

Australian Centre for Economic Research on Health

**Labour force activities, barriers and enablers for
people with a hearing loss: The Workforce
Barriers and Incentives Study**

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Contents

List of Tables	ii
List of Figures	iii
Executive Summary	iv
Acknowledgement	viii
Introduction	1
Recent Literature	3
The Survey	5
Results	6
Overview	6
Health and Hearing	6
Labour Market Activities	10
Occupation	10
Income	10
Finding Work	10
Sources of Disadvantage	13
Employment Agencies	14
In the Workplace: Accommodations and Support	16
Employment Assistance Fund	18
Assistive Technologies	20
Conclusion	22
References	24

Executive Summary

People who want to participate in the labour force and have a hearing loss face challenges that are unfamiliar to most of their hearing peers: for some, the barriers become evident start at or before the process of searching for work and, for many, they become more acute during the selection process or at work. A loss of hearing can also lead people to exit the labour force sooner than they would like to, and before their intended age of retirement.

This survey-based Australian study contributes to the small contemporary literature on the problems that people with a hearing loss face in the labour force and some solutions to them. It focuses not only on barriers to labour force participation and success, but also on the things that help people with a hearing loss to overcome those barriers and succeed. The study is unique in the sense that the only studies published since 2000 have concentrated on people with a hearing loss, and both of those studies used administrative data from a US job placement scheme for people with a disability. There have apparently been no recent studies that ask people with a hearing loss about their own experiences finding, retaining, and being successful at work. This study thus fills a surprising gap in the contemporary literature.

This work is important for at least two reasons. First, barriers to labour force participation can have serious implications for the wealth, health and well-being of people with a disability. Second, the economic implications of depressed labour force participation rates and lower-than-possible workforce productivity are becoming more important as the Australian population ages.

The Australian Department of Treasury predicts that by 2050 there will be just 2.5 people of working age for every person aged 65+ years, compared with 7.5 workers for every older person in 1970. As a consequence, public expenditure is projected to exceed tax revenue by 2.75% of Gross Domestic Product by the middle of the century. In its 2010 *Intergenerational Report* Treasury identified population growth, productivity growth and increased labour force participation as the three targets Australia must pursue to meet the fiscal challenges of the ageing population. The participation rate for 55-64 year-olds is identified as a particular important target: the labour force participation rate for this age group is lower for Australia than it is for comparable countries (such as the UK, USA, NZ). Australia has historically had limited success in its attempts to lift participation rates and Treasury has set quite ambitious growth targets for 55-64 year olds. Given the prevalence of hearing loss in this age group and its growing importance as a proportion of the potential labour force, workplace accommodations and better support to enter the labour force are likely to be of increasing importance.

Methods

The main results of this study are based on a survey called the *Workforce Barriers and Incentives Survey* that was conducted in 2012. This online survey targeted people with a hearing loss and attracted 273 respondents who were asked questions that were mostly about looking for work, finding work, and success and promotion at work. People were asked about the types of restrictions (if any) they faced in the workplace, the types of barriers they faced when looking for work, during the recruitment process, at work, and in relation to promotion and success. They were also asked about the role that people, equipment and support services had played in helping them to overcome those barriers. In addition to multiple-choice questions about these aspects of labour force

participation, respondents were also given several opportunities to write their own comments about their labour force experiences.

Main Results

The results show that many people with a hearing loss still face considerable barriers to labour market success and that, while the mechanisms for overcoming those barriers exist, they are not universally available. Unsurprisingly, when the absence of a particular type of support was identified as a barrier to success, its presence was identified as enabling.

Key statistics arising from the study are as follows:

- The survey attracted a highly-educated and largely-professional sample: approximately 49% had undertaken university study and only 1.9% of the sample reported no education beyond primary school. A large proportion—approximately 45%—of respondents indicated that their usual occupation was as a “Manager” or “Professional”. Two US studies, using administrative data, reported less than 27% of people with a hearing loss were classified in “Professional” occupations.
- Females were over-represented in the sample, comprising 61% of respondents.
- The mean gross household income was approximately \$10,000 per annum lower than that of the Australia population. The median gross household income of the sample was also lower than the population median: while half the sample earned \$52,000 or more, the median for the Australian population was approximately \$68,000.
- 94.7% of the working age sample (18-64 years) were in the labour force, of whom 91% were in paid employment; and 9% were not in paid employment but looking for work.
- A substantial fraction of respondents who were in the labour force were underemployed: 25% of people who were in paid employment indicated that they would like to work more hours; and 18% of people worked less than 16 hours per week.
- In the subsample that was looking for work or more hours approximately 20% of respondents believed that employers are reluctant to hire people with disabilities, while approximately 14% indicated their “own health or disability” was the main reason they couldn’t find more work, and approximately 11% indicated that they did not have access to the right equipment, support or technology they would need to work.
- More than 40% of respondents reported feeling disadvantaged by their hearing loss when they were trying to secure work and 53% reported feeling disadvantaged by their hearing loss at work.
- There was considerable disaffection about the role of various employment agencies in helping respondents to find work: between 36% and 44% of respondents disagreed or strongly disagreed with statements that various agencies had helped them to find work, with the strongest disagreement being registered for Centrelink. There were various reasons for this level of dissatisfaction, including
 - a perception that employment agencies are reluctant to recommend workers with disabilities out of concern for their own reputations;
 - the unavailability of services for people who are already employed and want support to find a different job; and
 - a perception that employment agencies recommend unskilled work (e.g., stacking shelves) to skilled workers who have a disability.
- Almost 20% of respondents did not know whether they were eligible for an Employment Assistance Fund (EAF), while approximately 50% indicated that they were ineligible and 30%

indicated that they were eligible. Exactly half of the respondents who knew they were eligible for an EAF indicated that it was sufficient to meet their needs, while the remaining half indicated it was insufficient to meet their needs. Reasons for dissatisfaction with the EAF included limitations on its use (e.g., the exclusion of hearing aids) and, for people who use interpreters, the insufficiency of the annual budget to meet their interpreting needs at work.

- Approximately 54% of respondents agreed or strongly agreed that workplace accommodations had enabled them to overcome work restrictions. Of respondents who indicated that workplace accommodations have assisted, or would assist them to overcome restrictions at work, 77% indicated that the availability of support services (e.g., technology, equipment, interpreters) would help them, 48% indicated that training would help, and 35% indicated working from home as a useful accommodation.
- Seventy-three to 75% of respondents agreed or strongly agreed that their own self-sufficiency and persistence had helped them to overcome work restrictions. Some respondents indicated that colleagues' and managers' lack of awareness and training, or attitudes towards people who are Deaf or have a hearing loss are a substantive problem in the workplace. Conversely, excluding N/A responses, more than 70% of respondents agreed or strongly agreed with the propositions that supportive managers, supportive co-workers and supportive customers had enabled them to overcome workplace restrictions. Sixty-eight per cent of this group agreed or strongly agreed that support services (including captioning, interpreters, software, hardware) had enabled them to overcome workplace restrictions.
- The majority of respondents also indicated agreement or strong agreement with statements that a hearing loss had restricted the range of tasks they were asked to perform at work, their opportunities to apply for other jobs, and opportunities for promotion.
- A majority of respondents reported using captioning services (58%) and the National Relay Service (NRS) (54%), while 34% reported using interpreter services, 23% smartphone apps for people with a hearing loss, and 14% reported using the Video Relay Service (VRS).

Conclusions

People with a hearing loss still face substantial barriers to labour force participation. The results of this survey-based study suggest that these barriers have material effects on labour market outcomes (e.g., earnings) and show that there is substantial underemployment in this group of well-educated respondents. Many survey participants indicated that their hearing loss or related problems (e.g., the attitudes of others) had caused them difficulties, not only in finding suitable work, but in success at work, including securing promotion. Importantly, the results suggest that the support of other people (colleagues, managers and customers) and access to the right equipment and support services (e.g., captioning, interpreter services, NRS, VRS and smartphone apps) can ameliorate or defeat of these challenges. The absence of such support is, itself, appears to be an important barrier to success for people who want to work, but have a hearing loss.

In its *Intergenerational Report*, The Australian Department of Treasury has underscored the importance of Australia improve productivity and labour force participation—not just in order to meet the government's social inclusion goals—but also to meet the fiscal challenges posed by an ageing population. It argues that:

...the implementation of policies which support productivity and enable labour force participation, will be critical to meeting Australia's future challenges (Australian Department of Treasury, 2010, p.xviii).

Improvements in labour force support for people with a hearing loss could form an important part of this strategy, especially given the ambitious targets Treasury has set for the participation of 55-64 year-olds in the first half of this decade.

Acknowledgement

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Introduction

This report presents the results of a survey called the *Workforce Barriers and Incentives Survey* which was administered in June 2012 to people who have a hearing loss. The purpose of the survey was to ascertain the factors that influence participation decisions and labour market outcomes for people with a hearing loss. In particular, it sought to identify factors enable people with a hearing loss to find, retain and be successful at work and factors inimical to success in the workplace.

Hearing loss is one of the most commonly-reported long-term conditions in the Australian population: 13.7% of males and 7.4% of females reported hearing loss in the *2007-08 National Health Survey* (Australian Bureau of Statistics 2009). According to the Australian Institute of Health and Welfare (2010), hearing loss is the fifth-most commonly reported long-term condition for males and the 11th-most commonly reported long-term condition for females. Furthermore, adult-onset hearing loss has third-highest incidence rate for non-fatal conditions in males and the sixth-highest incidence rate for females (Begg, Vos, Barker *et al.* 2007). As the population ages, the burden of disease due to neurological and sense disorders is also expected to increase (from 12% to 16%), mainly due to increases in dementia and hearing loss (Begg, Vos, Barker *et al.* 2007). In the United States, for example, it is estimated that the prevalence of hearing loss alone will grow 40% between 2010 and 2025 (Bowe 2005 in United States National Council on Disability 2010). In Australia, the 38.5% growth of services provided by Australian Hearing between 2002-03 and 2008-09 (Australian Institute of Health and Welfare 2010) is another indicator of this trend.

Two factors drive changes in disability prevalence: changes in the age structure of the population (because disability rates increase with age) and changes in the age-specific rates of disability. An ageing population is, in many developed countries including the United States and Australia, the largest source of growth of the prevalent rates and numbers of people with disabilities (United States National Council on Disability 2010, AIHW 2008). While the rates of severe disability in the older population appear to be fairly stable in some countries (e.g., Australia and Canada), other countries have experienced declining rates (e.g., Denmark, Finland, the United States), or increasing rates (e.g., Japan, Sweden) of severe disability in older people, leading the OECD (2007) to caution policy-makers against relying on future reductions of disability prevalence in older age groups to offset the rising demand for long-term care that will result from the ageing of the population.

The question of how people with disabilities can be supported in the workforce is important for both social and economic reasons. In addition to matters of social justice and disadvantage (Perkins 2007) and the Commonwealth's social inclusion agenda (Australian Department of Treasury 2010), the economic implications of an ageing are considered both in Australia and abroad to constitute one of the greatest public policy challenges to be faced in the first half of this century (Australian Treasury 2010, United States National Council on Disability 2010). Indeed, this problem is more acute in Australia than in comparable countries because Australia's workforce participation rate for mature workers in general is lower than it is in New Zealand, Canada, the United Kingdom and the United States, for example (Australian Department of Treasury 2010).

Two related effects of the ageing population are the source of concern: these are the effect of demographic change on the old age dependency ratio and the implications of this change for a gap between public spending and tax revenue (the “fiscal gap”). The dependency ratio is projected to decline considerably: the Australian Department of Treasury (2010) predicts that by 2050 will be only 2.7 people of working age for each Australian aged 65 or over.¹ It also estimates the resulting fiscal gap would be 3.75% of gross domestic product (GDP) by 2049-2050 if steps were not taken to address the challenges associated with population ageing. It estimates that, with the government’s 2% cap on spending growth to 2015-16 and slower population ageing that was initially forecast, this gap should be reduced to 2.75% of GDP (Australian Department of Treasury 2010).

The three main strategies to address the challenges posed by an ageing population are articulated in the Treasury’s *Intergenerational Report* as “the three Ps”: population, participation and productivity. In relation to participation in particular, it recommends that Australia improve its labour force participation rates via policy initiatives that include the removal of “barriers to workforce participation for mature aged people who want to work” (Australian Department of Treasury 2010, p.xiv). Indeed, the workforce participation rates of people with a disability in general tend to be much lower than the participation rates of people without a disability: for the period 1998-2003 the labour force participation rates for males with a disability were approximately 30 percentage points lower, and for females with a disability, participation rates were approximately 22-25 percentage points lower than for their peers without disability. Improvements in participation may hold considerable promise as a strategy to deal with the economic consequences of an ageing population. Furthermore, while unemployment rates also fell by half for people with disabilities, they more than halved for people without a disability and Australia’s participation rate for people with disabilities remained below the OECD average (Australian Department of Treasury 2010). Thus, while participation rates have improved for people with a disability, the gap in participation rates between people, which did not change between 1998 and 2003 (Australian Institute of Health and Welfare 2008), has recently widened.

The industry peak body National Disability Services recently estimated that there are approximately 200,000 Australians who say that they can work with support who are not in the labour force. It argues, based on an analysis of data from the *2009 Survey of Disability, Ageing and Carers* (Australian Bureau of Statistics 2011) and an application of a regional input-output model to measure the impact of the proposed National Disability Insurance Scheme (NDIS) (see, e.g., Productivity Commission 2011) that “...disability employment [in Australia] can reduce the fiscal gap caused by the ageing of the population by roughly a quarter by 2050” (National Disability Services 2011, p.1).²

¹In 1970, for example, there were 7.5 people of working age for every Australian aged 65 years and over and at present the ratio is approximately 5 (Australian Department of Treasury 2010).

² This estimate may be optimistic because it is predicated on an assumption (invoked in an earlier Organisation for Economic Cooperation and Development (2007) study of Australia and three other countries) that every person with a disability who says s/he wants to work, actually does work. Nevertheless, the magnitude of the estimate is such that it is likely to withstand less ambitious assumptions about employment integration.

While the incidence of hearing loss is highest in older age groups, hearing loss in the working age population is also important, especially in the 45-54 and 55-64 years age group. According to the Australian Institute of Health and Welfare (2011), approximately 65% of people with a hearing loss who use open employment services have no other significant disability, and yet approximately 55% were unemployed in 2009-10. The largest proportion of disability support service users in this group (29%) were in the “mature worker” (55-64 years) age category targeted by the Australian Treasury in the *Intergenerational Report* and the next-highest proportion (27%) was in the 45-54 years age group. Its “base case” target is to increase mature worker participation from 58.9% (2008) to 62% in 2049-50, but it notes that if a higher target of 67% were achieved real per capita GDP would be 2.4% higher. It argues that to do so “...would not be straightforward”, but states that

[c]ontinued improvement in mature age participation rates will require ongoing policy effort to identify and remove the barriers for those who wish to remain in the workplace. These barriers can include cultural (including employer) attitudes, workplace flexibility, educational attainment, features of the tax and transfer system, and the availability of retraining and support services (such as health and rehabilitation services, career advice and employment services) (Australian Department of Treasury 2010, p.30).

This report concerns many of these issues and how they affect people with a hearing loss who can work. It focuses on the identification of those factors that people with a hearing loss believe restrict or inhibit their success in finding and retaining work, and being promoted as well as those factors that enable them to lead successful working lives.

Recent Literature

The small, contemporary literature on barriers to workforce participation and workplace accommodations was reviewed recently by the United States National Council on Disability (2010).³ The Council’s review shows that relatively few papers have recently been published in the peer-reviewed literature about the barriers and enablers faced by people with a hearing loss, in particular. Furthermore, because new and recently-adopted technologies have substantially changed the way that many people work, the earlier literature may be of limited relevance.⁴ Two studies (Capella 2003, Boutin and Wilson 2003) have been published since 2000 that specifically concern hearing loss and the work environment and are germane to the work presented here.⁵

Both recent studies are concerned with the labour market outcomes of people who used the so-called “state-federal vocational rehabilitation (VR) program”. This nomenclature in fact refers to the

³ Appendix A of the National Council on Disability’s report contains a useful annotated bibliography.

⁴ In Australia these include internet-enabled technologies such as smart-phone applications and captioning services for telephones and video. A good review of the findings of the earlier literature is contained in Geyer and Schroedel (1999).

⁵ There is also a recent Australian study on barriers to workforce participation, but its focus is on job seekers that have access to the Personal Support Program and face a combination of problems that typically include “...mental health problems, homelessness, family breakdown, substance abuse, chronic health problems, and social isolation” (Perkins 2007, p.1).

employment support services provided to people with disabilities in the United States. Capella's (2003) study compared the employment outcomes of people with a hearing loss with those of people with other disabilities and to the general labour force, while Boutin and Wilson (2009) compared Deaf and "hard of hearing" users of VR services.

Capella (2003) compared Rehabilitation Services Administration (RSA) data for the 1998 fiscal year with Bureau of Labour Statistics data and found that people with a hearing loss were more likely to be employed in administrative and clerical roles and less likely to be employed in sales jobs than people with other disabilities and the general labour force. By comparison with the general labour force, people with a hearing loss were much less likely to occupy managerial, professional, paraprofessional and technical jobs. In fact, the proportion of the general labour force that occupied such positions was 27.9%, whereas the proportion of people with a hearing loss in those occupations was only 18.6%. She also found that earnings for both VR groups were similar to the lowest-paid 10% of the general labour force and that "...they almost always earned less than the [general labour force's] 25th percentile wages" (Capella 2003, p.29).

Boutin and Wilson (2009) used RSA data for the 2004 fiscal year to determine whether VR service users who are Deaf and hard of hearing experience any differences in rates of employment between professional and non-professional occupations.⁶ They found that far more VR service users who gained competitive employment were hard of hearing (69%) than Deaf (31%), but that both groups were more likely to be in non-professional than professional employment. Twenty-four per cent of the Deaf subsample and 50% of the hard of hearing sample were classified as being in non-professional occupations and only approximately 7% and 19% of Deaf and hard of hearing workers, respectively, were classified as occupying professional positions.

Both of these studies reflect systematically different labour market outcomes for people with a hearing loss especially with respect to the types of jobs undertaken and incomes earned. These are important studies because much of the fairly large literature on the workforce participation of people with disabilities tends to focus on whether or not people have jobs, rather than considering the types of jobs they do and how much they earn by comparison with peers who have no disability (Arthur and Zarb 1995). This study will also touch upon those questions for an Australian sample of people with hearing loss. The results for these outcomes from survey data collected in Australia turn out to be quite different to those produced on VR data in the United States. The main purpose of this survey, though, is to investigate the types of barriers, incentives and "enablers" that give rise to the outcomes experienced by people with a hearing loss, in Australia.

⁶ "Deaf" VR consumers were defined as people whose RSA primary impairment codes were recorded as "deafness, primary communication visual" and "deafness, primary communication auditory" and "hard-of-hearing" VR consumers were identified as people whose RSA primary impairment codes were recorded as "hearing loss, primary communication visual" and "hearing loss, primary communication auditory" (Boutin and Wilson 2009, p.37). Capella (2003, p.33) used the term "consumers with hearing loss" to represent "...all persons classified by RSA as deaf, late-deafened, hard of hearing, or deaf-blind".

The Survey

The survey was administered online and consisted mostly of questions with multiple-choice responses from which participants were asked to select one response. Several questions allowed for more than one response and others allowed respondents to write some text about the choice they had made. Open-response questions were also used to collect further comments from participants, especially concerning their attempts to find work, their workplace experiences and their success and opportunities for promotion.

A range of questions about labour force activity were asked in this study to enable comparisons to be made between the labour force activities of people with a hearing loss and the Australian population more generally. The Australian Bureau of Statistics has published a series of reports entitled *Barriers and Incentives to Labour Force Participation, Australia*, the most recent of which pertains to the 2010-11 financial year. The data contained in the *Barriers and Incentives* reports are derived from the *Multipurpose Household Survey* (MHS) (Australian Bureau of Statistics 2010), which is conducted as an adjunct to the Bureau's monthly *Labour Force Survey* (Australian Bureau of Statistics 2011). The main purpose of the *Barriers and Incentives* report is to "...obtain a better understanding of the factors that influence people to participate (more) in the labour force and the hours they work"; and the rationale for doing so is to identify "...a range of incentives to increase labour force participation and hours worked".

While the foregoing goals are similar to some of those in the current study, there are some important *caveats* about comparisons between data collected in this survey and those presented in Australian Bureau of Statistics (2011). The target population for this study is people with a hearing loss, while the Bureau's target sample is the Australian population, but the primary limitation on comparisons between these samples is the sampling method: the current study uses a convenience sample; the MHS is a random sample for which the Australian Bureau of Statistics then produces household and individual sample weights that enable representative estimates of labour force activity for Australian population. The recruitment methods and voluntary nature of the survey work presented here were designed for a different purpose and the resulting sample is neither random nor likely to be representative of all people with a hearing loss. Its use of web-based delivery, the (electronic) methods used to distribute the survey and so on all are all sources of selection in the sense that not all people with a hearing loss are likely to have received or completed the survey. Of course, we do collect data on age, gender, income, education and so on, and these data can be used to show just how the current sample differs from the Australian population. So, while it is possible and useful to make some comparisons between this sample and the population, considerable caution is warranted.⁷

It is worthwhile to note, too, that the Australian Bureau of Statistics' report (2011) focuses on people of normal working age (18-64) who are unemployed or work less than 16 hours per week. So the comparisons this report makes with population data are also mostly limited to that subgroup of

⁷ The sample frame used by the Australian Bureau of Statistics (2011) to define the workforce is also different: only the civilian population is included in it, while in this study no attempt was made to exclude defence force personnel.

respondents whose responses are consistent with that classification. Furthermore, most of the Bureau's comparisons involve quite specific subsets of people (e.g., people who were in the workforce *and* looking for work or more hours *and* available to commence work within the next four weeks). At the population level, these finely-specified classifications generally still give rise to good sample sizes; but for a smaller survey such as this, leads to fairly small data cells. Thus, in some instances where it is technically possible to compare the survey results to those of the general population it makes little sense to do so.

For the foregoing reasons, comparisons with Australian Bureau of Statistics data represent a small component of the reported results. For the most part, the survey response data are presented in their own right to present a picture of the relative importance of factors that enable or restrict the labour force opportunities and achievements of people with a hearing loss.

Results

Overview

Two-hundred-and-seventy-three people responded to the survey and 215 (79%) completed it. As most questions were voluntary and some were targeted (e.g., people who indicated they did no paid employment were not asked how many hours they worked for payment or profit), response numbers per question vary.

Females were over-represented (61%) in the sample and the modal age of respondents was 45-54 years (25%). Seventy-eight per cent of the sample was of usual working age (i.e., ages 18-64), 21% of the sample was 65+ years of age (the remaining 1% was less than 18 years of age). The level of attainment was generally high: 49% of the sample had a tertiary education (Bachelor degree or higher) and more than 19% had studied an advanced certificate, certificate or trade. Educational attainment levels are depicted in Figure 1.

Fifty-three per cent of respondents indicated that they are Deaf and 39% indicated that they had a hearing loss.

Health and Hearing

Figure 2 indicates the self-assessed health status reported by respondents on a 6-point Likert scale that ranges from "Excellent" to "Very poor". More than half (56.3%) of the survey respondents reported that they were in very good or excellent health for their age, while 30.2%, 10.1% and 3.3% of respondents reported their health to be "Good", "Fair", "Poor" or "Very Poor", respectively.

The Hearing Handicap Inventory for Adults (HHIA) (Newman 1990, 1991) measures hearing-related aspects of health-related quality-of-life (HRQoL). Briefly, the HHIA measures the impact of a hearing loss or deafness on a person's life using 50 hearing-related questions (e.g., "Does a hearing loss cause you

Figure 1: Highest level of education attained or attempted

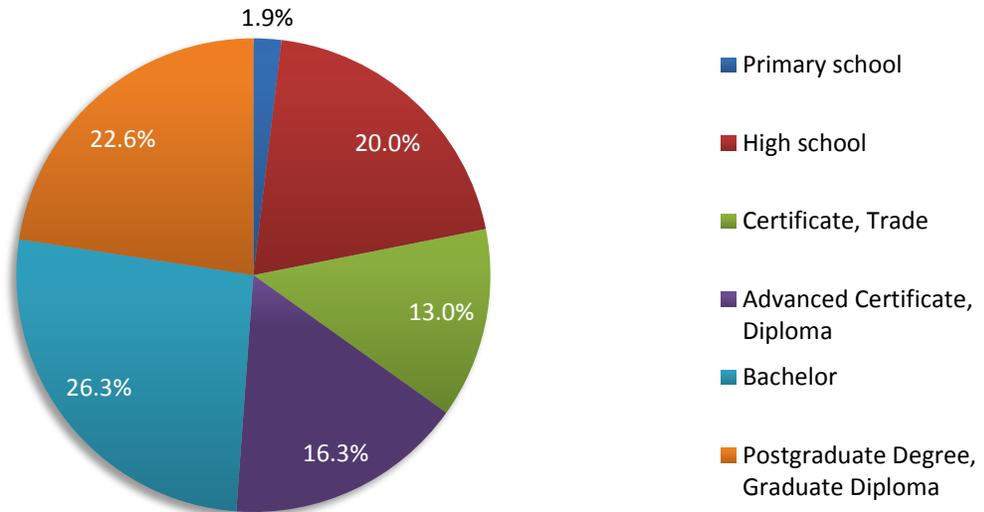
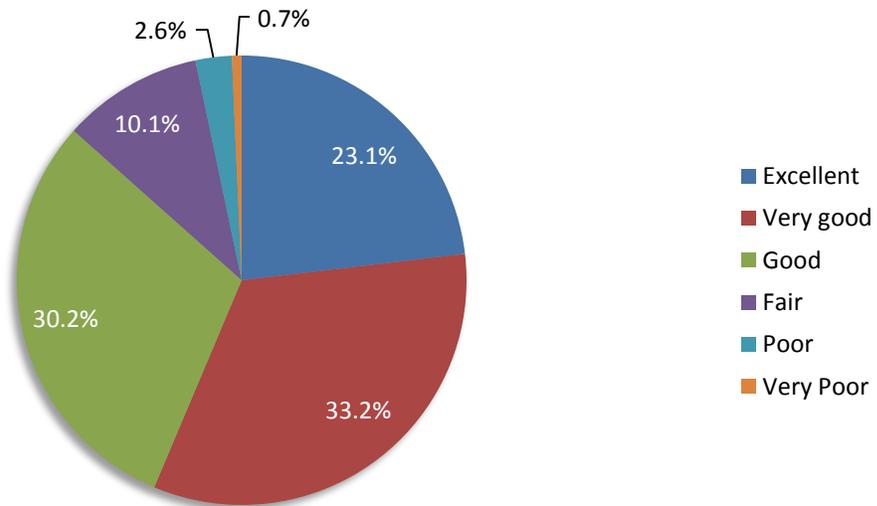


Figure 2: Self-assessed overall health



difficulty listening to the TV or radio?") to which the respondent answers "Yes", "Sometimes", or "No".⁸ The index takes values from zero to 100, with each question contributing zero, one or two points to the total depending upon the response. The scoring system is as follows: "Yes"=2, "Sometimes"=1 and "No"=0. Thus, a score of zero on the HHIA indicates no hearing-related handicap and a score of 100 indicates the highest level of hearing-related handicap. As the foregoing example suggests, the items on the HHIA are not exclusively work-related, but cover a range of activities of daily living that a hearing loss may affect.

The HHIA may be decomposed into two sub-scores: one forms a "social/situational" index (labelled the HHIA-S) and the other forms an emotional index (labelled the HHIA-E).⁹ In the interests of parsimony and to reduce respondent fatigue, this study used the HHIA-S questions only. The resulting index takes values from zero (no hearing-related social/situational handicap) to 50 (maximum hearing-related social/situational handicap). An advantage of the HHIA-S is that it was used in Australia's largest prevalence study, the Blue Mountains Hearing Study (BMHS) (Sindhusake, Mitchell, Smith *et al.* 2001), and was also used in Connelly (2010),¹⁰ enabling some comparisons with previous Australian work.

The histograms of HHIA scores in Figure 3 are based on 210 responses from people who identified as Deaf (53%) or as having a hearing loss (39%) and exclude the small proportion (8%) of the sample who identified as neither Deaf nor having a hearing loss. Interestingly, the means of the HHI for these sub-samples are not statistically significantly different. The distributions of scores are dissimilar, though: the "hearing loss" subsample (panel (b)) is characterised by a distribution that has an obvious peak at low HHIA scores, with the remainder of the results clustered at high frequencies at the upper end of the HHIA distribution. In the "Deaf" sub-sample (panel (a)) the frequencies of high-end HHIA scores (denoting greater difficulties) are generally lower and the mid-range HHIA frequencies are higher than for the hearing loss sub-sample. In general, these data suggest substantial hearing loss-related difficulties but, as the international literature has repeatedly shown (see, e.g. Connelly 2011) those difficulties are not, in general, correlated with the degree of hearing loss *per se*.

For comparative purposes, the taxonomy used by Sindhusake, Mitchell, Smith *et al.* (2001) was also used to assign HHIA-S scores a four-fold classification and the results are presented in Table 1. These results show that approximately 79% of the sample falls into the highest (i.e., "marked") hearing loss category.¹¹

⁸ The original wording of this item was "Does a hearing problem cause you difficulty listening to the TV or radio?" Throughout the survey, the word "loss" was used instead of "problem" as it was considered more consistent with the terminology that is now used in relation to hearing.

⁹ The abbreviations could give rise to confusion because HHIA-S was also the label given to the 10-item "Screening Version" of the HHIA by Newman, Weinstein, Jacobson *et al.* (2001). Throughout this report, HHIA-S refers to the 25-item social/situational subscale of the HHIA, not the 10-item screening version.

¹⁰ See Connelly (2010) for a further discussion of the HHIA-S and comparisons with the BHMS.

¹¹ Note that, unlike the histograms reported as Figure 3, this table includes all respondents.

Figure 3: Hearing Handicap Inventory for Adults (HHIA)

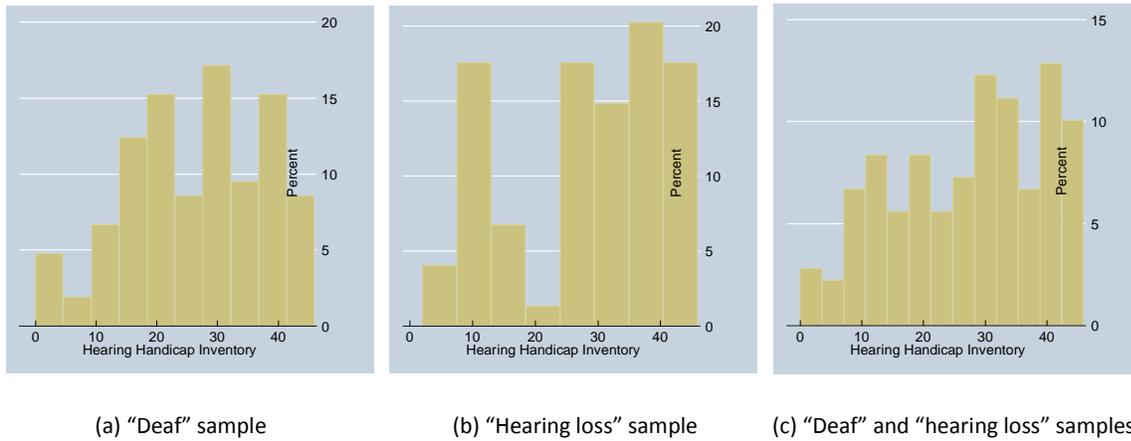


Table 1: HHIA-S scores, by category

HHIA-S Score	Number	Proportion (%) of Sample (n=194)
< 6	15	7.7%
6-7 "mild"	2	1.0%
8-13 "moderate"	24	12.4%
14+ "marked"	153	78.9%

Note: The HHIA-S is the Hearing Handicap Index "social/situational" subscale. The index takes values between zero (no hearing-related social/situational handicap) and 50 (maximum social/situational handicap).

Several of the questions on the HHIA pertain either directly or indirectly to the workplace. It is useful to summarise the answers to those items at this point, as they are broadly indicative of some issues that were explored in further detail by other questions in the survey. First, to the question "Does a hearing loss ever cause you difficulty hearing/understanding co-workers, clients or customers?" 84% responded in the affirmative ("Yes"=47%; "Sometimes"= 37%);¹² and to the question "Does a hearing loss ever cause you to feel frustrated when talking to co-workers, clients, or customers?", 78% responded in the affirmative ("Yes"=38%; "Sometimes"=40%). When asked "Does a hearing loss cause you to use the phone less often than you would like?" 75% of respondents answered in the affirmative ("Yes"=60%; "Sometimes"=15%).

In relation to more general questions with workplace implications, 67% of participants responded in the affirmative to the question "Do you feel 'handicapped' by a hearing loss?" ("Yes"=41%;

¹² This high proportion is insensitive to restrictions on the subsample. For example, when only respondents who are currently employed are included, the proportion affirmative increases by only one percentage point.

“Sometimes”=26%) and 91% responded in the affirmative (“Yes”=58%; “No”=31%) when asked “Does a hearing loss ever cause you to feel left out when you are with a group of people?”. Sixty-seven per cent of respondents also agreed that a hearing loss caused them to feel embarrassed when meeting new people (“Yes”=35%; “Sometimes”=32%).

Labour Market Activities

Two hundred and seven sample respondents were of normal working age (18-64 years) and 196 (94.7%) were classified as being in the workforce according to the standard definition (Australian Bureau of Statistics 2011). Of this group, 91% were in paid employment and 9% were not in paid employment but were looking for work. Eleven per cent of the sample was of working age and unemployed. Most employed respondents worked 16-40 hours (64%), 18% worked 40 or more hours, and 18% worked less than 16 hours. Twenty-one per cent of the sample was retired.

Occupation

The occupational profile of respondents in this sample is considerably different to those observed in the two US studies (Capella 2003; Boutin and Wilson 2009) referred to earlier. A much higher proportion of respondents in the Australian sample reported their occupations as “Professional” and “Manager”: the responses in these two categories account for approximately 55% of the total ($n=270$). See Figure 4. There are, of course, considerable differences between this community/survey-based study and the US studies, which both used administrative data on a complete enumeration of the (selected) population of VR users. Note that respondents to this question may include people who are no longer working, which might be hypothesised to increase the proportion of respondents who had worked at a senior (e.g., managerial) level. In fact, when retirees were excluded from the sample it made little difference but, contrary to expectations, the proportions in these two categories increased slightly.¹³

Income

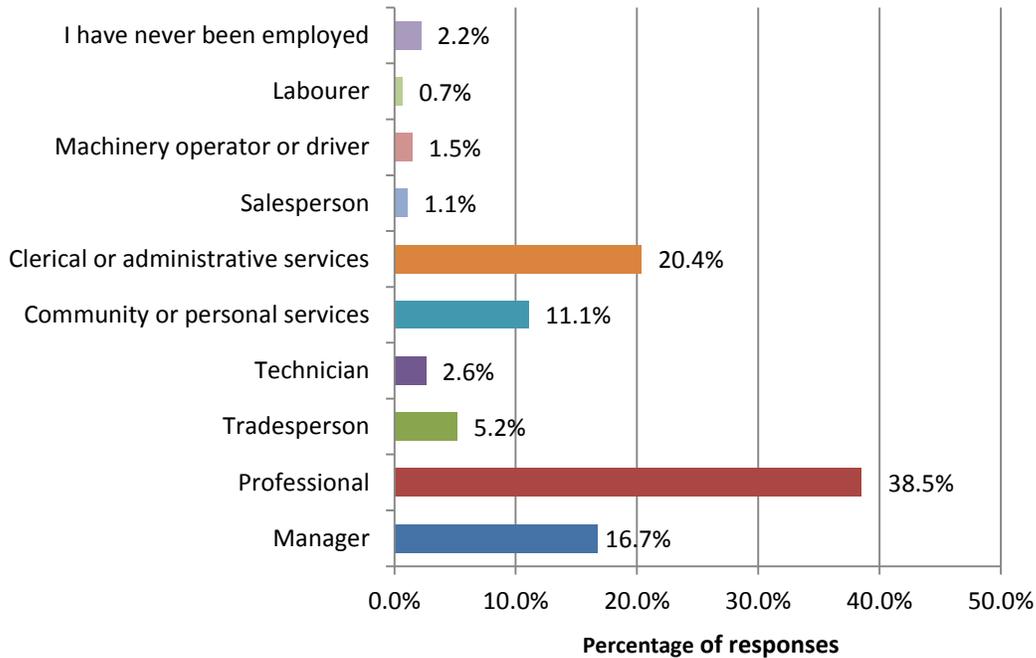
The distribution of gross household incomes for respondents is presented in Figure 5. The mean household income of respondents was approximately \$76,953 per annum and the median was household income was approximately \$52,000. Both the mean and median gross incomes of households reported in this survey are lower than those for the general population. Australian Bureau of Statistics (2011b) data on household incomes for the financial year 2009-2010 were converted to current (2012) prices using the December 2010 to March 2012 Consumer Price Index data (Australia, All Categories) (Australian Bureau of Statistics 2012) to provide 2012 estimates. Conservatively, assuming no real growth in incomes between 2010 and 2012, this gives a mean gross income estimate of \$87,776 and an estimated median of \$68,640.

Finding Work

Although most working respondents (75%) were happy with the number of hours currently worked, 25% indicated that they would like to work more hours. Most of these respondents were looking for an

¹³ The effect was too small to be interesting but if substantial changes of this kind were observed over time they may suggest progress towards a greater propensity to appoint or promote people with a hearing loss to professional and managerial positions.

Figure 4: “Which of the following BEST describes your usual (or former) occupation?”

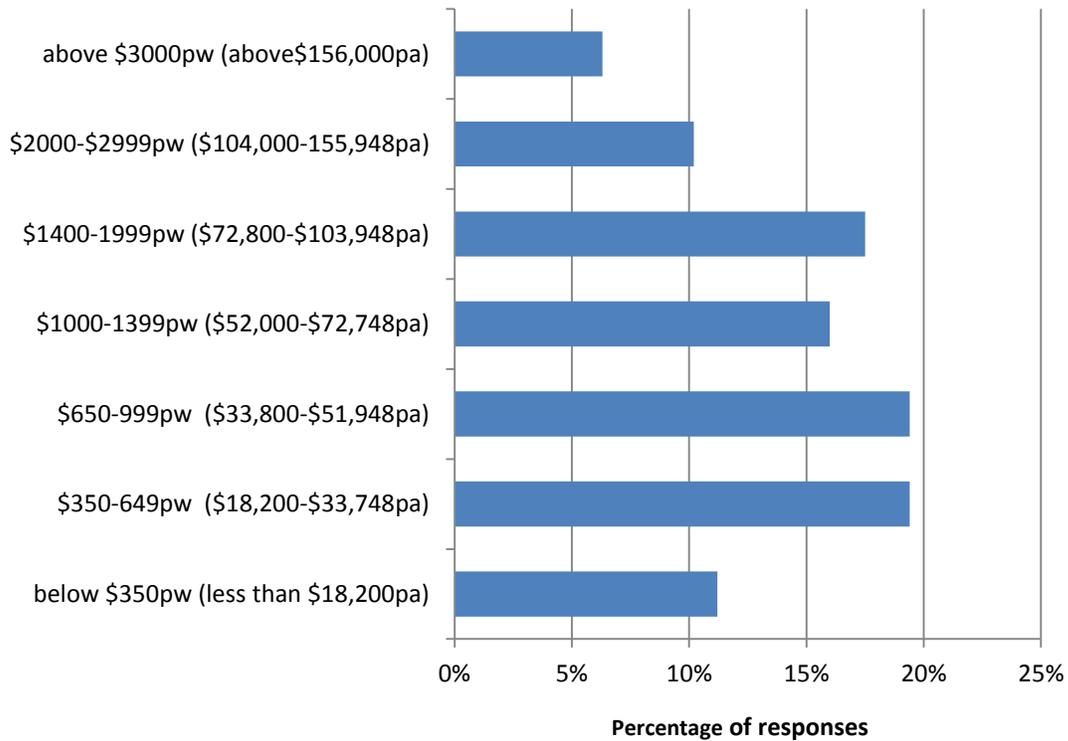


additional 5-10 (30%) or 10-20 (32%) hours per week, approximately 23% were looking for less than 5 more hours per week, and 15% were seeking more than 20 more hours per week. The group that wanted more work was predominantly (72%) female. All respondents who were not currently in paid employment but were looking for work also wanted to work more than 5 hours per week. Two-thirds of respondents who were looking for work, or for more working hours, also said that they were available to start work within four weeks and females accounted for two-thirds of that group.

The subgroup of respondents that was looking for employment or for more hours ($n=66$) was also asked to choose a response that best described the main difficulty finding work. The responses are presented in Figure 6. Respondents who had not looked for work in the previous four weeks were asked to indicate the main reason for not looking. The two most frequent reasons given were “No need: I am happy with current arrangements (for now)” (58%) and “Retired (for now)” (21%). In descending frequency of importance, the three next-most frequent reasons given included a lack of available jobs with suitable conditions and arrangements (5.7%), permanent inability to work due to disability (3.1%), and care-giving responsibilities for an ill or elderly person or a person with a disability (2.5%).

Approximately 14% of respondents indicated that they had no problems finding work, but the three most common specific responses from those who did have difficulty finding work were disability-related. Approximately 20% of respondents indicated a belief that employers are reluctant to hire people with disabilities, approximately 14% indicated their “own health or disability” was the main reason they couldn’t find more work, and approximately 11% indicated that they did not have access to the right

Figure 5: Household pre-tax or gross income (all sources)



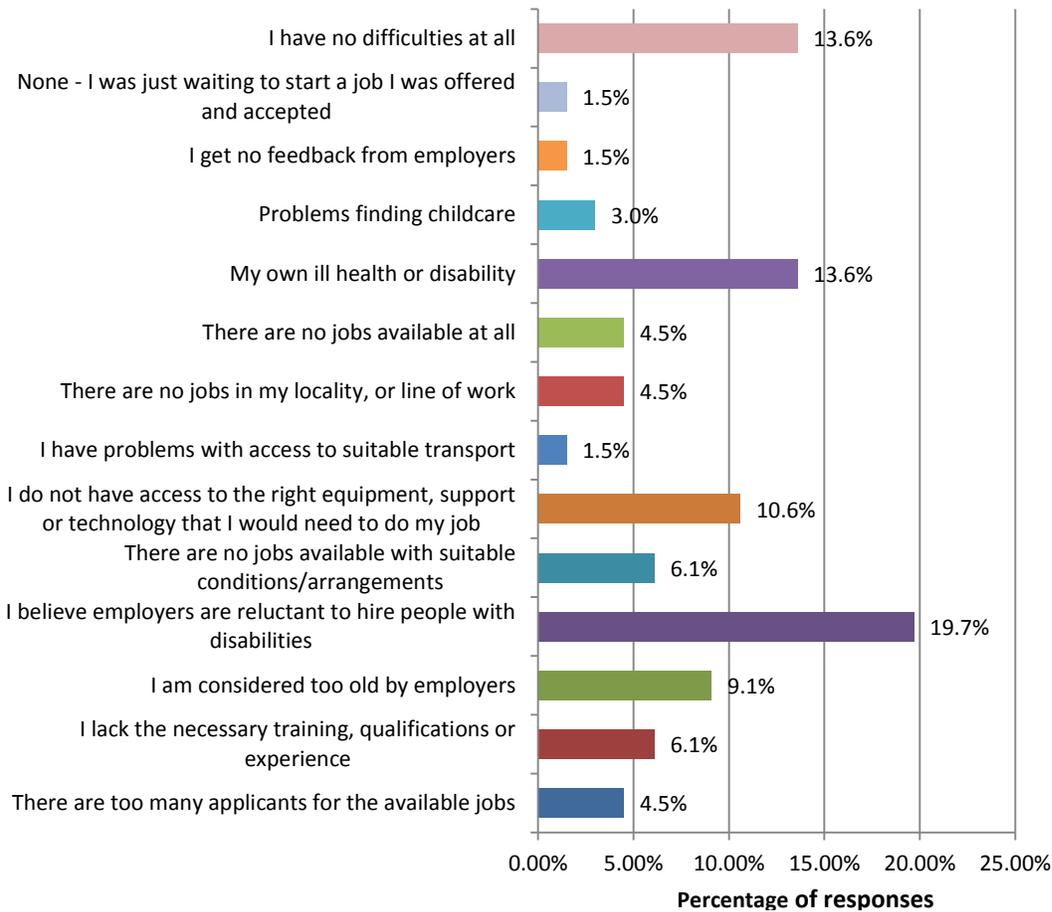
equipment, support or technology they would need to do their job. Nine per cent of respondents reported the main barrier to them finding work was being considered “too old” by employers. By comparison, the main reasons that the general population, commonly reported difficulties with finding work were “no jobs or vacancies in locality or line of work/at all” (13%) and “Lacks necessary training/qualifications/experience” (13%) (Australian Bureau of Statistics 2011, p.5).¹⁴

All respondents were also asked whether they had engaged in specific job search activities in the previous four weeks. The results are presented in Figure 7. Sixty-seven per cent of the sample responded that they had neither looked for work nor been registered with an employment agency in the past four weeks. Note that the remaining categories in Figure 7 are not mutually exclusive: respondents who engaged in more than one of these activities could indicate all applicable activities.

Respondents who had not looked for work in the previous four weeks were asked to indicate the main reason for not looking. The two most frequent reasons given were “No need: I am happy with current arrangements (for now)” (58%) and “Retired (for now)” (21%). In descending frequency of importance, the three next-most frequent reasons given included a lack of available jobs with suitable conditions and

¹⁴ These statistics for the general population are for people who were looking for work or more hours and were also available. The sample size for this study drops to less than a third (from $n=66$ to $n=20$) when this joint condition is imposed and small numbers render the proportions in some categories unstable as a result.

Figure 6: “What do you think is the MAIN difficulty for you finding work/more hours?”



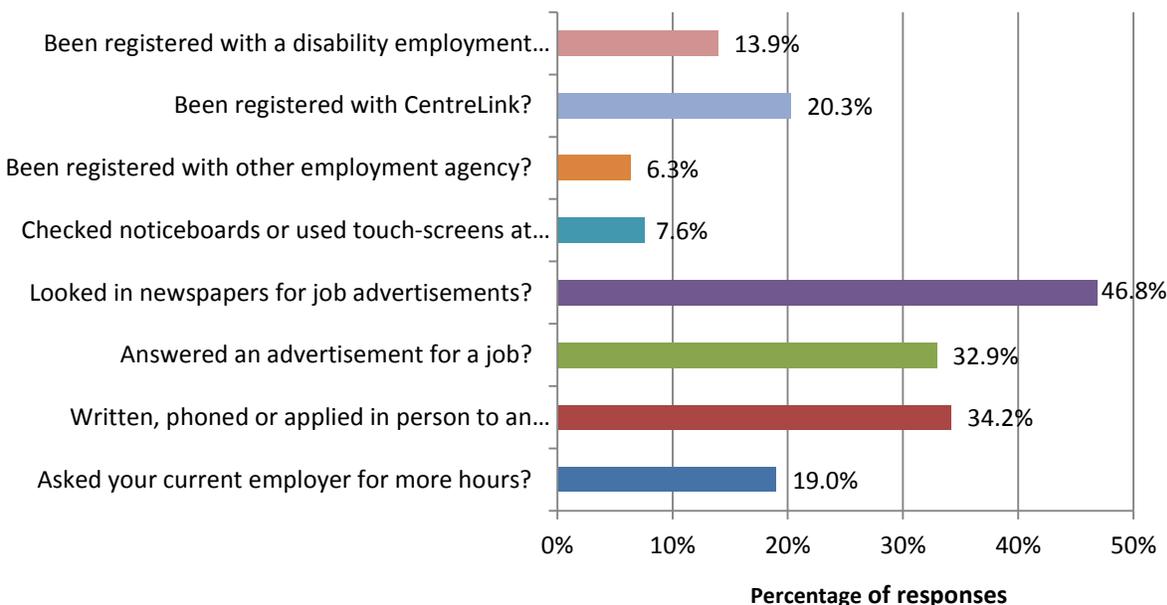
arrangements (5.7%), permanent inability to work due to disability (3.1%), and care-giving responsibilities for an ill or elderly person or a person with a disability (2.5%).

Sources of Disadvantage

Survey participants who were trying to find work commonly reported being disadvantaged by the reliance of some recruiters on telephone interviews or the demand that prospective applicants telephone for an information package about an advertised job. Some respondents reported facing a dilemma as to whether or not to declare their hearing loss to prospective employers at all, or at which stage of the recruitment process to do so. A related theme concerned perceived discrimination by employers and by employment agencies.

Some respondents were suspicious that the vague explanations they had been given for not being offered a job were concocted when their hearing loss was declared and that job descriptions were suddenly modified (e.g., “but this job includes telephone work”) as an exclusionary tactic by employers. One respondent noted that the difficulties for people with a hearing deficit are compounded not only in

Figure 7: Job-seeking activities (in the LAST 4 WEEKS had):



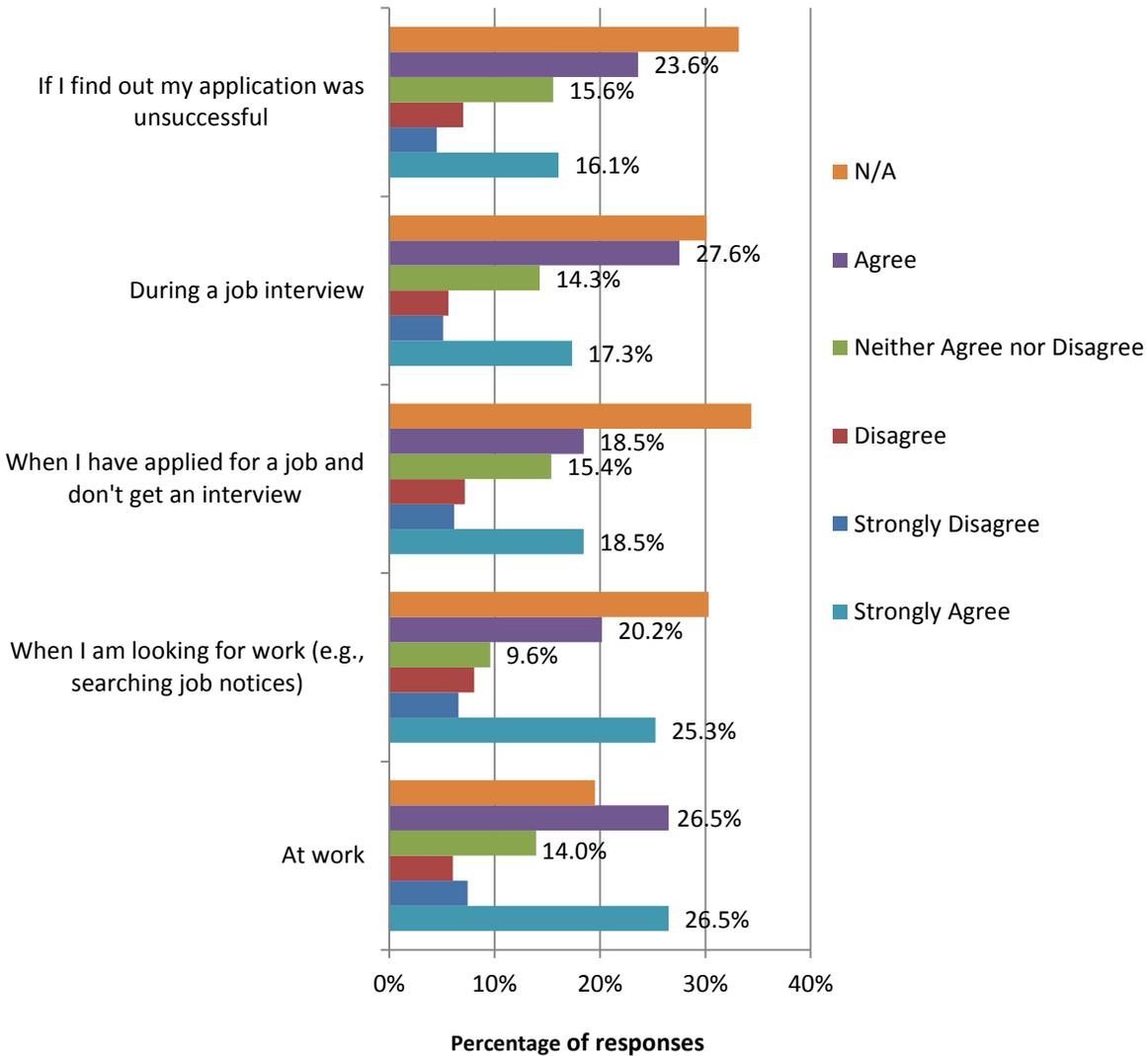
the job market, but in education and training too, as well as on the job. Figure 8 presents the responses of survey participants to the statement “I feel disadvantaged by my hearing loss [if/when...]”.

Employment Agencies

Employment agency services are potentially important sources of support for people with disabilities. These services have also experienced considerable growth in recent years: according to the Australian Institute of Health and Welfare (2008) these services grew 83% between 1998 and 2003. Thus, respondents were asked how useful the disability services provided by different groups of service providers. Respondents were asked respond to the statement “The following agencies have been particularly useful helping me to find and obtain suitable work:” by choosing from five points on a Likert scale that range from “Strongly Agree” to “Strongly Disagree”.

The results presented in Figure 9 show that approximately half of the sample were of the view that none of the three employment agency types was an applicable source of support for their circumstances. Remarkably, most other respondents were, at best, ambivalent about the role that these agencies had played in their experience finding and obtaining suitable work. Interestingly, the proportion of “Strongly Disagree”, “Disagree” and “Neither Agree nor Disagree” responses was fairly similar for employment and disability employment agencies (other than Centrelink). Around 36%-37% of respondents fell into these three categories for employment and disability employment agencies. Disaffection or ambivalence towards Centrelink was greater: 44% of respondents fell into those three categories, with Centrelink leading its competitors by five percentage points on the most negative (“Strongly Disagree”) rating.

Figure 8: “I have felt disadvantaged by my hearing loss:”

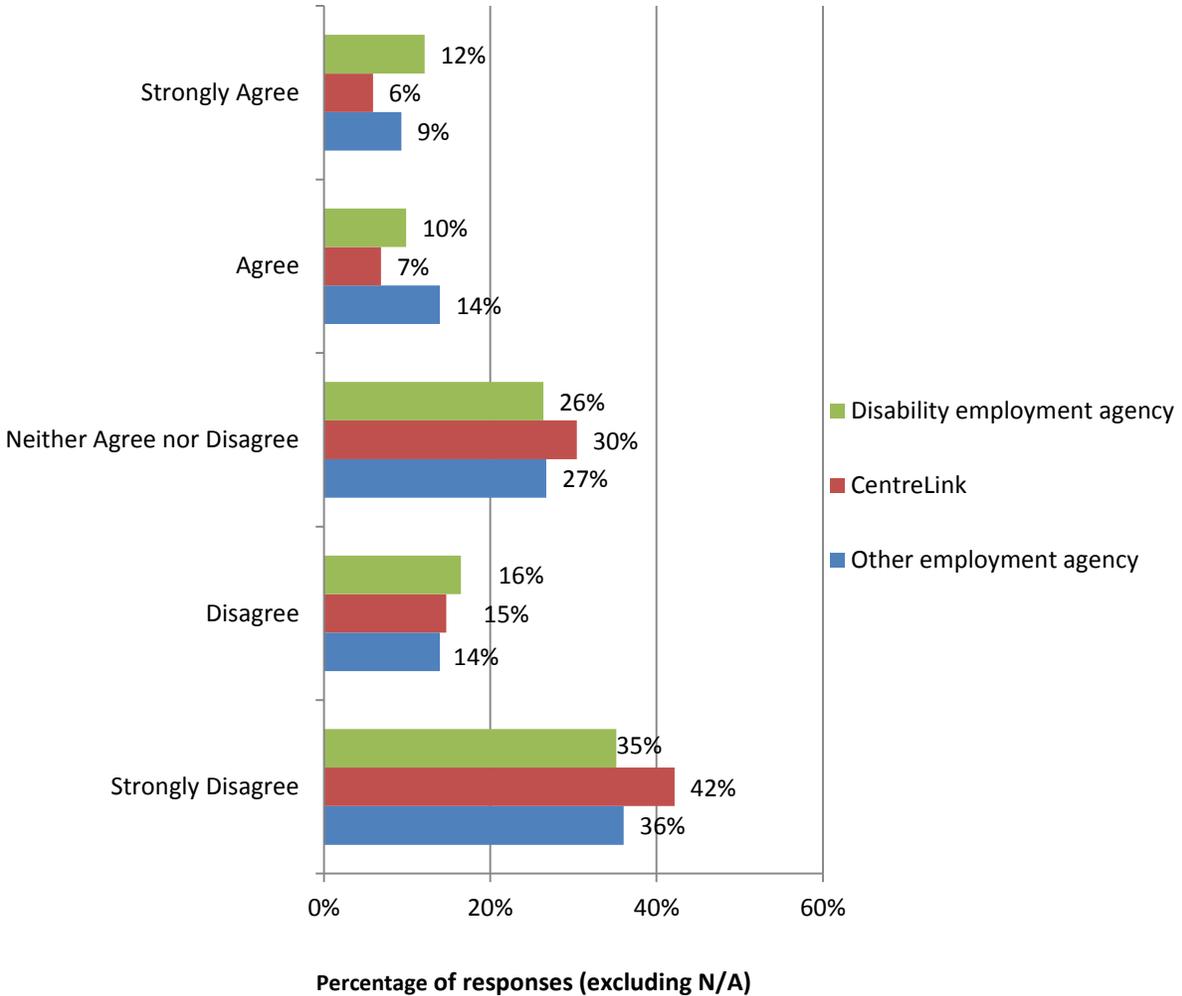


Note: Proportions of respondents who did not answer “N/A”: *n*=104 for Disability Employment Agency, *n*=102 for Centrelink, *n*=104 for Other Employment Agency (total response numbers were *n*=195, *n*=202 and *n*=190, respectively).

Similarly, while approximately 10% of respondents agreed or strongly agreed that employment and disability employment agencies (other than Centrelink) had been particularly useful helping them to find and obtain work, that proportion was only 6.5% for Centrelink.

Several respondents returned to the topic of employment agencies in their comments about finding work. Complaints about employment agencies included (i) the unavailability of disability employment services to people who were already in paid employment but wanted to look for other work, (ii) a perception that some agencies offer people with disabilities low-skilled work (e.g., cashier, stock filler) rather than work they are qualified to do, (iii) a perception that employment agencies do not

Figure 9: “The following agencies have been particularly useful helping me to find and obtain suitable work:”



recommend people with disabilities to employers because they fear this will damage their professional reputations with employers.

In the Workplace: Accommodations and Support

Respondents were asked to indicate their agreement or disagreement with statements about (i) employment barriers restrictions they may face and (ii) the roles that various services, equipment and people (e.g., managers, co-workers, customers) may play in overcoming those barriers. In each instance, a “not applicable (N/A)” option was also provided and question stems with both positive and negative framing were used to cover similar topics.

In addition, respondents were asked to comment on several aspects of labour market activity: finding work, workplace accommodations that could help them to find and retain work, and success and promotion at work. The results are broadly consistent with expectations: the education and attitudes of co-workers, managers and customers towards people with a hearing loss were considered very influential as was access to suitable equipment and support services. Many respondents also expressed frustration with employment services and with restrictions on the budget for and use of Employment Assistance Funds (EAFs).

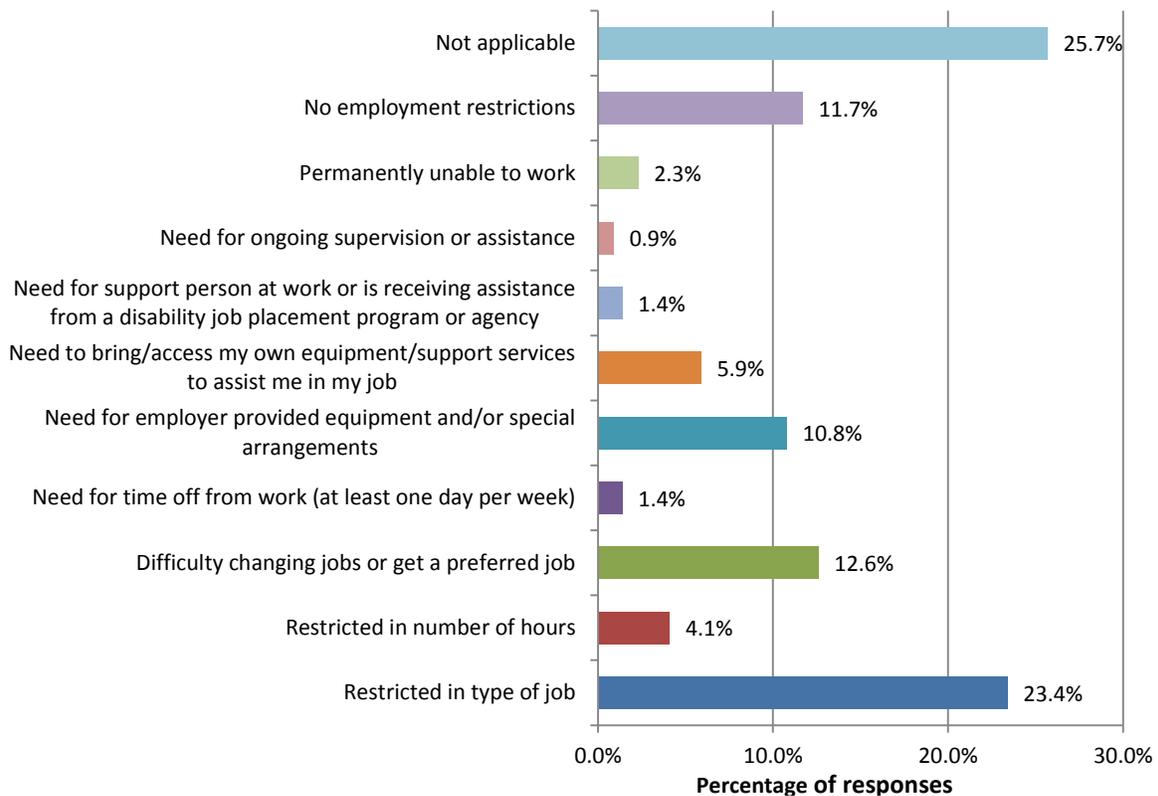
Figure 10 presents the responses to a question about employment restrictions in which respondents were asked to choose one restriction that best describes their situation, or N/A. A substantial proportion of respondents (11.7%) indicated that they face no employment restrictions or felt that the question was not applicable (25.7%) to them. The most frequent restriction reported was a restriction on the type of work that could be done (25.7%), followed by difficulties changing jobs or finding a preferred job (12.6%), a need for employer-provided equipment and/or special arrangements (10.8%) and the need to supply their own equipment or support services to assist them at work (5.9%).

Respondents were also asked to indicate the types of support services and workplace accommodations that would enable them to overcome workplace restrictions that may be associated with a hearing loss. The results (excluding N/A responses) are reported in Figure 11. The two accommodations that were reported as being the most important were the availability of support services (e.g., interpreters, captioning) (77%) and training (48%). Working from home was also a frequently indicated (35%) accommodation.

Survey participants were also asked to respond to a related series of propositions about people or provisions that had enabled them to overcome workplace restrictions. The results are reported in Figure 12. They reveal that workplace support from colleagues, managers and customers was frequently considered to be very important: approximately 67% of respondents agreed or strongly agreed with the statement that supportive colleagues had enabled them to overcome work restrictions due to a hearing loss, and approximately 59% and 48% agreed or strongly agreed with the statement that supportive managers and supportive customers/clients, respectively, had helped them in this regard.

Approximately 54% of respondents agreed or strongly agreed that workplace accommodations (support services including interpreter services, captioning, hardware and software) had enabled them to overcome work restrictions. Seventy-three to 75% of respondents agreed or strongly agreed that their own self-sufficiency and persistence had helped them to overcome work restrictions. A number of respondents indicated that colleagues' and managers' lack of awareness and training, or attitudes towards people who are Deaf or have a hearing loss are a substantive problem in the workplace. Some respondents felt disadvantaged as a result of workplace decisions that seemed to ignore their needs

Figure 10: “Which of the following BEST describes any employment restrictions you may face? (Please choose ONE answer)”



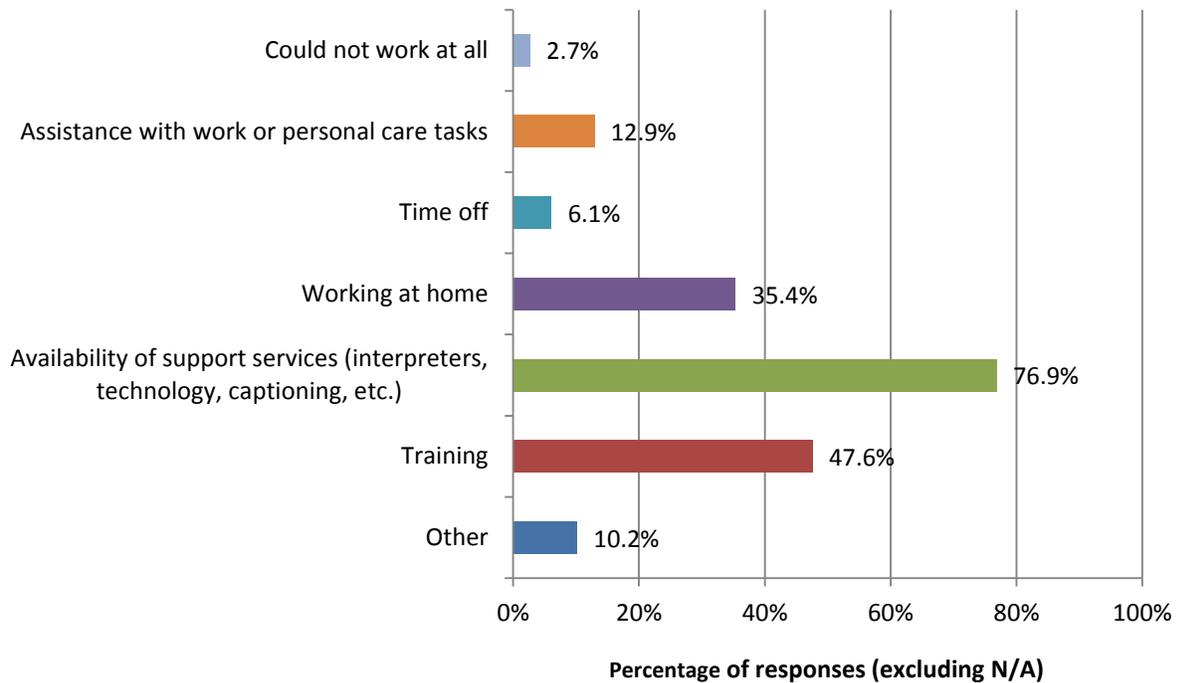
(e.g., the configuration of a workspace as corner-facing created difficulties because the respondent was unable to observe co-workers approach).

Employment Assistance Fund

The Employment Assistance Fund (EAF) provides for workplace modifications and accommodations that include adaptive equipment, information and communication devices, AUSLAN interpreting and other services for people with disabilities (Australian Government 2012) or mental health conditions. Respondents were asked whether they have access to an EAF and 29.7% responded that they did, and 50.7% responded that they did not. A substantial proportion (19.7%) of the sample did not know if they had access to an EAF. See Figure 13.

Respondents who indicated that they do have access to an EAF were asked whether the EAF was sufficient to meet their needs. Exactly half of the sample responded that the EAF was sufficient and half responded that it was insufficient. Individuals who responded that the EAF was insufficient were asked to comment upon the reason they had indicated that the EAF was insufficient to meet their needs.

Figure 11: “Which of the following would ENABLE you to overcome any employment restrictions you may face? (Tick all that apply)”

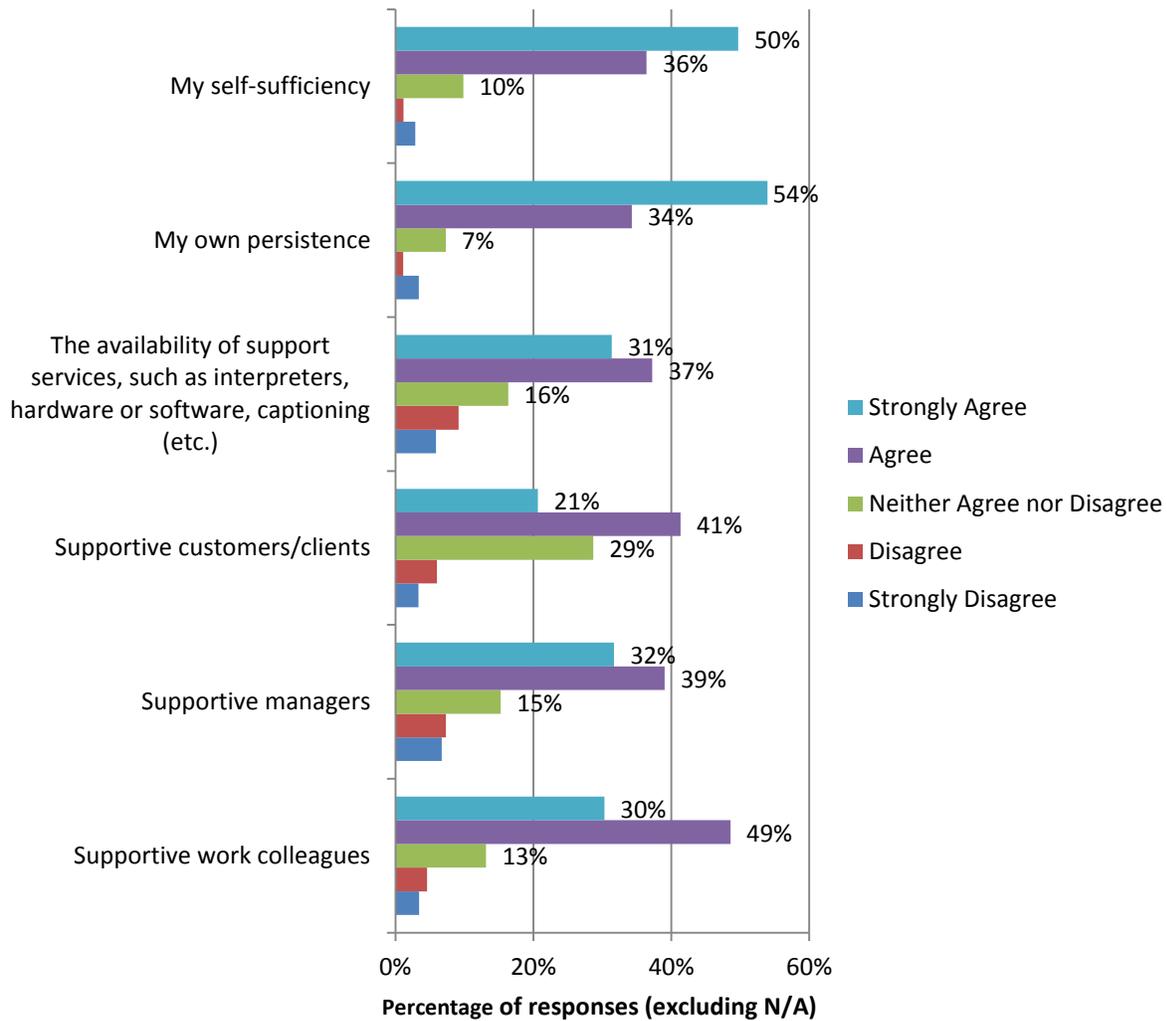


Note: Proportions of respondents ($n=147$) who did not answer “N/A” (the total number of responses was 218).

A common response to this question was from people who use the EAF to pay AUSLAN interpreters, especially for staff meetings. Those respondents indicated that the annual EAF allowance of \$6,000 tends to be exhausted fairly quickly. Indeed, two respondents indicated that the EAF is sufficient to pay for between one-quarter and one-fifth of their annual interpreting needs. In some instances the remaining interpreting charges appeared to be covered by individuals or their workplaces and where they were not, individuals felt that they missed out on meetings, training and other opportunities that their colleagues were afforded.

Another common complaint concerned the restrictions upon how the EAF can be used, particularly the exclusion of hearing aids from eligibility. For example, one respondent noted that the hearing aids s/he required to work cost approximately \$13,000, which need to be replaced about every five years, are excluded from the EAF. Another pointed out that the EAF could not be used to pay for AUSLAN interpreters to be present for any kind of work-related social gathering (e.g., a morning tea or work luncheon). Several respondents indicated that the EAF would be more useful to them if the rules for its use were more flexible.

Figure 12: “I am, or have previously been ENABLED to overcome any WORK restrictions due to a hearing loss by:”



Note: Proportions of respondents who did not answer “N/A”. The total numbers of responses and proportions (%) N/A were, from top to bottom: 202 (14%), 207 (14%), 195 (22%), 192 (22%), 199 (18%) and 207 (16%).

Assistive Technologies

Most respondents used one or more of the assistive technologies that are available to improve communications. Figure 13 provides a summary of the responses. More than half of the sample used captioned telephone services and the National Relay Service (NRS), while interpreter services were used by over a third of the sample and smartphone apps were used by more than one-fifth. The Video Relay Service (VRS) was used by almost one-sixth of the sample.

Figure 13: “Do you have access to an employment assistance fund?”

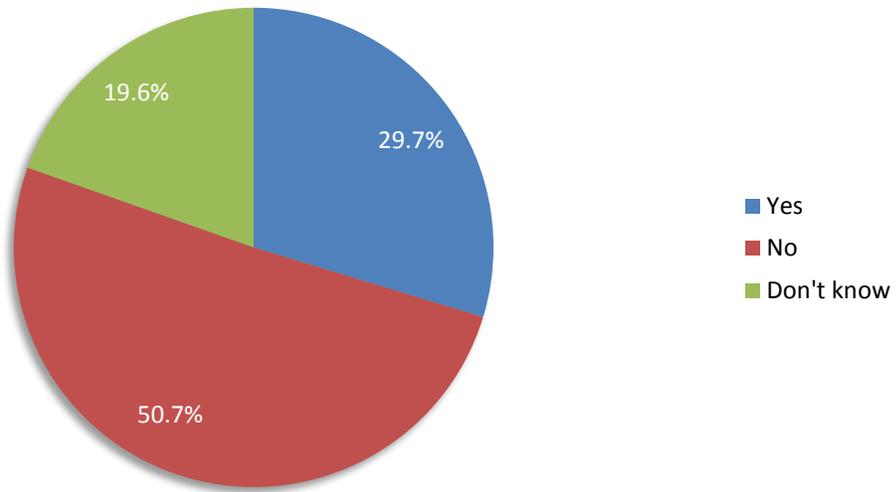
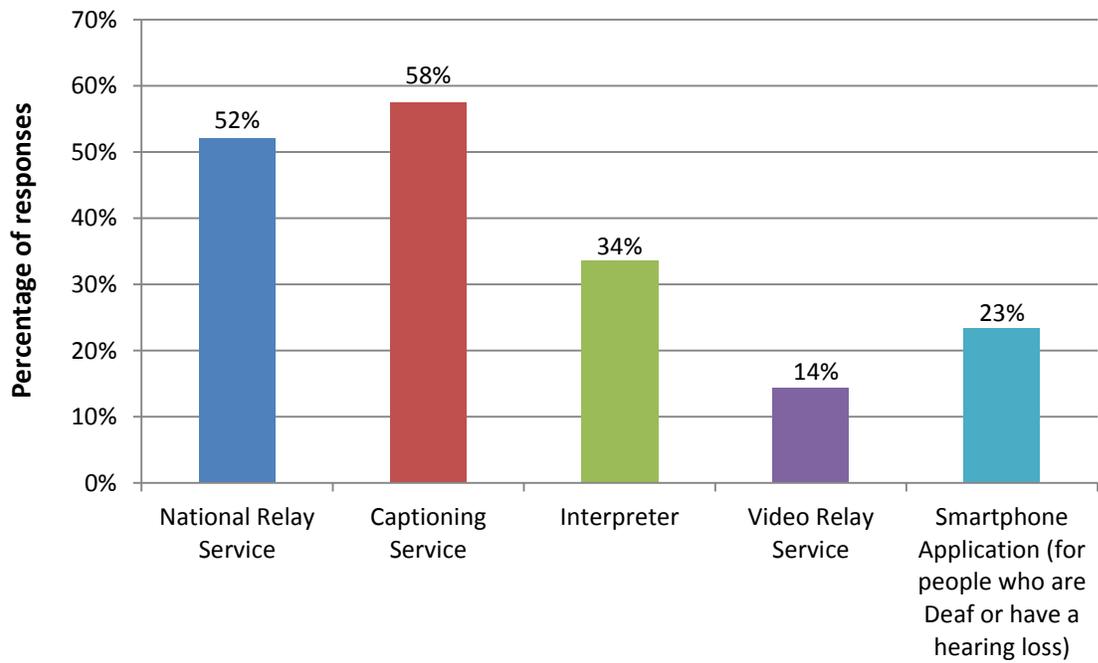


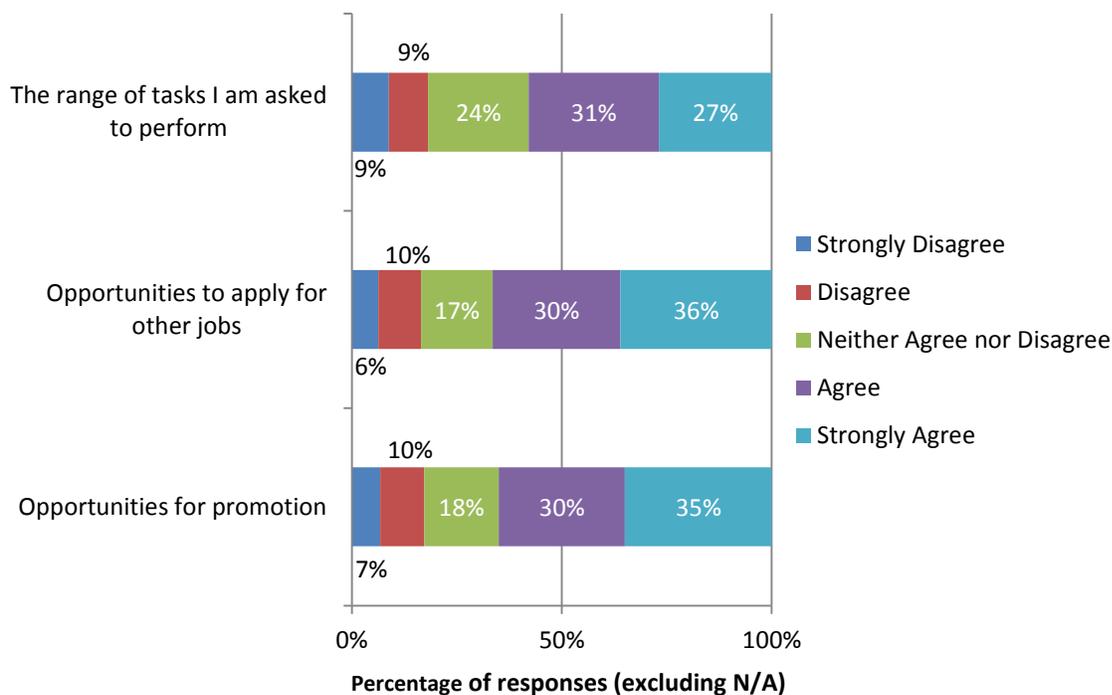
Figure 14: “Do you use any of the following services? (Please tick EACH one you use.)”



supervisory responsibilities implied by promotion would be difficult to execute without further assistance (e.g., more interpreter time). Remarkably, one respondent with supervisory duties indicated that his peers in management seemed to prefer to talk to his (hearing) subordinates, rather than to deal directly with him. Many respondents emphasised the role that determination and persistence to overcome workplace barriers have played in successes they had managed to achieve.

Figure 15 shows the responses of participants to statements of the adverse effect of a hearing loss on their opportunities and activities at work. These data show that only about one-fifth of the sample disagreed that a hearing loss had adversely affected their opportunities for promotion or opportunities to apply for other jobs while more than 50% agreed or strongly agreed that their opportunities had been adversely affected. Forty-eight per cent of respondents also either agreed or strongly agreed that the range of tasks they had been asked to perform at work had been restricted by a hearing loss.

Figure 15: “At work, I believe my hearing loss restricts or has previously restricted:”



Note: Proportions of respondents who did not respond “N/A”. The total numbers of responses and proportions (%) N/A, from top to bottom, were as follows: 206 (17%), 203 (22%) and 210 (22%).

Conclusion

This study brings to light the barriers that people who want to work confront when they have a hearing loss. The results also reveal how some of those barriers can be overcome: support in the workplace from colleagues and access to appropriate equipment and support services were reported to be very influential. Specifically, the labour force activities of people who want to work but have a hearing loss

are rendered more difficult when these sources of support are absent or limited, and improved when they are present.

Workplace accommodations are important not only for reasons articulated in the Commonwealth's social inclusion agenda, but also to boost the participation people who want to work but need support to do so. The Australian Department of Treasury (2010), in its most recent *Intergenerational Report*, has noted the need to increase the labour force participation and hours worked by the Australian population of working age, especially workers aged 55-64 years. It states that:

...reforms that reduce barriers to participation will also lift growth and reduce future pressures on Australia's economy (Australian Department of Treasury 2011, p. vii);

and that

[b]uilding human and social capital, including through the implementation of policies which support productivity and enable labour force participation, will be critical to meeting Australia's future challenges (Australian Department of Treasury, 2010, p.xviii).

To date, Australia has had limited success with policies to improve mature worker underemployment and unemployment (Ranzijn, Carson and Winefield 2004). Measures that remove or ameliorate the barriers that people with a hearing loss currently face present an opportunity to improve participation rates and hours worked in this subpopulation. This is likely to be particularly important as the working age population itself ages and the prevalence of hearing loss grows in the working age population.

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