992). The research that does exist is based largely on studies of students attending residential and day schools for the deaf in the United States, and so is far from generalisable to the majority of school students with hearing loss in Australia. Studies conducted in the USA in the 1960s, 1970s and early 1980s generally reported less competence in career development areas such as occupational knowledge and reality of vocational preferences among deaf students than among their hearing peers (e.g., Chubon & Black, 1985; Lerman & Guilfoyle, 1970). However, more recent studies are likely to have greater relevance to deaf and hard of hearing students and the world of work in the twenty-first century. In the last twenty years, research into the career development of adolescents who are deaf or hard of hearing has been conducted by Schroedel (1991, 1992), King (1990a, 1990b, 1992), and Furlonger (1998).

Schroedel’s study (1991, 1992) investigated career decisions and career decision-making skills of senior students at residential and day schools for the deaf. Students were interviewed about the career development activities they had undertaken, and school counsellors and teachers evaluated eight attributes of the career decision-making skills of each student. These staff members rated a majority of students favourably on seven of the eight attributes. For example, they considered that approximately 60% of the students were aware of their vocational aptitudes and interests. However, they considered 61% of the students to be deficient in occupational knowledge. Students who had participated in career counselling were rated as being more motivated about their career decisions and more likely to complete postsecondary education programs than students who had not had career counselling. These findings derived from the opinions of the students’ teachers and counsellors. No established measures were administered to the students, and interviews of the students elicited only information about career awareness activities and other influences on their career
aspirations, and not about their specific career aspirations or their career decision-making processes.

Another U.S. study by King (1990a, 1990b, 1992) investigated the career maturity of deaf and hard of hearing adolescents in order to determine the necessity of a separate theory of career development for this population. The study included 71 Grade 10 to 12 students, 57 of whom attended residential schools for the deaf and 14 of whom were in regular schools, either in resource or mainstream programs. Hearing levels ranged from mild (9% of the sample) to profound (65%). This group was compared to a group of 318 normally hearing students attending public schools in the same area. Participants completed the Career Planning and Career Exploration subscales, yielding a composite score on the Career Development Attitudes scale, of the Career Development Inventory (CDI, Thompson, Lindeman, Super, Jordaan, & Myers, 1981). In addition, students’ family cohesion was rated using the 10-item cohesion scale of the Family Adaptability and Cohesion Evaluation Scales (FACES III, Olson, Portner, & Lavee, 1985). School records supplied reading and mathematics achievement levels, which were combined to create an achievement variable. Questionnaires completed by the parents provided background information and parental aspirations for their children’s occupational attainment. Parents also completed a measure of cultural participation, indicating the number of different kinds of educational, reading and recreational materials available in the home.

Results indicated similar mean Career Development Attitudes scores for the deaf and normally hearing groups. As King (1990a) pointed out, the aspect of career maturity explored in this study was the affective/attitudinal one of readiness to make career decisions, as measured by the Career Development Attitudes scale of the CDI, and not the cognitive dimensions of career maturity, or occupational aspirations or interests. The study did not include the cognitive component of the CDI in the form of the World of
Work Information and Career Decision Making subscales, which combine to form the Career Development Knowledge composite scale. Data compiled by means of these subscales would also have been valuable, particularly in light of the possibility that deaf and hard of hearing children miss out on incidental learning about the world of work and careers.

With career maturity, measured by the Career Development Attitudes scale of the CDI, as the dependent variable, King designed a causal model of career maturity from the variables included in the study: gender, age, achievement level, parental socioeconomic status, parental aspirations, family cohesion and cultural participation. She then constructed a second model with five added variables specifically related to hearing impairment: degree of hearing loss, age of child at onset of hearing loss, mother-child communication, father-child communication, and student’s degree of mainstreaming. Using path analyses, the investigator tested the ability of each model to explain variance in the career maturity in the two groups of adolescents. She concluded that the second model, while more descriptive of the career development process of young people with hearing loss because it includes deaf-related variables, was no more powerful in explaining variance in career maturity, and suggested that consequently there is no need for a separate theory of career development for people who are deaf or hard of hearing (King, 1990b, 1992).

King’s analyses found that family cohesion had a significant direct effect on career maturity for both groups of adolescents, but was slightly stronger in predicting career maturity in the deaf group. In addition, a significant difference was found in that, for the deaf group only, age had a significant negative effect on cohesion. This indicates that, as deaf children grow older, they view their families as less cohesive. King suggests that “deaf adolescents may need to resolve their feelings about their families,
who may be overprotective, if they are to realize their career maturity potential” (1990a, p. 257).

A surprising finding of King’s study was that academic achievement was negatively correlated with career maturity in the deaf group. King suggested that this could have occurred because students in lower academic tracks may receive more career education than those in higher academic tracks and, as deaf students are likely to “pick up only career-related information that is presented explicitly in a way that he or she is able to absorb”, such career education programs are the main source of career-related information for deaf students (King, 1992, p. 232).

A New Zealand study (Furlonger, 1998) investigated the career development of 26 high school students, aged from 13 to 18 years, with hearing loss, and a matched control group of normally hearing peers. The students with hearing loss all attended resource classes for the deaf in regular schools, spending at least some time in the schools’ regular classes. Students completed the Self-Directed Search (Keeling & Tuck, 1982) and the Australasian revision of the Career Development Inventory (Lokan, 1984). The students with hearing loss had significantly lower scores than their normally hearing peers on three of the CDI’s subscales - Career Planning, World of Work Information, and Career Decision Making – while showing no significant difference on the fourth subscale, Career Exploration. Furlonger explained that the Career Planning subscale asks respondents to consider how much thought they have given to jobs and their prerequisites; the responses of the students with hearing loss indicated that they had discussed these matters with a relatively small circle of people. He stated that their responses on the World of Work Information and Career Decision Making scales indicated that they “were less informed about how to relate to fellow workers, job hunting, types of occupations, and the tools of certain trades”, reflecting, perhaps, “a limited experiential base”, as suggested in the literature (p. 274). He concluded from the
study’s findings that a developmental lag clearly existed in the career maturity of the subjects with hearing loss, and recommended improvements in the career education of deaf school students, including an emphasis on career awareness, career exploration, decision-making skills, and communication skills. He further suggested that such programs should begin earlier for this population than is usual for normally hearing students.

Furlonger’s (1998) study has considerable relevance to Australian adolescents with hearing loss because it was conducted relatively recently, it took place in Australasia, and its sample was at least partially integrated in regular classes. However, its sample was small – 26 students with hearing loss and a control group of 26 hearing students. In the report of the study, the researcher does not clarify whether the students with hearing loss were deaf or hard of hearing, using the terms *deaf* and *hearing-impaired* interchangeably; however, he does state that all instructions were delivered manually using New Zealand Sign Language and Signed English, and orally “when applicable” (p. 271), suggesting that most of the study participants used a sign language. This group consisted largely of students with profound hearing loss (*n* = 19), with five of the remainder having a severe loss, and two with a moderately severe loss. As well, all 26 students were based in a resource class for deaf students. Thus, the sample was not representative of the population which the present study investigated, that is, hard of hearing adolescents of whatever level of hearing loss who attend regular classes with itinerant teacher support, and who are primarily oral-aural in their mode of communication.

These, then, constitute the few studies conducted in the last 20 years on the career development or career maturity of adolescents who are deaf or hard of hearing. Their conclusions are mixed: King (1990a, 1990b, 1992) found no significant difference between her normally hearing and deaf groups in career development attitudes scores,
whereas Furlonger (1998) found significantly lower scores for his deaf sample on three of the four subscales of the CDI. The participants in both Schroedel’s (1991) and King’s studies attended special schools, either residential or day, for the deaf, while the students in Furlonger’s study were based in resource classes within regular schools. However, no research has been reported into the career development of hard of hearing adolescents as defined in the current study. Moreover, the area has not been explored from the perspective of Social Cognitive Career Theory and its assumptions about how self-efficacy beliefs and outcome expectations influence career goals and behaviours. No studies have identified or examined specific career barriers which may be perceived by deaf or hard of hearing youth.

Social participation, social self-concept and career development

While the social inclusion of deaf and hard of hearing school students in integrated settings has been explored in the literature, its consideration as a factor in the career development of this population has received little attention. A healthy attachment to parents and high levels of parental support regarding career-related issues have been positively associated with career exploration among adolescents (Ketterson & Blustein, 1997; Kracke, 2002). However, during adolescence peer relationships become increasingly important to young people, who spend increasing amounts of time with their peers and correspondingly less time with their parents (Larson, Richards, Moneta, Holmbeck, & Duckett, 1996; Steinberg, 2002). Adolescence is typically a time of great importance attached to friendships, conformity to peer groups, sensitivity about one’s appearance, and an increasing interest in the other sex. Peer relations become more complex as both best friendships and the formation of a wider circle of friends assume greater value, and the importance of intimacy and openness in friendships increases (Eder & Nenga, 2003). Close friends provide mutual support, advice, self-disclosure,
acceptance, and understanding. Equally important at this life stage is the development of
a wider circle of friends, which assists adolescents to develop social skills and learn
more about themselves and the social world (Giordano, 1995). For both male and
female adolescents, friendship is an integral and crucial part of the experience of being
at school (McLeod, 1998).

Adolescents with hearing loss can be especially vulnerable to difficulties in
establishing and maintaining satisfying social relationships. Peers need to put in a
special effort to be friends with children and adolescents who have a hearing loss
(Oliva, 2004). Hearing loss causes children and adolescents to be seen as different and
affects the way in which they are “perceived and received by others” (Marschark et al.,
2002, p. 62). Other people’s responses to hard of hearing people in social interactions
often include impatience, irritation, blame and misunderstanding. Being subject to these
responses on a regular basis can lead to feelings of frustration and inadequacy which
may lower self-esteem in the hard of hearing individual, further jeopardising their
chances of achieving successful social relationships (Getty et al., 1993; Jambor &
Elliott, 2005).

In addition, the content of the communication that a person with a hearing loss
has with others may be inadequate. Graham Weir (1987), who has a profound hearing
loss, has pointed out the importance of balance in the “communication diet”: We need
to communicate with others not only at a superficial level and an information-sharing
level, but also at a meaningful level, where personal attitudes, feelings and goals are
shared. Hard of hearing people’s inappropriate responses and frequent requests for
clarification can create barriers to this type of communication occurring or being
maintained. Without an adequate amount of communication at a meaningful level in
their social interactions, a person may experience negative psychosocial consequences
such as tension, frustration, loneliness, depression, withdrawal, or anger (Getty et al.,
At a developmental stage in which intimacy and openness with peers and the establishment of a wider social circle assume major importance, this rich communication diet is particularly crucial to adolescents, but is often difficult for hard of hearing adolescents to achieve with their normally hearing peers.

The degree to which adolescents feel either socially accepted or socially isolated can contribute to their social self-concept, which is defined here as “one’s perception of his or her social competence with respect to social interaction with others” (Byrnes & Shavelson, 1996). Such perceptions about self in the social sphere may influence the career development of young people (Anderson & Brown, 1997; Betz, Schifano, & Kaplan, 1999; Felsman & Blustein, 1999; Kracke, 2002). Issues surrounding social relationships with hearing peers are especially pertinent to children and adolescents with hearing loss, and thus are an important factor in considering the career development of this population.

It is clear that the placement of a deaf or hard of hearing student in a regular classroom is not in itself sufficient for effective inclusion (Antia et al., 2002; Byrnes et al., 2002; Hyde & Power, 2004a). An important aim of inclusion, in addition to students’ academic participation, is successful social participation, but the extent to which this aim is achieved for students who are deaf or hard of hearing is far from certain. Antia and colleagues (2002) stressed the importance of membership, that is, being “in” the group in the school and classroom community, and maintained that membership must be actively promoted by classroom teachers and teachers of the deaf and hard of hearing. Yet it is situations most inappropriate for teacher intervention, such as informal interactions and casual conversations in hallways, lunch areas, and before and after school hours, that are so important to the group affiliation of adolescents (Stinson & Whitmire, 2000).
An extensive and sometimes passionate debate has been conducted for many years about the benefits and risks of educational integration or inclusion of deaf children (Easterbrooks, 1999). It is not intended here to enter into this debate; rather, the experiences of social participation of students in integrated settings are discussed in order to examine the role of social self-concept in the career development and choices of this population.

Studies of the social experiences of students who are deaf and hard of hearing use terms such as *self-perceptions of social relationships* (Leigh & Stinson, 1991; Stinson & Whitmire, 1991; Stinson, Whitmire, & Kluwin, 1996), *social acceptance* (Coyner, 1993), *peer relatedness and participation* (Leigh & Stinson, 1991), and *social integration and social participation* (Hyde & Power, 2004a; Power & Hyde, 2002). This study employs the term *social participation* to cover these interconnected concepts and to refer to adolescents’ social inclusion with, and acceptance by, their peers.

Many studies have investigated the social participation of deaf and hard of hearing students in integrated settings, often comparing these students to students in segregated settings. The authors of these studies describe their samples in terminology that varies according to the time period and country in which they were written; the use of terms such as *mainstreaming, integrated, and inclusion* tend to reflect the educational policies and practices of time and place. This creates some difficulty in comparing the results of these studies. In this review, the terminology used by each study’s authors is used to describe that study’s sample.

Research conducted in the USA and Canada (Stinson et al., 1996) and in England (Stinson & Whitmire, 1991) used a scale developed by the researchers to measure three dimensions of social activity: participation, emotional security in peer relationships, and perceived social competence. Results indicated significant correlations between social participation, emotional peer relatedness, and social
competence. The studies found that increasing amounts of time spent in mainstream classes led to deaf students having more social participation with, but not increased relational bonds with, hearing students. The most frequently mainstreamed students indicated higher ratings of emotional security with their deaf peers, and the authors suggested that they may have unmet needs for the less superficial and more satisfying relationships that more frequent interaction with a deaf peer group could provide.

Qualitative approaches have also been used to investigate the social participation of deaf and hard of hearing adolescents. Charlson, Strong, and Gold (1992) conducted a study incorporating in-depth interviews with 23 severely and profoundly deaf high school students who had been nominated by their teachers as academically and socially successful. Students either attended residential schools for the deaf or regular schools with support programs for the deaf. While many of the residential school students reported feeling isolated from their families, many of the students at regular schools reported feelings of loneliness and isolation from their peers. Strategies reported by the latter group for dealing with these experiences included immersing themselves in reading or studying and involvement in adult-supervised youth activity groups.

Loeb and Sarigiani (1986) investigated the self-perceptions of children aged 8 to 15 years who had hearing losses ranging from mild to profound and who were attending “mainstream special education programs” in public schools in Detroit. Sixty of the 64 subjects were in programs using oral-aural methods of instruction. The students indicated on the Piers-Harris Children’s Self-Concept Scale (Piers & Harris, 1964) that they were not popular, had a difficult time making friends, and were infrequently chosen as playmates. The researchers found shyness to be a problem for these students and, pointing out that shyness is closely related to peer popularity, stated “it appears that communication deficits pave the way for social isolation, and this consequent isolation likely fosters shyness, often creating a vicious cycle for the child” (p. 96).
Coyner (1993) investigated 10 students with hearing losses ranging from mild to profound and 25 normally hearing students at a U.S. high school. The deaf and hard of hearing students’ self-perceived social acceptance ratings were not significantly different from those of the hearing students. However, they received significantly lower ratings from their hearing peers on peer acceptance scales, leading Coyner to suggest that “hard of hearing and deaf students as a group may not be included in hearing students’ social groups” (p.18).

These studies indicate that problems in the area of peer relations and social self-concept exist among deaf adolescents. The students involved in these studies were based largely in special education resource units, and attended their schools’ regular classes for varying amounts of time. These students tend to experience different challenges in fitting in and gaining a sense of belonging in the regular classroom from those experienced by fully mainstreamed students. Unlike students based in resource units who have a cohort of students who are also deaf or hard of hearing, adolescents with itinerant teacher support are frequently the only student with a hearing loss in their class and often in their school (Leigh, 1999; Power & Hyde, 2002). Thus, these students are likely to differ in their experiences of socialisation from students who are based in resource units. The following section reviews studies whose samples consisted largely of high school students with oral-aural communication and itinerant teacher support, and thus were most similar to the hard of hearing population under investigation in the present study.
Social participation of hard of hearing adolescents

A study of children and adolescents in regular classes indicated that difficulties in being socially accepted are not confined to young people with severe and profound hearing losses (Davis et al., 1986). Fifty percent of this study’s participants, who had hearing losses in the mild to moderate range, reported loneliness and frustration due to their struggle to make friends and be accepted socially at school, compared to only 15.5% of a group of their normally hearing peers.

In investigating the identity construction of hard of hearing Canadian adolescents with varying amounts of integration, Israelite, Ower, and Goldstein (2002) conducted a qualitative study employing group interviews and open-ended questionnaires with seven high school students, five of whom had moderately severe hearing losses, one a severe loss, and one a profound loss. They found that “fitting in” was an important issue for these students, many of whom reported having felt, at times, lonely or misunderstood because of their hearing loss. However, they also reported positive findings, particularly from the two most fully integrated students, one of whom had a severe hearing loss. This reflects other findings that degree of hearing loss does not necessarily predict degree of social functioning at school (Davis et al., 1986; Hyde & Power, 2003).

An Australian study investigated the opinions about their educational placements of secondary students who are deaf or hard of hearing (Byrnes & Sigafoos, 2001; Byrnes et al., 2002). The investigators surveyed 76 students in segregated settings (i.e., special education classrooms within regular schools) and 64 students in integrated settings (regular classrooms, with support from itinerant support teachers). Students replied in writing to a series of closed and open-ended questions about their experiences of, and preferences for, various types of educational placements. Eighty per cent reported that they were generally satisfied with their current placement. A majority
(60.3%) of the students being educated in integrated settings stated that they preferred this option even if there were no other deaf or hard of hearing students in their school. In their responses, students indicated that they could see advantages and disadvantages associated with different placement options. The most highly reported advantages of being fully integrated were the opportunity to feel “normal” and independent, being better prepared for living in “the real world” after leaving school, and having the opportunity to communicate with and mix with anyone. However, integrated students also reported experiencing feelings of isolation, loneliness and difference from hearing peers, and some wished for the presence of other deaf students (Byrnes et al., 2002).

In a study of 52 fully mainstreamed hard of hearing students aged 11, 13 and 15 in New Zealand high schools and a comparison group of 470 students without hearing loss, Kent (2003) used a survey based on the World Health Organization’s Health Behavior of School-aged Children questionnaire (King, Wold, Tudor-Smith, & Harel, 1996). The survey included two questions about loneliness. The reported loneliness of the hard of hearing students approached, but did not reach, statistical significance ($p = .057$). The results also indicated reluctance among the participants to identify themselves as having a hearing loss, and statistically significant levels of loneliness among those who did so identify. Kent concluded that “identifying oneself as HOH [hard of hearing] continues to be socially undesirable for mainstream adolescents” (p. 322). Similarly, many of the hard of hearing young people surveyed in a Canadian study indicated reluctance to disclose their hearing loss to peers. The study found that 21% of the 290 respondents, who were aged from 13 to 25 years, reported having few friends and said that other people “do not understand”, and 26% agreed that they were discouraged by their hearing loss (Warick, 1994).

A qualitative study designed to examine factors contributing to the success of students with severe and profound hearing losses attending regular educational settings
focused on 20 students aged 12 to 19 who had been identified as academically and socially successful by their teachers (Luckner & Muir, 2001). In their primary communication method, nine of the students were oral, ten used both speech and sign language, and one used Pidgin Sign English. Interviews were conducted with the students, their parents and teachers, and the students were observed engaging in typical classroom activities. The researchers reported positive experiences of supportive friends in the regular class settings of these students and provided a discussion of factors that emerged as prominent in these students’ success. These factors included the importance of family involvement, early identification of their hearing loss and early intervention, good reading skills, high expectations of parents and teachers, and good social skills.

As well as these studies that were based largely on the self-reports of hard of hearing school students, retrospective studies in which adults reflected on their past school experiences also have been conducted. In one such study, 43 adults who had grown up using spoken language provided retrospective reports of their period of adolescence. Most (82%) of the participants reported their level of hearing loss as severe, severe to profound or profound. A majority (60%) of these adults reported social difficulties and feelings of isolation during their adolescence, with four major contributing factors: missing the point of conversations and jokes, being unaware of information or current trends that were readily available to their peer group via television, the effects of being perceived as different, and the need to spend all their spare time studying in order to keep up academically (Bain, Scott, & Steinberg, 2004).

Another retrospective study asked 34 adults with hearing loss and an oral-aural mode of communication to respond to 12 open-ended items on a questionnaire (Leigh, 1999). The results indicated that a majority saw their mainstream schooling experiences in largely positive terms, reporting feelings of acceptance at school and valuing their
ability to function comfortably in a hearing world. Approximately one third of respondents reported negative experiences, including “feelings of insecurity, dependency or self-consciousness related to being the only deaf person and getting special attention, perceptions of isolation and catering to the dominant group, shy personality in conjunction with rough experiences, lower self-confidence, and difficulties in comparing oneself to hearing peers since deaf peers were not available” (p. 240).

In addition to self-reports of hard of hearing individuals, teacher reports have also suggested that the social participation of fully integrated students is less than optimal (Hyde & Power, 2004a; Power & Hyde, 2002). A survey of itinerant teachers of the deaf across Australia collected data about the social participation of students supported by these teachers at all school levels. Using a framework of inclusion described by Mirenda (1998), teachers rated their students’ levels of social participation at school. The teachers considered one third of their students to be at the “competitive” level socially, that is, socially well-integrated and actively involved in the dynamics of the group, compared to two thirds whom they considered to be at the “competitive” level academically. The authors suggest that “these findings…do not provide a compelling picture of a high level of social participation and independence of these students in regular school life” (Hyde & Power, p. 90).

Parents have also reported the social difficulties of their deaf and hard of hearing adolescent children. Punch and Kidd (2001) reported findings from interviews with 19 parents of Australian young people with hearing losses ranging from moderate to profound. Of the parents whose children were aged eleven and over, all spoke of their children experiencing their late primary or early secondary school years as an emotionally traumatic time in which they struggled to be socially accepted and to appear “not different.” For nearly all the children, this struggle involved ceasing to use
their FM systems at school. Some parents reported improvements in their children’s happiness after their early high school years as their children, and their peers, gained in confidence and maturity.

While not primarily investigating the social experiences of school students, a study conducted in Israel that compared a group of deaf and hard of hearing young adults with normally hearing individuals on measures of attachment, individuation and self-esteem reported findings related to adolescents’ social difficulties (Weisel & Kamara, 2005). All of the young adults had attended general education high schools, and 28 of the 38 participants with hearing loss did not use a sign language. The deaf and hard of hearing group revealed more fear of attachment and fear of individuation, indicating greater fears of reaching both intimacy and autonomy, and lower self-esteem than the comparison group. The authors contended that these results implied a link with the experiences of social isolation and rejection that is reported in the literature for this population, particularly in adolescence, and that may foster continued dependence on parents and other adults.

From these studies, a picture emerges that is by no means entirely negative. For some of the young people investigated, social exclusion and feelings of social loneliness were not apparent, and positive experiences of social interaction in the mainstream were reported. However, it is clear from the studies’ findings that many hard of hearing adolescents have been troubled by a lack of social acceptance and participation, and feelings of social loneliness and self-consciousness about their hearing loss. Whether these experiences are related to a problematic social self-concept which could affect career development for this population is a question which has not been investigated by researchers.
Closely related to social participation and peer relatedness in adolescents is the construct of social self-concept, which derives from the theoretically and empirically sound construct of multidimensional self-concept that has been postulated by Shavelson, Hubner, and Stanton (1976), and revised by Marsh (1990; 1994), as a multifaceted model of a person’s self-perceptions, formed through experience with, and interpretation of, one’s environment. This model presents general self-concept as being divided into academic and non-academic self-concepts. Non-academic self-concept is subdivided into three areas: emotional, physical, and social self-concept. Social self-concept involves a judgement about one’s competence in interacting socially with others (Berndt & Burgy, 1996).

In investigating social self-concept, measures that focus on people’s perceptions of their social acceptance are widely used by researchers. The Self-Description Questionnaires I and II (Marsh, 1988, 1990) were designed to measure the multiple dimensions of self-concept in children and adolescents. The version commonly used with adolescents contains two subscales for assessing social self-concept: the “same-sex relations scale” and “opposite-sex relations scale”. These subscales are designed to assess respondents’ popularity with peers of both sexes, how easily they make friends, and the quality of their interactions, with items such as “I’m popular with boys” and “I have good friends who are members of my own sex” (Byrnes & Shavelson, 1996; Marsh, 1990).

Some researchers have explored social participation and social self-concept together in populations of deaf and hard of hearing young people. Using the Self-Description Questionnaire I (Marsh, 1988) with Canadian secondary school students, van Gurp (2001) found students in more integrated settings (described as congregated and resource settings) to have more problematic self-concepts in the areas of physical
appearance, peer relations, and self-worth than their peers attending a school for the deaf. Subjects in this study were not compared to normally hearing peers.

In a Canadian dissertation study, nine young adults who were hard of hearing were interviewed, and a grounded theory approach used to analyse the interaction between self-concept and growing up with a hearing loss (Hughes, 2001). Although the study explored general self-concept, without specific emphasis on social self-concept, many issues relating to the social consequences of the participants’ hearing losses emerged in the findings. The researcher concluded that “the normal milestones of self-concept development during adolescence are intensified and more challenging for the hard of hearing teen” (p. 156), and that the self-concept of hard of hearing young people is at risk. The study reports interviewees’ avoidance of career choices in areas where they perceived that their communication limitations would pose a significant problem, such as in police and paramedic work. However, a consideration of the participants’ self-concept in relation to their careers was not included in this study.

Thus, although few studies have explored this area, it appears that the social self-concept of young people who are hard of hearing may be particularly vulnerable due to difficulties they experience in social participation with their normally hearing peers. Most students who are in regular school settings supported by itinerant teachers of the deaf have very few friends who are deaf or hard of hearing (Roberts & Rickards, 1994b). The lack of the sense of belonging and identity that, for many deaf people, comes from membership of the Deaf community, and the possibility of feeling marginalised in the hearing world, are likely to exacerbate this vulnerability (Leigh, 1999).
Social loneliness

Social loneliness can be considered to be the reverse of self-perceptions of social acceptance (Berndt & Burgy, 1996). A measure which assesses self-perceptions of social acceptance in order to measure social loneliness is the Social and Emotional Loneliness Scale for Adults (SELSA), developed by Di Tommaso and Spinner (1993) to assess Weiss’ (1973) conceptualisation of loneliness as consisting of two distinct states. Weiss postulated that emotional loneliness results from a lack of a close attachment relationship, and that social loneliness results from a lack of social integration provided by a satisfying social network. Di Tommaso and Spinner (1997) reviewed five studies which reported empirical evidence to support Weiss’ typology, and conducted a study of undergraduate psychology students in which they used the scale that they had developed. Their findings supported Weiss’ multidimensional conceptualisation of loneliness and his hypothesis that social integration predicted social loneliness. The social loneliness subscale of the SELSA taps respondents’ perceptions of social acceptance and social participation through items such as “I feel part of a group of friends”, and “I don’t have a friend who understands me, but I wish I did.” In the present study, the construct of social participation is operationalised using the construct of social loneliness and is assessed by the Di Tommaso and Spinner (1993) SELSA scale.

Social loneliness has been found to be significantly correlated to low peer acceptance and few or no friendships among primary school children (Asher & Wheeler, 1985; Renshaw & Brown, 1993). Asher and Wheeler differentiated between rejected children, who lack friends and are actively disliked by their peers, and neglected children, who lack friends but are not disliked by their peers. These authors reported a study in which the rejected children evidenced significantly more loneliness than the neglected children, who, in turn, were lonelier than the popular children.
Social self-concept, peer relatedness and career development

Donald Super (Super, 1957; Super et al., 1996) emphasised self-concept as a vital factor in individuals’ occupational choice. According to Super’s career development theory, “the overriding goal toward which career construction moves is a situation in which the occupational role validates the individual’s self-concept” (Savickas, 2002, p. 166). In addition, as many career development tasks have an inherently social nature, it is probable that social confidence and competencies will influence career development behaviour (Hamer & Bruch, 1997).

The relationship between young people’s social participation or isolation, social self-concept and career development has recently been investigated. Studies have found both peer relatedness and social self-concept to relate to aspects of adolescent career development. Anderson and Betz (2001) explored the implications for career development of social self-efficacy expectations, which they defined as “confidence in one’s ability to engage in the social interactional tasks necessary to initiate and maintain interpersonal relationships in social life and career activities” (p. 98). They suggested that the findings of their investigation of sources of social self-efficacy supported previous research linking social self-efficacy beliefs to the career development and decision-making process. Other studies have found verbal and interpersonal self-efficacy, closely related to social self-efficacy, to be significantly negatively correlated with career indecision among undergraduate psychology students in the United States (Betz et al., 1999) and among Year 11 high school students in New Zealand (Tuck, Rolfe, & Adair, 1995).

For many people, a poor social self-concept is closely related to the personality trait of shyness. Shyness has been defined as “a type of social anxiety that involves anxious self-preoccupation and behavioural inhibition in social interactions due to the prospect of interpersonal evaluation” (Hamer & Bruch, 1997, p. 383). Two related
studies of shyness and career development among young adult college students found that shy students were more likely to experience difficulties in formulating a vocational self-concept and in career decision-making and to limit their career choices to nonsocial fields than their non-shy peers (Hamer & Bruch, 1997; Phillips & Bruch, 1988).

It has been suggested that adolescents, during the period of their autonomy development and healthy separation from their parents, may gain from their increasingly important close peer relationships the necessary sense of security to negotiate the developmentally appropriate tasks of career exploration and commitment (Felsman & Blustein, 1999; Kracke, 2002). In a longitudinal study of German ninth grade students across two points of measurement six months apart, Kracke found that frequent talks with peers about career-related issues were correlated with more career information-seeking behaviours and predicted an intensification of career exploration over the observed time period. Kracke concluded that relationships with peers were important to the career development of adolescents and should be used to encourage students to discuss and explore career-related issues together in order to promote increased career development processes. Felsman and Blustein investigated the peer relatedness, career exploration and progress in committing to career choices of undergraduate university students. They found, both among males and among females, a significant, if modest, amount of shared variance between peer relatedness and the career variables, above and beyond the contribution of parental attachment, age, and gender. Similarly, in their study of 304 undergraduate students, Wolfe and Betz (2004) found career decision-making self-efficacy to be positively associated with peer attachment among women and career indecisiveness to be negatively related to peer attachment among both women and men. The findings of these studies suggest that peer relatedness among adolescents and young adults does indeed play an adaptive role in facilitating the necessary career development tasks of this population.
Clearly, reduced social participation with, and acceptance by, their peer groups can lead to feelings of social loneliness for adolescents with hearing loss attending regular school classes. Consequently, these young people may experience feelings of deficiency, rather than efficacy, in the area of social interaction. Social Cognitive Career Theory stresses that individuals will develop and foster career interests in areas in which they feel efficacious and perceive the likelihood for positive and desirable outcomes. In addition, research suggests that adolescent peer relatedness, social self-concept, social self-efficacy beliefs, and shyness are associated with career development variables. A social self-concept that involves a lack of feelings of self-efficacy in social interactions may affect the career development of hard of hearing young people in several ways. First, it may lead them to avoid occupations and career paths demanding medium or high levels of social interactions with other people and so may prematurely circumscribe their career options. In particular, occupations in the social service, commercial, sales and managerial fields require social facility and may be avoided (Bandura et al., 2001). It may also have a detrimental impact on their career exploration and choice behaviours, many of which require social interactions, such as approaching unknown adults for information, which socially unconfident adolescents may avoid. Consequently, hard of hearing adolescents’ levels of social participation or social loneliness, closely related to social self-concept, and their interrelation with the other career development variables being explored, were considered an important area of investigation in this study.

Summary

The review of the literature provided in this chapter has pointed to the vulnerable position of young hard of hearing people in today’s challenging labour market and the environmental and attitudinal barriers these young people face in the world of work.
Young people who are hard of hearing are likely to be subject, to varying extents, to functional limitations and communicative difficulties and exposed to negative stereotypes and prejudicial attitudes as they move into the post-school stage of their lives. Hard of hearing people generally do not see themselves as part of a minority group with the associated benefits of group membership, support, and pride. Indeed, many hard of hearing people prefer, as far as possible, not to reveal that they have a hearing loss. Their “disability”, if such it is, is often invisible or not wholly apparent and its implications difficult for normally hearing people to understand. Thus, hard of hearing adolescents face disadvantages that place their career development and career outcomes at risk.

This review has shown that the number of research studies into the career maturity of adolescents who are hard of hearing is small, and the results of these studies are equivocal. Research investigating hard of hearing young people’s perceptions of career barriers and how these perceptions may influence their career decision-making is lacking. Studies of the social participation of this population are more numerous, and in general have shown that many hard of hearing students in regular classes experience social isolation and loneliness and a reduced social self-concept to varying degrees. No studies have related this factor to the career development of their samples.

Many of the studies that have been conducted with this population have the limitations of small sample sizes and a lack of comparison groups of normally hearing students. The studies emanate largely from North America and many are based on students in special education settings, and so do not closely reflect the current educational situation for hard of hearing high school students in Australia. This study has attempted to address these limitations through the incorporation of a comparison group and instruments standardised or restandardised for Australian populations in the quantitative phase, and of adequate sample sizes in both the qualitative and quantitative
phases. In addition, the study’s mixed method approach enabled the research questions to be answered more fully and accurately than the adoption of only a quantitative or qualitative approach would permit.
CHAPTER THREE - THEORISING CAREER DEVELOPMENT

Introduction

This chapter discusses the career development theories on which this study of hard of hearing adolescents is based, and in doing so examines the main constructs which underlie the study’s research questions. It begins with a consideration of current conceptualisations of career and their implications for career development. It proceeds to a discussion of the developmental theory of Donald Super (Super, 1980; Super et al., 1996) and its associated concept of career maturity. It discusses career indecision and its relationship to the other constructs considered in the study. It then examines the Social Cognitive Career Theory (SCCT) of Lent, Brown, and Hackett (1994, 2002) which constitutes a framework for the study. This overview of SCCT includes a description of its major variables - self-efficacy, outcome expectations, and goals - and how they have been operationalised to apply to the career decision-making process. The contextual factors relevant to career development and emphasised in SCCT are discussed, with particular emphasis on perceived career barriers. Finally, consideration is given to the application of career development theory to people with disabilities, and the particular applicability of SCCT to people with diverse backgrounds.

Since the early 1970s, the word career has increasingly replaced the word vocational both in the literature and in practice, so that career development, career guidance, career counselling, and career education are now more commonly used than terms such as vocational guidance. The new terminology reflects expanding concepts surrounding work and careers (Herr & Cramer, 1996). Whereas traditionally a career has been considered to be a professional work life involving advancement, now the term is used to describe all occupational roles (Patton & McMahon, 1999). In addition, recent
changes in the world of work have resulted in new concepts of career. The impact of extensive social and technological changes and rapidly increasing global competition has been widely discussed in the career literature in the past decade (e.g., Arnold & Jackson, 1997; Arthur & Rousseau, 1996; Hall, 1996; Mirvis & Hall, 1996; Watts, 1997). One area of agreement in this discussion is that a broader notion of career is now necessary: Careers encompass not only occupational roles, but also a range of life roles in areas such as study, community work, leisure, and home and family (Osipow & Fitzgerald, 1996). This broadening of the concept of career has been to some extent reflected in career development theory since the early 1980s. For instance, Super (1980), in a major expansion of his conception of career development, expanded his life-stage, maturity model to encompass a social and context-based life-span, life-space approach which included consideration of social roles that interact with work roles (Blustein, 1997a; Savickas, 2002).

Nevertheless, work roles remain the focus of career development research and theory, and occupational choice and decision-making forms the basis of most concepts and theories of career development. Career development as considered in this study can be defined as Brown and Brooks (1996, p. xv) did: “Career development is, for most people, a lifelong process of getting ready to choose, choosing, and, typically, continuing to make choices from among the many occupations available in our society.” This choosing involves self-understanding and skills in career exploration, planning, and decision-making.

The broad social, economic, and technological changes that have occurred in Australia, the USA, and other Western countries have affected most people’s career paths and have made it clear that career development is an ongoing, lifelong process. Staying with one employer, in one job, or even in one industry, for life is now uncommon. Careers typically involve multiples changes and require sophisticated self-
management skills; indeed, Savickas (1997, p. 256) claims that “career management has subsumed occupational choice.”

Writing of the generation who reached young adulthood in the 1990s, social commentator Hugh McKay (1999) described the perspective of youth:

This is the generation that has largely abandoned a straight-line approach to work. They know that the jobs they want might not exist in ten years’ time; they might end up doing jobs that don’t exist now. Not many of them expect to get a job and keep it for life….On the contrary, they accept that their working lives might turn out to be a kind of patchwork; a jigsaw puzzle; a series of jobs that, over time, fit together to create their world of work. (p. 118)

This patchwork approach also applies to postsecondary education. Adolescents face an extended period of transition and many young people postpone decisions about work while they attend college or university. The school-to-work transition is often more circular than linear, involving several stages, with formal education stopping and starting as people leave mid-degree, return to study in the same field or begin studies in a completely new field (Feldman, 2002; Kerckhoff, 2002; Mortimer et al., 2002).

Thus, adaptability is an important quality in adolescent career development. However, in order to negotiate successfully a potentially complex and prolonged transition, adolescents also need to develop competence in planning, which assists in avoiding unwise choices (Clausen, 1991). Career education and interventions should encourage adolescents to develop a future orientation and planful attitudes, which can facilitate career exploration and decision-making (Savickas, 1997). In addition, chance events play an inevitable and influential role in careers and career decision-making, and need to be recognised and utilised in the career development process (Bright, Pryor, & Harpham, 2005; Krumboltz, 1998). The complex, non-linear nature of the school-to-work transitions and career paths facing today’s youth necessitates a high level of career decision-making skills that can be drawn upon repeatedly throughout the life-span.
Clearly, career development in the twenty-first century must involve far more than occupational choice and the matching of personal characteristics and interests to jobs. However, historically, trait and factor theories, evolving over time into the person-environment fit model, have dominated the career choice and development field. Rooted in the psychology of individual differences, the personality/interest typology of Holland (1992) and the work adjustment theory of Dawis and Lofquist (1984) both posit that congruence between personal characteristics and the demands of an occupational environment determine success and satisfaction. These largely content-focused theories have been enormously influential in the career guidance field. However, theories that emphasise the process rather than the content of career choice and take a developmental approach have risen to prominence during recent decades. These theories recognise that career choice “is not just a single static decision but rather a dynamic developmental process involving a series of decisions made over time” (Patton & McMahon, 1999, p. 36).

Predominant among developmental theories is Super’s life-span, life-space theory of career development, which has evolved over a period of 60 years. It emphasises the development and implementation of occupational self-concepts and the mastering of career developmental tasks at different life stages, namely, growth, exploration, establishment, maintenance, and disengagement (Super et al., 1996). Super viewed self-concept as a predominant factor driving individuals to select and develop a career “in which one can play the types of roles that growth and exploratory experiences have led one to consider congenial and appropriate” (Savickas, 2002, p. 155). The life stage of exploration, generally defined as occurring between the ages of 14 and 24, is one in which young people face the developmental task of translating their vocational self-concept into a vocational identity. Super posited that the exploration stage can be broken down into three tasks: crystallization, specification, and implementation.
Crystallization encompasses a broad exploration of self leading to a unification of self-percepts into a vocational self-concept, and a broad exploration of society and the world of work. This exploration, combined with the development of attitudes, beliefs and competencies, leads to the formation of tentative preferences and an increasing readiness for making choices. The next task is specifying an occupational choice. Specification involves in-depth exploration and reality-testing in order to narrow a general career direction into a specific one. The final task of the exploration stage is implementation or actualization, whereby individuals plan and execute actions to implement their choice (Savickas, 2002).

**Career maturity**

Central to this exploration stage of crystallizing, specifying, and implementing an occupational choice that commonly occurs in adolescence and young adulthood is the readiness and ability of the individual to perform the necessary developmental tasks. Super introduced the concept of vocational maturity, now known as career maturity, 50 years ago (Super, 1955). The construct of career maturity involves the readiness of an individual to make informed, age-appropriate career decisions. Super and his colleagues described the psychosocial nature of the construct:

From a social or societal perspective, career maturity can be operationally defined by comparing the developmental tasks being encountered to those expected based on the individual’s chronological age. From a psychological perspective, career maturity can be operationally defined by comparing an individual’s resources, both cognitive and affective, for coping with a current task to the resources needed to master that task. (Super et al., 1996 pp. 124-125)

Thus, the developmental nature of the construct means that individuals’ career maturity is relative to their life stage and to their coping in relation to their peers. Affective and cognitive resources are necessary to master the career-related tasks at this life stage, and Super’s model proposed four affective and cognitive dimensions that
contribute to career maturity. Two affective dimensions involve attitudes towards career planning and career exploration and two cognitive dimensions relate to knowledge about occupations and the world of work and knowledge about the principles and processes of career decision-making. These four dimensions are operationalised in two widely used measures that were designed to measure career maturity: the Career Development Inventory (CDI, Thompson et al., 1981) and Crites’ (1978) Career Maturity Inventory (CMI).

Career maturity has been studied among high school students and among university students. In both populations it has been empirically linked with several other career development constructs. Powell and Luzzo (1998) examined the career maturity and career decision-making attributional style of 253 students from ethnically diverse urban high schools in the United States. They found a significant positive relationship between career maturity (assessed by the CMI) and an optimistic attributional style. Utilising an Australian version of the CDI (CDI-A, Lokan, 1984), Patton and Creed (2002) found a moderate correlation between career maturity and work commitment among Australian high school students. Studies have supported the developmental assumptions of the career maturity construct, finding career maturity levels to increase with age (Creed & Patton, 2003b; Patton & Creed, 2001, 2002; Patton, Watson, & Creed, 2004; Wallace-Broschous, Serafica, & Osipow, 1994). Gender differences, generally with females indicating more career maturity than males, have been found in studies of high school students (Creed & Patton, 2003a, 2003b; Patton & Creed, 2001, 2002) and university students (Luzzo, 1995). However, these findings are not universal; Powell and Luzzo’s study found no career maturity differences on the basis of several demographic variables including gender, age, and ethnic background.
Career maturity in adolescence has been linked empirically with positive short-term and long-term outcomes. Super and his colleagues conducted the Career Pattern Study, a longitudinal study over a 20 year period with a sample of boys beginning when they were in ninth grade in a New York school (Super & Jordaan, 1982; Super et al., 1967; Super & Overstreet, 1960). At the 10-year follow-up stage of the study, it was found that the career maturity levels in ninth grade generally predicted career satisfaction, self-improvement, and occupational satisfaction at age 25 (Super et al., 1967). In a longitudinal study of Australian high school-leavers, Patton, Creed, and Muller (2003) found that students with higher levels of career maturity (measured by the CDI-A) had made a more successful transition nine months post-school, judged on the criteria of students being in full-time study, full-time employment, or trying but unable to gain full-time employment, than their peers with lower career maturity levels.

Recently the career maturity construct has been under scrutiny. In a special section of the *Career Development Quarterly* (1998, Volume 47), several authors reassessed the construct. Schmitt-Rodermund and Silbereisen (1998) and Vondracek and Reitzle (1998) called for the reformulation of career maturity to include a consideration of the historical time and cultural, political, and economic conditions in which the individual is situated. Raskin (1998) also stressed the importance of context in individual career development and suggested the need to integrate personality and decision-making style into research on career development. However, in addition to delineating the limitations of the career maturity construct, these authors confirmed its usefulness in studying and working with the career development needs of adolescents. As the above review of studies indicates, many researchers continue to value the utility of the construct and apply it in their research, maintaining that career maturity is crucial to the successful post-school transition of young people in the current social and economic context (Creed & Patton, 2003a).
Thus, the construct of career maturity remains of considerable value and utility to both research and practice in career development. It is an important variable to be considered when developing career education and intervention programs for adolescents. Edna Szymanski and her colleagues in the field of rehabilitation counselling have considered Super’s developmental theory to have many applications for people with congenital or early-acquired disabilities. They maintain that the construct of career maturity can help career and rehabilitation counsellors to identify critical experiential or knowledge deficits which may impede clients’ career planning and decision-making (Szymanski & Hershenson, 1998; Szymanski et al., 1996). As hard of hearing adolescents might be subject to such experiential or knowledge deficits, the developmental basis of the construct makes it particularly appropriate for inclusion in the present study.

**Career indecision**

Career indecision is a construct closely related to career maturity. Indecision differs from indecisiveness, which is a personal trait affecting a range of decision-making situations; rather, indecision is “a developmental phase through which individuals may pass on their way to reaching a decision” (Osipow, 1999, p.147). The construct of career indecision as assessed by the Career Decision Scale (CDS, Osipow, Carney, Winer, Yanico, & Koschier, 1976), the most widely used measure of career decision status, involves identifying difficulties that impede career decision-making (Osipow & Fitzgerald, 1996). Prideaux and Creed (2001) sum up the relationship between career maturity and career indecision in this way: “CM describes an unfolding of ability to make career-related decisions; CI is a stumbling block within that developmental process” (p. 10).
Numerous studies employing the CDS have investigated career indecision and its relationship to other variables. Among the more recent of these studies, the career indecision of undergraduates was found to be predicted by a greater degree of Marcia’s (1966) identity status stages of identity moratorium and diffusion (Guerra & Braungarg-Rieker, 1999). In a study of 350 university students, Betz and Voyten (1997) found career indecision to be negatively related to career decision-making self efficacy (CDMSE). They also found indecision to be predictive of increased exploratory intentions among women, but not among men. In addition, career indecision has been found to predict career choice anxiety, which may lead to avoidance of career exploratory behaviour, among young women in low-level jobs (Weinstein, Healy, & Ender, 2002).

Studies of career indecision among high school students have also reported the construct’s relationship to several other variables. A study of 1000 students attending Grades 7 to 12 in a rural U.S. high school found significant relationships between Marcia’s identity status stages and career indecision. Respondents in the stage of identity achievement had significantly lower career indecision scores than respondents in the stages of moratorium, identity diffusion and, surprisingly, foreclosure (Vondracek, Schulenberg, Skorikov, Gillespie, & Wahlheim, 1995). Patton and Creed (2001) reported a complex relationship between age, gender and career indecision among a large Australian sample of students in Grades 8 to 12, and suggested that the pressure of school transition points was affecting students’ decision status. Another Australian study (Creed & Patton, 2003b) found that less certainty and more indecision as measured by the CDS was predictive of higher career development exploration and planning (the Career Development Attitude composite scale of the CDI [Thompson et al., 1981]), and of less work knowledge and career decision-making knowledge (the Career Development Knowledge composite scale of the CDI).
Thus, in some of these studies a lack of certainty and an indecision about career choice has been found to be associated with higher levels of career exploration. Clearly, career indecision in adolescents is not necessarily inappropriate. Indeed, in terms of the adolescent identity theory proposed by Erikson (1956; 1968) and extended by Marcia (1966; 1980) early career choice may be undesirable, reflecting the identity status of foreclosure, rather than being the result of an “identity achieved” individual who has come to a commitment after a period of identity crisis and exploration. Yet high school students in Australia face transition points at which they are required to make curricular choices that strongly influence their future career plans (Watson, Creed, & Patton, 2003). Further, many adolescents and young adults have a great deal of difficulty making career-related decisions. Recent data indicate high rates of delays in starting postsecondary education after finishing high school, repeated and extended switching of career paths involving transferring between courses or educational institutions and “dropping out” for periods of time, and non-completion of degree and diploma programs (Feldman, 2002). In light of the critical need for hard of hearing young people to be as well-qualified as possible in order to overcome disadvantages associated with their hearing loss in their working lives, career indecision, with its associated assessment of specific problems impeding the decision-making process, is a valuable construct to be considered in the present study.

**Social Cognitive Career Theory**

Although career development theory has been driven until quite recently by the major developmental theories and constructs of Super and his colleagues, trends and influences of the last 20 years have led to some important theoretical changes. A developmental-contextual perspective, which recognizes the dynamic interaction between the developing individual and the changing character of his or her social,
physical, and cultural milieus (Vondracek, Lerner, & Schulenberg, 1986; Vondracek & Reitzle, 1998), has had a considerable influence on more recent theories. In particular, a growing emphasis on the importance to the career choice and development process of cognitive variables, personal agency and contextual influences has contributed to the development of a social cognitive approach, most fully described in Lent, Brown, and Hackett’s (1994, 2002) Social Cognitive Career Theory (SCCT).

During the last decade, SCCT has had a major impact on the field of career development. In 1996, the editors of the third edition of the important Career Choice and Development considered SCCT an emerging theory; in the fourth edition they confirmed that it had become a particularly well-established theory (Brown, 2002; Brown & Brooks, 1996). Others prominent in the field concur; Blustein (1999) considered SCCT “one of the most influential new theoretical perspectives in career development” (p. 349), while Patton and McMahon (1999) valued “the rich theoretical and empirical base on which it has been developed” (p. 65).

SCCT is particularly well-suited to constituting a framework for this study. While recognising the life-long nature of career development, the authors of the theory chose to focus on issues of preparation for and implementation of career choice and career entry and on the life periods of adolescence and early adulthood. They also conceptualise their theory as being relevant to both academic and career behaviour, which they consider to be closely inter-related; they use the term career when referring to interest and choice processes with the intention that it covers academic development as well as career development factors (Lent et al., 1994). For many students in the latter years of secondary school, decisions are often related more to academic choice, such as which postsecondary education program to enrol in or which academic major to choose, than to choice of a particular occupation, as enrolment in many degree programs leaves considerable scope for further occupational decision-making. In addition, the authors of
SCCT seek to offer relevance to diversity and individual difference and to the rapidly changing world of work and careers resulting from recent economic, social and technological changes (Lent, Brown, & Hackett, 2002). The theory’s emphasis on diversity, personal agency, and contextual factors makes it particularly fitted to the investigation of the career development of adolescents with hearing loss.

In a climate of growing interest in convergence in career development theory (Savickas & Lent, 1994), SCCT was designed with the aim of contributing to theory integration by constructing links between concepts and explaining the relationships among seemingly diverse constructs. It seeks to explain the processes which guide the development of individuals’ academic and occupational interests, their educational and occupational choices, and their achievement of varying levels of performance and persistence in educational and career pursuits (Lent et al., 1994; Lent, Brown, & Hackett, 2002).

SCCT is based largely on the solid empirical foundation of Bandura’s (1986) general social cognitive theory, with links to Krumboltz’s (1979) social learning theory of career decision-making and Hackett and Betz’s (1981) application of the self-efficacy construct to the career development of women. It adopts Bandura’s triadic-reciprocal model of causality, in which personal attributes (e.g., physical characteristics and internal cognitive and affective states), external environmental factors, and overt behaviour are assumed to interact and mutually influence one another. Thus behaviour is afforded an influential role that it is largely denied in trait and typology-based career theories, which tend to view behaviour as an outcome of the person-environment transaction (Lent & Brown, 1996; Lent et al., 1994; Lent, Brown, & Hackett, 2002).

SCCT posits that the cognitive-personal variables of self-efficacy beliefs and career outcome expectations influence a young person’s interests and career goals (intentions, plans or aspirations to engage in a particular career direction). The three
central variables of self-efficacy beliefs, outcome expectations and goals, incorporated from general social cognitive theory, are seen as key mechanisms of personal agency in career development.

Self-efficacy refers to “people’s judgments of their capabilities to organize and execute courses of action required to attain designated types of performances” (Bandura, 1986, p. 391). It is considered to be not a static or passive trait, but rather a dynamic set of self-beliefs that are related to specific performance domains such as different academic and work tasks (Lent & Brown, 1996; Lent et al., 1994; Lent, Brown, & Hackett, 2002). Self-efficacy beliefs help individuals to determine their choice of activities, the effort they are willing to expend and their persistence in the face of obstacles when pursuing their chosen activities. These beliefs are developed through four primary types of learning experiences: personal performance accomplishments, vicarious learning, social persuasion, and physiological and affective states, with performance accomplishments considered the most powerful source of self-efficacy (Bandura, 1997). In career decision-making, people’s self-efficacy beliefs in various domains strongly influence their consideration of occupational options, and “exclusions of large classes of options are made rapidly on self-efficacy grounds with little thought of costs and benefits” (Bandura et al., 2001, p. 201).

Social cognitive theory asserts that, as well as acting on their judgements of what they can do, people act on their beliefs about the likely outcomes of various actions (Bandura, 1986; Bandura et al., 2001). Beliefs about the consequences of performing particular actions constitute outcome expectations, the second variable central to SCCT. Outcome expectations include beliefs about extrinsic rewards, self-directed consequences such as pride in achievement, and social consequences such as approval, and, like self-efficacy beliefs, are acquired through a variety of direct and vicarious learning experiences. Although outcome expectations are influenced strongly
by self-efficacy when quality of performance is likely to guarantee a particular outcome, the behaviour of individuals who perceive that their desired outcomes will not eventuate despite high capabilities in a particular endeavour may be influenced by their outcome expectations ahead of their self-efficacy beliefs (Lent & Brown, 1996; Lent et al., 1994). The construct of career barriers is closely related to outcome expectations. Despite high self-efficacy and interest in a particular field or career, people may eliminate it as an option to pursue if they anticipate negative outcomes, such as a lack of success, because of environmental barriers (Swanson & Woitke, 1997). Both personal and environmental factors frequently constitute career barriers and supports that can influence outcome expectations.

Goals, defined by Bandura (1986) as the determination to engage in a particular activity or to produce a particular outcome, play an important role in career choice and decision-making theories. Social cognitive theory views goals as a vital part of personal agency; while environmental factors and personal history influence behaviour, people’s self-directed goals also organise and guide their behaviour and increase the likelihood that they will obtain their desired outcomes. In the career development field, goals are referred to as expressed choices, plans or decisions when they involve specific intentions and commitment to act and are temporally close to career entry, whereas they are considered to be aspirations or daydreams when they do not involve commitment, do not consider reality factors, such as job market conditions, and are temporally remote from career entry (Lent et al., 1994).

SCCT organises the three processes of career-related interests, choices, and performance into interlocking models and explains the bidirectional relationship between variables within these models. Self-efficacy beliefs and outcome expectations are seen as exerting a direct and strong influence on the formation of career and academic interests; people form an enduring interest in an activity when they consider
themselves competent at it and when they anticipate positive outcomes from performing it. In turn, the emergent interest leads to intentions or goals for further involvement in that activity. As well, self-efficacy and outcome expectations directly affect the choice of goals and the amount of effort expended in pursuing them. The subsequent increased engagement in the activity tends to produce performance attainments which, if positive, reinforce self-efficacy beliefs, outcome expectations, and interests. Figure 1 illustrates this process in a model of how career interests develop over time.

![Diagram of career development process](image)

**Figure 1.** Model of how basic career interests develop over time (Lent et al., 1994, p. 88)

**The SCCT model and the process of career decision-making**

The tenets of SCCT have been demonstrated in numerous empirical studies. Many of these have been conducted in specific content domains, such as maths and science (e.g., Ferry, Fouad, & Smith, 2000; Fouad & Smith, 1996; Luzzo, Hasper, Albert, Bibby, & Martinelli, 1999), other academic subjects (Diegelman & Subich, 2001; Fouad, Smith, & Zao, 2002; Smith & Fouad, 1999) and the Holland themes (Betz, Harmon, & Borgen, 1996; Gore & Leuwerke, 2000).
These studies are valuable in confirming the applicability of the SCCT model to the *content* area of career-related choices and behaviours. However, SCCT has also been applied to the *process* of career decision-making. This model (see Figure 2) proposes a relationship between people’s self-efficacy beliefs about their ability to perform tasks related to career decision-making, their outcome expectations regarding the relevance of performing career decision-making tasks to the success of future career decisions, their career exploration and decision-making intentions and goals, and their career behaviours. Betz and Voyten (1997) describe the model in this way:

Goals are often an implicit element of the career choice and decision process, with plans, decisions, aspirations, and behavioural choices all involving goal mechanisms. And, just as strong efficacy and outcome expectations would be postulated to lead to clearer goals and goal-oriented behaviours, low efficacy and outcome expectations may explain the relative lack thereof in some individuals. (p. 180)

Career behaviours include actions taken that contribute to career development and career maturity, and are reflected in measures of career maturity and career indecision, such as the Career Development Inventory, the Career Maturity Inventory, and the Career Decision Scale. The variables involved in this career decision-making model have been termed career decision-making self-efficacy (CDMSE, Taylor & Betz, 1983), career decision-making outcome expectations, and career decision-making intentions and goals (Fouad, Smith, & Enochs, 1997).
Figure 2: Social cognitive career model.

Of the SCCT variables relating to the career decision-making process, CDMSE has been the most widely researched. It has been a prominent construct in the area of career development research since Taylor and Betz (1983) developed the Career Decision-Making Self-Efficacy Scale (CDMSES) to measure the self-efficacy beliefs that apply to career decision-making tasks and behaviours, specifically, the confidence in one’s ability to perform tasks related to investigating, selecting and implementing a career choice. The items they selected for the scale were based on Crites’ (1971, 1981) career decision-making and career maturity constructs: gathering occupational information, problem-solving abilities, planning skills, goal selection, and realistic self-appraisal skills (Hackett, 1995). A shorter form, with 25 rather than the original 50 items, has since been developed (Betz, Klein, & Taylor, 1996). In an extensive review of the CDMSE literature, Betz and Luzzo (1996) cite numerous studies attesting to the reliability and validity of both forms of the instrument.

CDMSE has been found to be positively associated with participation in career decision-making tasks and behaviours. Betz and Luzzo’s (1996) review cites several empirical studies that have found CDMSE to be a significant predictor of career maturity as measured by the Career Development Inventory (Thompson et al., 1981).
and the Career Maturity Inventory (Crites, 1978); exploratory behaviour as measured by the Career Exploration Survey (Stumpf, Colarelli, & Hartman, 1983); and career indecision as measured by the Career Decision Scale (Osipow et al., 1976). The review also reports findings of relationships between low levels of CDMSE and problems in developing a clear vocational identity and in deciding on college majors.

More recent studies have confirmed these findings. Betz and Voyten (1997) found levels of CDMSE to be positively associated with career exploratory intentions and negatively related to career indecision in their sample of 350 college students. In a study of 165 undergraduate students, Chung (2002) found a positive correlation between CDMSE and commitment to career planning and goal setting as measured by the Career Commitment Scale (Farmer, 1985).

In addition, CDMSE has been linked to factors that may affect the attrition or retention of university students. Bergeron and Romano (1994) found that students indicating low CDMSE were more undecided about not only their future careers but also their choice of academic major at university; indecision in both these areas has been linked to attrition. In a study of 1,549 academically underprepared college students at risk of attrition, Peterson (1993) found that CDMSE surpassed all other variables measured in predicting the students’ social and academic integration, factors that have been linked to persistence and attrition (Tinto, 1987).

Most of these studies have investigated the CDMSE of university students. Fewer studies have explored this construct with students still at school, but findings among secondary school students have been similar to those among postsecondary students. Anderson and Brown (1997) investigated the relationship between CDMSE and career maturity among 94 rural and urban high school students, and found a significant relationship between CDMSE and the Career Development Attitudes composite scale of the Career Development Inventory School Form (Super, Thompson,
Lindeman, Jordaan, & Myers, 1979). The authors reported that career development attitude was the only career maturity variable (the other variable tested was career development knowledge) to significantly predict CDMSE in both the urban and rural groups. Another study found a significant relationship between CDMSE and exploratory behaviour as measured by the Career Exploration Survey (Stumpf et al., 1983) in a sample of urban and suburban high school students (Brown, Darden, Shelton, & Dipoto, 1999). Both of these studies employed a school form of the CDMSE scale developed by Fouad, Smith, and Enochs (1997).

Levels of CDMSE have also been associated with outcomes of students after they have left school. In a longitudinal study of Australian high school students, Creed, Muller, and Patton (2003) found that students with poor CDMSE in their last year of school achieved poorer outcomes nine months after leaving school. These young people were in the labour force without full-time employment, as compared to others in the study who were in either full-time employment or full-time tertiary study. The study also found CDMSE to be stable post-school, with no improvement in the group which showed the lowest levels of CDMSE.

Thus, it is apparent that CDMSE is an important construct in career development theory and research and has strong relationships to prominent variables in the career decision-making process. Numerous studies attest to its association with the career behaviours that are measured by major career maturity, career exploration, and career decision status instruments. In addition, it has formed the basis of counselling interventions and programs that have been found to produce beneficial effects for their recipients (Betz & Luzzo, 1996; Taylor & Betz, 1983).

While CDMSE is a widely researched construct, fewer studies have investigated the other SCCT variables of outcome expectations and goals. Indeed, it appears that only one research study has examined the SCCT model of CDMSE, outcome
expectations and goals. In their sample of 350 undergraduate university students, Betz and Voyten (1997) used the CDMSE-SF (Betz, Klein et al., 1996) to measure CDMSE, measures adapted from Fouad and Smith (1996) to assess outcome expectations and goals (exploratory intentions), and the CDS (Osipow et al, 1987) to measure career indecision. Multiple regression analyses using goals and career indecision as independent variables were conducted. The results indicated that higher levels of CDMSE were positively related to goals and were related to lower levels of career indecision. They also found outcome expectations to be the strongest predictor of goals. Thus, their study lends support to the SCCT model of the career decision-making process.

**Contextual factors**

The emerging constructivist worldview and its emphasis on the influence of social, cultural, economic, and historic context on individuals’ lives and development has resulted in a broadening of approaches to career development and has led to new writings on contextualism in the field of career development theory (e.g., Blustein, Phillips, Jobin-Davis, Finkelberg, & Roarke, 1997; Patton & Lokan, 2001; Patton & McMahon, 1999; Raskin, 1998; Vondracek & Reitzle, 1998; Young, Valach, & Collin, 2002). SCCT is a major proponent of this trend, and has drawn specifically on Vondracek’s and his colleagues’ ideas of contextual affordance (Lent & Brown, 1996). In addition to the cognitive-person variables of self-efficacy, outcome expectations and goals that are considered determinants of career interest, choice and performance, SCCT offers another level of theoretical analysis, emphasising the important influence of contextual and environmental factors such as gender, race and ethnicity, disability or health status, socioeconomic status, and genetic endowment. Emphasising the social constructivist nature of these variables, the authors have considered the way in which
elements of people’s sociocultural environment influence their learning opportunities and experiences, and hence their self-efficacy beliefs and outcome expectations. With particular reference to women and members of some racial-ethnic groups, they emphasise that “biased access to opportunities for observing and practicing particular behaviours” may lead to a failure to develop self-efficacy and positive outcome expectations, thus, “externally imposed barriers also become internalized” (Lent, Brown, & Hackett, 2002, p. 270). As well, they have considered the way in which environmental factors can mediate the relationship between interests and career choice goals and actions (Lent & Brown, 1996; Lent et al., 1994; Lent, Brown, & Hackett, 2002). Figure 3 illustrates these influences.

Environmental factors can be both objective and perceived. The financial resources available to an individual to pursue educational and training options and the quality of educational experiences to which one has had access are examples of objective environmental factors which can strongly affect an individual’s career development. Yet how people perceive events, even ones which are beyond their control, can influence the effect of those events in their lives. SCCT emphasizes the role of personal agency and posits that it is important to consider “the person’s active phenomenological role in processing both positive and negative environmental influences” (Lent et al., 2000, p. 37).
Career barriers

SCCT’s consideration of contextual factors emphasises that few people make their career choices under optimal conditions. As Lent, Brown, and Hackett (2002) pointed out, “economic need, educational limitations, lack of familial support, or various other considerations may inhibit the pursuit of one’s primary interests or preferred career goals” (p. 274). These types of conditions can constitute barriers to individuals’ career choices and career development. Swanson and Woitke (1997) define career barriers as “events or conditions, within the person or in his or her environment, that make career progress difficult” (p. 434). SCCT has explored the ways in which personal and, in particular, environmental barriers can mediate the relationship between interests and career goals and lead individuals to compromise their goals.

In her theory of circumscription and compromise, Gottfredson (1981; 1996; 2002) has defined compromise as the relinquishing of most-preferred career alternatives for less attractive but seemingly more accessible ones. Gottfredson described two forms of compromise: anticipatory compromise, which occurs when “people begin to
moderate their hopes (assessments of compatibility) with their perceptions of reality (assessments of accessibility)

(2002, p. 101). Thus, she accords the perception of barriers a role equal in prominence to the reality of barriers in producing compromise behaviour. Similarly, other writers have stressed that perceived barriers may be as influential on career behaviour as actual barriers (Paa & McWhirter, 2000; Swanson & Gore, 2000; Swanson & Woitke, 1997).

Career barriers are closely related to outcome expectations. Lent and his colleagues asserted that “people are less likely to translate their career interests into goals, and their goals into actions, when they perceive their efforts to be impeded by adverse environmental factors (e.g., insurmountable barriers or inadequate support systems)” (Lent et al., 2000, p. 38). McWhirter (1997) pointed out the influence of perceived barriers on critical decisions faced by adolescents about whether to complete high school or pursue postsecondary education. The perception of career barriers may lead people to compromise their occupational goals (Gottfredson, 1981), and may cause an anxious, unconfident approach to the career decision-making process (Luzzo & Hutcheson, 1996). Thus, perceived career barriers can constitute a crucial element in adolescents’ career development.

The construct of career barriers has attracted a great deal of interest in the literature in recent years. Researchers have attempted to identify which categories and types of barriers most affect young people’s career development and decision-making. In a broad investigation of college students’ career-related concerns, Swanson and Tokar (1991a) categorised career barriers as interactional, attitudinal, and social/interpersonal. These data were used to construct a scale, the Career Barriers Inventory (Swanson, Daniels, & Tokar, 1996) containing 70 items grouped into 13 subscales.
McWhirter stressed the importance of understanding the barriers perceived by high school students, for whom perceived barriers might influence the critical decisions, such as whether to finish school or to pursue postsecondary education, with which they are faced. For this purpose, she developed a measure, the Perception of Barriers Scale (McWhirter, 1997). This addressed respondents’ perception of future sex and ethnic discrimination in the workplace, and their perception of barriers affecting higher education goals. Luzzo and McWhirter (2001) modified this scale for use with college students and to extend the range of barriers addressed, resulting in a 32-item scale which they trialled on first-year university students.

In an attempt to identify which social-contextual variables most influence the career decision-making process, Lent and colleagues (Lent, Brown, Talleyrand et al., 2002) interviewed undergraduate and postgraduate college students about perceived career barriers, supports, and coping strategies. They reported both contextual and personal barriers. The contextual barrier they mentioned most frequently was financial concerns; personal difficulties including ability problems and family problems were cited with moderate frequency. Concerns about roles conflicts and work conditions were mentioned with low frequency.

Initially, the career barriers construct was applied specifically to the career choice process of women in investigating the sometimes limited nature of women’s career aspirations and the gaps between their abilities and achievements (Swanson & Tokar, 1991b; Swanson & Woitke, 1997). Studies among U.S. college students found that women perceived more career barriers than men, and were more likely than men to perceive barriers associated with balancing work and family responsibilities (Luzzo, 1995; Luzzo & Hutcheson, 1996; Swanson & Tokar, 1991a). Female students, both in university and in high school, have also shown more anticipation of career barriers resulting from sex discrimination than have their male peers (Luzzo & McWhirter,
Career barriers research has been extended to cover both sexes and, in particular, ethnicity. More perceived barriers have been found among Mexican American high school students (McWhirter 1997) and university students of various minority ethnic backgrounds (Luzzo & McWhirter, 2001) than among their European American peers.

Studies have examined the perception of barriers in relation to career development variables. With a sample of 188 university undergraduates, Luzzo (1996) examined the relationship between career barriers and career decision-making attitudes, assessed by the Attitude Scale of the CMI (Crites, 1978); knowledge of career decision-making principles, measured by the Decision-Making Scale of the CDI (Thompson et al., 1981); and career decision-making self-efficacy, assessed by the CDMSES (Taylor & Betz, 1983). Perception of barriers was assessed with two open-ended questions. The investigator found no significant relationship between perception of barriers and career decision-making attitudes and knowledge, but found a significant, negative relationship between perceived future barriers and CDMSE. Thus, students who anticipated more career barriers displayed less confidence in their ability to make career plans and decisions.

The relationship between career barriers and other career development variables has been explored with Australian young people. Creed, Patton, and Bartrum (2004) surveyed 130 final year high school students on variables including perception of barriers, career indecision, career maturity, CDMSE, self-esteem and optimism/pessimism. To assess barriers, they used a modified version of the Perceived Barriers Scale developed by Howell, Frese, and Sollie (1977). They found a complex pattern of relationships between the variables. Perhaps surprisingly, they found that the perception of career barriers was associated with more career planning and exploration as measured by the CDI-A (Lokan, 1984). These authors suggest that the perception of career-related
barriers might serve as a motivating factor for increased career exploration and planning to some individuals.

A cross-cultural study of Australian and South African high school students investigated the interaction of career barriers and other career development variables in a sample of 638 Australian and 425 South African students in grades 8-12. Patton, Creed, and Watson (2003) found a significant, negative relationship between perceived barriers and career development attitude, and a significant, positive association between barriers and career indecision, in both the Australian and South African students; the Australian group also indicated a negative relationship between barriers and career development knowledge as assessed by the CDI-A.

In a study of ninth-grade students in two U.S. urban high schools where the great majority of students were Black or Hispanic, the Perception of Barriers Scale (McWhirter, 1997) was used to assess the relationship of barriers and social support with school engagement and career attitudes and aspirations (Kenny, Blustein, Chaves, Grossman, & Gallagher, 2003). The researchers found perception of barriers to contribute some unique variance to the explanation of school engagement and career attitudes, after controlling for the effects of gender and social support. However, social support more strongly contributed to the explanation than did perception of barriers. The authors concluded that their findings were consistent with the elements of SCCT that emphasise the role of perceived barriers and supports as “a cognitive manifestation of the role of environmental factors on career development” (Kenny et al., p. 152).

Overall, the results of these studies suggest that perceived career barriers play a complex role in the career development of young people. Students in high school and postsecondary institutions do perceive career-related barriers; however, the effect of this perception on career variables is sometimes modest in size. The perception of barriers might motivate increased career-related activity in some people (Creed et al., 2004;
Luzzo, 1995, 1996) and the effects of perception of barriers might be ameliorated by social support and coping strategies (Kenny et al., 2003; Lent, Brown, Talleyrand et al., 2002). Lent, Brown, and Hackett (2000, p. 47) assert that “depending on the perceiver’s perspective a given environmental demand may be viewed alternatively as an insurmountable barrier, a minor obstacle, a character-building opportunity, or even a personal contest or challenge”, and suggest that such differing perspectives can lead to very different reactions and choices. They maintain, therefore, that the phenomenological aspects of supports and barriers need to be explored, and that qualitative as well as traditional research methods are well suited for this task.

The career barriers construct appears to be particularly relevant to people with hearing loss. Chapter Two has outlined the ways in which the functional effects of their hearing loss and other people’s negative attitudes have created career barriers for many people who are deaf or hard of hearing. Their hearing loss may be perceived by young people, and by important others such as parents, teachers, and potential employers, as a limitation to the accessibility of many occupations. Although job accommodations may resolve some difficulties in the workplace (Szymanski et al., 1996), ignorance of the possibility of job accommodations and the rights of workers to access them may lead students to be adversely affected by a perception of barriers associated with their disability. In addition, the anticipation of career barriers resulting from the effects of their hearing loss may interact with a lack of social self-efficacy to influence young people who are hard of hearing to avoid pursuing particular career paths.

**Career development theory and people with disabilities**

Traditional career theories have largely ignored the population of people with disabilities (Buys, Buys, Kendall, & Davis, 2001; Patton, 1997). Indeed, it has been pointed out that career development theories have been largely developed by, and for,
non-minority populations – mainly white, middle-class males (Richardson, 1993). The enormous growth in the number of women participating in the workforce in the later decades of the twentieth century has influenced the career development field; indeed, “the study of women’s career development is arguably the most vibrant and productive area in vocational psychology today” (Fitzgerald & Harmon, 2001, p. 207). Less attention has been paid to other groups. There have been many calls for career theorists and researchers to direct their attention to diverse populations including racial and ethnic groups, gay and lesbian people, and people with disabilities (e.g., Herr, 1997; Rojewski, 1994). Nevertheless, career development research and theory still has said little about the issues pertinent to people with disabilities.

A notable move towards redressing this situation is the work of Edna Szymanski and her colleagues (Szymanski & Hershenson, 1998; Szymanski et al., 1996), who have constructed an ecological model of vocational behaviour and career development that addresses issues relevant to individuals with disabilities. In explaining this model, they emphasised that people with disabilities constitute a heterogeneous group, and that considerable diversity exists even within specific disabilities, with great variation in functional limitations and other personal variables. Therefore, disability affects career development in various ways and to differing extents; consequently, no career development theory can be fully applicable or nonapplicable to this population. However, they consider certain factors specifically to affect people with disabilities, and categorise these factors as individual and contextual. Individual factors involve the aspect of the disability that is an individual, rather than a social, attribute - the impairment itself. Contextual factors include the possible lack of work role models with similar disabilities and the existence of legislation such as the Americans with Disabilities Act of 1990. Mediating between these two groups of factors are individual, cultural or societal beliefs affecting the interaction of individuals with their
environment: individual beliefs such as self-efficacy and outcome expectations based on disability, and societal beliefs resulting in discrimination, stereotypes, and limited opportunities. The authors also consider environmental factors such as physical accessibility in the workplace, organisational culture, task requirements, and job accommodations. Finally, their model includes outcomes, such as work adjustment, work performance, job tenure and job satisfaction (Szymanski & Hershenson, 1998; Szymanski et al., 1996). Australian vocational rehabilitation researchers agree that an ecological or systems theory framework, with its emphasis on the complex interrelationships of individual, social and environmental influences on vocational decision-making and behaviour, is necessary to ensure the application of a career development approach to the vocational rehabilitation process (Buys et al., 2001; Buys, Hensby, & Rennie, 2003).

Its move towards diversity is one of the strengths of SCCT, which may be particularly applicable to people with disabilities. The theory has been applied to minorities, including racial and ethnic minorities (Flores & O'Brien, 2002; Gainor & Lent, 1998; Hackett & Byars, 1996; Tang, Fouad, & Smith, 1999), gay and lesbian people (Morrow, Gore, & Campbell, 1996), and other minority populations such as female prison inmates (Chartrand & Rose, 1996) and adults with mental illness (Fabian, 2000). However, while including disability in their model of person, contextual and experiential factors, the authors of SCCT have to date written little specifically about the effects of disability on career choice and development, choosing to focus mainly on gender and ethnicity. Like gender and ethnicity, disability is largely socially constructed, its impact arising from the relationship of individuals with their environments (Hahn, 1993; Oliver, 1993; Siminski, 2003). Szymanski and her colleagues have reported that they consider the sociocognitive approach to career development to be particularly applicable to people with disabilities. They commended
it for its incorporation of the contextual factors that were often ignored in early development theories. Importantly, its emphasis on social and environmental factors and their interaction with personal and psychological factors accords with the social constructionist nature of disability. Additionally, they viewed self-efficacy and outcome expectations as important elements to consider in the career planning of people with disabilities. Self-efficacy might explain the varying results of the same disability, and the anticipated effects of discrimination can influence the outcome expectations of individuals with disabilities (Szymanski, 2000; Szymanski & Hershenson, 1998; Szymanski et al., 1996).

Despite the theory’s applicability to people with disabilities, very few studies of SCCT variables and people with disabilities have been reported in the literature. One study investigated the CDMSE and attributional style of college students with disabilities (Luzzo, Hitchings et al., 1999). It reported significantly lower scores on CDMSE among a group of 50 students with learning disabilities and a group of 25 students with other (mainly physical and sensory) disabilities than among their peers without disabilities. Students with disabilities also indicated more of a pessimistic attributional style for career decision-making than did their peers without disabilities.

The only identified research study that has examined the three major SCCT variables with a sample of students with disabilities is a study reported by Ochs and Roessler (2001). The students’ disabilities were reported as learning (75%), intellectual (18%), and “other” (7%). The study investigated CDMSE, measured by the CDMSE Scale – Short Form (Betz, Klein et al., 1996), career decision-making outcome expectations and career decision-making goals, measured by Betz and Voyten’s (1997) scales adapted from those developed by Fouad and Smith (1996), and vocational identity as measured by the My Vocational Situation instrument (Holland, Daiger, & Power, 1980). The analysis compared the scores of 95 Grade 10, 11 and 12 students
enrolled in special education classes in regular high schools and a comparison group of 99 general education students. The special education students were found to have significantly lower scores on all the measures than the general education students. Consistent with the SCCT model, the analyses found significant correlations among all combinations of the CDMSE, outcome expectations, and goals variables.

Thus, while SCCT has the potential to be a particularly appropriate theoretical perspective for understanding the career development of people with disabilities, it appears that very few studies have investigated the SCCT career process model with this population. The literature reports no research studies that have explored the career development of deaf or hard of hearing adolescents or young adults from the perspective of the SCCT model.

**Summary**

In this chapter, career theories and constructs that form a framework for the present study have been discussed. Super’s overarching developmental theory emphasises the importance of self-concept on career identity, exploration, and decision-making, and his concept of affective and cognitive career maturity is particularly relevant to the developmental stage in which adolescents face essential career development tasks. Career indecision, closely related to career maturity, is an important consideration for high school students who must make curricular and other choices affecting their future careers. With its developmental-contextual perspective, focus on the life periods of adolescence and young adulthood, and solid basis in social cognitive theory, SCCT is well suited to investigating the career development of a high school population and particularly appropriate for adolescents whose additional disadvantage of hearing loss makes the consideration of contextual factors important. SCCT proposes a model of the career decision-making process that involves career decision-making self-efficacy,
outcomes and goals. These constructs, along with career maturity, career indecision, and career barriers, form the basis of the survey instrument used in the quantitative phase of this study.
CHAPTER FOUR - METHOD

Introduction

This chapter provides information on the overall design of the study and on the processes of recruitment of participants, ethical clearances, data collection and analytical methods for the minor, preliminary phase and the first of the major phases, the quantitative phase. The corresponding information for the second major phase, the qualitative phase, is reported in Chapter Six.

The mixed methods design of the study

The study’s method was designed to best address the research questions through a combination of quantitative and qualitative approaches in a sequential mixed methods study in which one method is used to further explore and expand the findings of another (Creswell, 2003; Tashakkori & Teddlie, 1998). The study consisted of two major phases, one quantitative and one qualitative, preceded by a minor, preliminary phase.

- Minor, qualitative phase: preliminary interviews to gather qualitative data from a small number of hard of hearing individuals to inform the direction of the main study by clarifying areas to include in a survey instrument;
- Major, quantitative phase: the collection and analysis of statistical, quantitative data derived from a survey instrument with a sample of hard of hearing adolescents attending schools throughout the states of New South Wales and Queensland and a comparison group of normally hearing adolescents;
- Major, qualitative phase: the collection and analysis of qualitative data obtained from interviews with a structured proportion of survey respondents to explore the quantitative results in greater depth.

The integration of the qualitative and quantitative data from the two major phases occurred in an interpretation of the entire analysis. Figure 4 provides a model of
the three-phase study design. Following Creswell (2003, p. 214), “Quan” and “Qual” stand for quantitative and qualitative, and capitalisation indicates which phases of the study carry emphasis or priority. In the present study, the initial phase was qualitative, and carried less emphasis than the next two phases. It constituted a preliminary gathering of information, with the interviews conducted in order to confirm and add to information from the literature regarding particular variables thought to be important to the study. Phase 2, comprising the quantitative data collection and analysis, and phase 3, the collection and analysis of qualitative data through interviews with a proportion of the phase 2 sample, carried equal emphasis and priority in the study. These two phases formed the study proper and, in the reporting of the study, are referred to as “the quantitative phase” and “the qualitative phase”.

### Phase One

While the literature reports environmental and attitudinal careers barriers encountered by adults with hearing loss, it reveals little about potential career barriers that might be anticipated by adolescents who are hard of hearing, or, indeed, what these young people think about the relationship between their hearing loss and their future working lives. This preliminary, exploratory phase of the study was included in order to assist in the design of the survey instrument, in particular the career barriers section. Interviews with eight students with hearing loss were conducted in Queensland. Four of these were Year 12 school students and four were first-year university students who were recent school-leavers. While university students were not a focus of the study, they were included in this preliminary phase because they were expected to be relatively
articulate, have had recent experiences of academic and career decision-making, and have conceptually developed notions of career and, therefore, be likely to provide a particularly valuable input at this early formative stage of the study. Ethical clearance was obtained from Griffith University Human Research Ethics Committee, Education Queensland, and Brisbane Catholic Education.

Interviews of approximately 30 minutes duration were conducted at participants’ schools or university campuses. This interview group comprised one student with a mild hearing loss, two students with moderate hearing losses, two with moderately-severe losses, one with a severe loss, and two with profound losses (one of these two had a cochlear implant). Thus, the full range of hearing loss of the study’s target population was represented in this small group. The interviews raised questions emerging from the literature review and the theoretical background for the study. Questions covered issues of career decision-making and the possibility of aspects of the students’ hearing loss presenting barriers to their educational or career aspirations. Open-ended questions, serving as a guideline only, allowed unanticipated information to emerge from the interviews. Questions from these interviews are provided in Appendix A. A summary of the findings from these preliminary interviews and some examples of students’ statements are given in Appendix B.

**Method for Phase Two**

The purpose of this phase of the research study was to collect quantitative data through a survey instrument from hard of hearing students in Grades 10, 11 and 12 in regular schools throughout Queensland and NSW, and from a comparison group of normally hearing students.

**Measures**

In order to investigate the variables under consideration, namely, career maturity, career decision-making self-efficacy, career decision-making outcome
expectations, career decision-making goals, career indecision, perceived career barriers, and social participation, the following instruments were used.

**Career maturity**

The Australian short form of the Career Development Inventory (Creed & Patton, 2004) was used to measure career maturity.

There are two well-established measures that were designed to assess the attitudinal and cognitive dimensions of career maturity that are largely specific to the crystallization and specification tasks of the exploration stage of career development (Savickas, 1994). Both the Career Development Inventory (Thompson et al., 1981) and the Career Maturity Inventory (Crites, 1978) are widely used, were normed on high school students, and have sound psychometric properties (Levinson, Ohloer, Caswell, & Kiewra, 1998). The Career Development Inventory (CDI) was chosen as the measure of career maturity used in this study because there is an Australian version of it that is highly appropriate for use with the study’s population.

Two Australian versions of the CDI have been developed. The CDI-A (Lokan, 1984) was developed from the Thompson et al. (1981) version to be more appropriate for Australian populations. It includes modifications that reflect Australian terminology, spelling, information sources and occupational conditions. There are also differences in the scoring methods, with the CDI-A using a four-point response format for the Career Planning subscale rather than five points. In addition, it is shorter, containing 72 items, as opposed to the 120 in the CDI. Sound psychometric data have been reported for the CDI-A, and it has been widely used in Australia. However, drawbacks to its usefulness as both a research and counselling tool with young people have been pointed out. Despite being shorter than the CDI, it remains time-consuming to complete; some of its items are repetitive; and some of its language is complex (Creed & Patton, 2004).

In order to address these concerns and provide a career maturity scale which can be used when it is not desirable to use the longer CDI-A, Creed and Patton (2004) have
developed a short form of the CDI-A. This version (CDI-A-SF) contains 33 items that tap the same dimensions of career development as the CDI-A. In the present study, it was important that the combination of measures necessary to assess the constructs under investigation did not result in an unmanageably long questionnaire that students would be reluctant to complete. For this reason, the shorter 33-item version of the CDI-A was chosen to measure career maturity.

Like the CDI and the CDI-A, the CDI-A-SF measures four major aspects of career maturity and is designed for secondary school students in Years 8 to 12. Its four subscales assess the attitudinal and cognitive dimensions of career maturity. The first subscale, Career Planning (CP), asks about the extent of the student’s thinking and planning about career-related activities. Career Exploration (CE) measures willingness and ability to find and use good resources for career planning. Together, these two scales give a composite score, Career Development Attitudes. The third subscale, World of Work Information (WW), measures knowledge of the world of work. The final subscale, Career Decision Making (DM), measures ability to apply decision-making principles and methods to the career choice process. Together these two scales give a composite score of the cognitive aspects of career maturity, Career Development Knowledge.

The subscales contain 10 (CP), 8 (CE), 8 (WW), and 7 (DM) items respectively, with Career Development Attitudes thus having 18 items and Career Development Knowledge, 15 items. Internal reliability coefficients reported by Creed and Patton (2004) were .87 for Career Development Attitudes and .82 for Career Development Knowledge for a large mixed sample of Grade 8-12 high school students. These represent similar reliabilities to those reported for the full Australian inventory (Lokan, 1984) and the original USA version (Pinkney & Bozik, 1994). Creed and Patton also report acceptable initial validity data based on factor analysis and associations with other career variables. The internal reliability co-efficients calculated for the present
study using the full sample of 172 students were .84 (Career Development Attitudes) and .80 (Career Development Knowledge).

**Career decision status**

Designed for high school and college students and revised three times over the last 20 years, the Career Decision Scale (Osipow, 1987) is a widely-used measure of career decision status. Sixteen items measure career indecision (CDS-I), and 2 items indicate the respondent’s degree of certainty about having made a career decision (CDS-C). There is one open-ended question that allows respondents to express their concerns in their own words, which was not included in this study. Minor modification was made to some of the items, for example, replacing the word “major” with “educational course”, in order to make them more appropriate to Australian high school students. Participants responded to items by indicating on a 4-point scale whether the item was “not at all like me” through to “exactly like me.” In the present study higher scores indicate greater decidedness for CDS-I and more uncertainty for CDS-C. Internal reliability coefficients have been reported in the .80 range (Hartman, Fuqua, & Hartman, 1983). For the present study’s sample, these were .72 for CDS-Certainty and .85 for CDS-Indecision. Concurrent (Hartman & Hartman, 1982), construct (Hartman et al., 1983) and predictive (Hartman, Fuqua, Blum, & Hartman, 1985) validity have all been adequately demonstrated for the Career Decision Scale.

**Career barriers**

All students completed a Perception of Career Barriers Scale which was modified from McWhirter’s (1997) 24-item Perception of Barriers scale designed for use with high school students and Luzzo and McWhirter’s (2001) 32-item scale for use with university students. This scale was considered the most suitable for the present study. The other major established barriers measure, the Career Barriers Inventory (Swanson et al., 1996), contains 70 items and was considered too long to be included in
the survey instrument for this study. In addition, it was developed for use with college
students and does not include barriers related to the pursuit of postsecondary education.

The McWhirter (1997) and Luzzo and McWhirter (2001) scales were developed
largely to investigate the career development of women and people of diverse ethnic
backgrounds. Each includes a section containing eight questions addressing anticipated
genre and ethnic discrimination in future jobs or careers, and a section addressing
barriers to pursuing postsecondary education such as “money problems”, “not having
enough confidence” and “lack of support from teachers.” Because gender and ethnicity
were not the main focus of the current study, the section addressing discrimination on
the job was not used in the career barriers measure. However, in the educational barriers
section of Luzzo and McWhirter’s scale, gender and ethnicity concerns are addressed by
two items each. These four items were included into the barriers measure in the present
study as “my gender will be a problem”; “people’s attitudes about my gender will be a
problem”; “my ethnic background will be a problem”; “people’s attitudes about my
ethnic background will be a problem.” Thus, gender and ethnicity issues were addressed
without presenting as the major focus of the scale, and the length of the scale (13 items)
was appropriate for inclusion into the questionnaire as a whole.

On the original scales, then, items asking about perceptions related to “job” and
“career” cover ethnic and sex discrimination, and the barriers itemised are in the section
asking about “college” and “educational aspirations.” It is the items in this section that
were used in the current study, with the initial question worded to reflect both career
and educational goals (“How much do you think that these things will be a problem or
barrier in following your educational and career goals”), and most of the barriers being
relevant to both; for example, “not having enough confidence”, “family difficulties”,
and “money difficulties.” As postsecondary education is a precursor to the working life
of so many Australian school-leavers, the small number of questions that related
directly to further education were considered valuable for this study; for example,
“having to work while I go to university or college” and “not fitting in at college or university.”

To tap into potential barriers specific to young people with hearing loss, six hearing-related items were added to the survey completed by the hard of hearing group. The choice of these items was suggested by the literature and by the data from the preliminary interviews conducted with Year 12 and first-year university students with hearing loss. Potential barriers that emerged from these interviews were: using the telephone; talking to and listening to new people; working in groups or teams; and people not understanding the young person’s hearing loss. Following the format of the items on gender and ethnicity in the Luzzo and McWhirter (2001) scale, two of the added items about hearing loss were “my hearing loss will be a problem” and “people’s attitudes about my hearing loss will be a problem.” Additional items were designed to address the additional potential barriers identified. Students were asked to indicate their level of agreement that an item would be a problem or barrier on a 4-item response format with markers of “strongly agree/agree/disagree/strongly disagree.” Lower scores indicate more agreement.

A Cronbach’s alpha reliability coefficient of .87 for a sample of 1,159 high school students was reported for the McWhirter scale, and of .90 for a sample of 286 first-year university students for Luzzo and McWhirter’s modified scale.

In the present study, the hard of hearing and normally hearing groups were compared on their overall barriers scores on the 13-item scale. The internal reliability for this scale was .82 for the entire sample of 172 students. The hearing-related barriers items were totalled to give a 6-item scale that was used in the regression analyses. The internal reliability coefficient for this scale was .84 for the hard of hearing group.

Social participation

Having been identified as the established measure that most addresses the issues of social participation, the 14-item Social subscale of the Social and Emotional

122 Career Development of Hard of Hearing Adolescents
Loneliness Scale for Adults (DiTommaso & Spinner, 1993) was included in the questionnaire. The scale includes items such as “I feel part of a group of friends” and “I don’t have a friend who understands me, but I wish I did.” Most of the items in the original scale were appropriate for the age group of the sample; however, two items were changed slightly to reflect this age group, for example “I feel in tune with others” was changed to “I feel in tune with other people my age.” One question was added to tap further the feeling of acceptance or non-acceptance by peers at school: “I feel an accepted part of my class/year at school.” Lower scores indicate less social isolation and more social participation. DiTommaso and Spinner report an internal reliability coefficient of .91 for the Social subscale for a sample of Canadian undergraduate students. They also report good concurrent and discriminant validity for this subscale. The present study found a reliability coefficient of .91 for the scale, including the added question for the entire sample.

Career decision-making self-efficacy, outcome expectations and goals

Students completed the Middle School Self-Efficacy Scale (Fouad et al., 1997), which is designed to measure the SCCT variables of career decision-making self-efficacy, outcome expectations and goals. The scale contains three sections, each covering one of these three variables. First, the scale contains 12 items asking respondents about their level of confidence in performing tasks related to career decision-making. Respondents indicated on a four-point scale the extent of their agreement that they could, for instance, “find information in the library about occupations you are interested in”, and “decide what you value most in an occupation.” This self-efficacy component is a modified version of the 50-item CDMSES (Taylor & Betz, 1983), which was originally validated on U.S. university students. Fouad et al. adapted it to be shorter and more suitable for high school students (in particular, for students in U.S. middle schools, which correspond to the early grades of Australian high schools).
Second, the scale includes five items measuring outcome expectations regarding the relevance of performing career decision-making tasks to the success of future career decisions; for example: “If I know about the education I need for different careers, I will make a better career decision.” Third, it contains five items asking about career decision-making intentions and goals; for example: “I plan to talk to lots of people about careers.” Fouad et al. (1997) report acceptable reliability coefficients for each of the subscales: .79 for the self-efficacy scale; .70 for the outcome expectations scale; and .74 for the intentions and goals scale. Validity assessment using confirmatory factor analysis provided evidence of adequate construct validity for the scale. In the present study, the internal reliability coefficient for the self-efficacy sub-scale was .75; for the outcome expectation sub-scale, .69; and for the intentions and goals sub-scale, .65.

Demographic information

Demographic information was also collected. Students were asked to report their date of birth, gender and school year attended. In order to ascertain whether students were, or had been, in paid work, they were asked “do you have a paid part-time or casual job right now?” and “have you had a paid part-time or casual job in the past?” They were also asked to state the name of the job if they were currently, or had been, employed. In order to measure participants’ socioeconomic status, a question asked if parents or guardians were in full-time work, part-time work, or not in paid work; respondents then reported the name of the jobs involved. Finally, a question asked students to report their average academic achievement across school subjects.

For the hard of hearing group, questions about their hearing loss were included in the questionnaire. The first of these asked respondents to report their overall level of hearing loss (mild, moderate, moderate-severe, severe, or profound). There was a risk of respondents not knowing the correct audiological description of their hearing loss; however, because of the age of these students it was considered likely that they would have this knowledge, or if they were unsure, that they would have the opportunity to
check with a parent or itinerant support teacher while they were completing the questionnaire. As a way of testing their accuracy, the researcher checked with the itinerant teachers of the students approached for interviews, and in all cases the respondents had reported their overall level of hearing loss accurately. As this checking procedure was conducted on 17 of the questionnaire’s 65 respondents, it seems that reporting of level of hearing loss was adequately accurate across the sample.

The hard of hearing respondents were asked if anyone else in their immediate family (mother, father, brother or sister) was hearing-impaired/deaf/hard of hearing. They were also asked about their use of assistive hearing devices, being required to indicate the amount of time during waking hours (never, a small amount of the time, most of the time, all the time) they used hearing aid/s, a cochlear implant and an FM system.

The hard of hearing students were asked to report their perceptions of their ability to understand other people’s speech and of the degree of intelligibility of their own speech to other people. The questions were “how easy is it for you to understand these people when they talk to you?” and “how easy do you think it is for these people to understand you when you talk to them?”; the categories of people were “family”, “teachers”, “friends”, and “other people”, and the possible answers were “very easy”, “easy”, “sometimes easy”, “sometimes hard”, “hard”, and “very hard.” Similar categories of response have been used by Robert and Rickards (1994a; 1994b) in an earlier Australian study.

Several of the demographic questions which were asked were not used in the analyses, but were used only to describe the samples.

In the choice of the measures for the survey instrument, consideration was given to ensure that the questionnaire was not too long, unnecessarily repetitive, or complex linguistically so that respondents would not be reluctant to undertake or complete it. Some of the instrument’s wording was altered slightly to accommodate the needs of the
population in relation to literacy levels. To ensure that it would be easily understood by the target population, it was pilot tested with a small number of normally hearing Grade 10 and 11 students. Discussion with these students elicited a number of suggestions for small accommodations to the wording of questions; consequently some items were slightly altered, without changing their original meaning. The questionnaire was then shown to an experienced teacher of the deaf who made several suggestions aimed at improving its readability to accommodate the possibly lower literacy levels of some students in the hard of hearing group. This resulted in some additional changes to the wording of the instructions and some items, again with care taken not to alter the original meaning.

The final version of the survey instrument that was administered consisted of 108 items plus 15 demographic questions for the hard of hearing group, and 102 items plus 10 demographic questions for the comparison group. The questionnaire is provided in Appendix C.

Recruitment of participants

Participants were recruited for the hard of hearing sample if they:

- had a bilateral, prelingual sensorineural hearing loss that is classified, according to Australian Hearing (2004) categories, as mild (21dB to 45dB), moderate (46-60 dB), moderately severe (61-75 dB), severe (76-90 dB), or profound (>90 dB);
- were attending regular schools (government, non-government or Catholic) with support from itinerant teachers of the deaf;
- primarily used oral-aural communication;
- were in Years 10, 11 or 12, and
- had no additional educationally significant disabilities.

This population of fully mainstreamed students with hearing loss is scattered, with often only one such student in any particular school. In order to obtain sufficient numbers of hard of hearing participants for the survey component of the study, schools
throughout the states of Queensland and NSW were included. Ethical clearance was obtained from Griffith University Human Research Ethics Committee and the relevant educational authorities (Education Queensland, the New South Wales Department of Education and Training, Brisbane Catholic Education, and the Catholic Education Office, Sydney).

In New South Wales, teachers of the deaf called “Assistant Principals” supervise small teams of itinerant support teachers. A list of these Assistant Principals was provided by the New South Wales Department of Education and Training. In Queensland, itinerant support teachers of the deaf are not supervised in this way, and a list of all such teachers (called, in Queensland, Advisory Visiting Teachers) was obtained from Education Queensland’s Disability Services Support Unit. The 33 New South Wales Assistant Principals and the 46 Queensland Advisory Visiting Teachers were contacted by email, provided with details of the study, and asked to reply with the names of schools attended by students they were supporting who fitted the study’s criteria. Follow-up emails were sent, and telephone calls were made to those teachers who did not respond to the email messages. Brisbane Catholic Education and the Catholic Education Office, Sydney also provided names of schools attended by students fitting the criteria, and the appropriate staff members were contacted, in most cases by telephone. There were 110 schools identified as having suitable students. Permission for these students to be approached to participate in the study was sought from the principals of all these schools; five principals declined to grant this permission, and consequently their students were not approached.

Copies of the survey instrument, along with information letters and consent forms for parents and students, were mailed to the support teachers, who were asked to give them to their students during their next support visit. Because support visits by itinerant teachers are infrequent and not of long duration for some students, it was suggested that students take the survey home, complete it in their own time, then mail it
and the signed informed consent forms back in the pre-paid return-address envelope provided. Students could also fill in the questionnaire at school during their itinerant support teacher’s visit if this was a convenient option. Five to seven weeks after sending out the questionnaires, follow-up telephone calls were made to itinerant teachers whose students had not returned questionnaires.

Assistant Principals and Advisory Visiting Teachers throughout New South Wales and Queensland identified a possible 126 students as meeting the study’s criteria, and this number of questionnaires was sent out to the identifying teachers. Sixty-seven questionnaires were returned. Two of these were incomplete and could not be included in the analysis. Thus, the sample consisted of 65 students. This return rate of 51.6% is considerably in excess of a similar Australian study where student responses were sought (Byrnes & Sigafoos, 2001). Of the 65 students making up the hard of hearing sample, 51 attended government schools, nine attended Catholic schools and five attended independent schools of other denominations. No particular patterns of non-response were noted across states or school systems.

In addition, the survey was administered to a comparison group of Year 10, 11 and 12 students without hearing loss. This group was recruited from one government high school in south-east Queensland. The school can be considered typical of coeducational secondary schools situated in suburban Australia. All students from whom informed student and parent consent had been obtained and who were in certain Year 10, 11 and 12 classes completed the questionnaire. The researcher was present in each class to hand out the questionnaires, briefly explain the purpose of the research to the students and answer any questions they had. Of the 135 survey forms handed out and collected, 28 were inadequately completed and could not be included in the analysis; therefore, 107 students formed the sample size for the normally hearing comparison group.
CHAPTER FIVE - RESULTS AND DISCUSSION OF THE QUANTITATIVE PHASE

Introduction

This chapter reports the findings of the quantitative phase of the study. It describes the demographic characteristics, first of the hard of hearing students, then of the normally hearing students in the comparison group. The differences between the hard of hearing and normally hearing groups on the career-related variables are reported. The frequencies of career barriers are reported for both groups, and the frequencies of hearing-related barriers are reported for the hard of hearing group. The results of the multiple regression analyses used to test the relationship among career development and contextual variables are then reported. A discussion of the reported results follows.

Results

Characteristics of the participants

Hard of hearing group

Of the 65 students in the hard of hearing group, 36 (55%) were female and 29 (45%) were male. Their mean age was 16.6 years (SD = .88 years; Range = 14.8-18.3 years). An equitable distribution between year levels was achieved by chance: Twenty-three respondents (35%) were attending Grade 10, 21 (32%) Grade 11, and 21 (32%) Grade 12. Thirty-one (48%) reported having paid part-time or casual work experience. Students were also asked to indicate their “most common” level of academic achievement across all of their subjects on a five point scale ranging from highest (“A”,
or equivalent grading for State and year) to lowest (“E” or equivalent for State and year). These students reported an average grade of 2.53 ($SD = .71$; Range = 1 - 4).

Four levels of fathers’ occupations (or, in the small number of cases where the father’s occupation was not available, mothers’ occupations) were classified using the Australian Standard Classification of Occupations (Australian Bureau of Statistics, 1997). These students’ parental occupational levels are reported in Table 2.

Table 2
*Parents’ occupational levels - Hard of hearing group (N = 65)*

<table>
<thead>
<tr>
<th>Occupation classification</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semi-skilled</td>
<td>11</td>
<td>17</td>
</tr>
<tr>
<td>Skilled</td>
<td>27</td>
<td>42</td>
</tr>
<tr>
<td>Semi-professional</td>
<td>14</td>
<td>22</td>
</tr>
<tr>
<td>Professional</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Not in paid work</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

*Note.* Data were missing for 3 students

Students were asked to indicate their perceptions of the intelligibility of their spoken language to other people and the degree of ease or difficulty they had in understanding the spoken language of other people. Tables 3 and 4 report these perceptions. Participants reported high levels of intelligibility for their own speech and moderately high levels for their ability to understand others’ spoken language. For both questions, students reported the least difficulties with family and the most difficulty with “others”. When the categories of “very easy” and “easy” are summed, students reported most ease in understanding the spoken communication of their families (77%), then their friends (60%), followed by teachers (44%), and finally others (29%). It can be assumed that the category “others”, being people who are not family, friends, or teachers, would represent people with whom students had less contact and whom they knew less well. The reported rates of intelligibility for this category make intuitive sense, as family members, and some friends, are likely to make efforts to accommodate
their spoken communication to the needs of the hard of hearing listener. While it is desirable that teachers also make these efforts, it is possible that many do not, especially in the high school situation where many teachers interact with many students. Only 44% of the respondents reported finding their teachers’ spoken language easy or very easy to understand. The fact that 71% of the survey respondents indicated difficulties in understanding the spoken language of “others” has potential implications for these students’ post-school world, where they will have to meet and interact with many new people in social, higher education and work settings.

Students rated their own speech as being easy or very easy to understand by their families (89%), friends (82%), teachers (83%), but only 66% by others.

A degree of slippage is also probable, in that students’ ability to understand and be understood is indicated in a self-report scale.

Table 3

*Students’ ability to understand other people’s spoken language (N = 65)*

<table>
<thead>
<tr>
<th></th>
<th>Very easy</th>
<th>Easy</th>
<th>Sometimes easy, sometimes hard</th>
<th>Hard</th>
<th>Very Hard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td>27 (42)</td>
<td>23 (35)</td>
<td>15 (23)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Teachers</td>
<td>8 (12)</td>
<td>21 (32)</td>
<td>35 (54)</td>
<td>1 (2)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Friends</td>
<td>13 (20)</td>
<td>26 (40)</td>
<td>24 (37)</td>
<td>2 (3)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Others</td>
<td>6 (9)</td>
<td>13 (20)</td>
<td>35 (54)</td>
<td>8 (12)</td>
<td>3 (5)</td>
</tr>
</tbody>
</table>

Table 4

*Intelligibility of students’ spoken language to other people (N=65)*

<table>
<thead>
<tr>
<th></th>
<th>Very easy</th>
<th>Easy</th>
<th>Sometimes easy, sometimes hard</th>
<th>Hard</th>
<th>Very Hard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td>37 (57)</td>
<td>21 (32)</td>
<td>6 (9)</td>
<td>1 (2)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Teachers</td>
<td>19 (29)</td>
<td>35 (54)</td>
<td>10 (15)</td>
<td>1 (2)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Friends</td>
<td>24 (37)</td>
<td>29 (45)</td>
<td>12 (19)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Others</td>
<td>13 (20)</td>
<td>30 (46)</td>
<td>19 (29)</td>
<td>2 (3)</td>
<td>1 (2)</td>
</tr>
</tbody>
</table>
The degree of hearing loss reported by the students is shown in Table 5. Many children with mild hearing losses, especially by the time they are in the later years of high school, may not be receiving itinerant support services, so the small proportion (8%) of students reporting a mild hearing loss was not unexpected, and reflects the findings of Power and Hyde (2002) for Australian school students across primary and secondary school levels. This sample reflected a lower percentage of students with severe and profound losses than is reported in Power and Hyde’s study, which found a surprisingly high 32% of both severe and profound loss levels in their sample.

Table 5
Degree of hearing loss reported by participants (N =65)

<table>
<thead>
<tr>
<th>Degree of Hearing Impairment</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Moderate</td>
<td>13</td>
<td>20</td>
</tr>
<tr>
<td>Moderate-severe</td>
<td>24</td>
<td>37</td>
</tr>
<tr>
<td>Severe</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Profound</td>
<td>13</td>
<td>20</td>
</tr>
</tbody>
</table>

Students reported the amount of time they used assistive hearing devices during their waking hours; these data are reported in Table 6. A large majority (72%) used hearing aids all the time, and another 11% used them some of the time. Seven students used a cochlear implant all the time, and one student reported using a cochlear implant a small amount of the time. Consistent with the current practice for some individuals of wearing a hearing aid in the non-implanted ear, three users of cochlear implants reported using a hearing aid.

Of the ten students who stated that they never wore hearing aids, five were not implant users. It is surprising that five students receiving itinerant teacher support reported never wearing hearing aids, and that only two of these five reported their hearing loss as mild, with the other three reporting theirs as moderate. This may reflect
the dislike of their hearing aids being visible and the desire to avoid appearing conspicuous that exist among some adolescents (Punch & Kidd, 2001).

Table 6

Participants’ use of assistive hearing devices (N = 65)

<table>
<thead>
<tr>
<th>Amount of time used</th>
<th>Hearing aid/s No. (%)</th>
<th>Cochlear implant No. (%)</th>
<th>FM system No. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>10 (15)</td>
<td>57 (88)</td>
<td>46 (71)</td>
</tr>
<tr>
<td>Small amount of time</td>
<td>3 (5)</td>
<td>1 (2)</td>
<td>11 (17)</td>
</tr>
<tr>
<td>Most of time</td>
<td>5 (8)</td>
<td>0 (0)</td>
<td>8 (12)</td>
</tr>
<tr>
<td>All the time</td>
<td>47 (72)</td>
<td>7 (11)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Total using</td>
<td>55 (85)</td>
<td>8 (12)</td>
<td>19 (29)</td>
</tr>
</tbody>
</table>

Two students reported that their mother had a hearing loss, one student had a father with a hearing loss, and 10 students reported a sibling with a hearing loss. These proportions reflect commonly reported figures indicating that fewer than 10% of deaf and hard of hearing children have one or both parents who are deaf or hard of hearing (Mitchell & Karchmer, 2004).

Normally hearing group

Of the group of normally hearing adolescents, 50 (47%) were females and 57 (53%) were male. Their mean age was 16.04 years ($SD = .90$ years; Range = 14.50-19.00 years). Forty-six (43%) were attending Grade 10, 38 (36%) Grade 11, and 23 (22%) Grade 12. Seventy-two (67%) reported having paid part-time or casual work experience. In relation to academic achievement, these students reported an average grade of 2.31 ($SD = .66$; Range = 1 - 3). Their parents’ occupational levels are reported in Table 7.
Table 7

Parent’s occupation - Normally hearing group (N = 107)

<table>
<thead>
<tr>
<th>Occupation classification</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semi-skilled</td>
<td>19</td>
<td>18</td>
</tr>
<tr>
<td>Skilled</td>
<td>51</td>
<td>48</td>
</tr>
<tr>
<td>Semi-professional</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>Professional</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Not in paid work</td>
<td>9</td>
<td>8</td>
</tr>
</tbody>
</table>

Note. Data were missing for 8 students

Comparison between hard of hearing and normally hearing students

The first analysis was to test for differences between the hard of hearing and normally hearing groups on the career-related variables. To ensure that such a comparison was meaningful, a stratified, random sample of 65 normally hearing students was selected from the original sample of 107 to enable a matched group to be created. To ensure that the two groups were matched, chi-square and t-tests, using a Bonferroni correction of $p < .017$ (i.e., $.05/3$) and $p < .025$ ($0.05/2$) respectively, were conducted to test for differences on the demographic and social variables. No significant differences were identified on age, $t(123) = 2.18$, $p > .025$, school achievement level, $t(125) = 1.20$, $p > .025$, parent’s occupational level, $\chi^2(3) = 3.60$, $p > .017$, gender, $\chi^2(1) = 1.97$, $p > .017$, and part-time employment, $\chi^2(1) = 5.33$, $p > .017$. Thus, it can be assumed that there was no bias identified based on these demographic and social variables.

These two matched groups were then tested for differences on the career-related variables of career development attitude, career development knowledge, career barriers, social participation, career decision-making - certainty, career decision-making - indecision, CDMSE, outcome expectations and goals using a multivariate analysis of variance. Table 8 presents summary data for these two samples. A significant multivariate effect was identified, $F(9, 119) = 3.70$, $p < .001$. At the univariate level, a significant difference ($p < .006$, i.e., a Bonferroni correction of $.05/9$) was identified for
career development knowledge ($p < .001$), with the hard of hearing group reporting higher levels than the normally hearing group. Trend differences were also identified for career barriers ($p < .05$) and outcome expectations ($p < .01$), with the hard of hearing group reporting fewer barriers and having higher outcome expectations.

As the perception of career barriers was a particular focus of the study, the differences on career barriers were examined in more detail. The data were recoded so that responses of “strongly agree” and “agree” that a particular item would be a barrier were coded as being a barrier, and responses of “strongly disagree” and “disagree” that an item would be a barrier were coded as not being a barrier. Table 9 reports these results as frequencies. Consistent with the above analysis, the normally hearing group reported more barriers on each item than the hard of hearing group, apart from the item “not fitting in at college/university”, on which the hard of hearing group reported more barriers. Two differences reached statistical significance, utilising a Bonferroni correction of $0.05/13 = .004$. The normally hearing students were significantly more likely to report family difficulties and people’s attitudes about their ethnic background as barriers, compared with the hard of hearing group.

The hearing-related barrier items that were included in the hard of hearing group’s questionnaire were also examined in order to assess the relative importance of these potential barriers for this group. As indicated in Table 10, the highest reported barrier was “people not understanding my hearing loss” (68%), followed by “not being able to hear well on the phone” (51%).
Table 8
Summary data for Hard of hearing group, matched sample of Normally hearing group, total Normally hearing group, and Total sample.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Hard-of-hearing</th>
<th>Matched Sample Normally-hearing</th>
<th>Total Sample Normally-hearing</th>
<th>Total Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>N</td>
</tr>
<tr>
<td>Career Development Attitude</td>
<td>64</td>
<td>49.27</td>
<td>10.18</td>
<td>65</td>
</tr>
<tr>
<td>Career Development Knowledge</td>
<td>65</td>
<td>11.52</td>
<td>3.18</td>
<td>65</td>
</tr>
<tr>
<td>Career Decision Making – Certainty</td>
<td>64</td>
<td>5.05</td>
<td>1.56</td>
<td>65</td>
</tr>
<tr>
<td>Career Decision Making – Indecision</td>
<td>64</td>
<td>49.44</td>
<td>7.74</td>
<td>65</td>
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<tr>
<td>Career Barriers</td>
<td>65</td>
<td>38.62</td>
<td>4.83</td>
<td>65</td>
</tr>
<tr>
<td>Social Participation</td>
<td>65</td>
<td>28.18</td>
<td>7.49</td>
<td>65</td>
</tr>
<tr>
<td>Career Decision Making Self-efficacy</td>
<td>65</td>
<td>35.26</td>
<td>4.08</td>
<td>65</td>
</tr>
<tr>
<td>Outcome Expectations</td>
<td>65</td>
<td>15.77</td>
<td>2.40</td>
<td>65</td>
</tr>
</tbody>
</table>

Note: *a* = sample size differs as one hard of hearing student did not complete all scales
Table 9

*Frequencies of perceived barriers for Hard of hearing (N = 65) and Normally hearing (N = 65) groups*

<table>
<thead>
<tr>
<th>Item</th>
<th>Hard of hearing</th>
<th>Normally hearing</th>
<th>( \chi^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money difficulties</td>
<td>29 (45%)</td>
<td>43 (66%)</td>
<td>6.10</td>
</tr>
<tr>
<td>Family difficulties</td>
<td>8 (12%)</td>
<td>22 (34%)</td>
<td>8.49*</td>
</tr>
<tr>
<td>Not being smart enough</td>
<td>24 (37%)</td>
<td>26 (40%)</td>
<td>0.13</td>
</tr>
<tr>
<td>Lack of support from teachers</td>
<td>13 (20%)</td>
<td>23 (35%)</td>
<td>3.84</td>
</tr>
<tr>
<td>Study difficulties</td>
<td>33 (51%)</td>
<td>41 (63%)</td>
<td>2.01</td>
</tr>
<tr>
<td>Lack of confidence</td>
<td>32 (49%)</td>
<td>39 (60%)</td>
<td>1.52</td>
</tr>
<tr>
<td>Lack of support from friends</td>
<td>17 (26%)</td>
<td>20 (31%)</td>
<td>0.34</td>
</tr>
<tr>
<td>My gender</td>
<td>0 ( 0%)</td>
<td>5 ( 8%)</td>
<td>5.20</td>
</tr>
<tr>
<td>People’s attitudes about my gender</td>
<td>1 ( 2%)</td>
<td>4 ( 6%)</td>
<td>1.87</td>
</tr>
<tr>
<td>My ethnic background</td>
<td>1 ( 2%)</td>
<td>9 (14%)</td>
<td>6.93</td>
</tr>
<tr>
<td>People’s attitudes about ethnic background</td>
<td>1 ( 2%)</td>
<td>11 (17%)</td>
<td>9.18*</td>
</tr>
<tr>
<td>Not fitting in at college/university</td>
<td>22 (34%)</td>
<td>15 (23%)</td>
<td>1.85</td>
</tr>
<tr>
<td>Having to work while studying</td>
<td>27 (42%)</td>
<td>29 (45%)</td>
<td>0.13</td>
</tr>
</tbody>
</table>

*Note. * = \( p < .004 \) (based on Bonferroni correction)*

Table 10

*Frequencies of perceived hearing-related barriers for Hard of hearing group (N = 65)*

<table>
<thead>
<tr>
<th>Item</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hearing loss</td>
<td>31</td>
<td>48</td>
</tr>
<tr>
<td>People’s attitudes about hearing loss</td>
<td>22</td>
<td>34</td>
</tr>
<tr>
<td>Having to work in groups</td>
<td>16</td>
<td>25</td>
</tr>
<tr>
<td>Talking/listening to new people</td>
<td>24</td>
<td>37</td>
</tr>
<tr>
<td>Using phone</td>
<td>33</td>
<td>51</td>
</tr>
<tr>
<td>People not understanding hearing loss</td>
<td>44</td>
<td>68</td>
</tr>
</tbody>
</table>

**Predicting goals and career behaviours and the SCCT model**

Standard multiple regression analyses were utilised to test the social cognitive career model (see Figure 2) for the total sample, and for the hard of hearing and full normally hearing samples. In the first series of analyses, goals was used as the dependent variable (DV). The social cognitive career model variables (CDMSE and outcome expectations) and contextual variables (age, gender, group, paid-work experience, parent’s occupational level, academic achievement level, career barriers, hearing-related barriers and hearing loss level [for the hard of hearing sample only], and
social participation) were considered as the independent variables (IV), and were included as IVs when significantly associated with the DV.

In the second series of analyses, three dependent variables were tested (career development attitude, career development knowledge, and career indecision), and, when significantly associated with the dependent variables, the social cognitive career model variables (CDMSE, outcome expectations and goals) and contextual variables (age, gender, group, paid-work experience, parent’s occupational level, academic achievement level, career barriers, hearing-related barriers and hearing loss level [for hard of hearing sample only], and social participation) were included as the independent variables. Dummy variables were created for gender (base level = female), paid-work experience (base level = no paid-work experience), and group (base level = hard of hearing group). Table 11 reports the bivariate correlations for the full sample of hard of hearing and normally hearing students together ($n = 172$); Table 12 reports the bivariate correlations for the hard of hearing ($n = 65$) and normally hearing students individually ($n = 107$).

In the first regression analyses, goals was used as the dependent variable. For the total sample, CDMSE, outcome expectations and social participation were used as the independent variables. For the normally hearing group, CDMSE, outcome expectations, age, gender and social participation were used as the independent variables. For the hard of hearing group, CDMSE, outcome expectations and social participation were used as the independent variables.

For the total sample, the results indicate that together the variables accounted for a significant 31.9% of the variance in goals, $F(3, 168) = 26.26, p < .001$. The most important predictors, in order of importance, were outcome expectations ($\beta = .46$; contributing a significant unique 15.84% of the variance; $p < .001$), and social
participation ($\beta = -.18; 2.82\%; p = .009$). While CDMSE contributed to explaining the overall variance, it was not a significant individual predictor.

For the normally hearing sample, the variables accounted for a significant 32.5% of the variance in goals, $F(5, 96) = 9.24, p < .001$. The significant individual predictors were outcome expectations ($\beta = .43; 12.46\%; p < .001$) and social participation ($\beta = -.19; 3.03\%; p = .041$). CDMSE, age, and gender contributed to explaining the overall variance, but were not significant individual predictors.

For the hard of hearing sample, the variables accounted for a significant 33.3% of the variance in goals, $F(3, 61) = 9.26, p < .001$. The most important predictor was outcome expectations ($\beta = .46; 17.22\%; p < .001$). CDMSE and social participation contributed to explaining the overall variance, but were not significant individual predictors. The results of these analyses are reported in Table 13.

In the second series of regression analyses, career development attitude was first used as the dependent variable. For the total sample, goals, CDMSE, outcome expectations, gender, school achievement, barriers and social participation were used as the independent variables. For the normally hearing group, goals, CDMSE, outcome expectations, barriers and social participation were used as the independent variables. For the hard of hearing group, goals, CDMSE, outcome expectations, gender and hearing-related barriers were used as the independent variables.

For the total sample, the results indicated that together the variables accounted for a significant 23% of the variance in career development attitude, $F(7, 160) = 6.83, p < .001$. The most important predictors, in order of importance, were CDMSE ($\beta = .25; 4.12\%; p = .004$) and goals ($\beta = .24; 3.65\%; p = .007$). For the normally hearing sample, the variables accounted for a significant 25.9% of the variance, $F(5, 101) = 7.06, p < .001$. The significant individual predictors were goals ($\beta = .25; 4.41\%; p = .016$) and CDMSE ($\beta = .24; 3.76\%; p = .026$).
### Table 11

*Bivariate correlations for Total sample of Hard of hearing and Normally hearing combined (N = 172)*

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Career Development Attitude</td>
<td></td>
<td>.11</td>
<td>.39***</td>
<td>.32***</td>
<td>.37***</td>
<td>.23**</td>
<td>- .02</td>
<td>- .18*</td>
<td>.15</td>
<td>.08</td>
<td>- .17*</td>
<td>.26**</td>
<td>- .22***</td>
<td>.11</td>
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<tr>
<td>2. Career Development Knowledge</td>
<td></td>
<td></td>
<td>.30***</td>
<td>.30***</td>
<td>.29***</td>
<td>.33***</td>
<td>- .12</td>
<td>- .32***</td>
<td>- .01</td>
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<td>- .25**</td>
<td>.30***</td>
<td>- .20*</td>
<td>- .27***</td>
</tr>
<tr>
<td>3. Career Indecision</td>
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<td></td>
<td>.12</td>
<td>.32***</td>
<td>.10</td>
<td>- .12</td>
<td>- .10</td>
<td>- .02</td>
<td>- .11</td>
<td>- .01</td>
<td>.47***</td>
<td>- .18*</td>
<td>- .08</td>
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<td>4. Goals</td>
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<td>5. Career Decision Making Self-efficacy</td>
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<td>6. Outcome Expectations</td>
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<tr>
<td>7. Age</td>
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<td>9. Part-time Work</td>
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</tbody>
</table>

Note: * = p < .05, ** = p < .01, *** = p < .001
### Table 12

**Bivariate correlations with Hard of hearing below the diagonal (N = 65) and Normally hearing above the diagonal (N = 107)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
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</thead>
<tbody>
<tr>
<td>1. Career Development Attitude</td>
<td></td>
<td>.11</td>
<td>.44***</td>
<td>.37***</td>
<td>.38***</td>
<td>.26**</td>
<td>-.03</td>
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<td>.09</td>
<td>.00</td>
<td>-.10</td>
<td>.34***</td>
<td>-.29**</td>
<td>-</td>
</tr>
<tr>
<td>2. Career Development Knowledge</td>
<td>.24</td>
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<td>.33**</td>
<td>.26*</td>
<td>.22*</td>
<td>.33**</td>
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<td>-.44***</td>
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<td>-.05</td>
<td>-.14</td>
<td>-.02</td>
<td>.58***</td>
<td>-.22*</td>
<td>-</td>
</tr>
<tr>
<td>4. Goals</td>
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<td>.31*</td>
<td>-.00</td>
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<td>.53***</td>
<td>-.21*</td>
<td>-.19*</td>
<td>-.13</td>
<td>-.13</td>
<td>.09</td>
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<td>5. Career Decision Making Self-efficacy</td>
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<td>-.02</td>
<td>.32**</td>
<td>-.29**</td>
<td>-</td>
</tr>
<tr>
<td>6. Outcome Expectations</td>
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<td>-.14</td>
<td>.51***</td>
<td>.41**</td>
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<td>-.12</td>
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<td>-.01</td>
<td>.16</td>
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<td>-.07</td>
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<td>.22*</td>
<td>.01</td>
<td>.08</td>
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<td>.10</td>
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<td>-.19</td>
<td>.05</td>
<td>-.07</td>
<td>.17</td>
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<td>.18</td>
<td>.27**</td>
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<td>.05</td>
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<tr>
<td>9. Part-time Work</td>
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<td>.08</td>
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<td>-.02</td>
<td>.30*</td>
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**Note:** * = p < .05, ** = p < .01, *** = p < .001
Table 13
Summary of Multiple Regression Analyses for variables predicting Goals (Total group, N = 171; Normally hearing group, N = 107, Hard of hearing group, N = 64).

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Note: For Total Group, $R^2 = .32$, Adjusted $R^2 = .31$; for the Normally-hearing Group, $R^2 = .33$, Adjusted $R^2 = .29$; for the Hard-of-hearing Group, $R^2 = .31$, Adjusted $R^2 = .28$. * = $p < .05$; ** = $p < .01$; *** = $p < .001$. 
Table 14
Summary of Multiple Regression Analyses for variables predicting Career Development Attitude (Total group, N = 171; Normally hearing group, N = 107, Hard of hearing group, N = 64).

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<td>SEB</td>
<td>β</td>
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Note: For Total Group, $R^2 = .23$, Adjusted $R^2 = .20$; for the Normally-hearing Group, $R^2 = .26$, Adjusted $R^2 = .22$; for the Hard-of-hearing Group, $R^2 = .37$, Adjusted $R^2 = .32$. * = p < .05; ** = p < .01; *** = p < .001.
For the hard of hearing sample, the variables accounted for a significant 37.3% of the variance, \( F(5, 58) = 6.89, p < .001 \). The most important predictors, in order of importance, were gender (\( \beta = -.38; 12.82\%; p = .001 \); being female associated with higher career development attitude), and hearing-related barriers (\( \beta = .25; 4.33\%; p = .050 \)). The results of these analyses are reported in Table 14.

In the next set of regression analyses, career development knowledge was used as the dependent variable. For the total sample, goals, CDMSE, outcome expectations, gender, school achievement, barriers, social participation and group were used as the independent variables. For the normally hearing group, goals, CDMSE, outcome expectations, age, gender, school achievement and barriers were used as the independent variables. For the hard of hearing group, goals, CDMSE, parent’s occupational level and school achievement were used as the independent variables.

For the total sample, the variables accounted for a significant 32.5% of the variance in career development knowledge, \( F(8, 160) = 9.63, p < .001 \). The most important predictors, in order of importance, were gender (\( \beta = -.25; 5.71\%; p < .001 \); being female associated with more knowledge), school achievement, (\( \beta = -.21; 3.57\%; p = .004 \)), and group (\( \beta = -.20; 3.28\%; p = .006 \); being hard of hearing associated with more knowledge).

For the normally hearing sample, the variables accounted for a significant 38.2% of the variance, \( F(7, 94) = 8.31, p < .001 \). The important predictors, in order of importance, were gender (\( \beta = -.31; 8.29\%; p = .001 \); being female associated with more knowledge), school achievement (\( \beta = -.20; 3.28\%; p = .028 \)), and age (\( \beta = -.18; 2.59\%; p = .049 \)). For the hard of hearing sample, the variables accounted for a significant 22.6% of the variance, \( F(4, 51) = 3.72, p = .01 \). The only significant individual predictor
was school achievement ($\beta = -.33; 8.35\%; p = .023$). The results of these analyses are reported in Table 15.

In the final set of regression analyses, career indecision was used as the dependent variable. For the total sample, CDMSE, barriers and social participation were used as the independent variables. For the normally hearing group, CDMSE, outcome expectations, age, barriers and social participation were used as the independent variables. For the hard of hearing group, no independent variables were significantly associated with career indecision, indicating that these variables could not be used as independent variables to predict it.

For the total sample, the variables accounted for a significant 25.1% of the variance in career indecision, $F(3, 167) = 18.68, p < .001$. The two important predictors, in order of importance, were barriers ($\beta = .42; 14.14\%; p < .001$, and CDMSE ($\beta = .19; 2.92\%; p = .011$).

For the normally hearing sample, the variables accounted for a significant 39.9% of the variance, $F(5, 96) = 12.76, p < .001$. The two significant individual predictors were barriers ($\beta = .54; 21.90\%; p < .001$) and CDMSE ($\beta = .20; 2.62\%; p = .044$). The results of these analyses are reported in Table 16.
Table 15
Summary of Multiple Regression Analyses for variables predicting Career Development Knowledge (Total group, N = 171; Normally hearing group, N = 107, Hard of hearing group, N = 64).

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<td>β</td>
<td>Semi-partial</td>
<td>B</td>
<td>SEB</td>
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Note: For Total Group, $R^2 = .33$, Adjusted $R^2 = .29$; for the Normally hearing Group, $R^2 = .38$, Adjusted $R^2 = .34$; for the Hard of hearing Group, $R^2 = .23$, Adjusted $R^2 = .17$. * = p < .05; ** = p < .01; *** = p < .001.
Table 16
Summary of Multiple Regression Analyses for variables predicting Career Indecision (Total group, N = 171; Normally hearing group, N = 107).

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Note: For Total Group, $R^2 = .25$, Adjusted $R^2 = .24$; for the Normally hearing Group, $R^2 = .40$, Adjusted $R^2 = .37$. * = $p < .05$; ** = $p < .01$; *** = $p < .00$
Discussion

Differences between hard of hearing and normally hearing students

One aim of the study was to determine if hard of hearing fully mainstreamed students differed from their normally hearing peers in levels of career maturity. The only significant difference found was on career development knowledge, the composite scale of the Career Development Inventory that measures world of work information and career decision-making, for which the hard of hearing group reported significantly higher levels than the normally hearing group. On career development attitude, the composite scale measuring career exploration and career planning, no significant difference was found between the two groups. The normally hearing group in the present study indicated similar levels on these career maturity scales as was reported for a group of more than 2,000 high school students in Years 8 to 12 using the same measure, the Australian short form of the CDI (Creed & Patton, 2004).

Thus, for this group of students with hearing loss, it appears that career maturity does not lag behind that of students without hearing loss, as has been suggested in the literature (Furlonger, 1998; Schroedel, 1991, 1992). In the extent of their thinking and planning about career-related activities, and their willingness and ability to find and use good resources for career planning, these hard of hearing students showed no difference from their normally hearing peers; in the extent of their knowledge of the world of work and their ability to apply decision-making principles and methods to their career choice process, they exceeded this sample of normally hearing peers.

This result differs from the findings of Furlonger’s (1998) study, which, using the longer version of the Career Development Inventory (Lokan, 1984), found significantly lower scores on the career development knowledge composite scale and on the Career Planning (but not the Career Exploration) subscale for a group of 26 deaf and hard of hearing high school students compared to their normally hearing peers. The
difference between Furlonger’s findings and those of the present study may be partially explained by the fact that the students in Furlonger’s small sample differed from the sample of the current study in their levels of hearing loss and type of educational placement. Twenty-four of the 26 students in Furlonger’s group had profound losses and five had severe losses, whereas only 35% of the present study’s students reported severe or profound hearing loss levels. As well, students in Furlonger’s study attended a special education resource class and largely used a sign language as their mode of communication.

The current findings reflect those of King (1990a, 1990b, 1992), who found no difference between a group of 71 deaf and hard of hearing Grade 10 students and a comparison group of 318 normally hearing peers on the career development attitude scale of the original American version of the Career Development Inventory (Thompson et al., 1981). However, King’s sample also differed from the sample in the present study, with the majority of the students having a profound hearing loss and attending residential schools for the deaf. King’s study did not utilize the Career Development Knowledge scale and so cannot be compared to the current study on this cognitive dimension of career maturity.

As discussed in Chapter Two, adolescents with hearing loss, having some limitation on their incidental learning and perhaps having experienced less part-time work experience than their normally hearing peers, may be expected to have lower career maturity, particularly in areas of cognitive development, than adolescents without hearing loss. In the present study, there was a considerable difference in the work experience levels of the two groups, with only 48% of the hard of hearing students reporting part-time work experience, compared to 67% of the normally hearing group. Nevertheless, the hard of hearing group was found to be similar to the normally hearing group in scores of career development attitude and significantly exceed it in career
development knowledge. Thus, this study’s results did not support the expectation that hard of hearing students would lag behind their normally hearing peers on measures of career maturity. A possible explanation for these findings is that, in their mainstreamed setting, these hard of hearing students were as exposed to, and had received a similar benefit from, career education and career development influences as other students. The higher level of career development knowledge could be a result of school personnel, such as guidance counsellors or itinerant support teachers, having provided extra assistance in career development to the hard of hearing students. Similarly, it is possible that the hard of hearing students’ parents, perceiving their hard of hearing children to have extra needs in this area, had engaged in more discussion and other career development-related activities with these students than had parents of the normally hearing students with their children. These possibilities were further explored in the qualitative stage of the study in which interviews were conducted with twelve of the hard of hearing survey respondents.

It should not be assumed that, because the hard of hearing sample reported career maturity levels equal to or above those of the comparison group as measured by the CDI-A-SF (Creed & Patton, 2004), attempts to enhance the career maturity of hard of hearing students are not needed. Identification of gaps in their knowledge and provision of information that is pertinent to their hearing status are likely to be essential for most hard of hearing high school students. While their career maturity levels may indeed be no lower than the majority of normally hearing students, the situation is nevertheless of concern given the additional barriers and disadvantage that young people with hearing loss are likely to face.

In comparing the perceptions of career barriers rated by the two groups of students, it is perhaps surprising that the normally hearing sample reported more barriers than the hard of hearing students, showing a trend difference on the univariate
analysis, reporting more perception of barriers on twelve out of the thirteen items, and showing a significantly higher rating on the items referring to family difficulties and people’s attitudes about their ethnic background. (Respondents were not required to report their ethnic background on the questionnaire, so it is not known if the normally hearing group contained more adolescents of minority ethnic backgrounds than the hard of hearing group. However, the school from which the comparison group was drawn contained no ethnic groupings of significant size.) In general, it seems that the hard of hearing group was less concerned, and perhaps more optimistic, about these potential impediments than was the comparison group. It may be that these adolescents were more optimistic because they were less informed than were their normally hearing peers about the real possibility of difficulties arising from the areas mentioned in the scale. It is also possible that the hard of hearing students perceived these generic barriers to be less threatening than potential barriers associated with their hearing loss and consequently reported a lower perception of them than the normally hearing group. No comparisons with the literature can be made as no previous studies have reported the career barriers that are perceived by young people who have a hearing loss.

The barrier that was the most reported by the hard of hearing students was “people not understanding my hearing loss” (68%). It loomed larger than any other identified barrier, hearing-related or not; the next most reported barriers were “not being able to hear well on the phone” (51%) and “not having enough confidence” (49%). Consistent with the concept of the socially-constructed nature of disability (Hahn, 1993; Oliver, 1993; Siminski, 2003), respondents saw people’s lack of understanding of their hearing loss as far more of a barrier (68%) than the hearing loss itself (48%). However, the item “people’s attitudes to my hearing loss” was seen as less of a barrier (34%). The interpretation of these results was further explored with the interviewees in the qualitative phase of the project.
The results indicated that “people not understanding my hearing loss” was not only the greatest perceived barrier for the hard of hearing students, but also was similar in proportion for them than the most highly reported barrier was for the normally hearing group, who perceived “money difficulties” to be their biggest problem (66%). The fact that the hard of hearing adolescents perceived other people’s lack of understanding of their hearing loss as so predominant a barrier in following their educational and career goals suggests a need for this population to receive support in preparing for and developing strategies to deal with this problem. This issue is elaborated in the discussion of the qualitative stage of the study and in the concluding chapter’s integrated discussion of the quantitative and qualitative findings and the resulting recommendations for practice.

Overall, however, these findings can be seen as encouraging. Most of the hearing-related barriers were not perceived as presenting a problem in following their educational or career goals by a majority of the respondents. Students were not assessed on their confidence in overcoming perceived barriers, and it may be that many students believed themselves capable of overcoming barriers they might encounter. Another possibility is that the students, having experienced relatively supportive environments at home and at school, may not have realistic understandings of the difficulties related to their hearing loss that are likely to arise in the less protected post-school environment. Again, the design of the study made it possible to investigate this question in depth with a number of the respondents through the interviews.

No differences were found between the matched hard of hearing and normally hearing groups on the career maturity-related variables of CDMSE, career decision making – indecision, career decision making – certainty, and goals. As none of these variables has been investigated previously for deaf or hard of hearing adolescents, no comparison can be made with data reported in the literature.
The other variable measured by the survey instrument was social participation. It is perhaps an encouraging finding that there was no difference between the scores of the hard of hearing group and the matched normally hearing group on this variable. Thus, these fully-mainstreamed students with hearing loss reported experiencing no more social isolation and no less social participation with their peers than the normally hearing students. If, as has been proposed in the literature (Anderson & Betz, 2001; Betz et al., 1999; Felsman & Blustein, 1999; Kracke, 2002), adolescents’ social self-concept, resulting in large part from their social experiences and perceptions of social acceptance, can influence their career development, this finding suggests that there is no such problematic issue for these adolescents with hearing loss. However, it was considered that a qualitative exploration was particularly suited to this complex and sensitive issue, and the interviews conducted in the next phase provided the opportunity to investigate it in more depth.

Predicting goals and career behaviours and the SCCT model

A further aim of the study was to test the relationship among the SCCT model variables and individual and contextual variables for adolescents with hearing loss and to determine whether this relationship differed from that for adolescents without hearing loss. The social cognitive career model (Lent et al., 1994; Lent, Brown, & Hackett, 2002) suggests that CDMSE and outcome expectations predict goals (career exploratory plans or intentions), which in turn lead to career behaviours such as planning and exploration. CDMSE and outcome expectations may also directly affect career behaviours. In this analysis, career development attitudes, career development knowledge and career indecision were considered to indicate career behaviours.

While the results of the regression analyses generally supported the SCCT model, the extent of its applicability varied across the dependent variables used in the
analyses. The SCCT model was found to be less applicable to the hard of hearing group than to the normally hearing group.

Outcome expectations was a clear individual predictor of goals in all three of the groups (the total, normally hearing and hard of hearing), whereas CDMSE did not make a significant individual contribution in any of the groups. For the hard of hearing group, outcome expectations was the only important predictor of goals. However, as the SCCT model proposes that self-efficacy can influence goals indirectly via outcome expectations, individuals are likely to anticipate positive outcomes from performing activities in which they believe themselves to be efficacious (Bandura, 1997). The bivariate correlation analysis showed CDMSE to be significantly associated with outcome expectations across all three groups. These findings reflect those of Betz and Voyten (1997) in their study of these SCCT variables among university students.

Thus, it appears that the SCCT model as it relates to the effect of CDMSE and outcome expectations on goals is applicable to the hard of hearing adolescents in this study. The finding that career decision-making goals were predicted directly by outcome expectations and indirectly, via outcome expectations, by CDMSE suggests the importance of encouraging hard of hearing adolescents’ confidence in exploring, planning and making decisions about their occupational future, and developing and maintaining their optimism about the outcomes of these explorations and decisions. Counsellors should assess students’ CDMSE and outcome expectations and implement interventions designed to increase them. According to Bandura’s (1977) theory, self-efficacy beliefs are learned, and can be modified, through four sources of information: performance accomplishments, vicarious learning, social persuasion, and emotional arousal. CDMSE interventions based on these sources have been suggested in the literature. For instance, Betz (2004) and Betz and Voyten (1997) suggest assigning career decision-making tasks that students are likely to complete successfully (personal
performance accomplishments); modelling and locating role models to demonstrate efficacy in career decision-making tasks (vicarious learning); providing support and encouragement (social persuasion); and managing anxiety associated with performing new tasks (emotional arousal). Empirical evidence exists for the effectiveness of verbal persuasion on improving the CDMSE of first-year college students (Luzzo & Taylor, 1994).

While the SCCT model was supported in the hard of hearing group in so far as CDMSE and outcome expectations influenced goals, in investigating the effects of the SCCT variables on career behaviours, the model was found to be less applicable. Career behaviours can be defined as actions taken that are likely to contribute to career development and decision-making. As a measurement of career exploration and planning, asking respondents about the extent to which they have thought, planned, and sought out information about careers and career-related activities, career development attitudes is perhaps the dependent variable most closely associated with career behaviours. Consistent with the SCCT model, goals was a significant individual predictor of career development attitudes in the total and normally hearing groups. The SCCT model posits that CDMSE and outcome expectations may also directly affect career behaviours, and these results indicated that CDMSE directly predicted career development attitudes in the total and normally hearing groups. Outcome expectations was not identified as a significant individual predictor of career development attitudes for any of the groups, but its strong predictive effect on goals, which influenced career development attitudes in the total and normally hearing groups, lends further support to the SCCT model.

Thus, for this important measure of career maturity, it appears that the SCCT model was supported in the normally hearing group. For the hard of hearing group, however, no SCCT variables were found to be influential. Gender (being female was
predictive of higher career development attitudes) and hearing-related barriers (less perception of hearing-related barriers was predictive of higher career development attitudes) were the significant variables for this group. It seems that students who believed that their hearing loss presented strong barriers to their career efforts were less likely to be active in career exploration and planning than those who had a lower perception of such barriers.

Low career development attitudes were particularly associated with the males in the hard of hearing sample, indicating that hard of hearing boys are more disadvantaged than hard of hearing girls in developing sound career development attitudes towards thinking about, planning for, and seeking out information related to careers.

That the career development attitudes of hard of hearing adolescents were influenced less by the SCCT model than were those of normally hearing adolescents suggests that variables other than those of the SCCT model need to be addressed with hard of hearing youth. That their perception of barriers related to their hearing loss had a significant negative effect on their career development attitudes suggests that these barriers constitute an important area to be further explored and need to be addressed in helping adolescents with hearing loss through their career development process and school-to-work transition. As had been anticipated in the initial design of the study, it was necessary to explore this important area of barriers in greater depth in the qualitative stage of the study.

The Career Development Knowledge subscale of the CDI reports knowledge of the world of work and career decision-making process and so is not as directly representative of behaviours as the Career Development Attitudes subscale. In predicting career development knowledge, none of the SCCT model variables was influential for any of the groups. For the total and normally hearing groups, gender was a significant predictor, with females indicating more career development knowledge
than males. This is consistent with the findings of other studies (e.g., King, 1989; Patton & Creed, 2001) and can be expected; it is perhaps surprising, however, that the same effect was not indicated for the hard of hearing group, especially given that females showed higher career development attitudes than males in the hard of hearing group.

The variable that was predictive of career development knowledge for all three groups was school achievement. The Career Development Knowledge composite scale of the Career Development Inventory represents the cognitive aspect of career maturity, measuring knowledge of the world of work and understanding of career decision-making processes. As knowledge and cognitive understanding are likely to be associated with student ability, it is not surprising that higher school achievement predicted higher career development knowledge for both the normally hearing and the hard of hearing respondents. It is nevertheless a matter of concern that those who have less ability are disadvantaged in obtaining the knowledge they need for making effective career decisions, and this is an area that should be particularly addressed with hard of hearing students.

As discussed in Chapter Three, career indecision is closely related to the concept of career maturity, and, as measured by the Career Decision Scale (Osipow, 1987), has been considered to be a reliable and valid measure of career maturity (Levinson et al., 1998). In the total and normally hearing groups, CDMSE was the only SCCT variable found to significantly predict career indecision; neither outcome expectations nor goals had an individual predictive effect on career indecision. Association between CDMSE and career indecision has been reported frequently in the literature (Betz & Voyten, 1997; Taylor & Betz, 1983; Taylor and Popma, 1990) and so this result was expected. In the hard of hearing group, however, no independent variables were found to be significantly associated with career indecision and so no regression analysis for this dependent variable for this group could be performed. Thus,
for the hard of hearing sample, SCCT variables were not important in predicting career indecision; similarly, none of the other variables included in the study was important. Therefore, as career indecision cannot be explained for the hard of hearing group by any of the variables included in the study, further investigation of other factors that may be associated with career indecision in this population is warranted.

**Summary**

This chapter has reported that the results of the quantitative phase of the study indicated little difference between the hard of hearing students and the comparison group on the career-related variables and on the social participation variable. The implications of the significant difference reported on the career development knowledge variable have been discussed. In addition, the hearing-related career barriers reported by the hard of hearing students have been examined in detail.

These quantitative findings indicated that the SCCT model was less applicable for the hard of hearing group than for the normally hearing sample. For goals, outcome expectations was strongly predictive, and CDMSE, indirectly through its association with outcome expectations, also played a part consistent with the SCCT model. However, for the behaviour-related measures of career maturity and career decision status, the model was not confirmed for the hard of hearing students, with no SCCT variables being statistically significant predictors of these dependent variables. It appears that, for students with hearing loss, other variables need to be examined. It is also clear that, in relation to their career attitudes, planning, and exploration, it is more important that hearing-related issues are dealt with and perceived hearing-related barriers are addressed in this population. The special issues facing hard of hearing boys in relation to career development attitudes also need to be addressed.
The interesting finding that the hard of hearing students equalled or exceeded the normally hearing sample on measurements of career maturity suggested certain possible explanations, and indicated the necessity of the further investigation of this finding in the qualitative stage of the project. The importance of hearing-related career barriers found in the quantitative analyses also suggested that further exploration of these barriers and their effects on adolescents’ career development should be conducted in the semi-structured interviews.
CHAPTER SIX – METHOD FOR THE QUALITATIVE PHASE

Introduction

This chapter outlines the method used in the study’s qualitative phase comprising the interviews with a selected sample of the 65 hard of hearing adolescents who completed the quantitative survey. The purposeful sampling approach and the recruitment of participants for the interviews are described. An explanation of the design of the interview guide follows, outlining the way in which the findings from the quantitative data informed this qualitative stage of the study. Several issues pertinent to the gathering of qualitative data through interviews are discussed - those that pertain to the interview situation in general, those that are relevant to interviewing adolescents in particular, and those that must be considered specifically when interviewing young people with hearing loss. Finally, the data analysis approach is described.

The reader may notice a change in the writing style at this point in the thesis. In qualitative approaches, the researcher is the instrument, and the reporting of qualitative research demands a more personal and reflexive voice from the researcher than is usual in the reporting of traditional quantitative approaches. Writing in the first-person, active voice is appropriate for qualitative studies, and is more able to communicate the inquirer’s “self-aware role in the inquiry” (Patton, 2002, p. 65). For these reasons, I have largely used this voice in this part of the thesis.

Recruitment of participants

In keeping with the aims and qualitative approach of this phase of the study, sampling was purposeful. Purposeful (or purposive) sampling is designed to select information-rich cases likely to best illuminate the questions being investigated and
yield insights and indepth understanding, rather than empirical generalizations (Patton, 2002). In selecting students to approach for interviewing, I followed the principle of maximum variation (heterogeneity) sampling. This rationale behind this principle is that “any common patterns that emerge from great variation are of particular interest and value in capturing the core experiences and central, shared dimensions of a setting or phenomenon” (Patton, p. 235). I attempted to include the range of students in terms of levels of career maturity as indicated by their scores on the Career Development Inventory scales in the questionnaire, as well as on the variables of hearing loss level, gender and school year.

A range of year levels was sought, although more students in Years 11 and 12 than in Year 10 were approached on the basis that they were likely to have given more consideration to their vocational future and be more able to articulate their thoughts. Potential interviewees were approached through their itinerant teachers, after permission was granted by their school’s principal. If they were agreeable to participate in the interview, information letters and consent forms were sent to them and their parents. Elements of practicalities and logistics inevitably entered into the situation. I limited my approaches to students in south-east Queensland and northern NSW regions – that is, within a range of approximately three hours’ driving distance. As one would expect, some students who were approached declined to be interviewed.

I conducted interviews with twelve students. Of the students who agreed to be interviewed, one was in Year 10, five were in Year 11, and six were in Year 12. An equal representation of males and females was achieved. A range of levels of hearing loss was represented in the group, with three students having a moderate loss, four a moderately severe loss, three a severe loss, and two a profound hearing loss. Of these two, one had a cochlear implant.
Interviews were conducted in September, towards the end of the third term in the school year, and October, early in the fourth term. Nine took place at the students’ schools and three, at the preference of the parents, at the students’ homes. The length of the interviews varied from 40 minutes to one hour. They were audio-taped for later transcription.

**Design of the interview guide**

The interviews incorporated an initial list of questions serving as a guideline only, allowing unanticipated information to emerge. The use of a semi-structured interview schedule does not pre-empt the open-ended nature of the qualitative interview, as within each question the opportunity for unstructured responses remains. Rather, the schedule ensures that previously identified areas of interest will be explored even if they do not emerge spontaneously during the course of the interview (McCracken, 1988). Thus, the format and sequence of each interview was determined as the session proceeded. Questions were not always asked in the order in which they appear on the guide, and particular questions were not asked at all if there was no need to do so, that is, if the respondent had already discussed the question’s topic spontaneously or in an extended reply to another question. In addition, further questions were added to probe or clarify particular answers as seemed necessary during the course of each interview. As suggested by Lincoln and Guba (1985), probes can be as minimal as maintaining silence to encourage the respondent to continue; questions asking for more (“Could you tell me more about that?”); and brief summarisations to check understanding.

Most of the interview questions were similar to those asked in the preliminary interviews in the study’s first phase. However, additional areas were explored in the third phase of the study; the quantitative findings informed the design of the interview guide and the process of the interviews in Phase Three in the following ways:
Because the hard of hearing group’s scores on the career development attitudes and career development knowledge scales were at least as high as the normally hearing group’s, I sought to investigate the ways in which interviewees were receiving support, help or encouragement in finding information and making career-related decisions. A question such as “has anyone been particularly helpful or supportive to you in doing this?” was asked after the question “how much do you know about how to find information you need and how to make choices about what to do after school?”

A question about the participants’ experiences of part-time work or work experience programs was included. Further exploration of this factor seemed necessary as the quantitative analysis revealed that the hard of hearing group reported a significantly lower level of part-time work (48%) than did the normally hearing respondents (67%). I considered that an exploration of this area might reveal or elucidate participants’ concerns about ways in which their hearing loss had affected, or might affect, them in work situations.

The influence of hearing-related barriers on the career development attitudes scores of the hard of hearing sample confirmed the need to explore in depth interviewees’ perceptions of these potential barriers. All the specific barriers that had been included in the questionnaire were asked about, with particular emphasis on the most highly-reported barrier of people not understanding their hearing loss. In order to clarify and more fully understand students’ concerns in this area, students were asked in what way such lack of understanding could be a problem to them. Any experiences they had had of a lack of understanding or negative attitudes towards their hearing loss were enquired about.

Perceptions of social participation or isolation were further explored. As in the preliminary interviews, the question “what about the social side of your life, and
friends – what’s that like for you?” was used to instigate discussion of this area, with further probes when necessary to gain fuller understanding of the students’ perceptions.

The full interview guide is provided in Appendix D.

**Issues pertinent to the interview process**

The gathering of qualitative data through interviews involves several issues that the researcher must address. In this study, issues that pertain to the interview situation in general, those that are relevant to interviewing adolescents in particular, and those that must be considered specifically when interviewing young people with hearing loss were addressed in the interview process.

In a qualitative study, interactivity between researcher/interviewer and participant is inevitable, and the quality of the interaction will influence the quality of the data gathered. The investigator is an instrument of the research, bringing to it a broad range of his or her own experience, imagination and intellect (Lincoln & Guba, 1985; Patton, 2002). Interaction between investigator and participants is an opportunity to be exploited, rather than an intrusion leading to error. Valuable qualities that the researcher-as-instrument brings to naturalistic inquiry include responsiveness, adaptability, “processual immediacy” (meaning the ability to process data, create hypotheses, and test those hypotheses with respondents during the interview process), opportunities for on-the-spot clarification, correction and amplification of data, and the opportunity to explore atypical or idiosyncratic responses (Lincoln & Guba, pp. 193-194). At the same time, however, it is necessary for the researcher to “manufacture distance” from topics with which he or she has a deep familiarity (McCracken, 1988, p. 22). In phenomenological terms, the concept of *epoché*, or the bracketing out of researcher preconceptions about the phenomenon, is essential in order to understand
fully the experience of the subject. Patton recommends that the qualitative investigator adopt a stance of “empathic neutrality”, which suggests “a middle ground between becoming too involved, which can cloud judgement, and remaining too distant, which can reduce understanding” (p. 50).

Patton (2002) also maintains that the credibility of the researcher is an issue that needs to be addressed in qualitative studies:

Because the researcher is the instrument in qualitative inquiry, a qualitative report should include some information about the researcher. What experience, training, and perspective does the researcher bring to the field?...What prior knowledge did the researcher bring to the research topic and study site? What personal connections does the researcher have to the people, program or topic studied? ...The principle is to report any personal and professional information that may have affected data collection, analysis and interpretation – either negatively or positively – in the minds of the users of the findings. (p. 566)

Thus, in describing this qualitative phase of the study, it is appropriate to include some information about the researcher.

I have a particular interest in disability and have post-graduate qualifications in the area of psychological and vocational rehabilitation. I am a qualified counsellor, have practised both privately and within a non-government organisation, and have a particular interest in careers counselling. Having raised a child with a severe sensorineural hearing loss, I have a personal interest in the implications of hearing loss and the topic of this study. This personal involvement has given me an insight into the issues involved which can be beneficial in the sensitive exploration of young hard of hearing people’s experiences and feelings. As McCracken (1988) pointed out, a close familiarity with the culture under study may contribute a valuable delicacy of insight and understanding. On the other hand, the risk of preconceptions limiting what is discovered in the research is perhaps greater in this case; consequently I paid assiduous attention to remaining open to all feelings, opinions and experiences, however different from my own. Thus, I strove for a balance described by Kvale (1996), who maintained
that the interviewer must combine a presuppositionless attitude, which entails being
critical of one’s own inevitable presuppositions and hypotheses during the interview,
with a sensitivity to the topic which requires a fore-knowledge about it.

As Taylor and Bodgan (1998) have pointed out, data from qualitative research
interviews consist of verbal statements or talk and are not immune from the fabrications,
exaggerations and distortions to which talk between any persons may be subject.
Willingness to reveal their thoughts and feelings about a personal topic will vary
considerably among individuals. Some individuals may even have a limited awareness
of feelings to which they have not previously given much thought. The creation of trust
and rapport between interviewer and interviewee is critical in overcoming these
potential drawbacks. Qualities such as being non-judgemental, communicating a
genuine interest in what interviewees are saying, and knowing when and how to probe
and ask the right questions are necessary to create rapport and ensure the effectiveness
of the in-depth interview (Taylor & Bogdan). As well, the micro-skills of paraphrasing,
reflection of content, reflection of feeling, and summarising, as well as non-verbal
behaviours, are critical to the success of the qualitative research interview. For instance,
an interviewer’s paraphrase of an interviewee’s response to a question shows
interviewees that their response has been heard and understood (or gives them an
opportunity to correct any misunderstanding), gives them the time and the opportunity
to elaborate on what they have said, and increases trust and rapport (Cavana, Delahaye,
& Sekaran, 2001). Counsellors are trained in both these macro- and micro-skills, and so
are particularly suited to carry out interviews in qualitative research (Heppner,

In addition, it was necessary to bring an awareness of the socially constructed
nature of interviews to the interview situation. Recently, the ability of the interview in
qualitative research to provide insights into the authentic experiences or perceptions of
interviewees has been strongly questioned and debated. “It is no longer theoretically or empirically warrantable to treat interviews as transparent windows onto people’s stable, self-contained knowledge or beliefs about a topic” (Freebody, 2003, p. 134). Rather, the socially constructed nature of the interview situation cannot be ignored; the interactional process of the interview means that the result is context-specific and mutually constructed by the interviewer and interviewee (Freebody, 2003; Silverman, 2001). Nevertheless, Miller and Glassner (1997) emphasise that “while the interview is itself a symbolic interaction, this does not discount the possibility that knowledge of the social world beyond the interaction can be obtained” (p. 100).

The positioning of the interviewer within the categories of gender, age, class, and race may affect to some extent the “richness and accuracy of the data collected” (Grbich, 1999, p. 91). Many of these differences, which in most research are usually unavoidable, existed between myself, as interviewer, and the interviewees, most notably in age (for all of the interviewees) and gender (for half of them). Researchers have explained the potential difficulties involved when adult researchers conduct interviews with adolescents. McLeod and Yates (1997) considered the influence of relative positions of power and authority in their qualitative, longitudinal study with 12 to 18 year old students. Miller and Glasser (1997) discussed the caution adult researchers must exercise because of their “social distance” from adolescents, whose meaning systems differ from those of adults. My stance was similar to that adopted by McLeod and Yates, who chose “to remain fairly anonymous and distant – adult women from the university” (p. 28). The fact that the students knew I was not a teacher or part of the school system may have reduced, although naturally not eliminated, the inevitable difference between us in positions of authority.

It was also necessary to take into account the hearing difficulties of the interviewees. These young people are used to communicating with others orally and
relying on their residual hearing supplemented by lip-reading to receive others’ spoken communication. Nevertheless, the communication difficulties inherent in their hearing loss made it necessary to consider ways to optimise the interview situation. The most obvious of these ways was to ensure a place for each interview that had as little background noise as possible to ensure optimal hearing conditions for the students. I requested such arrangements when organising the interviews with schools or parents, and adequately quiet and private rooms were provided for all the interviews. As well, I ensured that I sat fully facing the interviewee and at an appropriate proximity so that both lip-reading and hearing were facilitated.

Going beyond issues of power and authority that are involved in interviews between adolescents and adults are issues of power and repair in any conversations with students with hearing loss. Wood and Wood (1997) describe these as pitfalls in the communication between teachers and children who are deaf, and I considered these authors’ explication of these potential pitfalls to be relevant to the interview situation with this study’s adolescent participants. Wood and Wood maintained that communication with children with hearing loss is more likely to be adult-controlled, with teachers tending to “determine directly the topic or substance of what students contribute to conversation” (p. 349). Such adult-controlled communication elicits brief responses - exactly what was not wanted in the present study’s interviews. The use of open-ended questions and paraphrasing helped to avoid this potential pitfall by giving interviewees considerable freedom in their communication. After a student has responded to a question, a paraphrase not only shows the interviewee that his or her response has been heard and understood, it also leaves an opening for the student to determine what to say next, without the prescription of another question.

Students and their parents had received an information letter and had signed and returned consent forms prior to the interviews. Before beginning each interview, I
reminded the participants of the purpose of the study, the confidentiality of the interviews, and their right to withdraw at any time. After answering any questions they had, I then turned on the tape recorder and proceeded with the interview. As it is important for interviewees to have the opportunity to have the final say, the closing question asked participants if there was anything else they would like to add. This question can also pick up anything that was not covered by the previous questions but was important to the interviewee (Patton, 2002). In addition, I briefly summarised some of what appeared to be the major points of the interview, giving the student an opportunity to correct errors or misinterpretations on my part. This is an informal means of member checking, an important criterion in establishing credibility in qualitative research (Lincoln & Guba, 1985).

A few days after each interview, participants were sent a letter thanking them for their valuable contribution to the study.

**Data Analysis**

The interviews were audio-taped and later transcribed. A clerical assistant transcribed some interviews and I transcribed others. I chose to transcribe any interviews with students whose speech was at times unclear as, having conducted the interviews, I was more likely to be able to interpret unclear parts of the recordings. Issues of clarity were not a major factor in any of the interviews, but did occur occasionally. After the tapes were transcribed, whether by me or the clerical assistant, I listened to each tape while reading its transcript in order to determine the accuracy of the transcript and as a process of immersion in the data.

Participants were numbered from 1 to 12 and these numbers were used to identify the transcripts, and any notes or memos made concerning the participants, during the process of analysis.
The data derived from the interviews were analysed according to the constant comparison method introduced by Glaser and Strauss (1967) and expanded by Lincoln and Guba (1985). Although developed for theory building, which was not an aim of this study, the constant comparative method of data analysis is well-suited to the rigorous analysis of interview data (Maykut & Morehouse, 1994). Analysis involved coding the data in order to generate categories, with the constant comparison of units of data in order to reveal similarities, differences, patterns and consistencies of meaning which identified themes.

Some initial categories were derived from the questions asked, covering such areas as perceived barriers, work experience, and beliefs about and experiences of career exploration and guidance. Others were derived from the data inductively, with hypotheses not generated a priori and insights grounded in and developed from the data themselves (Glaser & Strauss, 1967; Taylor & Bogdan, 1998). Thus, many of the data were not grouped according to predetermined categories; rather, conceptual categories and themes were identified and developed throughout an ongoing, concurrent process of coding and analysis. The process of open coding was used to identify categories and concepts (Strauss & Corbin, 1998). Following the constant comparative method, as each “unit of information” was coded into a category it was simultaneously compared to all other units and subsequently categorised with similar units, or formed into a new category if no similar units existed (Lincoln & Guba, 1985). After this initial stage of categorisation or open coding, further analysis through “axial coding”, which is designed “to begin the process of reassembling data that were fractured during open coding” (Strauss & Corbin, p. 124), made connections between categories and led to the emergence of patterns of responses, themes and relationships among themes, enabling a move between description and interpretation. This process of data analysis was facilitated by the use of a computer software program, QSR NVivo. The program
supports the processes of open and axial coding through its ability to help the researcher code data into categories which it stores as “nodes”, which can then be organised into an hierarchical “index tree”, with categories and subcategories, as relationships between nodes are established.
CHAPTER SEVEN - RESULTS AND DISCUSSION OF THE QUALITATIVE PHASE

Introduction

This chapter first reports the results of the qualitative analysis, grouping them under categories reflecting the major research questions that this phase was designed to explore, namely, the questions about students’ career exploration activities, social participation and self-concept, and perception of career barriers.

The report of the results includes many direct quotations from the students responses in order to provide examples of themes that were commonly found in the data and, occasionally, to display negative cases (Lincoln & Guba, 1985), in which a participant indicated an experience or perception that differed strongly from those of the majority of interviewees. In addition, the use of thick description, including liberal use of direct participant quotation taken from the taped records of interviews, allows the reader to enter into and understand as fully as possible the experiences of the people represented (Patton, 2002). All names used in the reporting of the results are fictitious. To ensure that the voice of every interviewee is heard, the report of the results includes at least one direct quotation from each of the participants.

The results section is followed by the discussion of the qualitative results. The discussion section considers how the findings relate to and extend those of the quantitative phase, places the findings in the context of the literature, and discusses implications for practice.
Results

Given the importance attached to the terminology used to describe people with hearing loss by researchers, professionals and many adults with hearing loss, it is worth noting the terminology used by the participants in the interviews. As can be seen in the direct quotations of interviewees’ words, these young people used a variety of terms to describe their hearing loss. A search of the interview data revealed the use of the terms deaf, hearing-impaired, hearing difficulty, hearing disability, hearing impairment and hearing loss. Interestingly, no student used the term hard of hearing, the term now generally favoured for this population and increasingly used in the literature.

Of the 12 students interviewed, eight intended, or hoped, to go to university; two thought they would do Technical and Further Education (TAFE) college courses, and a further two thought they would get a job after leaving school. All the students interviewed intended to stay at school until the completion of Year 12. Five of the students in Year 12 had, at time of interview, filled in tertiary entrance forms, with four aiming for university courses and one for a TAFE diploma course. The sixth Year 12 student was not aspiring to do further study.

Students’ career exploration and sources of information and support

The qualitative data revealed a great deal about how these students conducted career exploration and career decision-making activities and what assistance they drew upon. The question “how much do you know about how to make choices about what to do after school?” was designed to explore participants’ knowledge and abilities in the area of career exploration. If interviewees did not spontaneously talk about the role of specific people in their exploration, a follow-up question “has anyone been particularly helpful or supportive to you in doing this?” was asked.
Participants answered these questions almost exclusively in terms of information about tertiary courses. Many had used, or were aware of, books outlining jobs or tertiary courses. Students described these in various terms, such as “a job guide book”, “the QTAC [Queensland Tertiary Admissions Centre] book thing with all the courses and stuff in it every uni has”, and “books about what courses there are.”

A small number of the students interviewed appeared to have little idea about where to find useful information. One girl in Year 12 commented

when you don’t have much information about how to get there, how to get to this goal, it’s a bit hard because you don’t know what to do….School gives you some information, but not enough.

Most students mentioned school guidance personnel as sources of information and help, using various titles for these staff members: guidance counsellor, careers counsellor, school guidance officer, career job guide person, head of the resource department, and work-study teacher. Not all students had consulted or received assistance from these people. When asked, several students said they “should” or “would” seek assistance from their school’s guidance counsellor. Some mentioned that they would do so in the future; these were usually Year 11 students who said that they would worry about it later, during Year 12. One Year 11 boy had given little thought to his future, but said he would probably get information in Year 12 from “the school – they hand out books about what courses there are and stuff.” Another Year 11 student expressed a high degree of confidence in such assistance:

I do have to go and see a counsellor, like a guidance counsellor or whatever they are at school, so I can work out my career path and everything, and once I get that done it’ll be all OK.

Students who reported having spoken to guidance counsellors varied in their perception of the helpfulness of the encounters. Three students seemed to have gained no clarity about their options. The two students who made positive comments had both
gone to their school counsellors with a career goal in mind, having previously consulted tertiary course guides. One girl said:

I went to my careers counsellor and he told me, like, he helped me look at what I wanted to do and where, and what OP [Overall Position] I would, you know, maybe need to get around each range, and, yeah, it helped.

The second student to make positive comments about her experiences with the school careers counsellor was also a girl in Year 12. She explained that, as well as looking at “field positions and OPs and stuff”, he brought up the subject of her (moderate) hearing loss and its possible implications for her career options.

He said, do you think this is suitable for you, have you taken into account this, this and this? And then I thought about it and, I mean, I hadn’t thought about it till then, and so that was also good them actually bringing it up because a lot of the time with the hearing impairment, you do forget about it. It’s not an issue, you know, you just unconsciously get around all these little things because that’s part of what you have to do. So when the career counsellor did actually bring that up, then I did actually stop and think about it. The more I thought about it I thought yes, there will be problems, but in anything I’m going to do there will be problems. But yeah, thinking about it before I made the choices, and did anything official, helped me.

This was the only student with whom a careers or guidance officer had addressed potential hearing-related issues. The student thought it useful to consider aspects of her hearing loss in relation to her career preferences, and, it seems, did so in a realistic manner, without being discouraged.

Three students mentioned their itinerant teachers as sources of career information or decision-making help. One boy in Year 11 said that “Mrs. X [itinerant teacher] will probably help me look at courses and find out one that’s interesting and I’d enjoy.” Another boy in Year 11 found his itinerant teacher “really helpful” in discussing career options. For one Year 12 girl with a profound loss, both the itinerant teacher and a teacher aide at the school had been a major source of help which included accompanying her on visits to several universities:
me and Miss X, and Y, we sort of took stock of my options, what I can do, we went to universities to look around and to talk to disability officers, to see what they offer to disabled students. That made me more confident, knowing that they do have services for the hearing-impaired, and I know that I’ll be receiving help when I attend lectures.

Parents were often mentioned as being generally supportive, and, sometimes, as providing opportunities for work experience in family businesses. However, few interviewees appeared to perceive their parents as sources of information or help in their career exploration or decision-making. One incidence of this kind of exploration assistance was related by a boy who was interested in becoming an audiologist:

Me and Mum have been searching around, and we’ve been on to a few universities… There’s not many, they’re saying it’s hard to get into, but I have asked, like, what subjects to do and other entries you have to do before you can get into audiology. Yeah, me and Mum just went through it all.

However, most students did not report this type of parental assistance. Some parents’ perception of the labour market may be outmoded, and consequently their advice may not be very helpful. Brad, in Year 12, said:

Dad says he just got a job by himself, that’s how I should do it. Mum just says get a job. She says, get an office job, for the government or something, with computers maybe. But I really have no idea.

Another boy’s parents “just tell me to try to do my best for my HSC [Higher School Certificate], and get a good job – that’s pretty much it.” Family circumstances also influenced the quality and accessibility of parental support and advice. Alison’s mother lived in another state, and she explained:

I’m not that close to my dad and my stepmum. Mum and I, we’re close, but we don’t see each other, only once a year. So it’s a bit of a problem. I asked Dad what I should do when I leave school and he said, full-time at the nursing home. No! That’s the last thing I want to do!

A striking finding to emerge from the interviews was that virtually the only career exploration or planning activity that students had undertaken, or thought that they
needed to undertake, involved information about courses. Students made no mention of
exploring their own interests, abilities, values or personalities in relation to their
occupational futures, or finding out more about particular jobs or fields such as job
requirements, activities, potential income, or opportunities for advancement. Also
absent was any indication of the interviewees seeking information about the
implications of their hearing loss for particular jobs or occupational fields.

Another notable finding was the students’ sense of not needing to put much time
or thought into career exploration until towards the end of Year 12. The need to fill out
tertiary entrance forms in the third term of Year 12 forced many students into this; as
one girl said, “I just thought about it a bit more because I had to fill out the form (laugh)
or otherwise I’d still be wondering what I wanted to do.” Typical comments from Year
11 students were “I haven’t really given it much thought”, and “I don’t get much time to
think about what I want to do in the future.” The only exceptions to this pattern were the
Year 10 boy mentioned above who had, with his mother’s help, researched university
requirements for the field in which he was interested, and a Year 11 student who had
done some research into training requirements for the field in which she was interested.
Some students saw the first year of university as an opportunity to sample subjects, find
out more about what was available, and make career decisions.

A particularly low level of career awareness found in some participants,
particularly the boys, is of concern. Several boys said they had given no thought to their
futures, and they seemed unaware of any difficulties they might face after leaving
school.

Work experience

Students’ experiences of workplaces, whether through part-time work or work
placements organised by the school, were explored in the interviews, with the aim of
discovering the effect such work experiences had on students’ occupational aspirations,
perceptions of career barriers, and confidence about working. Few students reported any positive impressions of school-organised work placements. Only three of the participants had ongoing part-time jobs: a Year 12 girl who worked in a nursing home, preparing and serving food; a Year 12 girl who had a job as a waiter in a restaurant, and a Year 11 girl who, at the time of interview, had just been employed at a chain restaurant outlet. Another girl did occasional baby-sitting. A more common experience of work was in family businesses. Five of the young people had some work experience, usually entailing office work, in the businesses of their parents, aunts, uncles, or parents’ friends. It seemed that this provided an opportunity for paid work without the difficulties associated with competitively acquired employment, as these participants spoke of their concerns about jobs dealing with the public. For example, Matthew, who had worked in his aunt’s business in the school holidays, said

I don’t think I could get a job somewhere like, oh, in a shopping centre, at the checkout, because there might be some speaking and talking involved…I’m too afraid of that. I’d think I wouldn’t be able to hear them and I’d make mistakes.

It appears that the students’ work experience gave them some practice in dealing with their hearing limitations in the workplace and, for some, led to the development of useful insights and strategies. Nicole, waiting on tables in a restaurant, had worked out ways of managing her hearing limitations with customers:

I just repeat things when I’m taking orders, and if they’re going, no, then I go, I’m sorry, what was it and they repeat it. And I get them to point to which one they’re saying so I can actually read it, and yeah, just little things like that, I kind of work my way around it.

Her employer and the other staff members were also helpful and accommodating of her hearing loss at this restaurant. However, in an earlier job, in a fast food outlet in a food court, Nicole had a different experience. Despite having told her supervisor about her
hearing loss, there were occasions when she misheard his instructions and he became angry. Eventually she left the job:

Even though I’d explained to him, he was very ignorant about it, and I didn’t like it at all so, I was like, it’s your problem, I’ll go find another job, you know….if you won’t think about it properly then it doesn’t bother me, you can go find someone else to work for you!

Allison also had difficulties with the staff in her work in a nursing home:

They [other staff members] get a bit irritated when I don’t hear them when they’re talking to me, and I have to make them repeat the whole thing again, and so that’s when they stop talking to me because they realise I’m hearing-impaired, and they, yeah, they get a bit irritated by me.

Her strategy for dealing with this was to “just try to look at them when they’re around me, so that I can know when they’re talking to me or not”. It is clear from these examples that these young people’s strategies for dealing with the interaction difficulties they face are limited. There is much to admire in Allison’s patient persistence and Nicole’s spirited self-assurance. However, additional strategies and skills, particularly in effectively expressing their needs, communicating assertively, problem-solving and negotiating, would be beneficial to them in dealing with these types of situations.

An important part of obtaining part-time work is the necessity to undergo job interviews. Students who had worked outside of family businesses had been through interviews and had been faced with decisions about whether or when to disclose their hearing loss. One girl, who had a moderate loss, preferred not to disclose at interviews, and found that her recently acquired in-the-ear hearing aids facilitated that preference:

When I went for job interviews, several times they noticed my old ones and actually questioned it and I felt really uncomfortable, but when I got these new ones, they haven’t even noticed them. It’s not even a problem.
Two students described how they had mentioned their hearing loss at interviews. These two girls were confident communicators and were able to assure their interviewer of their ability to do the job. Nicole reported:

I told him at the interview and he said, okay, do you have problems, and I said, sometimes, but I can work my way around them. And I told him how I would and he’s like, that’s fine.

Other participants had less clear speech or more noticeable hearing aids, and would have found it harder not to reveal their hearing loss. These students had not experienced job interviews and so had not yet been in a situation of having to deal with this issue.

Overall, the results indicated that paid work experience had given some of the students opportunities to grow in confidence and develop some strategies for dealing with difficulties arising from their hearing loss in the workplace, although these strategies were not always as useful as they could have been.

Perceived career barriers

A question asking interviewees what they would most like to be doing when they were about 25, and then asking if there was anything that might hold them back from achieving that goal, was designed to elicit views about potential barriers.

Responses to the first part of the question varied widely, as some students had few goals and little idea of what they would like to be doing in the future, while others had goals, some tentative and some more definite. A small number of students mentioned general potential barriers. Several interviewees saw not being accepted into their course of choice and the cost of further study as possible impediments to their futures. One girl talked about her need to maintain motivation and avoid procrastination in order to achieve her goals. However, the barriers mentioned most often by the students were related to their hearing loss, and generally fell under the categories of hearing-related barriers that had been included in the survey.
Using the telephone

For people who are hard of hearing, telephone conversations often present challenges which can be stressful. Many hard of hearing individuals can manage to some extent and do not use a TTY. Among the students in this group, only one student, who had a profound loss, used a TTY and the telephone relay service. Two of the participants reported that talking on the telephone did not present a problem to them, and a small number also said that using the phone was manageable with the help of technology such as the telecoil switch on their hearing aid or a volume-control telephone. However, many students did report concerns about using the phone, although most had not thought about the difficulties this might pose for them in their future working lives. Often they mentioned that they had few problems when talking to certain people, such as their friends, but difficulties with other people. Sonia explained:

Not so much my friends because they know. But when I have to do formal things, like all my banking, sorting out school stuff, when I have to ring up for job interviews and things like that. I do all that. But, you know, a lot of the time I can’t hear and I say sorry, sorry, sorry. Once, I can remember, I needed to find out what my account number was and …I said I’m sorry I can’t hear you can you please speak louder and he just yelled at me, I’M SPEAKING AS LOUD AS I CAN! And I’m like, I hope I don’t have to put up with this for the rest of my life. Probably will.

Nicole had devised a way to deal with the problem of the telephone at her job in a restaurant:

At work the phones are real quiet and there’s this huge background noise. But that doesn’t matter because we worked a way around that. I don’t answer the phone, everyone else does. So if the phone’s ringing beside me, I’m like, could someone get the phone for me? And they’ll understand.

It was apparent that some of the interviewees had little knowledge of the range of technical devices that might improve their ability to hear on the telephone.
Groups

Many of the interviewees described difficulties they had in following conversations among groups of friends. The need to watch each speaker’s face in order to supplement audition with lip-reading made group conversations difficult and often not enjoyable. Only a few participants said they had thought about how they might manage in group situations - both informal, such as social interactions, and formal, such as meetings - in work settings. When asked about this, some students came up with possible ways of dealing with difficulties. One girl suggested “I think maybe the FM could help a little for that, but then I would have to ask the speaker to wear it”, while another student commented:

I could get used to it, I could just tell people to talk one by one rather than having everyone talking on top of each other. Cos that’s what I do now with my mates and stuff, when they’re all talking and I tell them to shut up when I’m trying to listen to one of them.

It is clear that the students were drawing on their prior knowledge and experiences to attempt to devise possible solutions to a potential workplace problem, but neither suggestion is entirely appropriate. In a meeting or informal group situation with many people wanting to speak, it would be impracticable for speakers to be passing the FM microphone from one to another. “Just telling” people at work may not produce the required effect, especially if telling them to shut up! There are strategies, both technological and communication, which can be used to good effect in such situations, but they are ones of which these students appeared to have no knowledge.

Academic achievement

Students were asked if they thought their hearing loss affected their academic grades and if this could impede their future achievement. Some participants said that they did not think so. Several students thought that their hearing loss had some impact academically but they were able to compensate through extra study or receiving help.
Several students mentioned the additional help they received from itinerant support teachers or other school personnel:

I think because of my hearing impairment I find English a little bit hard. It’s sort of punctuation. I believe I can write well, I know I can read well, but I find just doing punctuation a bit of a hard thing. But I get by on it, so it’s okay, and I get help from my AVT and everything, so it works out.

A high achieving student spoke of the extra work he needed to maintain his academic standards:

I have to put a lot more input into it, especially oral work, where you have to stand up in front of the class and speak out. I have to practise a lot, my speech, repeat and repeat, because I mumble sometimes and don’t speak too well. And I have to put a lot more work into my studies than a normal person. Because, like, even if I give my FM to the teacher to wear, there’s a lot of things I still miss, so when I get home I have to go through the work that I did during the day, go through it again.

Some students indicated their awareness that postsecondary study would involve different challenges. Sonia said:

School’s been hard, I mean, I don’t have that big a hearing loss, but in a way it still, you know, has an impact on what I get out of school, so, you know, I might not make the grade to do what I want so that’s an obstacle, I guess that might stand in my way. And at uni, like, I know that lectures are very different from classrooms and I probably will miss a lot of that so I’ll just have to work my way around that.

For Rebecca, leaving the high school where she had received almost daily help from a teacher’s aide, as well as regular assistance from her itinerant teacher, the thought of starting university was daunting:

If people didn’t know I was deaf, that might affect my grades because, you know, if I didn’t get the help beforehand then I would be completely lost. Because, you know, with all that many students at university, and out in the workforce, it would be completely different. Because I’ve always known people here who know that I’m deaf and know that they should be talking clearly. . . . and leaving all those teachers at school, and you have to get used to new people at university, and the new help that it’s offering, and, you know, that can be daunting sometimes. I want the best help, so that I can achieve at university like I have at school with the help of the teacher’s aide.
Some of the participants had fewer aspirations to achieve academically and appeared unconcerned about this issue. Overall, many of the students interviewed were aware that their hearing loss had some effect on their academic achievement, tried to compensate, and did not see it as a significant career barrier.

**People’s attitudes and people not understanding**

The analysis of the survey data revealed that 68% of respondents agreed that “people not understanding my hearing loss” and 34% agreed that “people’s attitudes about my hearing loss” would be a barrier to their educational or career goals. These responses were reflected in the interview data, from which some patterns of responses about this issue emerged. Many students mentioned their fears about leaving the relatively safe and supportive environment of school for the more unknown post-school world.

Like, the school knows about it, they don’t really care that I have a hearing impairment….it’s scary because you’re, like, leaving your friends behind and it feels like you’re facing the world by yourself, and you’ve got no-one around to help you, or push you out the door or something.

The same girl expressed her concerns related to people’s reactions to her hearing loss in general:

Sometimes I think, what will they [people at work] say about my hearing impairment, will they reject me, how will they feel, stuff like that…Yeah, what other people will think of my hearing impairment.

However, few students indicated that they were concerned about encountering hostile, negative or discriminatory attitudes in the workplace. Jane considered the possibility, but seemed unconcerned, believing that she would simply find another job: “People might discriminate against it [her hearing loss] or something. But, you know, it’s not really my problem because I can always find somewhere else.”
More often, participants spoke about people at work not understanding the functional effects of their hearing loss and expressed their concerns about people’s potential responses. Chris explained:

People think because I can hear a little bit I should be able to hear, like, everything they say, every word, but I might miss some and then they might not want to repeat it, you know.

Similarly, David worried that, in the workplace,

they probably wouldn’t have any people around with the same situation as me…they wouldn’t be used to the idea of having to look at the face and stuff when they’re telling me stuff.

These findings reflect, and may explain, the quantitative findings that indicated a greater concern with “people not understanding” than with “people’s attitudes.” It appears from the interview results that these young people were not expecting to be met with major negative attitudes or outright discrimination in response to their hearing loss; rather, they were uneasy about the potentially frequent, relatively minor incidents they might face because the people with whom they would need to interact would lack understanding about their hearing loss.

Compromise of career aspirations

Some of the students interviewed said that they had ruled out a career area in which they had an interest because of their hearing loss. Sonia had for a long time wanted a career in aviation, until various people told her she would not be accepted because of her hearing loss:

I always wanted to be a pilot, but my cousin, he tried to get into the air force, his sight wasn’t good enough and so he was really disappointed….He had no idea that they would check on him and he told me there were other things they check on. My dad was in the air force and I was thinking along those lines, but then I found out and I was, like, oh well, I could be another sort of pilot. And then I think someone told me, and then it just got confirmed along the way and then it was just, sort of, stop right there, I can’t do anything about that. And then I developed my idea of architecture.
One student, Beth, had ruled out teaching as a career:

because that would mean having to speak in front of the classroom and, you know, sometimes a kid will be standing at the back and saying something and I know that I might miss that. So it’s kind of…I thought that I couldn’t be a teacher then.

Beth also worried about “interaction with people, I didn’t really want to do a job that has too much, but then you can’t avoid it, so I’m just kind of letting it go.” Beth’s final choice of nursing caused her concerns which she had discussed with her mother:

Mum did mention that, because if you, if I was a nurse helping in the emergency section and one of the doctors said something and I didn’t quite hear it and that would be a matter of life and death, and she said that was kind of not safe…. I really do want to work in a hospital you know, but still the big problem with that side of it is that. If I make a mistake somewhere else it’s just money, you know, it’s just money, it’s like, I’d try you know to pay it back if I made a mistake, but if I made a mistake in a hospital it would mean, ohhh, I would feel guilty for life.

Matthew had a global sense of being limited by his hearing loss:

I’m undecided because there’s so many things that I can’t really decide on because of my hearing difficulties, I might not be able to do the job, because I’ve got bad hearing so it sort of narrows down the choice of jobs.

These students had not investigated fully the possibility of successfully working in the occupations which interested them. They appeared to know little about the ways in which workplace accommodations sometimes can decrease hearing-related difficulties, and they had no exposure to hard of hearing adults as career role models. Rather, they had given up their most-preferred options and circumscribed (Gottfredson, 1981) their choices, perhaps prematurely.
Social participation, social self-concept, and their relationship to career decision-making

The analysis revealed a pattern of participants reporting knowing a lot of people at school, but having few close friends. For example, one boy in Year 11 said:

I struggle with that a bit, but I still manage to have a few friends…um, I do have quite a few acquaintances. But, you know, I’m not really involved with them, obviously because of my hearing difficulties. I can’t really, you know, especially in groups, it’s just too difficult for me. It’s easier with single friends.

A Year 12 girl who had a profound loss felt more comfortable with adults than people her own age:

I don’t have that many friends and I don’t go out….I tend to feel a bit more comfortable with adults….Because [in primary school] I didn’t have any friends at school so I sort of felt more comfortable with the adults because they sort of understood what I meant, but not the students, because, you know, it’s their age, and they have to be in the cool thing, and I don’t tend to be in that situation.

The “dramas” that can so easily arise in adolescents’ interactions emerged from misunderstandings resulting from communication difficulties. One girl explained:

Like, you know, I might be walking away… and they call me and I don’t hear them. And, you know, this huge thing would come out of that and I would try to explain.

Boys, too, reported similar experiences:

If they tell me something, very often I misunderstand them, and I assume something else, not what they really meant. And there’s misunderstanding, embarrassment, and at the end there’s not really a good result.

While such misunderstandings were reported by nearly all the participants, their reactions to them varied considerably. Behavioural responses ranged from withdrawal – “I just go into my own world”, said one girl – to the use of strategies such as humour or assertiveness to ameliorate the situation. Like anyone else, adolescents with hearing loss bring their own individual skills and personality traits to their social interactions with peers.
A small number of the interviewees said that they had no problems socially, and some mentioned friends who helped them by telling them about things they had missed in class. One boy, living in a small town, said that he had “heaps of friends” at school and outside of school, largely through sport. A Year 10 boy with a moderately severe loss said “I just mix with other people, and if you don’t be mean to them, they won’t be mean to you again.” As well, some evinced a certain degree of bravado. A boy in Year 11 said people got annoyed with his asking them to repeat what they had said, but “I don’t really care what people think.”

Some students mentioned that they had felt more socially isolated at an earlier time in their life, in primary school or early high school. Perhaps by the time they are in the later years of high school, their own confidence and social skills have grown and their peers are more mature and tolerant of difference than they were when they were younger. As a girl in Year 12 said:

Because, like, primary school is hard because if someone’s got a problem then they’re judged on it. But, like, at my age, we’re not judged on stuff like that.

There appears to be much that is positive in these students’ peer relations. However, the social implications of hearing loss are poignantly expressed in this girl’s comment:

I don’t have a difficulty with being deaf…but still, I’m, you know, I feel a little bit upset, that I have to be the different one, and not understand what they’re saying.

The dilemma of “being normal”

A recurring theme that emerged from the interviews was the participants’ desire to be treated normally, and not to have attention drawn to their hearing loss. Ways in which students tried to make their hearing loss as inconspicuous as possible included trying to keep their hearing aids covered with their hair, not wearing one of their hearing aids at school, and avoiding the use of their FM systems. Many of the interviewees knew that they “should” use the FM system in the classroom, but felt self-conscious and
uncomfortable about it. Nearly all the students with a less than profound hearing loss had stopped using it. A Year 12 girl with a profound loss explained her reluctance to use it this way:

I use an FM at school. I don’t really feel comfortable wearing it in classes, but I try to, because I know it does help me a lot. But I don’t like using it around the other students, because, you know, they have never been in a situation like this before. I know they don’t really care, but, even so.

Another way in which students disliked feeling conspicuous was being singled out for attention by teachers. Students mentioned teachers repeatedly asking them if they could hear and if their FM was working. On the other hand, students had experienced teachers’ and peers’ misconceptions, such as thinking that hearing aids “fix” the problem. Sonia recounted that:

There’s people who think that it shouldn’t be a problem, like, I’ve got hearing aids and now I’m normal. You know? And that’s also hard, especially when I say I missed something, I’m struggling, and they say, well, why have you missed something when you’re wearing your hearing aids, you must have been talking in class.

Being withdrawn from regular classes by their itinerant support teacher was also disliked by some participants. A Year 12 girl related how her itinerant teacher came to find her in her class one day, instead of meeting her in another room as usually occurred:

She actually came and found me, and everyone knew what it was about and I was a bit, you know, down about that – I’d rather not be singled out.

Juxtaposed with their expression of this desire was, in nearly all cases, the recounting of the difficulties that this wished-for “normal” treatment often posed for the hard of hearing student. Usually, people who treated the students “normally” had forgotten, or were not aware of the need, to make the adjustments necessary for the hard
of hearing person to participate easily in interactions. Reflecting the comments of many of the participants, this Year 11 boy said:

Sometimes they treat me like I'm a normal hearing person, which can be good sometimes, but I have to remind them that I can't hear well and they have to speak louder and clearer, and face-to-face so I can lip-read as well. They have to be aware of it so it's easier for me to have a conversation. 

**Interviewer:** And you said, when they treat you as a normal hearing person, that can be good?

Yes, I can forget about my hearing disability. I feel more like one of the boys, because with my hearing difficulty sometimes I feel like I’m left out.

On the other hand, students spoke of how much they disliked a fuss:

I don’t want someone making a big deal out of it, and speaking, like, too loudly – I find that a bit offensive.

The dilemma arises, then, from the adolescents’ need for people to speak clearly to them and face them, which entails a conscious effort and awareness of the hard of hearing person’s needs, and their concurrent embarrassment with, or dislike of, the attention such effort and awareness draws to them.

**Social self-concept**

Several students suggested that their deafness inhibited them in their interactions with other people to such an extent that they believed they would have had a more outgoing, sociable personality if they had no hearing difficulties. The following quotes from four interviewees reflect these ideas:

It’d be a lot different if I wasn’t hearing-impaired. I’d have more friends, be more outgoing and popular, like my sisters.

If I had normal hearing I might be different to what I am now. I’d be a more social person, more interested in social situations. I might like to work in groups, but I don’t.

I only stick to a few people, I don’t really try to make new friends…..I’m a bit shyer than I should be, would be.

A lot of people don’t realise I’m deaf straight away, they know I talk differently but they don’t know why. It makes meeting people a lot harder,
because I’m a lot more self-conscious. And also I feel a bit awkward around people, and I think that’s related to the deafness thing as well.

In contrast, two students described themselves as outgoing and hoping to have occupations involving work with people; as one boy put it: “working with people, like, the community, and just, like, meeting people.” However, the interview results indicated that, for some hard of hearing adolescents, the difficulties they experience in social interactions with normally hearing peers may have an effect on their social self-concept, involving increased self-consciousness and shyness and decreased self-confidence in social situations.

**Effects of social self-concept on career decision-making**

The students interviewed indicated work-related worries that reflected this shyness, self-consciousness and low self-confidence. For a Year 12 boy with a moderately severe hearing loss, one experience of going to a job interview had completely put him off any further attempts:

> A lot of people, when they see deaf people, they shy away from them. It happened when I tried to get a job. It made me feel a fool, I had to ask a lot of questions. I tried it, but it happened like that and I thought, no, I’m not doing that again.

A theme that emerged from the interview data was the desire to avoid a high level of interaction with many people. Matthew wanted “a job that, like, involves individual work and not too much involvement with other people.” Other participants spoke specifically of their concerns about the effects of mishearing people in the workplace. For example, David said “I won’t be able to hear too well what they tell you to do and stuff and I’m scared I’ll get mixed up.” Similar fears had inhibited other students from seeking part-time jobs:

> Well, that’s why I haven’t got a part-time job, because I don’t really have too much confidence in working at, um, counters and things, because a, um, Chinaman might come along or something and he’d be pretty hard to understand.
Several students mentioned “working with the public” as being too difficult for them because of their hearing limitations. However, not all participants expressed the opinion that their hearing loss would limit them in any way. There seemed to be different underlying factors at work here. The first was a confidence in one’s ability to overcome potential barriers, as can be seen in these comments:

I don’t think about it [her hearing loss] much and if it comes up I kind of work my way around it, so it hasn’t stopped me doing much which is a good thing. But where it has, I tried my best to make it the best possible situation for me ….if I want to do something and it’s stopping me from doing it, I’ll make sure I find another way of getting to the same place, where it doesn’t stop me.

In contrast, other interviewees displayed a lack of awareness of the demands of the workplace in general and the potential difficulties associated with their hearing loss in particular.

It appears, then, that for many students their self-consciousness and lack of social confidence, seemingly related to their hearing loss, interacted with their fear of mishearing and making mistakes to influence their career decision-making and occupational goals. A major effect was a desire to avoid work that involved a high level of interaction with other people.

Discussion

Students’ career exploration and sources of information and support

Several conclusions can be drawn from the findings related to how these hard of hearing students are going about career exploration and decision-making. First, their perceptions of these activities focussed on seeking information about tertiary courses at universities or TAFE colleges. None of the students reported seeking information about actual occupations, jobs or careers. Nor were any students investigating the possibility
of apprenticeships. The interview participants showed little understanding that optimal career decision-making involves a broader range of exploration, including seeking awareness of one’s own interests, abilities, personality traits and values and an investigation of aspects of occupations in which they might be interested, such as job requirements and activities and opportunities for advancement.

A similar lack of awareness among the overall population of Australian students has been reported in the literature; for instance, in a study of Queensland students in Years 11 and 12, who largely failed to seek help from their school’s guidance counsellor or engage in career exploration and planning (Vick, 1996). Similarly, an Australia-wide survey of Year 9, 10, and 11 students reported that many students found school careers teachers or advisers to be useful sources of careers and training information but needed more personal assistance and sustained counselling to act on the information provided (Pascoe, 1996). Thus, it is possible that the present study’s interview participants were no less aware of these matters than other Australian high school students, and that more direct and personalised career education and counselling may be needed by the general student population. However, it is likely to be even more crucial for hard of hearing students, given the additional barriers to their educational and career outcomes with which they are faced. Nevertheless, there was no indication in the data that school guidance counsellors provided any more, or more specifically related to their hearing loss, services to these students than to the other students in their schools. The results of the quantitative phase of the study indicated that the hard of hearing participants did not lag behind the normally hearing participants on measures of career maturity and, indeed, significantly exceeded the comparison group on career development knowledge. The speculation that this could be the result of school guidance personnel providing extra assistance in career development to students who had a hearing loss is not supported by these interview findings.
Many of the students interviewed appeared to know little about the specific demands they could face in various occupations and whether their hearing loss would preclude or impede their meeting these demands. Some were concerned about the implications of their hearing loss in certain occupations, but had not consulted careers advisers about these concerns or sought information from people in the relevant occupational fields or other potentially knowledgeable adults. It appears from the data that guidance counsellors were not assisting students in this area, with the exception of one, who pointed out to the student that she needed to consider the potential impact of her hearing loss on careers she was considering. On the whole, these hard of hearing students were not asking guidance counsellors for this kind of assistance and guidance counsellors were not offering it. It seems unlikely that guidance counsellors would have specialised knowledge of the issues that are relevant to the career development of this population, such as an understanding of implications of hearing loss on students’ career development needs and on students’ future workplace and tertiary education functioning. They may have little awareness of the attitudinal and environmental barriers that students may face, of the possibility of workplace accommodations that may alleviate such barriers, or of the strategies that hard of hearing young people may employ to reduce difficulties. Given the benefits that could flow to students with hearing loss from contact with a careers professional with such specialised knowledge, it could be advisable for guidance counsellors in schools attended by hard of hearing students to be educated in the specific issues pertinent to this population and to routinely approach these students to encourage them to participate in career counselling or transition planning sessions to address their particular concerns.

Most hard of hearing students fully attending regular classes have contact with itinerant support teachers, who have specialised knowledge about hearing loss and may have some knowledge of the implications of their students’ hearing loss on their post-
school opportunities. The qualitative results indicated that some itinerant teachers were actively attempting to assist their students in their career exploration and decision-making, in ways ranging from discussion to accompanying the student on visits to universities’ disability services offices. This assistance was obviously valuable to, and valued by, the students concerned. However, although itinerant teachers have specialised knowledge of hearing impairment, they are not specifically trained in career education or counselling, and may not have a wide knowledge of the implications of hearing loss in various work settings, or of the accommodations that can be used. Thus, itinerant teachers are not appropriately equipped to adopt the role of careers educators or transition assistants to their students; these roles are not generally an expected part of their duties; as well, most would have difficulty finding additional time for these matters on their visits to students.

It is possible that guidance counsellors or careers teachers who have a hard of hearing student attending their school could work from a more informed basis with that student if they were to consult the itinerant teacher about the implications of the student’s hearing loss. However, studies of itinerant teachers’ practices in both Australia (Hyde & Power, 2004b) and the USA (Luckner & Howell, 2002; Yarger & Luckner, 1999) have reported that time constraints pose the greatest obstacle to these teachers adopting optimal levels of consultation and collaboration with their students’ parents and regular teachers. In addition, the majority of itinerant teachers in Australia, although well qualified as teachers of the deaf and as regular school teachers, have received little professional training for itinerant teaching or for consultative roles (Hyde & Power, 2004b). Itinerant teachers have reported that time constraints and their isolation from each school community that they visit limit opportunities to build the relationships with school professionals that could lead to enhanced collaboration (Kluwin, Morris, & Clifford, 2004; Yarger & Luckner, 1999). Thus, while there could be some benefit for
hard of hearing adolescents if their itinerant teachers were to consult and collaborate with the school’s guidance counsellor or careers advisor, it may be difficult to implement such a practice within the confines of the current roles of itinerant teachers.

The student who reported that, accompanied by her itinerant support teacher and teacher aide, she had visited several universities and met with their disability support officers described how finding out in this way about available services and supports had reassured her and helped her to make decisions about her applications to tertiary institutions. Visits to universities or colleges to which students might apply, including consulting with the institutions’ disability services officers so that students could be apprised of services that are available to them, would be a valuable part of hard of hearing students’ transition activities and should be facilitated by schools. Hard of hearing school students may be unaware of both the difficulties involved in TAFE college and university life (McLean et al., 1999) and the assistance that should be available to them in these settings. In light of findings (e.g., Schroedel et al., 2002; Spradbrow & Power, 2000) that hard of hearing postsecondary students often deny or minimise the effects of their hearing loss and consequently experience levels of disadvantage that might have been minimised with support services, it is important that potential tertiary students be assisted as much as possible in this way.

The interview data suggested that parents, although supportive, may not be well equipped to help their hard of hearing adolescents in their career exploration and decision-making process. Parents should be assisted to understand the potential career issues involved for their children and be involved as much as possible in school-based efforts to help students understand and perform the tasks necessary to negotiate their transition successfully. Helping parents to encourage and enable their children to take more responsibility for advocating for themselves would be an important part of this process.
A clear finding that emerged from the interview data was the students’ delaying of career exploration activities. Most students did little, or planned to do little, until Year 12, and often it was only the necessity of filling in tertiary admissions forms in the third term of Year 12 that forced them to give serious thought to their options. This suggests that attempts to engage hard of hearing students in career education and career exploration should begin earlier. On the basis of his findings with deaf adolescents in New Zealand, Furlonger (1998) also recommended starting career education programs earlier for students with hearing loss than for other students; similarly, Bowe (2003) suggested that the implementation of transition services should begin before the mandated age of 14 for deaf and hard of hearing students in the USA.

A particularly low level of career awareness was displayed by some of the boys interviewed. They indicated little knowledge of the labour market and how to enter it, a lack of awareness of the necessity or benefits of career exploration and planning, and a “no worries” expectation that everything would somehow fall into place for them. While the career awareness of some of the girls was undoubtedly weak, the problem appeared to be more pronounced among the boys, with four out of the six boys interviewed displaying these attitudes and lack of knowledge. These findings reflect the study’s quantitative finding that being male was predictive of lower career development attitudes in the hard of hearing sample. These findings also support the current literature reporting higher levels of career maturity for females than for their male peers in high school (King, 1989; Patton & Creed, 2002; Rojewski & Hill, 1998), and university (Luzzo, 1995) and might reflect the earlier general maturity of females. The current study’s findings suggest that hard of hearing boys may need additional assistance in developing sound career development attitudes and knowledge.
Work experience

The findings of the study’s quantitative phase indicated that the hard of hearing high school students engaged in less part-time work than their normally hearing peers. Only 48% of the hard of hearing students reported having paid part-time work experience compared to 67% of the normally hearing group. The results of the qualitative phase indicated that some of the interviewees were concerned about the effects of their hearing loss in the type of jobs that were available to them, such as working on check-outs, and avoided these types of jobs. The interview findings suggested that many young people’s families attempted to overcome this difficulty by finding them work experience in their own businesses or the businesses of family friends or extended family members. While this kind of work experience is valuable, it is unlikely to present adolescents with the same “real world” experience as competitively obtained employment. The tasks involved in the latter include making formal job applications, attending interviews, deciding whether, when and how to disclose their hearing loss, explaining how they plan to overcome any potential difficulties related to their hearing loss in the work environment, and negotiating any potential accommodations with an employer. Few of the students interviewed had faced these tasks.

It appeared that the few students with paid work experience gained confidence and valuable, if limited, insights and strategies from it, indicating the value of this type of work experience for this population. It could be that education professionals, in consultation with parents, should assist hard of hearing students to obtain paid part-time employment while still at school. However, to be of maximum benefit, some reflection on and discussion of their experiences with a knowledgeable professional would help these young people gain more learning from their experiences and use them as a foundation upon which to build skills and knowledge that could benefit their school-to-
work transition. Johnson and Mortimer (2002) contend that this type of learning from students’ paid work experience is lacking in schools and should be incorporated into career education:

Schools have not yet taken full advantage of the fact that most teenagers are, in fact, in the labor market. Much more could be done to integrate their experiences in the workplace and in school. For example, young people might be encouraged to discuss the rewards and challenges, as well as the problems that they encounter on their jobs, to increase awareness of the various opportunities that are present in the workplace. They might be offered the opportunity to write about their experiences at work in their term papers and other school assignments, to reflect, especially, on what they like and dislike about their jobs, so as to become increasingly aware of their own vocationally relevant interests, preferences, and abilities. (p. 65)

While made in the context of U.S. schools, these suggestions are equally valuable for Australian schools and, in particular, for students who are hard of hearing.

A cautionary note is added here in respect of the suggestion that schools should assist students to obtain paid part-time work. The pressures that arise from being hard of hearing in a hearing environment, such as applying the concentration required to hear and lip-read as fully as possible and struggling to appear “normal”, can lead to stress and fatigue. In addition, many students who are hard of hearing need to devote a great deal of time to their studies in order to “keep up”; not all choose to do this, but, as emerged from this study’s interviews, some adolescents devote additional time outside of the school day to make up for what they have missed in class. It may be counterproductive for these students to take on an additional burden in the form of a part-time job. Teachers, other professionals, and parents need to be sensitive to these issues in their attempts to develop the best career development environment for students.

Perceived career barriers

Reflecting the quantitative findings of the Career Barriers scale, many of the interviewees anticipated facing a number of hearing-related barriers in their lives after
leaving school, both at postsecondary institutions and in the workplace. These largely fell under the category of people’s lack of understanding of their hearing loss, and practical concerns about hearing such as using the telephone and working with groups of people or with the public. The students demonstrated a range of levels of confidence in their abilities to overcome these potential barriers, reflecting Lent, Brown, and Hackett’s (2000) suggestion that an environmental barrier “may be viewed alternatively as an insurmountable barrier, a minor obstacle, a character-building opportunity, or even a personal contest or challenge” (p. 47).

The qualitative data was effective in extending and elaborating on the quantitative findings about perceived barriers, particularly in relation to “people not understanding”. A majority (68%) of the survey respondents reported that people not understanding their hearing loss would constitute a barrier to achieving their educational or career goals. The interview data revealed students’ concerns about leaving the relatively supportive school environment and entering the larger world where people would not know them or understand their hearing loss. Even though several participants recounted incidents of teachers showing a lack of understanding of their hearing loss, most students appeared to appreciate that there were adults at their school who had some idea of their hearing-related difficulties and attempted to provide them with accommodations and support. They worried about working with new people who would not take into account the implications of their hearing loss and about their ability to manage academically at university or TAFE. These concerns reflect the reality the students will face as their status changes, on leaving school, from being a recipient of services provided on the initiative of parents and educators, to needing to advocate for themselves (English, 1997; McLean et al., 1999). This self-advocacy might involve identifying and explaining their needs in order to obtain services and supports in tertiary education settings, overcoming employer concerns about their hearing loss, explaining
the need for and requesting accommodations in work settings, and more informal interactions such as explaining to co-workers that they need to be able to see their faces or to move away from noise sources in order to lip-read and hear optimally. Help in learning when and how to disclose their hearing loss, in both work and social situations, could be an important part of self-advocacy training. Hard of hearing people, both young and older, often find disclosure of their hearing loss difficult and sometimes avoid it for as long as possible (Oliva, 2004; Stika, 1997).

The quantitative data indicated that, although 68% of the students reported “people not understanding my hearing loss” as a potential barrier, only 34% reported that “people’s attitudes about my hearing loss” could be a barrier. Through the qualitative data, it was possible to gain a greater understanding of students’ perceptions of these inter-related concepts. While interview participants were concerned about people’s lack of understanding of their hearing loss, few expected to encounter outright discrimination or hostile, negative attitudes. It may be that they simply had no direct (instrumental) or indirect (associative) learning experiences surrounding this issue (Jackson & Nutini, 2002). Both the quantitative and the qualitative findings of the current study suggest that the hard of hearing participants had little experience of overtly negative or discriminatory attitudes. Possibly, they had been protected from such experiences in their largely supportive home and school environments, with parents and teachers advocating on their behalf. Interview participants’ reports of limits to their social participation at school and feelings of social isolation did not include examples of outright hostility or rejection by peers. In the workplace or in other areas of their post-school lives, young people who are hard of hearing may experience discrimination and negative attitudes which they have not experienced before and may be unable to deal with successfully. Following their qualitative analysis of interviews with adolescents vulnerable to discrimination, Jackson and Nutini (2002) concluded that
young people’s ignorance of potential barriers such as discrimination could preclude the development of strategies that would help them to cope and persist when eventually faced with the unforeseen barriers.

Several students expressed the belief that, if they should encounter discrimination, negative attitudes or a reluctance to accommodate their hearing-related needs in a job, they could simply leave and get another job. This belief reflects a lack of understanding of the labour market and the world of adult work, and demonstrates the need for students to be assisted to find solutions other than “just leaving”. Given that misunderstandings in the workplace are more likely to arise for people with hearing loss than for normally hearing individuals, it is critical for hard of hearing young people to develop skills, strategies and knowledge in the areas of assertive communication, problem-solving and negotiation. This type of training could be incorporated into career education programmes or individual career counselling for this population. Savickas (1999) asserted that role rehearsal can provide students with vicarious preparation for, and practice at, solving problems that might occur at work, and suggested activities such as role-playing and discussion of case studies performed within a student-centred, problem-based learning approach. Participants could be involved in scaffolded experience and role-plays, in which students are able to experience successful outcomes, thus benefiting from the personal performance achievements that can contribute to increased self-efficacy (Bandura, 1977, 1997).

In addition, contact with hard of hearing adults who have successfully overcome career barriers could be helpful and motivating for students in learning how to overcome potential career barriers.

Some participants seemed unaware of any problems their hearing loss might pose for them in their vocational lives after leaving school; this lack of awareness may prove detrimental to these students’ future career paths. Researchers and theorists
support the idea that people can benefit from a realistic anticipation of problems they may face. Jackson and Nutini (2002) recommended advance warning and preparation to help young people address barriers such as negative attitudes should they encounter them. In their theory of decision-making, Janis and Mann (1977) suggested that giving people realistic information about potential job stresses and challenges acts as an “emotional inoculation” (p. 155) which leads employees to be more persistent and less disillusioned when subsequently faced with difficulties.

Thus, hard of hearing students would benefit from career counselling or education interventions designed to discuss and address potential barriers. Counsellors could help students to identify potential career barriers, articulate their fears, and determine which barriers are likely to be real. Of course, bringing up potential difficulties involves a risk of students becoming discouraged and should not occur without concurrently increasing their belief in their ability to deal with them. Students’ self-efficacy needs to be increased through acquiring knowledge and training in strategies for overcoming future barriers. Interventions could include raising students’ levels of self-efficacy by discussing ways in which students have succeeded in overcoming barriers in the past (Luzzo, 1996). As well, counsellors could be a source of information to students about practical ways to overcome barriers, such as the use of assistive devices in the workplace, or could help students to access this information themselves. There is an increasing range of technical assistive devices available to people with hearing loss, but finding reliable information about them is often complicated and difficult, and students could benefit from training and resources that would develop their ability to track down such information. Another important role for careers or guidance counsellors would incorporate educating students about the responsibilities of workplaces and postsecondary institutions to provide reasonable
accommodations in response to the needs of their hard of hearing employees or students. The involvement of parents in these activities would also be desirable.

Compromise of career aspirations

Some of the students had ruled out certain jobs or careers based on their concerns related to their hearing loss. They did not appear to have a realistic knowledge of the ways in which the effects of hearing loss can be minimised or accommodated in work situations. For instance, one interviewee had eliminated the option of a teaching career, without realising that many deaf and hard of hearing people have become successful teachers. According to the circumscription and compromise theory of Gottfredson (1981, 1996, 2002), this process is *anticipatory compromise*, which occurs when people give up their most preferred option because they believe it to be inaccessible to them. The hard of hearing interviewees in this study perceived barriers to the accessibility of their most-preferred options to be either the difficulties that would result from their hearing limitations in particular work environments, or the exclusion from consideration for the occupation on the grounds of their hearing loss. This circumscription and compromise may well be a strong portent for underemployment, with individuals assuming occupational roles that are below their intellectual capabilities and that do not provide appropriate levels of advancement.

While genuine barriers may exist to employment in some occupations for young people because of their hearing limitations, it is preferable for any circumscription or compromise of career aspirations to be based on an informed awareness of the specific requirements of work roles and possibility of accommodations. It appears that hard of hearing adolescents need such information and, indeed, encouragement, to consider occupational areas they might otherwise rule out prematurely. Gottfredson’s (1996) approach to counselling young people who have engaged in anticipatory compromise may be particularly helpful. She suggested that these individuals “may not have seen
their full range of possibilities or possessed sufficient information to implement their options” (p. 217). Therefore, counselling interventions are needed to encourage “constructive realism”, to expand the counselee’s understanding of the realities of choice constraints and to develop strategies to improve his or her chances of obtaining, and succeeding at, the preferred option. Gottfredson stressed that “individuals may be constrained by external realities, but they typically have more leeway than they realize or use” (p. 220).

In terms of Lent, Brown, and Hackett’s (1994, 2002) Social Cognitive Career Theory, some of the students interviewed were found to be ruling out potentially rewarding occupational possibilities on the basis of faulty outcome expectations or self-efficacy beliefs. Brown and Lent (1996) have outlined a framework within which career counsellors can work with clients to identify foreclosed occupational choices, analyse perceptions of barriers, and modify self-efficacy beliefs. Emphasising the importance of going further than the consideration of possibilities generated by students’ expressed or measured interests, these authors recommended that counsellors also explore those occupations that seem to be of lower interest in order to ascertain the client’s underlying beliefs. They suggested two strategies that can facilitate this exploration. The first involves comparing discrepancies between scores from occupational aptitudes, values and interest measures; the second involves using a modified vocational card sort procedure to identify inaccurate outcome expectations or self-efficacy beliefs. The counsellor can then work with the client to modify faulty perceptions. This can include analysing perceived barriers and helping the client to consider the likelihood of encountering potential barriers and to develop strategies to deal with barriers that are likely to eventuate. These strategies are particularly appropriate for use with students who have prematurely eliminated occupational choices based on concerns about their hearing loss.
In addition to the application of this type of career counselling approach, exposure to deaf or hard of hearing models of achievement in various occupations could be another way of challenging students’ self-imposed limitations and anticipatory compromise.

Social participation, social self-concept, and their relationship to career decision-making

While the quantitative results from the Social Loneliness Scale indicated no statistical difference between the hard of hearing and normally hearing groups, the findings of the third, qualitative, phase of the study revealed some common categories of difficulties experienced by the hard of hearing students in their social relationships with their peers and provided insights into the thoughts and feelings of these students. Confirming the value of the mixed methods approach and the benefits of complementarity of methods (Greene et al., 1989), the exploration through qualitative data analysis was able to reveal subtleties and complexities in the students’ perceptions of their social participation that cannot be revealed through the use of a quantitative instrument. In turn, these insights into adolescents’ experiences have provided valuable implications for practice.

Many of the students interviewed expressed a sense of social isolation and loneliness and feelings of awkwardness and self-consciousness related to their social interactions with peers. Some felt this more keenly than others did; some appeared relatively unconcerned. Reflecting the findings of several studies that level of hearing loss does not necessarily predict students’ degree of social functioning in integrated school settings (Davis et al., 1986; Hyde & Power, 2003; Israelite et al., 2002), these differences did not appear to be closely associated with the participants’ degree of hearing loss. The interviewee who appeared to have the most social difficulties, shyness and negative feelings related to his hearing loss was a boy with a moderately severe loss
and clearly intelligible speech. While the two students with profound losses described relatively low levels of social participation with peers, both related well to adults, were conscientious students and above average academic achievers. Clearly, many other factors interact with levels of hearing and social participation to influence young people’s outcomes.

Overall, an impression emerged from the interview findings of adolescents who experienced difficulties in their peer relations which affected their lives to varying extents. Many participants displayed resilience and had developed strategies for managing their interactions with peers. Two students seemed resigned to doing without many of the peer group interactions that are typical of most adolescents’ lives, and appeared to derive social closeness largely from supportive family members and teachers. (It has been noted in the literature [Luckner, 2004; Weisel & Kamara, 2005] that some deaf and hard of hearing young people interact more with adults than with their normally hearing peers, and have a tendency to continuing dependence on adults.) While many interviewees described their feelings of social loneliness and attempts to fit in as much as possible with their peer groups, only one expressed strong unhappiness with the effects of his hearing loss on his social relationships. The findings suggested that students were neglected, rather than rejected, by their peers, in terms of the concepts described by Asher and Wheeler (1985) and discussed in Chapter Two of this thesis.

The findings reflect the literature reporting that social participation is problematic for many hard of hearing students in regular schools (e.g., Byrnes & Sigafoos, 2001; Hyde & Power, 2004a; Kent, 2003; Leigh, 1999) and suggest the need for teachers to actively monitor and plan to facilitate the social inclusion of these students with their peers within and outside of the classroom as much as possible. Ways of achieving this have been suggested in the literature and have been summarised by
They include: modelling friendly behaviour; reducing dependence on adults; fostering proximity to normally hearing peers through the encouragement of peer tutoring, buddy systems and involvement in extracurricular activities; teaching social and communication skills; and fostering respect for individual differences.

The dilemma of reconciling the wish to be treated normally and not to be seen as different with the necessity of telling or reminding people of their hearing-related needs is one to which there is no simple solution. However, these findings can serve to remind teachers of the need to be sensitive to their adolescent students’ desire for normalcy and inconspicuousness in relation to their deafness. It is an issue that these young people will continue to face as they move into new situations in workplaces and tertiary education. It could be helpful to their transition from school if they were to receive, prior to leaving school, training in appropriately communicating their needs to other people in both work and social situations. Congruent with the philosophy of inclusion (Bunch, 1994; Powers, 1996) and disability activists who call for the elimination of the normal/abnormal dichotomy and encourage the valuing of difference and diversity (Oliver & Barnes, 1998), ideally, hard of hearing students would be assisted to develop the confidence and positive self-concept to be comfortable with the differences their hearing loss entails without worrying about being seen as “normal”. As Marschark, Lang and Albertini (2002) remind educators, “the message we need to present to deaf children, their hearing peers, and their gatekeepers, should be that it is okay to be different” (p. 221).

The qualitative data shed light onto the students’ social self-concepts and how these interacted with their career aspirations or their tentative thinking about their occupational futures. Several interviewees asserted that they would have been more outgoing and less shy had they not been hard of hearing. This suggests that the effects of their hearing loss have the potential to influence the social self-concept of this
population. Having experienced negative reactions from others and consequent feelings of embarrassment and self-consciousness, their confidence in social interactions was reduced and their social behaviour inhibited. In research conducted by Phillips and Brusch (1988) and Hamer and Brusch (1997), shy college undergraduates indicated that they were more likely to avoid interpersonally oriented career fields than their non-shy peers. Similarly, SCCT posits that individuals’ career interests will follow areas for which they perceive self-efficacy. Bandura et al. (2001) reported that “people do not regard options in domains of perceived inefficacy as worth considering, whatever benefits they may hold” (p. 201), and suggested that a lack of social self-efficacy can inhibit interest in interpersonally oriented fields requiring social facility such as commercial and managerial lines of work. The current study’s qualitative phase found that many hard of hearing students expressed trepidation about interpersonally oriented career fields. For these students, it appears that this trepidation is linked with their fears about mishearing people, their experiences of negative reactions, their self-consciousness about their hearing loss, and their feelings of social self-efficacy.

Several students expressed concerns about their transition to university, college or work settings and the implications of their hearing loss for their new roles. Students were concerned about meeting new people who were not familiar with their hearing loss. Meeting new people, and establishing relationships with some of them, is a large part of the transition from school to the next phase of their lives for most young people. Communication difficulties can jeopardise the success of this necessary part of the transition of young people who are hard of hearing. Because of their misperception of parts of others’ spoken messages, people with hearing loss can fail to give the types of response that conform to the socially accepted rules of conversation between individuals. This can cause a failure of the establishment of trust and the potential gradual growth of an acquaintanceship into a friendship (Erber, 1993). Communication
Therapy (Erber, 1993, 1996) can help people with hearing loss to overcome complex conversational difficulties and maximise their perceptual and communicative abilities. Individuals can be taught to develop many strategies that help conversations to flow smoothly, such as making specific, rather than general, requests for clarification. Although Erber’s Communication Therapy was designed primarily for adults who have acquired a hearing loss, its principles and practices could be usefully applied to hard of hearing adolescents to assist them to better manage the many situations in which they will be meeting new people and attempting to establish new social and vocational relationships after they leave school.

The study’s qualitative findings revealed the subtle and complex nature of the interaction between the adolescents’ feelings of social loneliness, concerns about their social self-efficacy, and worries about their future occupational roles. An important implication of this for career counselling is that counsellors need to take care to identify the affective aspects of students’ perceptions of barriers or concerns for their future. Career counselling is often seen by both practitioners and clients as largely involving the seeking and giving of information. However, the necessity for more convergence between career counselling and personal counselling has been increasingly recognised (Krumboltz, 1993; McMahon & Patton, 2000). Practitioners have been reminded that developmental stages, attitudes and emotions strongly influence career choice and development, and that affective factors should not be left out of the career counselling process (Manuele-Adkins, 1992). The need to address affect before information can be fully absorbed and utilised is a basic tenet of counselling (Corey, 1991; Hackney & Cormier, 1996), and has been emphasised by Luterman (1999) in his work on counselling parents of deaf children, where he asserts that “when affect is high, cognition shuts off” (p. 186). Thus, in recognising and responding to affect, counsellors would be preparing the ground, as it were, for the educational and informational aspects
of their interactions with students to be more well-received and useful to the students. As well, counsellors would be decreasing the possibility of important affective issues being missed. For instance, in an affect-oriented style of counselling, counsellors would be more likely to identify problems that students were experiencing in relation to their social participation. This could provide an opportunity for exploring students’ self-efficacy beliefs in the area of social interactions and providing helpful interventions designed to improve students’ social and communication skills and confidence.

Summary

This chapter has reported and discussed the qualitative findings for the hard of hearing students in the areas of (a) their career exploration and sources of information and support; (b) their work experiences and the ways in which these affected their career decision-making process; (c) their perceptions of career barriers; (d) their compromise of career aspirations; and (e) their social participation, social self-concept and the role these played in their career development. The following, concluding, chapter of the thesis further summarises these findings and integrates them with the findings of the study’s quantitative phase.
CHAPTER EIGHT - CONCLUSION

Introduction

Previous chapters have discussed the findings of both the quantitative and qualitative phases of the study, placed them in the context of the literature, and outlined their implications for practice. This chapter summarises and integrates the qualitative and quantitative findings. For further clarity, a table is included which displays the quantitative and qualitative findings in relation to each other along with the recommendations for practice arising from each finding. Ways in which the recommended practices could be delivered to the targeted population, given the geographical separation of hard of hearing students attending regular classes with itinerant teacher support, are explored. The chapter then proceeds to a consideration of the implications of the findings for theory. The limitations inherent in the study are outlined, and directions for future research are suggested.

Integration of quantitative and qualitative findings

The benefits of the mixed methods approach were evident in the complementarity resulting from the combination of quantitative and qualitative methods in the study. The results of the qualitative phase extended many of the quantitative findings, yielding information and insights inaccessible through the quantitative instruments. The qualitative data provided elaboration, illustration and clarification of the quantitative data and the added depth and detail arising from the perspectives, thoughts and feelings shared by the students in the interviews.

Career maturity, one of this study’s primary areas of investigation, is a construct for which there are several valid and reliable instruments. The study used the CDI-A-SF (Creed & Patton, 2004) to measure its dimensions of career planning, career
exploration, knowledge about the world of work, and career decision-making abilities, and the CDS (Osipow et al., 1976) to further assess the decisional aspects of career maturity. These elements of career maturity were explored further in the interviews, and the qualitative findings elicited information about students’ experiences of and thoughts about these career development behaviours.

While some previous studies have investigated the career maturity of high school students who are deaf or hard of hearing, their samples have consisted of students in special education settings, rather than those fully attending regular classes and receiving itinerant teacher support. Apart from Furlonger’s (1998) New Zealand study, they have been conducted in the USA. The current study is the first to investigate the career maturity of Australian students who have a hearing loss. Its finding that career maturity levels, as measured by a shortened version of the CDI which has been standardised for Australian populations and by the CDS, were not lower for the hard of hearing group than for the comparison group, was encouraging in its implication that the career maturity of these hard of hearing students is higher than might be expected. Nevertheless, given the additional challenges they face in their transition and career paths, hard of hearing adolescents are likely to benefit from attempts to improve their levels of career maturity. In addition, the qualitative findings extended understanding by revealing the often limited nature of the interview participants’ career exploration and decision-making processes, suggesting levels of career maturity that were less than desirable.

The quantitative data on career maturity levels, particularly the higher scores of the hard of hearing group on the Career Development Knowledge subscale, suggested the possible explanation that these hard of hearing students might receive additional career development assistance from school professionals. As the discussion of the qualitative results in Chapter Seven reports, the qualitative data did not support this speculation, at least for this group of 12 interviewees. It appears that students’ career
knowledge had not been transformed into desirable career behaviours in terms of career exploration and planning. It could be that information from professionals and parents had not been provided in a sufficiently contextualised manner to allow students to see its impact in terms of their future plans and career decisions. Certainly, they had not received information relevant to their hearing loss and potential career barriers. In addition, their low level of work experience may have limited their opportunities to apply and evaluate their knowledge in situ and give them a realistic basis for career decision-making.

The study’s findings identified potential career barriers as a key factor influencing the career development of these hard of hearing students. As no previous studies have examined the perception of career barriers by high school students with hearing loss, the current study has contributed valuable knowledge in this area. The multiple regression analysis showed that a greater perception of barriers related to their hearing loss predicted lower career development attitudes among the hard of hearing students. In addition, survey respondents reported high levels of anticipation of some hearing-related barriers, particularly “people not understanding my hearing loss”. The qualitative findings elucidated these results by revealing ways in which students perceived potential barriers, how they felt about them, and ways in which their perceptions of barriers influenced their career choice and decision-making. The qualitative data showed that many students were worried about leaving the relatively supportive environment of school and encountering people in the workplace or further education settings who would not understand the implications of their hearing loss. Conversely, some students indicated a lack of insight into the ways in which their hearing loss and its interaction with the post-school environment could pose problems for them. Many of the recommendations for practice have arisen from these findings about career barriers.
In the area of social participation, the qualitative findings were particularly valuable in providing understanding of students’ experiences and perceptions. The quantitative data showed no significant difference between the hard of hearing and normally hearing groups on the measure of social participation. The qualitative phase of the study provided complementarity by yielding important insights surrounding students’ social participation and its relationship to their career decision-making. Students experienced a sense of social isolation to varying degrees, evinced self-consciousness about being “different” and revealed the dilemma of their desire to down-play their hearing loss with a concurrent need for people to be aware of it. The qualitative findings revealed a complex interaction between students’ social participation with their peers, their experiences of other people’s negative reactions, their self-consciousness about their hearing loss, their fears about mishearing people, and their career decision-making.

The qualitative phase of the study contributed knowledge about the ways in which some students compromised their career aspirations because of their concerns about the effects of their hearing loss. The interview data also provided information on the ways in which students’ experiences of part-time work influenced their thinking about their future working lives.

The integrated findings of the study suggest that hard of hearing high school students would benefit from a range of practices and interventions to encourage their career development and maximise their chances of a successful transition from school to their future occupational lives, and several possible interventions and practices have been suggested in the discussions of the quantitative findings in Chapter Five and the qualitative findings in Chapter Seven. Table 17 provides a summary of the major qualitative and quantitative findings and the recommendations for practice that have arisen from them.
### Table 17

**Summary of major qualitative and quantitative findings and recommendations for practice**

<table>
<thead>
<tr>
<th>Qualitative Findings</th>
<th>Quantitative Findings</th>
<th>Recommendations</th>
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<tbody>
<tr>
<td>Students’ career exploration focused on postsecondary course information.</td>
<td>Provision of information, through guidance counsellor or career education programs, about a wide range of post-school education and vocational training options.</td>
<td>Professional development training for guidance counsellors in issues relevant to hard of hearing students.</td>
</tr>
<tr>
<td>Students appeared to receive no career assistance specifically related to their hearing loss from guidance personnel. Some assistance in exploring post-school options was provided by itinerant teachers.</td>
<td>Most hearing-related barriers were not seen as a problem by the majority of respondents. Students may not be aware of the real difficulties they are likely to face outside the relatively supportive environment of home and school.</td>
<td>Ensure students can access counselling or transition planning sessions with professionals with specialised knowledge of issues related to hearing loss and career development in order to address issues related to hearing loss in careers and workplaces.</td>
</tr>
<tr>
<td>Students had little knowledge about occupational role requirements and how their hearing loss might interact with these. Some had concerns about the implications of their hearing loss in certain occupations, but had not consulted anyone about them.</td>
<td>Delaying of career exploration activities until Year 12.</td>
<td>Ensure earlier career exploration and planning activities through education programs or individual counselling.</td>
</tr>
<tr>
<td>Low levels of career awareness among boys.</td>
<td>Being male was predictive of lower levels of career development attitudes.</td>
<td>Particular attention may need to be paid to the career development of hard of hearing boys.</td>
</tr>
<tr>
<td>Higher school achievement was predictive of higher levels of career development attitudes.</td>
<td>Higher perception of hearing-related barriers predicted lower levels of career development attitudes.</td>
<td>The career development of HH students with low ability particularly needs to be addressed.</td>
</tr>
<tr>
<td>No significant differences between HH group and NH group on career maturity variables, except HH group scored higher on career development knowledge than NH; trend towards HH group reporting higher outcome expectations than NH.</td>
<td>No significant differences between HH group and NH group on career maturity variables, except HH group scored higher on career development knowledge than NH; trend towards HH group reporting higher outcome expectations than NH.</td>
<td>Addressing issues of hearing-related barriers to be a major part of career development interventions.</td>
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### Qualitative Findings

<table>
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<th>Recommendation</th>
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<tr>
<td>SCCT model was less applicable to HH than to NH group. However, outcome expectations was a clear predictor of goals in HH. CDMSE was significantly associated with outcome expectations and contributed to goals through outcome expectations.</td>
<td></td>
</tr>
<tr>
<td>Counsellors should assess CDMSE and outcome expectations and implement interventions designed to increase CDMSE and outcome expectations – encouragement of confidence in exploring, planning and making decisions and of the development of optimism about the outcomes of these activities. Bandura’s (1977) four sources of self-efficacy learning could be used: personal performance accomplishments (fostering success experiences), vicarious learning (modelling, role-models); social persuasion (counsellor encouragement); affective states (e.g., anxiety management).</td>
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### Quantitative Findings

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<tr>
<td>Some students had not had part-time jobs because of a desire to avoid jobs where they would have to serve the public, or because of difficulties experienced during job interviews.</td>
<td>Some students who had experience of jobs had encountered difficulties related to their hearing loss.</td>
</tr>
<tr>
<td>The HH group had less paid work experience (48%) than the NH group (67%).</td>
<td></td>
</tr>
<tr>
<td>Training, including role-plays, in job applications, interviews, deciding when and how to disclose hearing loss, devising and explaining strategies to overcome potential difficulties related to hearing loss in work environment, explaining and requesting accommodations with employer. Help students to gain paid work experience, where appropriate.</td>
<td></td>
</tr>
<tr>
<td>Work experience</td>
<td></td>
</tr>
<tr>
<td>Perception of barriers</td>
<td></td>
</tr>
<tr>
<td>Most barriers mentioned were hearing-related. Many perceived barriers were related to practical implications of hearing loss such as difficulties hearing on the phone and in groups of people.</td>
<td>Hearing-related barriers reported: not being able to hear well on phone (51%); my hearing loss (48%); talking/listening to new people (37%); having to work in groups (25%). people not understanding my hearing loss (68%); people’s attitudes (34%).</td>
</tr>
<tr>
<td>A lack of awareness of how various aspects of their hearing loss might constitute barriers in their work lives</td>
<td>Counselling interventions or education programs to discuss potential difficulties and ways of overcoming them. Interventions to raise students’ self-efficacy about their ability to overcome barriers. Develop students’ knowledge about their rights to accommodations.</td>
</tr>
<tr>
<td>Qualitative Findings</td>
<td>Quantitative Findings</td>
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<td>------------------------------------------------------------------------------------</td>
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<tr>
<td>Concern about people not understanding their hearing loss.</td>
<td>People not understanding hearing loss perceived as barrier by 68% of students.</td>
</tr>
<tr>
<td>Most students were not aware of the possibility of discrimination or overtly negative attitudes; some suggested quitting and finding another job as a solution if they did encounter such attitudes.</td>
<td>People’s attitudes perceived as barrier by 34% of students.</td>
</tr>
<tr>
<td>Few students mentioned barriers that were unrelated to hearing loss.</td>
<td>NH group reported more perception of non-hearing related barriers than HH group.</td>
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<tr>
<td>Compromise of career aspirations</td>
<td></td>
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<tr>
<td>Some students had ruled out preferred career choices because of their hearing loss.</td>
<td></td>
</tr>
<tr>
<td>Social Participation &amp; Social Self-concept</td>
<td></td>
</tr>
<tr>
<td>No significant difference between the HH and the NH groups on measure of social participation.</td>
<td>Teachers to actively monitor and plan for social inclusion (see Luckner, 2004). Identify social participation/self-concept problems; explore students’ social self-efficacy beliefs; provide interventions to improve students' social skills and confidence.</td>
</tr>
<tr>
<td>Many students expressed a sense of social isolation at school.</td>
<td>Teachers, both class &amp; itinerant, to be sensitive to this dilemma. Encourage development of appreciation of difference in both HH and NH students. Prepare for postsecondary experiences with communication training (see Erber, 1996).</td>
</tr>
<tr>
<td>Dilemma of being “normal”.</td>
<td></td>
</tr>
<tr>
<td>Reduced confidence in social interactions reflected in concerns about transition to university, college or work settings.</td>
<td>Training in communication strategies, assertiveness skills, and self-advocacy.</td>
</tr>
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</table>
Implications for practice

The findings of this mixed methods study have revealed areas of need in the career development of adolescents with hearing loss, and several recommendations for ways of addressing these needs in school settings have been suggested. In summary, the major needs identified are as follows: Students need specialised career guidance to identify and address issues, concerns, and potential career barriers associated with their hearing loss. They may need assistance in developing stronger self-efficacy beliefs in the area of their social self-concept, and in developing strategies for dealing with communication misunderstandings and any social embarrassment or exclusion they experience. Interventions should be implemented to raise students’ self-efficacy beliefs about their ability to overcome potential career barriers. Adolescents need to be aware of the forms of accommodation available in the workplace and in postsecondary education and training, and of employers’ and institutions’ legal obligations related to supplying them. Students should be assisted to develop the skills and confidence needed to advocate for themselves so that they can identify their needs and explain them, in appropriately assertive and non-offensive ways, to employers, work colleagues or higher education providers. They need to be able to know when and how to disclose their hearing loss to an employer (or other people), explain its effects and inform the employer of ways around any difficulties. All this must be done in a way that will minimise employer concern and reluctance about hiring a person with a hearing loss. Training in interview skills, problem-solving and negotiation would be beneficial.

Remaining to be answered is the question of who should provide the necessary services and interventions. I have suggested in the previous chapter that guidance counsellors in schools attended by hard of hearing students need to learn about transition issues specific to adolescents with hearing loss. However, it may be that regular school programs and guidance counsellors cannot be expected to address the
esoteric issues involved when perhaps only one or two students with these particular needs attend their school at any one time. It may be unreasonable to expect guidance counsellors to be able to accommodate the specific needs of so few students. Conversely, given the growth of rates of inclusion of students with diverse needs, perhaps it should be expected that school counsellors undertake professional development activities, either in preparation for students with a range of diverse needs or in response to the specific student intake of their school. This could involve the provision of resources by relevant state education offices.

The qualitative data indicated that some itinerant support teachers were attempting to provide career advice, support or encouragement to their students. While such assistance is valuable, it appears to be provided through an ad hoc approach, no doubt determined by the interest, abilities and time constraints of individual itinerant teachers. The provision of professional development and training in transition issues to itinerant teachers would help to enhance their confidence and effectiveness in this area. It may be possible to utilise regional or state-wide hearing impairment services to provide programs to assist students and their families to develop the knowledge and skills that will increase their chances of a successful transition. Itinerant support teacher services, properly planned and structured, could be involved in such programs. Resources could be as simple as a set of questions for students to work through individually with their itinerant teacher, such as those provided in a self-advocacy course designed for deaf and hard of hearing high school students in the USA (English, 1997). They could be as extensive as a structured workshop-style program offered to groups of hard of hearing secondary school students. Collaboration with non-government organisations of deaf and hard of hearing people and with government employment agencies would be beneficial. In addition, the involvement of parents, generally an essential component of transition plans, should be encouraged.
Because of the geographical separation of these students, they can not easily be reached with a career education program focussed on their individual needs. One option to achieve this may be for students to attend a camp or similar event organised for the purpose and with the involvement of their itinerant teachers. At present, some hard of hearing students attend “deaf camps” where deaf and hard of hearing students spend several days together, engaging in structured activities. As well, in some districts, itinerant teachers collaborate and stage small events for their students (P. Taylor, personal communication, November 24, 2004). Such events could provide a valuable opportunity for addressing transition issues and the development of career maturity, communication and self-advocacy skills, and social relationships.

The Internet is another possible medium for the provision of transition and career development resources for this population. The Internet has become an extremely popular informational and social resource among adolescents in industrialised countries, and the visual nature of these interactions constitutes an advantage for deaf and hard of hearing people. Internet resources designed to assist the transition of deaf and hard of hearing U.S. students are currently available. For example, Gates to Adventure (Postsecondary Education Programs Network, 2005) is an interactive program for high school students, and A nuts and bolts guide to college success for deaf and hard of hearing students (Bourgeois & Treubig, 2002) contains extensive information about aspects of transition including acquiring self-advocacy skills, communication strategies, and accommodations at postsecondary education institutions. Similar resources modified to be more appropriate for Australian students and more inclusive of pathways other than tertiary education could be helpful to Australian adolescents who are deaf or hard of hearing. Multi-media resources that included, for instance, video recordings of hard of hearing adults sharing their educational and career achievements and their
experiences of dealing with barriers they had encountered, could be developed and used in career and transition programs.

In the USA, the reauthorisation of IDEA to the Individuals with Disabilities Education Improvement Act (2004) mandated that students aged 16 and over participating in special education programs must be provided with transition services. In Australia, the situation is not so clear. While transition plans are provided in most states for deaf and hard of hearing students in special education facilities, it is not common for hard of hearing students individually enrolled in regular secondary school classes to have individualised transition plans. Many useful and innovative practices in the transition to postsecondary education and work involving support from school personnel exist for students attending special education units, but are not generally available to the majority of students with significant hearing loss receiving itinerant teacher support in regular schools. While these students generally have access to the same career education programs, career guidance, and transition planning as their normally hearing peers in these settings, it is unlikely that this is sufficient, given the particular needs, difficulties and potential barriers faced by young people with hearing loss. Indeed, for many students it is unlikely to be sufficient, considering that “many young people [in Australia] are still leaving school with little, if any, career education” (McMahon & Carroll, 2001, p. 73). Given that at least 84% of students with hearing loss are now being educated in regular classes in Australia, the extension of the types of transition support available to deaf and hard of hearing students in special education settings to benefit the larger population of students included in regular school settings seems warranted and justified.
Implications for theory

Lent, Brown, and Hackett’s (1994) Social Cognitive Career Theory constituted a theoretical framework for the study. The regression analyses found the SCCT model to be less applicable to the hard of hearing group than to the normally hearing group, although support for the model was evidenced in part for the hard of hearing group. Consistent with the SCCT model, outcome expectations was a significant predictor of goals, and CDMSE, through its association with outcome expectations, indirectly predicted goals. No SCCT variables predicted the career behaviours of career development attitudes, career development knowledge, and career indecision for the hard of hearing students. More support for the model was found in the normally hearing group, for whom outcome expectations predicted goals, goals and CDMSE predicted career development attitudes, and CDMSE predicted career indecision. It appears that variables other than those included in the SCCT model may be more important for this population. For example, the importance of family cohesion on the career maturity of deaf adolescents found by King (1990a, 1990b, 1992), and her interesting finding that age had a significant negative effect on family cohesion for the deaf students but not the comparison group, suggest that the influence of family variables warrants further research attention for adolescents with hearing loss.

The SCCT model emphasises the role of contextual factors in career development. The identification of perceived career barriers related to aspects of their hearing loss as an important factor in the career development of the hard of hearing group suggests that their hearing loss and its interaction with their environment constitutes a contextual factor that mediates the relationship between their interests and their career choice goals and actions, as the model proposes (Lent & Brown, 1996; Lent et al., 1994). Thus, the application of SCCT may be most useful to this population when
it emphasises the context in which their hearing loss interacts with their sociocultural environment.

Limitations of the study

As with most research conducted with deaf and hard of hearing people, the sample size for the hard of hearing group in the quantitative phase of this study was not large. The sample size of 65 may have diminished the power of the regression analyses for this group compared to the larger sample sizes of the normally hearing group \( n = 107 \) and the total sample \( n = 172 \). A replication on a larger sample is desirable, but not necessarily achievable in Australia within the current levels of prevalence of significant hearing loss and given the difficulties of identification and recruitment of samples, and of data collection, among this low-incidence and geographically scattered population (Byrnes & Sigafoos, 2001; Meadow-Orlans, 2001).

The hard of hearing students were self-selected to a greater extent than the students in the comparison group. Because the hard of hearing students were, in most cases, required to take the questionnaire home, complete it in their own time and mail it back (or have their parents mail it back), it is possible that the students who agreed to participate possessed certain characteristics (e.g., a high level of conscientiousness, a keen interest in career decision-making) that may not be representative of all students with hearing loss in regular classes. In addition, they may have possessed such characteristics to a greater degree than the students in the comparison sample, who completed the survey in class time at school. However, the fact that 28 of the questionnaires returned by the comparison group were unusable, despite these respondents having signed an informed consent form, suggests that unwilling students in this group had their own way of opting out of the study.
It is also possible that students who agreed to participate in interviews differed from those who did not, and from students who were not approached. Five students who were invited to participate in the interview stage of the study declined to do so. The students who agreed to participate may have been more confident or articulate than other students, or may have had more of an interest in career development. However, not all of the participants displayed a high level of confidence, articulacy, or career development interest during the interviews.

Attempts were made to ensure that the survey instrument was of a manageable length and was not too difficult to read. As described in Chapter Four, the questionnaire was adapted as a result of being pilot tested by students and checked by an experienced teacher of the deaf. In addition, for each variable the briefest measure available was chosen, as long as it had demonstrated adequate reliability and validity. However, five established instruments had to be incorporated in order to measure the career-related and social participation variables, and so the questionnaire was quite long and complex. Some students may have found it too daunting or difficult and so may have declined to complete it; in this case, it is possible that the completed, returned questionnaires from the hard of hearing students may not represent the range of abilities across all hard of hearing students. Two itinerant teachers provided feedback indicating that their students had found the questionnaire too difficult; one teacher included a note to this effect with her student’s half-completed questionnaire, and another teacher conveyed the feedback to me in an email message. (Positive feedback was also received, with two itinerant teachers telling me – one in a letter included with the questionnaire and one during a telephone conversation - that the process of filling in the questionnaire had been helpful to their students by encouraging them to think about and discuss their career choice and decision-making.)
The students in the comparison group completed the questionnaire at their school in class-time, where they were given initial instructions and explanation by me and then supervised by their class teachers. Clearly, these conditions differed from those under which the hard of hearing sample completed the survey. It was not possible to control the conditions for the hard of hearing students, some of whom filled in the questionnaire at home, some at school, and who may have consulted their teachers or family members during the process. Because of the low literacy levels of some hard of hearing students, it was realised that some respondents might need an adult’s assistance to understand some of the questions; however, in order to reduce the risk of other people’s opinions influencing the answers recorded by the respondents, the instructions on the questionnaire’s cover sheet asked the hard of hearing students to “try to fill in the questionnaire on your own, in a quiet place.”

It is important to acknowledge the potential for bias due to social desirability in the self-report nature of both the survey questionnaire and the interviews. Interviewees may like to “look good” to the interviewer; as Taylor and Bogdan (1998, p. 109) pointed out, “people are prone to exaggerating their successes and denying or downplaying their failures.” It may be that students revealed less than they could have, particularly in talking about their social participation. Adolescents generally like to be seen as socially acceptable and accepted, and it can be difficult to admit to being socially excluded or to feeling lonely. However, while some of the students interviewed were less forthcoming or articulate than others, most appeared to genuinely and openly share their thoughts and feelings.

The interview group was quite small and was derived from a region that was accessible to me by being within a radius of a few hours’ driving time. Interviews with a larger group from more regions of Australia may have yielded different results. Findings from such a group may be more generalisable to the broader population of
hard of hearing students. However, generalisability is not necessarily an expected outcome of qualitative studies, which are more suited to developing insights and understandings about a particular group of people (Taylor & Bogdan, 1998). As Brantlinger et al. point out, “Qualitative research is not done for purposes of generalization but rather to produce evidence based on the exploration of specific contexts and particular individuals. It is expected that readers will see similarities to their situations and judge the relevance of the information produced to their own circumstances” (Brantlinger, Jimenez, Klingner, Pugach, & Richardson, 2005, p. 203).

**Implications for further research**

The study’s findings have emphasised the importance of perceived career barriers to the career development of adolescents who are hard of hearing. Many students anticipated barriers in the form of functional, practical difficulties and other people’s reactions to and lack of understanding of their hearing loss. Further research is needed to determine if these perceived barriers are realised when young hard of hearing people are in the workforce. In addition, do they face other barriers which they had not anticipated when at school? Some of the study’s participants seemed unaware of potential difficulties they may face in the wider world in which they would no longer have the degree of protection and support from parents and the education system from which, whether they realised it or not, they had so far benefited. Further research could reveal the extent to which young people who are hard of hearing encounter unanticipated barriers to their educational or career achievement. Future studies could investigate ways in which young hard of hearing adults in the workplace have dealt with barriers they have encountered. The discovery of solutions devised or supports drawn upon could be helpful in designing supports and interventions for adolescents or, indeed, adults already facing barriers related to their hearing loss. Longitudinal studies
spanning 5 to 10 years post-school to examine career issues for young adults who are deaf or hard of hearing would be particularly valuable.

Stressing the necessity of career preparation as an integral part of postsecondary education for deaf and hard of hearing students, Schroedel, Watson and Ashmore (2003) asserted that research on the postsecondary education and training of these students in the USA has been “sporadic and fragmented” (p. 72). Research on deaf and hard of hearing postsecondary students in Australia is also lacking. The current study has contributed to a fuller understanding of the career development of students in the final three years of high school. Further research could extend understanding of the experiences of hard of hearing young people by investigating the career development of students in postsecondary education and training. An investigation of career maturity and career barriers and a testing of the SCCT model among a university and college group of hard of hearing young people could yield valuable information.

As perceived career barriers emerged as an important factor in the career development of the study’s hard of hearing sample, further research examining not only the barriers but also the supports that influence this population is warranted. Some of the students interviewed indicated confidence in overcoming potential barriers; others appeared to be more easily discouraged. Studies examining variables that influence levels of confidence or discouragement would be valuable. Several practices and interventions to help students deal with potential barriers and develop self-efficacy beliefs about their ability to overcome them have been suggested in this thesis. Research assessing the benefits of these types of interventions is recommended.

This study collected data only from hard of hearing adolescents and a comparison group. Larger studies could include the perspectives of students’ itinerant teachers, class teachers, and guidance counsellors. These people’s perceptions of hard of hearing students’ career development needs and of ways in which these needs could be
met would contribute useful insights. In addition, studies exploring parents’
perspectives would contribute knowledge of the expectations, supports or barriers that
adolescents may encounter at home. Research findings from both professionals and
parents could lead to improved career development practices for adolescents who are
hard of hearing.

Concluding remarks

This study set out to address the identified gaps in the literature and contribute to
current knowledge and understanding of the career development of adolescents with
significant hearing loss who attend regular classes with itinerant teacher support. The
study’s findings have addressed, to some extent, the paucity of information in the
literature about the career maturity, career decision-making, and perceived career
barriers of this population. In particular, the findings identified perceived career barriers
as a key factor influencing the career development of these hard of hearing students, and
clarified the relationship among the students’ social participation, social self-concept
and career development.

Thus, the study’s findings have highlighted the career development and
transition issues and needs of this population. If the career development and transition
of hard of hearing students are deemed a dimension of inclusion, it would seem
incumbent upon education systems to address these issues. A key goal of inclusion
should be optimal participation in post-school options for work and further education.
Given Australia’s world-leading level of placement of students with significant levels of
hearing loss in regular schools with itinerant teacher support, it seems appropriate for
transition services available to the reducing population of deaf and hard of hearing
students in special education facilities to be extended to the growing numbers of these
students in regular secondary school classes. For many hard of hearing students,
individualised career counselling to assist in exploring, identifying, and addressing ways
of overcoming potential barriers would serve as a valuable preparation for their post-school environment.

I hope that this study, in combination with future research, will lead to the implementation of practices and interventions that will benefit the career development of hard of hearing young people and improve their opportunities to achieve their career potential.
Career Development of Hard of Hearing Adolescents
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APPENDIX A

Interview guide for preliminary interview phase

1. What is/was it like for you trying to come to a decision about what career or job or course to pursue after leaving school?

2. How confident do/did you feel about making these kinds of decisions?

3. How much do/did you know about how to find information you need, and how to make choices about what to do after school?

4. Looking down the track to when you’re, say, 25, what kind of work would you like to be doing?

5. What might hold you back from achieving that?

6. Is there anything about having a hearing loss that you think will make it harder for you to achieve?

7. Has the fact that you have a hearing loss affected your decision-making about a career?

8. What about the social side of school, and friends - how has that been for you?

9. Is there anything you’d like to add?
APPENDIX B

SUMMARY OF FINDINGS FROM PRELIMINARY INTERVIEWS

Interviewees were asked about issues of career decision-making and the possibility of aspects of their hearing loss being perceived as barriers to their educational or career aspirations. The interviews found several areas that concerned students in this respect:

- Concerns about being able to hear well enough when working in groups, or in situations in which they would have particular difficulty understanding people’s speech. Examples of interviewees’ statements:

  Where different people are talking – being a teacher could be difficult, because children – I’ve got nieces and nephews, and they’re really hard to understand.

  Where you have to do a lot of listening and talk back, or taking phone calls. If there’s lots of customer talking, and you have to listen and understand what’s going on. I did night-fill at Woolworths and that was OK, but I wouldn’t go on the checkout.

  Customer service, dealing with different people I don’t know constantly. I’ve already done a checkout operating job, that was very hard, and I didn’t wear my hearing aids because there was too much background noise. People who had beards, or people who didn’t look at me, they thought I was rude when I didn’t reply, so that was a bad experience. I thought, no, I’m not doing a job like that. So that’s a bit of a limit on my abilities.

  I’ll have to be a bit more open, outgoing. And I find that hard, especially in groups, I have to look around at everyone and find out what they’re saying so I can contribute, and usually I just stand back…I can’t get what I want to say in, and by the time I can, they’ve gone on to another subject!

- Concerns about employers or work colleagues not understanding their hearing loss.

  Examples of interviewees’ statements:
I don’t have much confidence in meeting new people. When I first meet someone they don’t know that I’m deaf until they get to know me, so I’m scared that I won’t be able to hear them, I won’t be able to interact with them and it’ll be really embarrassing. And just little awkward things, like people calling me from behind and I don’t hear them. Just little things like that, it’d happen in any job, and it really put me off jobs. I thought, all this horrible stuff’s going to happen to me.

- Concerns about the necessity to use the telephone as part of their job. Examples:

  I don’t know how I’ll go with the phone, it can be a problem. Sometimes it’s OK, if it’s a friend or my mum, but with a lot of people it’s hard to hear them.

  [At school when considering career options] I went through a point where I felt there was nothing I could do, because I saw flaws in everything. I was thinking, Oh my God, they’re going to want me to answer the phone and stuff, and I was always seeing the problems without seeing the, you know, if you have a good job you can work your way around the problems, sort of thing. I was just thinking of problems, and anyone can have problems. I didn’t think of the good points, I just thought, no-one’s going to hire a deaf person. So I went through that stage for a while, and I felt there was nothing I could really do.

  The hearing loss will make things difficult, but it’s not going to stop me. If I go into teaching or something, it’s pretty much communication based, and there’s going to be breakdowns in communication, it gets difficult. But I think having the hearing loss has made me more aware about communication and how people communicate, the more subtle things behind that, and I think that’s why I’m so interested in communication type subjects.

Potential barriers that emerged from these interviews were: using the telephone; talking to and listening to new people; working in groups or teams; and people not understanding the young person’s hearing loss.
APPENDIX C

Questionnaire
**CAREER DECISION-MAKING SURVEY**

This is a Griffith University survey into the career decision-making of students who have a hearing loss. It will ask you questions to do with your thoughts and feelings about your future in the world of jobs and careers.

**PLEASE PRINT CLEARLY**

Name..........................................................

School..........................................................

Year Level ..................................................

**Please read the following instructions:**

- Try to fill in the questionnaire on your own, in a quiet place
- Read each question carefully
- Do not spend too much time on any one question
- There are no right or wrong answers. Please answer each question as honestly as you can
- If you’re not sure about an answer, ask yourself which answer would be true *most of the time* for you
- Be sure to answer all the questions
1. What is your date of birth?  

2. Are you:  
   ☐ Female  ☐ Male  

3. What year are you in at school  
   ☐ Year 10  ☐ Year 11  ☐ Year 12  

4. Do you have a paid part-time or casual job right now?  
   ☐ Yes  ☐ No  

5. What is the name of your job?  
   (e.g., shop assistant, packer)  

6. Have you had a paid part-time or casual job in the past?  
   ☐ Yes  ☐ No  

7. What was the name of that job?  

8. Are your mother and father (or guardians) in paid work at the moment?  
   (Tick one box for each person)  
   Mother  ☐ ☐ ☐  
   Father  ☐ ☐ ☐  
   Guardian  ☐ ☐ ☐  

   Yes, full-time  
   ☐ ☐ ☐  
   Yes, part-time  
   ☐ ☐ ☐  
   No, not in paid work  
   ☐ ☐ ☐  

9. What is the name of their job?  
   Mother  
   ☐ ☐ ☐  
   Father  
   ☐ ☐ ☐  
   Guardian  
   ☐ ☐ ☐  

10. At school, what is your most common level of achievement across all subjects  
    (Rating include A, B, C, D or E for Year 10 or Very High Achievement, High Achievement,  
    Sound Achievement, Low Achievement, or Very Low Achievement for Years 11 and 12)  
    A  ☐ B  ☐ C  ☐ D  ☐ E  ☐ (Year 10)  
    VHA  ☐ HA  ☐ SA  ☐ LA  ☐ VLA  ☐ (Year 11 & 12)  

11. What is the level of your hearing loss?  
    Mild  ☐  
    Moderate  ☐  
    Moderately severe  ☐  
    Severe  ☐  
    Profound  ☐
12. **Is anyone else in your family hearing-impaired/deaf/hard-of-hearing?**

*(Tick one box for each person)*

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sister</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brother</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13. **Which of the following do you use?** Indicate how often you use each device during your waking hours.

<table>
<thead>
<tr>
<th>Device</th>
<th>Never</th>
<th>A small amount of the time</th>
<th>Most of the time</th>
<th>All the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hearing aid/s</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cochlear implant</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FM system</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14. **How easy is it for you to understand these people when they talk to you?**

<table>
<thead>
<tr>
<th>Person</th>
<th>Very easy</th>
<th>Easy</th>
<th>Sometimes easy, sometimes hard</th>
<th>Hard</th>
<th>Very hard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other people</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

15. **How easy do you think it is for these people to understand you when you talk to them?**

<table>
<thead>
<tr>
<th>Person</th>
<th>Very easy</th>
<th>Easy</th>
<th>Sometimes easy, sometimes hard</th>
<th>Hard</th>
<th>Very hard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other people</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Questions 1-33 are not reproduced here; they consist of the CDI-A-SF (Creed & Patton, 2004), adapted from the CDI-A (Lokan, 1984)

**How much do you think that these things will be a problem or barrier in following your educational and career goals?**

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>(34) Money difficulties will be a problem</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(35) Family difficulties will be a problem</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(36) Not being smart enough will be a problem</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(37) My hearing loss will be a problem</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(38) People's attitudes about my hearing loss will be a problem</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(39) Lack of support from teachers will be a problem</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(40) Having to work in groups will be a problem</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(41) Not knowing how to study well will be a problem</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(42) Not having enough confidence will be a problem</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(43) Lack of support from friends will be a problem</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(44) My gender (i.e. male/female) will be a problem</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(45) People's attitudes about my gender (i.e. male/female) will be a problem</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(46) My ethnic background will be a problem</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(47) People's attitudes about my ethnic background will be a problem</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(48) Talking and listening to new people will be a problem</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(49) Not fitting in at college or university will be a problem</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(50) Having to work while I go to university or college will be a problem</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(51) Not being able to hear well on the phone will be a problem</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(52) People not understanding my hearing loss will be a problem</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
How much do you agree or disagree with each of these statements?

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>(53) What’s important to me doesn’t seem important to the people I know</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(54) I don’t have a friend who shares my views, but I wish I did</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>(55) I feel part of a group of friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>(56) My friends understand me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(57) I feel in tune with other people my age</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>(58) I have a lot in common with other young people</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(59) I have friends I can turn to for information</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>(60) I like the people I hang out with</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(61) I can depend on my friends for help</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>(62) I have friends I can talk to about the pressures in my life</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(63) I don’t have a friend who understands me, but I wish I did</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>(64) I don’t feel satisfied with the friends I have</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(65) I have friends with whom I can share my views</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(66) I’m not part of a group of friends and I wish I were</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>(67) I feel an accepted part of my class/year at school</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

For copyright reasons, Questions 68-85 are not reproduced here; they are the Career Decision Scale (Osipow et al., 1976).
How much do you agree or disagree that you could:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>(86) Find information in the library about occupations you are interested in</td>
<td>☐ 1  ☐ 2  ☐ 3  ☐ 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(87) Select one occupation from a list of possible occupations you are considering</td>
<td>☐ 1  ☐ 2  ☐ 3  ☐ 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(88) Make a plan of your educational or career goals for the next five years</td>
<td>☐ 1  ☐ 2  ☐ 3  ☐ 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(89) Determine what occupation would be best for you</td>
<td>☐ 1  ☐ 2  ☐ 3  ☐ 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(90) Decide what you value most in an occupation</td>
<td>☐ 1  ☐ 2  ☐ 3  ☐ 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(91) Resist attempts of parents or friends to push you into a career you believe is not for you</td>
<td>☐ 1  ☐ 2  ☐ 3  ☐ 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(92) Describe the job skills of a career you might like to enter</td>
<td>☐ 1  ☐ 2  ☐ 3  ☐ 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(93) Choose a career in which most workers are the opposite sex</td>
<td>☐ 1  ☐ 2  ☐ 3  ☐ 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(94) Choose a career that will fit your interests</td>
<td>☐ 1  ☐ 2  ☐ 3  ☐ 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(95) Decide what kind of education you will need to achieve your career goal</td>
<td>☐ 1  ☐ 2  ☐ 3  ☐ 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(96) Find out the average salary of people in an occupation</td>
<td>☐ 1  ☐ 2  ☐ 3  ☐ 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(97) Talk with a person already employed in a job or career you are interested in</td>
<td>☐ 1  ☐ 2  ☐ 3  ☐ 4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How much do you agree or disagree with each statement?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>(98) If I learn more about different careers, I will make a better career decision</td>
<td>☐ 1  ☐ 2  ☐ 3  ☐ 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(99) If I know my interests and abilities, then I will be able to choose a good career for me</td>
<td>☐ 1  ☐ 2  ☐ 3  ☐ 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(100) If I make a good career decision, then my parents will approve of me</td>
<td>☐ 1  ☐ 2  ☐ 3  ☐ 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(101) If I know about the education I need for different careers, I will make a better career decision</td>
<td>☐ 1  ☐ 2  ☐ 3  ☐ 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(102) If I spend enough time gathering information about careers, I can learn what I need to know when I make a decision</td>
<td>☐ 1  ☐ 2  ☐ 3  ☐ 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(103) I intend to spend more time learning about careers than I have been</td>
<td>☐ 1  ☐ 2  ☐ 3  ☐ 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(104) I plan to talk to lots of people about careers</td>
<td>☐ 1  ☐ 2  ☐ 3  ☐ 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(105) I am determined to talk to my teachers about career opportunities</td>
<td>☐ 1  ☐ 2  ☐ 3  ☐ 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(106) I plan to learn more about my abilities and interests</td>
<td>☐ 1  ☐ 2  ☐ 3  ☐ 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(107) I intend to get all the education I need for my career choice</td>
<td>☐ 1  ☐ 2  ☐ 3  ☐ 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(108) I have pretty much settled on my career goal</td>
<td>☐ 1  ☐ 2  ☐ 3  ☐ 4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX D

Interview guide for major qualitative phase

1. What is it like for you trying to come to a decision about what career or job or course to pursue after leaving school?
2. How confident do you feel about making these kinds of decisions?
3. How much do you know about how to find information you need, and how to make choices about what to do after school?
4. Has anyone been particularly helpful or supportive to you in doing this?
5. Have you had any work experience or part-time work? *(If yes, explore these experiences)*
6. Looking down the track to when you’re, say, 25, what kind of work would you like to be doing?
7. What might hold you back from achieving that?
8. Is there anything about having a hearing loss that you think will make it harder for you to achieve? *(If not mentioned, ask about the following)*
   - Talking on phone
   - Talking/listening new people
   - Group work
   - Reading/writing skills
   - People’s attitudes
   - People not understanding hearing loss

10. Has the fact that you have a hearing loss affected your decision-making about a career?
11. What about the social side of school, and friends? What’s that like for you?
12. Is there anything you’d like to add?
APPENDIX E

Information letters and consent forms
Dear Principal,

I am conducting research towards a PhD degree under the supervision of Dr. Mervyn Hyde of the School of Education and Professional Studies, and Dr. Peter Creed of the School of Applied Psychology, Griffith University, Gold Coast.

The aim of this research study is to gain knowledge and understanding of the experiences of hearing-impaired school students in Years 10, 11 and 12 in relation to their decision-making about future educational and career choices. The study’s findings should inform the practice of the career counselling and career education of young people with hearing loss.

At this early stage of the study, I will be conducting informal interviews or discussions with a small number of young people who are presently in Year 12 to gain some idea of issues that have affected them in their career decision-making. This will be helpful in designing a survey questionnaire and interview questions for the main part of the research.

I am seeking your permission to invite the Year 12 hearing-impaired student attending your school to participate in an interview. If both student and parent agree, he/she will meet with me for about 45 minutes, at the school. The audio-taped interview will be a friendly and non-threatening experience for the student.

This preliminary stage of the study has received approval from the Human Research Ethics Committee of Griffith University, Education Queensland, and Brisbane Catholic Education. If you would like to know any more about the research study, you can contact any of the investigators at the telephone numbers or email addresses listed below.

I realise this is a very busy time for Year 12 students and teachers, and so I aim to conduct the interviews as soon as possible, taking into account the timetables and pressures at the end of the year.

Your response as soon as possible by email, phone or fax would be very much appreciated. Thank you for your assistance with this research project.

Renée Punch
Ph: (07) 55391262
r.punch@griffith.edu.au

Dr. Merv Hyde
Ph: (07) 55528636
m.hyde@griffith.edu.au

Dr. Peter Creed
Ph: (07)55528810
p.creed@griffith.edu.au
Dear parent and student,

I am conducting research towards a PhD degree under the supervision of Dr. Mervyn Hyde of the School of Education and Professional Studies, and Dr. Peter Creed of the School of Applied Psychology, Griffith University, Gold Coast.

The aim of this research study is to gain knowledge and understanding of the experiences of hearing-impaired school students in Years 10, 11 and 12 in relation to their decision-making about future educational and career choices. The results of this study will provide information that will be valuable for the practice of career guidance and career education for students who are hearing-impaired.

At this early stage of the study, I will be conducting informal interviews or discussions with a small number of young people who are presently in Year 12, or who have left school within the last few years, to gain some idea of issues that have affected them in their career decision-making. This will be helpful in designing a survey questionnaire and interview questions for the main part of the research.

If you and your son/daughter agree, he/she will meet with me for about 45 minutes, at his/her school. The audio-taped interview will be a friendly and non-threatening experience for the student.

All responses will be treated as strictly confidential. Only the researchers will have access to the audiotapes and any information, which will be kept in securely locked premises. Students’ names will not be used in the reporting of the study. Students will be free to withdraw from participating at any time without needing to provide reasons for withdrawing.

If you agree to your son/daughter participating in this study, please sign the enclosed consent forms (there is one for a parent/guardian to sign and one for the student to sign) and return them to me in the enclosed pre-paid envelope. We can then arrange with the school a suitable time for the interview.

If you would like to know any more about the research study, you can contact any of the investigators at the telephone numbers or email addresses listed.

Thank you for your assistance with this research project.

Renée Punch         Dr. Merv Hyde         Dr. Peter Creed
Ph: (07) 55391262     Ph: (07) 55528636     Ph: (07)55528810
r.punch@griffith.edu.au m.hyde@griffith.edu.au p.creed@griffith.edu.au

The University requires that all participants be informed that if they have any complaints concerning the manner in which a research project is conducted it may be given to the researcher, or, if an independent person is preferred, either

The University’s Research Ethics Officer, Office for Research, Bray Centre, Griffith University, Kessels Rd, Nathan, 4111, telephone (07) 38756618; or

The Pro-Vice Chancellor (Administration), Bray Centre, Griffith University, Kessels Rd, Nathan, 4111, telephone (07) 387573
Dear student,

I am conducting research towards a PhD degree under the supervision of Dr. Mervyn Hyde of the School of Education and Professional Studies, and Dr. Peter Creed of the School of Applied Psychology, Griffith University, Gold Coast.

The aim of this research is to develop understanding of the processes of career decision-making of Year 11 and 12 students who have a hearing loss. The study’s findings should contribute insight into and inform the practice of the career counselling and career education of hearing-impaired adolescents and young adults.

At this early stage of the study, I will be conducting informal interviews or discussions with a small number of young people who are presently in Year 12, or who have left school within the last few years, to gain some idea of issues that have affected them in their career decision-making. This will be helpful in designing a survey questionnaire and interview questions for the main part of the research.

If you agree to participate in these discussions, you will be meeting with me for about 45 minutes, at your university campus. I will ask you some fairly general questions about what it has been like for you to make decisions about what to do after leaving school. I will audio-tape the discussion and take notes of what you say. You can look at these notes afterwards and confirm that they are correct, or suggest changes if you wish.

Your responses will be treated as strictly confidential, and will not be shared with anyone other than the researchers. Your anonymity is guaranteed and your name will not be used in the reporting of the study. You will be free to withdraw from participating at any time if you wish, without needing to provide reasons for withdrawing.

If you agree to participate in this study, please sign the enclosed consent form and return it to me in the pre-paid envelope provided. We can then arrange a suitable time for the interview.

If you have any questions, you can contact me or the other investigators at the telephone numbers or email addresses listed.

Thank you for your assistance with this research project.

Renée Punch  Dr. Merv Hyde  Dr. Peter Creed
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r.punch@griffith.net.au m.hyde@griffith.edu.au p.creed@griffith.edu.au
Dear Itinerant Teacher/Advisory Visiting Teacher,

I am conducting research towards a PhD degree under the supervision of Dr. Mervyn Hyde of the School of Education and Professional Studies, and Dr. Peter Creed of the School of Applied Psychology, Griffith University, Gold Coast.

The aim of this research study is to gain knowledge and understanding of the experiences of hearing-impaired school students in Years 10, 11 and 12 in relation to their decision-making about future educational and career choices. The study will focus on students who are “hard of hearing” according to the definition increasingly used in the literature, that is, who depend primarily on their amplified residual hearing and communicate orally, regardless of the degree of their hearing loss. I would like to survey students with a bilateral hearing loss from mild to profound, with no other educationally significant disabilities, and who attend regular classes with itinerant teacher support.

Students will be asked to fill in a questionnaire which should take about 20 to 30 minutes to complete.

The study will be beneficial to young people with hearing loss as it will contribute insight into, and inform the practice of, the career education and career counselling of hearing-impaired adolescents and young adults. Careful career exploration and planning is especially crucial to these young people if they are to overcome the difficulties associated with their hearing loss and succeed vocationally.

As these students are not great in number, it is important to the validity of the study that as many as possible participate. The success of the data collection depends very much on the assistance of itinerant teachers, and so I am hoping that all teachers who support students meeting the study’s criteria will assist. Would you be able to let me know (through email address or phone number listed below) how many students you support who meet the criteria for the study – that is:

- Bilateral sensorineural hearing loss (congenital or acquired at an early age)
- In Year 10, 11 or 12
- No additional disability which significantly affects the student’s learning

Could you also let me know the names and addresses of the schools these students attend, and your own postal address. With the agreement of the school’s principal, I will then mail you a packet containing questionnaires and information and consent forms for parents and students. I will ask you to give these to your student, who can then take them home. With parental consent, they can then fill in the questionnaire at home and mail it, along with the signed consent forms, back to the university in the prepaid envelope that will be provided.

Thank you for your very valuable assistance with this research project.

Renée Punch  
Ph: (07) 55391262  
r.punch@griffith.edu.au

Dr. Merv Hyde  
Ph: (07) 55528636  
m.hyde@griffith.edu.au

Dr. Peter Creed  
Ph: (07)55528810  
p.creed@griffith.edu.au
Dear Principal,

I am conducting research towards a PhD degree under the supervision of Dr. Mervyn Hyde of the School of Education and Professional Studies, and Dr. Peter Creed of the School of Applied Psychology, Griffith University, Gold Coast.

The aim of this research study is to gain knowledge and understanding of the experiences of hearing-impaired school students in Years 10, 11 and 12 in relation to their decision-making about future educational and career choices. The study will explore the extent to which they see their hearing impairment as a barrier or problem that might influence their career aspirations and goals.

If you agree, the hearing-impaired student/s attending your school will be given a questionnaire, information sheet and consent forms by their Advisory Visiting Teacher. If they wish to participate and their parents agree, students will fill in the questionnaire at home and the family can return these, along with their completed consent form, to Griffith University in the pre-paid envelope provided.

The results of this study will provide valuable information that will be helpful to the practice of career guidance and career education for students who are hearing-impaired. The study has received approval from the Human Research Ethics Committee of Griffith University, NSW Department of Education, Education Queensland, Brisbane Catholic Education and the Catholic Education Office, Sydney. If you would like to know any more about the research study, you can contact any of the investigators at the telephone numbers or email addresses listed below.

Your response as soon as possible by email, phone (address and number for Renée Punch below) or fax would be very much appreciated.

Thank you for your assistance with this research project.

Renée Punch
Ph: (07) 55391262
r.punch@griffith.edu.au

Dr. Merv Hyde
Ph: (07) 55528636
m.hyde@griffith.edu.au

Dr. Peter Creed
Ph: (07)55528810
p.creed@griffith.edu.au
Dear parent and student,

I am conducting research towards a PhD degree under the supervision of Dr. Mervyn Hyde of the School of Education and Professional Studies, and Dr. Peter Creed of the School of Applied Psychology, Griffith University, Gold Coast.

The aim of this research study is to gain knowledge and understanding of the experiences of hearing-impaired school students in Years 10, 11 and 12 in relation to their decision-making about future educational and career choices. The study will explore the extent to which they see their hearing impairment as a barrier or problem that might influence their career aspirations and goals.

All responses will be treated as strictly confidential. Students’ names will not be used in the reporting of the study. Students will be free to withdraw from participating at any time without needing to provide reasons for withdrawing.

The results of this study will provide valuable information that will be helpful to the practice of career guidance and career education for students who are hearing-impaired.

If you agree to participate in this study, please sign the enclosed consent forms (there is one for a parent/guardian to sign and one for the student to sign – the student’s form is on second page of the questionnaire). The student can then fill in the questionnaire, at home. Could you then return the questionnaire and parent consent form in the enclosed pre-paid envelope. I would ask you to do this as soon as possible.

If you would like to know any more about the research study, you can contact any of the investigators at the telephone numbers or email addresses listed below.

Thank you for your valuable assistance with this research project.

Renée Punch   Dr. Merv Hyde   Dr. Peter Creed
Ph: (07) 55391262   Ph: (07) 55528636   Ph: (07) 55528810
r.punch@griffith.edu.au   m.hyde@griffith.edu.au   p.creed@griffith.edu.au

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The University’s Research Ethics Officer, Office for Research, Bray Centre, Griffith University, Kessels Rd, Nathan, 4111, telephone (07) 38756618; or
The Pro-Vice Chancellor (Administration), Bray Centre, Griffith University, Kessels Rd, Nathan, 4111, telephone (07) 38757343
Parent Consent Form

Project: Career Development of Hard of hearing Adolescents

I agree to my son/daughter taking part in the above Griffith University research project. I have read the attached Information Sheet. I understand that agreeing to take part means that my son/daughter will fill in a questionnaire asking about his/her thoughts, attitudes and plans related to his/her future educational or career choices.

I understand that any information my son/daughter provides will be confidential. His/her anonymity will be guaranteed and his/her name will not be used in the reporting of the findings.

I also understand that his/her participation is voluntary, and that he/she can choose to withdraw at any time without needing to provide reasons for withdrawing.

Name………………………………………………………………..…..(please print)
Address:…………………………………………………………………………………
……………………………………………………………………………………
Name of student………………………………………………………………………….
School attended by student……………………………………………………………..

Signature………………………………………………………......…Date:…………….

Renée Punch  Dr. Merv Hyde  Dr. Peter Creed
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r.punch@griffith.edu.au  m.hyde@griffith.edu.au  p.creed@griffith.edu.au
Student Consent Form

Project: Career Development of Hard of Hearing Adolescents

I agree to take part in the above Griffith University research project. I have read the attached Information Sheet. I understand that agreeing to take part means that I will fill in a questionnaire asking about my thoughts, attitudes and plans related to my future educational or career choices.

I understand that any information I provide will be confidential, my anonymity will be guaranteed and my name will not be used in the reporting of the findings.

I also understand that my participation is voluntary, and that I can choose to withdraw at any time without needing to explain my reasons for withdrawing.

Name..................................................................................(please print)
Address:.....................................................................................
..........................................................................................
School attended..................................................................................

Signature..................................................................................Date:.........................

Renée Punch Dr. Merv Hyde Dr. Peter Creed
Ph: (07) 55528636 Ph: (07) 55528636 Ph: (07) 55528810
r.punch@griffith.net.au m.hyde@griffith.edu.au p.creed@griffith.edu.au
Dear Principal,

I am conducting research towards a PhD degree under the supervision of Dr. Mervyn Hyde of the School of Education and Professional Studies, and Dr. Peter Creed of the School of Applied Psychology, Griffith University, Gold Coast.

The aim of this research study is to gain knowledge and understanding of the experiences of mainstreamed hearing-impaired school students in Years 10, 11 and 12 in relation to their decision-making about future educational and career choices. In order to compare the data from the hearing-impaired students, I need to survey students who do not have a hearing impairment, and I am seeking your agreement to have your school participate. This would involve students in Years 10, 11 and 12 (approximately 50 students in each grade), after their parents have returned a consent form, completing a questionnaire. The questions relate to career decision-making competencies and self-efficacy beliefs, career knowledge, perception of career barriers, and social self-concept. The questionnaire will take approximately 20 to 30 minutes to complete. I would deliver the questionnaire to your school and collect it. The questionnaire could either be administered by class teachers, or by myself if that was more convenient to you. The total time required would be about three quarters of an hour, and I would do everything possible to ensure the smallest amount of inconvenience to your staff and students.

To ensure confidentiality, students will put their completed questionnaires in an envelope which will be immediately sealed. All responses will be treated as strictly confidential, and no students’ or schools’ names will be used in the reporting of the study. Students will be free to withdraw from participating at any time without needing to provide reasons for withdrawing.

If you agree to the participation of your students, your school will be contributing to much-needed information that will be helpful to the practice of career guidance and career education for students who are hearing-impaired.

The study has received approval from the Human Research Ethics Committee of Griffith University and from Education Queensland. If you would like to know any more about the research study, you can contact any of the researchers at the telephone number or email addresses listed below.

Thank you for your consideration.

Renée Punch
Ph: (07) 55391262
r.punch@griffith.edu.au

Dr. Merv Hyde
Ph: (07) 55528636
m.hyde@griffith.edu.au

Dr. Peter Creed
Ph: (07) 55528810
p.creed@griffith.edu.au
Dear Principal,

I am conducting research towards a PhD degree under the supervision of Dr. Mervyn Hyde of the School of Education and Professional Studies, and Dr. Peter Creed of the School of Applied Psychology, Griffith University, Gold Coast.

The aim of this research study is to gain knowledge and understanding of the experiences of hearing-impaired school students in Years 10, 11 and 12 (those who attend regular schools with support from an Advisory Visiting Teacher of the Deaf) in relation to their decision-making about future educational and career choices. The study will explore the extent to which they see their hearing impairment as a barrier or problem that might influence their career aspirations and goals.

Already, a large number of students at schools across Queensland and NSW, including a student at your school, have completed a questionnaire. I am now seeking to interview a small number of those students to explore the issues in more depth, and would like to approach the student attending your school to take part in an interview. After consent from parent and student, the student will meet with me for about 45 minutes, at school, or at the family’s home if they prefer. The audio-taped interview will be a friendly and non-threatening experience for the student.

The results of this study will provide information that will be helpful to the practice of career guidance and career education for students who are hearing-impaired.

The study has received approval from the Human Research Ethics Committee of Griffith University and from Education Queensland, NSW Department of Education, Brisbane Catholic Education and the Catholic Education Office, Sydney. If you would like to know any more about the research study, you can contact me, Dr. Hyde or Dr. Creed at the telephone numbers or email addresses listed.

Thank you for your assistance with this research project.

Renée Punch
Ph: (07) 55391262
r.punch@griffith.edu.au

Dr. Merv Hyde
Ph: (07) 55528636
m.hyde@griffith.edu.au

Dr. Peter Creed
Ph: (07)55528810
p.creed@griffith.edu.au
Dear parent and student,

I am conducting research towards a PhD degree under the supervision of Dr. Mervyn Hyde of the School of Education and Professional Studies, and Dr. Peter Creed of the School of Applied Psychology, Griffith University, Gold Coast.

The aim of this research study is to gain knowledge and understanding of the experiences of hearing-impaired school students in Years 10, 11 and 12 in relation to their decision-making about future educational and career choices. The study will explore the extent to which they see their hearing impairment as a barrier or problem that might influence their career aspirations and goals.

Already, a large number of students, including your son/daughter, have completed a questionnaire. I am now seeking to interview a small number of those students to explore the issues in more depth.

If you and your son/daughter agree, he/she will meet with me for about 45 minutes, at his/her school. The audio-taped interview will be a friendly and non-threatening experience for the student.

All responses will be treated as strictly confidential. Only the researchers will have access to the audiotapes and any information, which will be kept in securely locked premises. Students’ names will not be used in the reporting of the study. Students will be free to withdraw from participating at any time without needing to provide reasons for withdrawing.

The results of this study will provide information that will be valuable for the practice of career guidance and career education for students who are hearing-impaired.

If you agree to your son/daughter participating in this study, please sign the enclosed consent forms (there is one for a parent/guardian to sign and one for the student to sign) and return them to me in the enclosed pre-paid envelope.

Thank you for your assistance with this research project.

Renée Punch
Dr. Merv Hyde
Dr. Peter Creed
Ph: (07) 55391262 Ph: (07) 55528636 Ph: (07)55528810
r.punch@griffith.edu.au m.hyde@griffith.edu.au p.creed@griffith.edu.au

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The University’s Research Ethics Officer, Office for Research, Bray Centre, Griffith University, Kessels Rd, Nathan, 4111, telephone (07) 38756618; or
The Pro-Vice Chancellor (Administration), Bray Centre, Griffith University, Kessels Rd, Nathan, 4111, telephone (07) 38757
Parent Consent Form

Project: Career Development of Hard of Hearing Adolescents

I agree to my son/daughter taking part in the above Griffith University research project. I have read the attached Information Sheet. I understand that agreeing to take part means that my son/daughter will meet with the researcher to take part in an interview lasting about 45 minutes.

I understand that any information my son/daughter provides will be confidential. His/her anonymity will be guaranteed and his/her name will not be used in the reporting of the findings.

I also understand that his/her participation is voluntary, and that he/she can choose to withdraw at any time without needing to provide reasons for withdrawing.

Name…………………………………………………………………..…..(please print)
Address:…………………………………………………………………..………………………………
Name of student…………………………………………………………………………
School attended by student………………………………………………………………

Signature…………………………………………………………………..…..Date:…………….…..

Renée Punch Dr. Merv Hyde Dr. Peter Creed
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r.punch@griffith.edu.au m.hyde@griffith.edu.au p.creed@griffith.edu.au
Student Consent Form

Project: Career Development of Hard of Hearing Adolescents

I agree to take part in the above Griffith University research project. I have read the attached Information Sheet. I understand that agreeing to take part means that I will meet with the researcher to take part in an interview lasting about 45 minutes.

I understand that any information I provide will be confidential, my anonymity will be guaranteed and my name will not be used in the reporting of the findings.

I also understand that my participation is voluntary, and that I can choose to withdraw at any time without needing to explain my reasons for withdrawing.

Name…………………………………………………………………………………………..(please print)
Address:……………………………………………………………………………………..
……………………………………………………………………………………………………
School attended………………………………………………………………………………

Signature…………………………………                    Date:………………………

Renée Punch                    Dr. Merv Hyde                  Dr. Peter Creed
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