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Carpentry Apprentices, Work and Noise

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Accompanying documents to this report

Title:	***Report number:***
Eg. Research Summary xxxx	***xxx***

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Executive Summary

The purpose of this research project was to gain a better understanding of apprentices' health and safety experiences, beliefs and practices in the workplace, with a special focus on noise. A qualitative approach was taken in order to explore complex and multi-faceted issues (e.g. perceptions of risks, motivations behind certain actions, contradictory feelings or practices, etc.). Focus groups were used as a method of data collection with both apprentices and educators. One Melbourne TAFE was selected to assist with recruitment of apprentices completing a Carpentry course and the educators of apprentices. The information collected from these groups will help direct future research in this area and can help inform future hearing loss prevention activites and training approaches Findings can be used to design well-informed survey questions for larger scale research examining population trends.

Key messages

<State the critical findingsfrom the research and the implications for current practice / policy>

- Differences in working environment, training and work culture were observed between apprentices working in the domestic vs commercial sectors. Commercial sector companies are typically large, unionized organizations. They are involved in building large industrial sites (e.g. hospitals, shopping malls, etc.). Domestic sector companies tend to be smaller. They are not unionized and the work involves the building of private residences, smaller jobs and renovations. Overall apprentices in the commercial sector were more likely to be provided with personal protective equipment (PPE) from their employer compared to those in the domestic sector. More training was also provided to those in the commercial sector compared to domestic, however a more supportive, close knit working environment was noted amongst domestic apprentices.

- Apprentices reported being exposed to many different types of noise, especially from machinery and power tools. Noise was generally viewed as something that was constant and could not be avoided at work. Apprentices were more concerned about hazards that would cause an immediate injury or consequence (cuts, falls etc.).

- Different strategies for reducing noise, and barriers associated with carrying out these strategies were identified. Apprentices held the view that noise was not on an employer's agenda and not a priority. Hearing protection (i.e. PPE) was viewed as the main strategy to protect hearing.

- Hearing protection was used intermittently by apprentices, with only certain tools/jobs prompting its use. Types of hearing protection varied; practicality, comfort, cost, level of protection were all factors impacting choice of hearing protection. Workplace culture also influenced the use of hearing protection. Apprentices from sites where hearing protection was used by employers/colleagues were more likely to use

hearing protection themselves. Apprentices had very limited technical knowledge about levels and types of hearing protection.

- Importance of getting into the habit of using hearing protection was noted, however barriers were also emphasised. Apprentices felt communication was affected when using hearing protection and this in turn interfered with safety. General discomfort with wearing earmuffs or earplugs was mentioned and also the inconvenience of having to wear them for short tasks.

Purpose

<A brief statement on the objectives of the research. What are the key research questions?>

The purpose of this study was to examine how trade apprentices who work in the construction sector understand their risks at work, with a special focus on noise. The aim of the study was to gain a better understanding of apprentices' experiences, beliefs and practices in order to direct future research studies in this area. By using qualitative methods we were able to gain a nuanced understanding of apprentice "logic of practice", what motivates their behavior and the nature of their experiences.

We also aimed to examine from the instructor's perspective the employment preparation process for new workers, including how health and safety messages are delivered and understood by new workers.

Rationale

<What is the context of the research? Why is it important that this piece of research be conducted? What factors lead to the research being conducted? >

In early 2011 Monash Centre for Occupational and Environmental Health (MonCOEH) completed an ISCCR funded study investigating Noise Induced Hearing Loss (NIHL) claims in Victoria between 1995 and 2008. Main findings were that the claims rate had increased by 50% and the high claims industries were construction and manufacturing. The percentage of claimants employed by small workplaces also increased significantly compared to large workplaces over the period of the study. Since the construction industry and trades consituted about 40% of all claims, it was important to focus on workers in these industries. We focussed specifically on apprentices since these workers are developing their ideas and practices around health and safety. They also represent the future of the workforce in the construction sector. As part of this project we collected information about apprentices' perception of the effects of noise, hearing preservation, barriers and enablers to involvement in noise control programs. By using a qualitative approach we were able to identify common themes and messages to pave the way for a more focused quantitative study.

Methods

<Brief statement of methods used to conduct the research, including data collection and analysis.>

The researchers were interested in engaging with a TAFE (Training and Further Education) college which had a large and active training program for those working in the construction industry. An appropriate college was identified in Melbourne, Australia and researchers approached the college to meet with the Dean of the construction division. We provided the Dean and the Head of the Carpentry division with study information sheets and materials. Permission was granted to conduct focus groups with both apprentices and educators at the TAFE. Prior to the commencement of the study, we had a number of discussions with the Dean and supervisors about the training environment, apprenticeship structure and occupational health & safety education at the college. We were also given copies of the education materials used at the college in the carpentry program. A total of nine focus groups were conducted at the College; one with educators and eight with apprentices. The educator focus group consisted of seven participants, one in the plumbing industry and six in carpentry. The eight apprentice focus groups included a total of 44 participants. Demographic information can be found in the table below:

Table 1: Apprentice Focus Groups – Demographic information

	Apprentice age group		Total
	18-24 (n=32)	25-38 (n=12)	
Level			
1st year	14	8	22
2nd year	11	2	13
3rd year	7	2	9
Total	**32**	**12**	**44**
Sector			
Domestic	25	7	32
Commercial	1	3	4
Domestic/commercial	6	2	8
Total	**32**	**12**	**44**
No. Employers *			
0 employers	1	0	1
1 employer	23	9	32
2 employers	5	1	6
3 employers	0	1	1
4 employers	0	1	1
Total	**29****	**12**	**41**

* Number of employers since starting apprenticeship

** Three apprentices did not report number of employers

Educators were approached via email from Heads of department inviting them to participate. The instructor focus group assisted in understanding apprenticeship pathways and training programs at the college. It also helped refine the questions for the apprentice focus groups.

Apprentices completing a Carpentry course were also invited to participate. A short presentation about the study was given a few days prior to conducting the focus group, where apprentices were given the option to sign up to participate. Those who agreed to participate received a study package which included a study information sheet, consent form, honorarium and a short demographic questionnaire on the day of the focus group.

Each focus group was facilitated by two researchers. One researcher led the group discussion based on a set of open-ended questions and one took notes and asked follow up questions where necessary. Each focus group included a minimum of two and a maximum of nine participants.

Field notes were written after each focus group identifying key themes and areas/topics to address in future focus groups. The focus group discussions were audiotaped and sent to a professional transcriber. Each focus group transcript was reviewed for accuracy against the recording and errors were corrected. The data were entered into Nvivo10, a program for the management of qualitative data. Transcripts were reviewed and a preliminary list of codes was developed and then refined through discussions with the research team. To “test” the codes, a selection of transcripts were coded by each member of the research team. This was done to ensure the codes were being used correctly and consistently by each researcher. Then, going forward, each transcript was coded by two researchers. The list of codes can be found in the below table:

Table 2: Codes list

Name	Description
Communication	Speaking up and not speaking up, social dynamics, talking with mates, receiving instructions, hearing what is going on site
Co-workers	perceptions of co-workers, relationship with co-workers, role of co-workers in preventing injury, discussion about other trades and what they do on site, etc. includes any peer employees or other apprentices (does not include other employer or teacher)
Employer	Discussion about the role of employer in preventing hearing loss, reducing noise or other hazard prevention activities. Discussion about the sort of employer a person has (more than one? One that is conscious of preventing injuries etc), employer's use of PPE (or lack thereof)
Hazards	Description of hazards at work (falls, trips, slips etc.) how they can hurt a person, where they are found etc. DOES NOT INCLUDE NOISE.
Hearing	Discussion of hearing loss, hearing tests, perception of hearing, "witnessing" hearing loss (from instructors), stories of personal experience of hearing loss, etc.
Money	Financial stipends given to apprentices, cost related to PPE, financial cost of avoiding injury, etc.
Music	any discussion related to personal music players, playing music on site, ipods etc. why and when PMPs are worn (or why they are not worn). Where and when they are worn.
Noise	perceptions of noise at work, sources of noise, how noise makes workers feel

	(mental or physically), type of noise etc.
Quote	Good or memorable quotes that can be used in papers/reports
Risk	Discussion of risk related to hazards at work. What hazards workers worry about or do not about and why. Perception of what can hurt workers. Discussion about how risk is managed and how a worker is protected at work (e.g. discourse about how preventing injuries requires 'common sense'). Risk evaluation, e.g. weighing up decisions, pros and cons of doing something, risk perception
Safety measure – general	Descriptions of other PPE use (unrelated to hearing/noise). For example, scaffolding, gloves, safety-glasses. Safety measures to protect workers from hazards, including what an employer does and what the worker does. Does not include training (see separate code).
Safety measure – noise	Any discussion related to wearing hearing protection, ear plugs, ear muffs. Reasons why these are worn or NOT worn. Factors influencing choice of hearing protection (cost, brand etc). Barriers or facilitators of using hearing protection. Other measures that protect hearing or reduce noise (for example, moving source of noise on a site).
Safety rep	Discussion about the role of unions, union reps, safety reps, safety managers, shop stewards on the work site.
Sector	Descriptions of differences (or similarities) between commercial or domestic sector. Or descriptions of a sector (without comparison). e.g. In domestic we don't have any induction training...etc.
Training	Discussion related to safety training, induction training, training at the TAFE. Discussion about not having any training, or having only informal training "learn as you go", learning from others. Includes discussion about teachers at the TAFE.
Work	Discussion about the sort of work that workers do (tasks, hours etc.), the nature of their employment or industry- whether they are on a small or large site, how many people are employed, what they are paid, etc. Types of tools used.

Once the coding was complete, a ‘code analysis’ was completed on each code identifying key themes, contradictions and similarities/differences in the data and between focus groups. For example, the data in the code “co-workers” revealed the role that co-workers play on the worksite, the importance of communication between co-workers and how co-workers influence safety behaviour, such as the use of hearing protection. The “code analysis” of the data, along with the field notes forms the basis of our findings.

Research findings & implications

<What were the important findings of the research? What implications do these have for policy and/or practice?

Carpentry work

Apprentices reported working in a variety of different worksites that involved carrying out a wide range of tasks. There were many cited differences between the work of apprentices in domestic and commercial sites. Those working in the domestic sector reported working on individual house builds or multiple dwellings on the same estate and those in the commercial sector reported working in office buildings, shopping centres, factories or on public building sites such as swimming pools or community centres. Apprentices would expect to work at

the same site for many months or sometimes years. Those in the commercial sector reported working on large teams, where workers were constantly changing with the needs of the job. In the domestic sector, the teams were much smaller, often only two or three workers and they worked together during the entire project. Some workers in the domestic sector also reported working alone for extended periods.

Apprentices in both sectors reported working with a large range of tools including routers, planers, drop saws, grinders, nail guns, drills and jack hammers. They also described doing many different types of tasks such as skirting, framing, roofing, decking, cutting timber and steel, grinding, pouring concrete and form work. Those in the commercial sector said they tended to do work that involved "a lot of steel and minimal timber" (FG 4). Working with metal was viewed as being particularly "harsh on the ears":

Education and Training

Both instructors and apprentices were asked about the education and training provided by the TAFE, particularly related to occupational health and safety (OHS) and noise. We also reviewed curricula materials related to OHS provided by TAFE college staff- Instructors noted that it was difficult to get apprentices interested and engaged in OHS training and this was a barrier to teaching this material.

"I know that I've had a couple of groups, the last couple of weeks, and just trying to keep them interested in that two or three days when you run through the OHS, it's pretty hard work. " (FG1)

One way that instructors attempted to overcome this problem was to personalize health and safety messages – for example, by not relying on statistics but rather having OHS information come from a fellow apprentice who had suffered an injury or illness at work. Instructors felt that this was one way of getting the attention of apprentices. A number of apprentices also noted that information presented in such a manner resonated with them. In the focus groups, instructors reported discussing noise and hearing with apprentices because they themselves suffered from NIHL.

Both instructors and apprentices said that while a health and safety course was part of the pre-apprenticeship program, OHS information was integrated throughout the training in a "hands on" manner. This involved showing the apprentices how to correctly do a task, reminding them to wear safety equipment and talking to them about tool use. Most apprentices working in the domestic sector said that this was the only formal training they received.

In apprentice focus groups, many participants said that apprentices who worked in the commercial sector received extensive OHS training at the start of a job (the focus was typically on safe tool use, injury reporting procedures and safety on the worksite). Most commercial workplaces were unionized and apprentices reported that a safety representative was on the worksite to ensure worker compliance to safety regulations. Those who worked in the domestic sector said they rarely received any safety or induction training. Further, the approach to compliance and safety rules was described as fairly laissez-faire:

"[No training], that's pretty much every site for me. There's never been an induction or anything. We just go there, do what we got to do and go home". (FG2)

"...At the end of the day it's all on you. If you don't want to wear safety glasses, you don't wear safety glasses. If you don't want to wear earplugs, you don't wear earplugs; it's up to you at the end of the day. I've seen guys cut concrete with nothing on their face ...that's just shooting out concrete everywhere". (FG4)

In a few instances, apprentices working on domestic sites said that older carpenters or their employer would show them how to do a task or give them some goggles or ear muffs to wear. However, a vast majority noted that they received no formal safety education once they were in the workplace and often their employer was not present on the job site to provide them with any guidance. Domestic sector apprentices did not receive formal training related to noise reduction or exposure and did not have information about how to choose or properly fit hearing protection. A number of apprentices, in both sectors, viewed OHS training with some scepticism, wondering if the training was there to protect the employer from litigation or the client from property damage rather than them from injury.

"It's not you being covered; it's their company being covered".

"It's the company saying "we've warned them".

Hazards at work

During the apprentice focus groups we asked participants to discuss the type of hazards they encountered in the course of their jobs. The hazards most often mentioned were those that could lead to dramatic, career-ending injuries such as a loss of a limb, spinal cord injury or blindness. Generally, focus group participants said they did not spend a great deal of time worrying about what could cause them harm at work. Many noted that hazards could be found everywhere and it was best to simply focus on the job at hand:

"You try not to think about that stuff. You just try and concentrate on what you got to do, otherwise you'd be worrying too much all day". (FG5)

Participants were asked how hazards were avoided and what helped them stay safe at work. Apprentices tended to emphasize using "common sense", doing only what felt safe and stopping a task if it hurt. Their navigation of the workplace and safety behaviour seemed to be based on learning from mistakes and changing behaviour based on previous negative events (e.g. an accident or near miss). Apprentices also said they sometimes considered possible outcomes when doing a task. The seriousness of a hazard and its outcome seemed to dictate behaviour to a certain extent.

Noise at work

Apprentices identified many sources of noise, with power tools, machinery and trucks as being the most common. Many noted that working in confined spaces and alongside others amplified noise levels.

Noise was mainly described as being ubiquitous in the workplace:

"*All the machinery, the power tools, all the trucks that come past: the concrete trucks, the delivery trucks. Yeah, all around you is noise 24/7" (FG4).*

Although many reported ringing in their ears, most felt that the presence of noise was unavoidable.

"*There's no way around it. The job requires you to make lots of noise, like, there's no part of the job that doesn't make noise. There's nothing (that can be done). I can't think of one thing*" (FG8)."

Noise reduction at work

Methods of noise reduction were almost entirely focused on personal hearing protection. Apprentices felt a lack of control when it came to other measures of reducing noise, with a general belief that it was up to the employer to implement strategies. While some participants said they would alert other workers before starting a noisy task or try to move themselves away from other workers, often other noise-reduction solutions, such as moving machinery or isolating groups of workers were seen as being up to the employer.

Apprentices felt that noise reduction was not always a priority for employers and some believed that employers were unaware of noise levels on the worksite:

"they're literally running from site-to-site…they might not get a sense of how much noise there is" (FG2).

Further, noise reduction strategies that could be implemented by the employer, such as purchasing newer and better quality (quieter) tools, reconfiguring the worksite to make it quieter or using quieter materials often resulted in higher costs. Apprentices felt that employers working in a competitive market were not eager to bare these costs. Some participants believed that the distal consequences of hearing loss were a disincentive to noise reduction at work. This issue was also raised by some instructors:

"With hearing, employers almost have the opinion of 'oh he'll be gone out of the work, I don't have to worry about him, we're not going to pay any fines for him' (FG1)

According to some participants, even employers who were concerned about health and safety tended to focus on hazards that produced immediate, dramatic injuries and could have immediate consequences on their insurance premiums.

Finally, many apprentices did not think that the type of work they did was easily amenable to changes that would help reduce noise. Many jobs, such as digging or putting on skirting had

to be done in a specified spot and could not be moved to reduce the sound. Similarly, moving workers was not viewed as a practical solution to noise reduction given the production and time pressures of construction work.

Hearing protection

Hearing protection was viewed as the main strategy to reduce noise with certain tools/jobs prompting their use:

"When you know the grinder is about to be turned on, or a router or something, you're like 'ok I need protection'…if someone's just using a normal drill or something, that's not an issue. Sometimes even the saws aren't too bad…for me it's more of a muscular memory" (FG2).

Most apprentices reported using hearing protection at least in some instances at work. However, situations where protection was used varied, as did the type of protection used. The type of hearing protection apprentices used depended on a number of factors: practicality, comfort, cost, levels of protection were all factors impacting choice of hearing protection. Not surprisingly, convenience was often mentioned. Apprentices were more likely to use hearing protection that was nearby and easily accessible.

"Having those banded earplugs with you, it takes no time to put them in, take them out….if it was a matter of having to go and look for your earmuffs every time there was noise then there would be times when you wouldn't bother" (FG6)

Workplace culture also influenced the use of hearing protection. Apprentices from sites where hearing protection was used by employers/colleagues were more inclined to use hearing protection. Discussions also highlighted minimal understanding about grades of hearing protection.

"*I started seeing the other boys wearing them, over stupid little things, and then I thought 'I might as well put the show up', and your day goes so much smoother because it's quieter and it seems more laidback..so less stress"*.

Barriers to hearing protection use

The main reported barrier to hearing protection use was a reduction in the ability to communicate with their employer and co-workers:

"*You sort of just need to be alert all the time because even if there's no dangers around, you might have a delivery coming or something and your boss will shout at you to come and unpack it..so if you don't hear him he won't be too happy with you" (FG9)* .

Other reasons for not wearing hearing protection included, physical discomfort, inconvenience, cost, habit and peer influence. The peer influence that incited some

apprentices to use hearing protection could also work in the opposite direction. When no one used hearing protection, it was sometimes difficult for new workers to go out on their own and wear it. Several participants in the instructor focus group argued that the wearing of protective equipment still signified "weakness" by some in the construction industry:

P3:There's a bit of a cultural thing, that it's sort of gung-ho, that you don't get too worked up about being really fastidious about your hearing, and if you haven't got your earmuffs, don't worry…

P2: I still think it's un-cool on a building site…it's seen as a weakness (FG1)

The effects of noise not being immediate or career ending were also emphasized and viewed as a potential barrier in the focus groups:

"*It's not happening to you now..it's 6:30 in the morning, like, I can't be bothered…that's pretty much it. (FG8).*

Many apprentices did not have an in-depth knowledge of the sort of hearing protection they needed, therefore cost often seemed to drive their purchasing decisions and they would buy "whatever's cheap" (FG9). Instructors also noted that if hearing protection was not supplied by the employer it would be unlikely that an apprentice would buy it due to the cost: "They're expensive. You might have one out of 100 [apprentices] that would buy them. Because of the cost factor…" (FG1)

Hearing and hearing loss

We ended the focus group by having a discussion about apprentices' hearing. As discussed earlier, most apprentices did not worry a great deal about hearing loss, except perhaps when they experienced prolonged ringing in the ears or encountered another carpenter who had severe hearing loss or tinnitus. However, there was a lot of interest in getting hearings test. Most apprentices did not know whether they had suffered hearing loss already (although a number had some indication – having to turn the TV up louder or persistent ringing in the ears). Workers were keen to find out if their hearing was in fact being damaged and how it compared to the general population. Almost all apprentices responded positively when asked whether they would get a hearing test if they were provided as part of the training program.

"If you ladies came today and said 'We're offering a free hearing test' I would go. No worries".

"You'd have a line I reckon. A line of chippies coming outside". (FG2)

A number of participants noted that if a hearing test demonstrated that their hearing was diminished, this would have an impact on their work practices and use of PPE:

If I knew I was going deaf I would definitely wear them – every day. But not seeing any effects or anything, or feeling it, then it doesn't really come first thing to your mind. (FG8)

If you knew you were going deaf, like losing your hearing, you'd probably start to think about it a lot more. You'd start putting [in] either earmuffs or plugs, or something like that. (FG9)

Use of the research

<Brief summary on how the conclusions/findings could be used by WorkSafe, the TAC and/or another organization or individual in the field>

Focus is on PPE, not noise reduction

In our focus group we noted that very few apprentices had any knowledge about how noise could be reduced in the workplace and many felt that little could be done to make their work quieter. The view that PPE is the key way of preventing NIHL was dominant. Health & Safety authorities must communicate that there is a hierarchy of controls when it comes to noise reduction and hearing protection, particularly when interacting with employers. Similarly, education programs should reinforce the message above and provide examples of what can be done to reduce noise in the workplace, particularly since many apprentices expressed the desire to eventually start their own businesses.

Potential impact: Apprentices have a greater understanding of noise reduction techniques. Once in future leadership roles, this can lead to a change in approaches to decrease NIHL.

Little understanding or training in choosing hearing protection

Since PPE was viewed by participants as one of the only ways to prevent hearing loss, it was particularly troubling that apprentices knew very little about grades of hearing protection, how to chose hearing protection appropriate for the task they were doing and how to fit hearing protection. On domestic sites in particular there seemed to be little formal oversight in terms of safety practices and few had formal induction/training. As such, it is unlikely that workers were given instructions how to correctly use hearing protection. Further, it was reported that many (domestic-sector) businesses did not provide PPE. In this scenario, if workers chose to purchase PPE, they would be the ones who chose the quality and grade of protection. It is important that training institutions and Health & Safety authorities provide clear guidance to these new workers so that cost and comfort are not the only drivers of purchasing decisions.

Potential impact: Apprentices will have greater understanding about grades and types of hearing protection.

Differences in domestic and commercial sectors

Our study highlighted major differences in the experiences of apprentices in the domestic and commercial sectors. Apprentices described how conditions of work, training practices and access to safety equipment differed in the two sectors. The differences in the domestic and commercial sectors has implications for OHS in the construction industry and the protection of hearing specifically. While the apprentices in our study working in the domestic and commercial sectors were all doing “carpentry work” their actual job tasks, the social relations in their work and physical conditions on their job sites varied widely. It is important that hearing protection programs and policies be tailored to the realities of carpentry work in these different sectors.

Potential impact: Health and Safety initiatives aimed at the construction sector will be tailored to both domestic and commercial sector employees.

OHS training at the college

For the domestic apprentices in this study, the OHS education and mentorship they received in school was often the only time they were given formal training when it came to health and safety. Even commercial sector apprentices, many who receiving formal inductions on their job sites, reported having little knowledge about grades of hearing protection and NIHL. Significantly, apprentices in both groups were skeptical that training in the workplace was there to protect their health. Rather, it was viewed as a mechanism for decreasing employer liability (and protecting them from costly fines or insurance premium increases). The college, on the other hand was not viewed as being affiliated with the employer or as having other interests beyond training apprentices. As such, we feel that the college is well positioned to deliver OHS training that will be viewed by apprentices as being done for the benefit of their well-being and not other concealed motives. Practically speaking, apprentices are a "captive audience", their attendance in training mandatory to receive their certificate. Curriculum planners and instructors must understand the significance of the OHS training they provide and ensure it is applicable to the types of worksites and conditions apprentices work in. As was noted in the results above, the use of apprentices and other carpenters as conveyors of OHS information can make OHS training more engaging, relevant and memorable.

Potential impact: OHS training will be an integral part of the apprenticeship program. Peers will be used to delivery OHS messages at least in some instances.

Little information about making a complaint or filing a claim

Given that noise exposure is a common hazard in the construction industry and a number of studies have confirmed a high prevalence of NIHL among older construction workers, it is concerning that apprentices had little information about what to do if they experienced NIHL. For example, we found little evidence that apprentices had clear information about how to file a workers' compensation claim. While one of the training presentations we reviewed had an example of an incident report form, this did not include information about how a worker with a gradual-onset work-related illness (such as hearing loss) should proceed.

Potential impact: Workers will have information about their rights, including on how to file a claim.

Hearing tests

Possibly due to the ubiquity of noise, apprentices were very interested in getting a hearing test, especially if the hearing test was free and done as part of their apprenticeship program. Given that a number of studies with construction workers have indicated that hearing loss can occur just after a few years of exposure, hearing tests at the beginning and toward the

end of the apprenticeship program could provide apprentices with some indication of hearing threshold level increases. Even a one-time test could provide apprentices with an indication how their hearing compares to the general population. Importantly, providing hearing tests at the college would also be an opportunity to provide apprentices with information about hearing loss and hearing conservation.
Potential impact: Apprentices will have access to hearing tests as part of their training. Research should examine whether hearing tests, along with resources related to noise and NIHL, help influence apprentice behavior in the workplace and attitudes about noise.

The findings for the research can be used to explore possible interventions to make apprentices more aware of hazards, in particular noise. Also to highlight any already existing regulations that are not being complied with and re-evaluate education.

The Victorian WorkCover Authority (VWA) will be able to integrate the findings into future programs of work and activities as planned by the the VWAs Improvement Program and Specialist Services, Hazardous Industries Division and Operational Programs Divisions. The VWA may also feed the findings into the their construction inspectorate to supplement industry knowledge. Other stakeholders including employers, workers aged 15 to 24 years and training agencies. Training agencies for apprentices, such as TAFEs, need resources to work with injury prevention bodies, employers and workers to develop programs that would raise awareness about noise exposure at work and hearing loss. One strategy, discussed above, is to mobilize experienced carpenters who can discuss first hand experience with noise and hearing loss with new workers. The availability of hearing tests at the TAFEs would also provide workers the opportunity to learn about their hearing and receive resources on hearing loss, noise reduction and hearing protection at the beginning of their careers.

Potential impact of the research

<Brief summary on the potential impact of the research should it be used in the way you described above. The term impact should be interpreted broadly to include any reasonable change in an outcome (a policy change, a practice change, a cost or saving, a change in health status, a change in client satisfaction etc…)>

The current study highlights apprentices' experiences, beliefs and practices in relation to workplace hazards, in particular noise. Targeting apprentices and their educators in a qualitative study has provided information that will allow for better design and implementation of noise control programs. For example, study findings highlight the need to consider differences between commercial and domestic sector worksites. Further, this study suggests that many apprentices are concerned about hazards that can have immediate and career ending consequences. As such, it is important for employers, educators and regulators to make new workers aware of hazards, such as noise, that have more long-term consequences for health and well-being.

Based on information collected from focus groups the research team suggests ways in which the effects of noise can become a priority on the apprentice agenda. These suggestions include enforcing induction and provision of safety equipment, making hearing protection accessible and cheap, providing education about ratings on hearing protection and sharing stories about the effects of noise from other construction workers. Teaching apprentices about their hearing by providing hearing tests at the TAFE may also assist in education about hearing, noise and NIHL.

Appendix 1- Focus Group Questions

Educators

1) What sort of trades and sectors are apprentices working in? What type of work/tasks are apprentices doing on site?

2) Tell me a little about the training that apprentices receive here. (Probes: how many hours do they spend receiving OHS training, what type of training is it, is any of the OHS training focussed on noise)

3) How interested are apprentices in learning about OHS? (probe: do they seem interested/attentive, are they engaged in classes? etc.)

4) In **your view** what are the key hazards of the jobs apprentices do?

5) What do you think **apprentices** would see as the key hazards?

6) How are apprentices protected at work? (probe: equipment? Training? Other?)

a) Who is involved in this process?

7) Is there anything missing from this preparation process? Please explain.

8) We have a specific interest in hazards that pose a risk to hearing. Are apprentices employed on sites or in jobs where there is a lot of noise? (if so, which workplaces?)

a) Do you think that apprentices view noise as a hazard at work? (Why or why not?)

9) Is there anything done at their jobs to protect their hearing? If yes, what? If no, why not?

10) Do apprentices often wear personal music players (PMPs) like ipods, MP3 players, etc?

a) Do they ever wear them at work? Why are they worn? In what circumstances?

11) Are there particular **jobs, tasks or equipment** that expose workers to a lot of noise? Please explain.

12) What do you think could help prevent work-related hearing loss?

13) We are planning on doing focus groups with apprentices to discuss hazards at work and specifically the issue of noise at work. Are there certain trades we should specifically target? Can you think of any issues we should raise with them?

14) Do you have anything else to add?

Apprentices

1) Tell me a bit about the work that you do. What is it like? What trade and sector do you work in (Industrial/Commercial)?

2) What are the main hazards – things that can cause you harm or injury - you encounter at work?

3) What are the hazards that you **most** worry about? Why?

4) What are the hazards that you **least** worry about? Why?

5) What sorts of things help keep you safe at work? (probe: training from the TAFE, training at work, equipment, other?)

6) Would you tell your manager/supervisor if your job was not safe (probe: why or why not?)

    a) If would **not** tell supervisor: Would you tell anyone else?

7) We are interested in the topic of noise at work. Can you tell me if you work in a noisy environment? (noisy is defined as: an environment where you need to raise your voice when communicating with someone one metre away)?

    a) If some participants answer yes: Where does the noise mainly come from? (probe: Does noise come from what you are doing? From others around you? Outside noise? What about music/PMPs?)

    b) What is the noise like? What type of noise is it? (Probe: intermittent, constant, etc)

    c) What is it like working in a noisy environment? How do you feel after working in a noisy environment? (probe: Does it bother you? Does all noise affect you in the same way? Does it affect you physically? Mentally?)

8) Do you ever worry that you are exposed to too much noise at work (too loud or too often, for example). (If yes, why do you worry? Are worried about losing your hearing).

9) Do you think your **supervisor or manager** views noise to be a hazard at your worksite? Please explain.

10) Do **you** do anything to protect your hearing? Please explain. (probe: in what circumstances? At whose direction, etc)

11) Has everyone been offered hearing protection?

a) How did you decide when and where to use it?

b) What have you been told about when to wear your hearing protection? Who/where did this information come from?

c) Do you ever take off hearing protection when it's still noisy? (why or why not)

d) Was it provided or did you have to get it yourself?

e) If not provided but worker buys: How did you choose the kind you used?

12) Do you do anything to reduce noise at your job site? (what?)

13) Is there anything done at your job site to reduce noise (probe: equipment, training, policies, isolating workers, job scheduling etc.)

a) By whom? (probe: builder/employer, foremen/supervisor, do you do anything?)

14) What stands in the way of reducing noise at your worksite?

15) What do you think your hearing is like? (probe: have you had a hearing test? Are you worried that your hearing is not as good as it should be?)

16) Do you have any other ideas about what would make your job site quieter or less noisy?

17) Do you ever wear personal music players (PMPs) at work? Why or why not? In what circumstances?

a) Do others around you wear PMPs or listen to music at work?

18) Would you have a hearing test if it was available at the TAFE? (Prompt: Would you have it if it was free? Would you be willing to pay? How much would you be willing to pay?)

19) What are the benefits of having a hearing test from your perspective?

20) If you found out that your hearing was diminished, how would you react? Would you make any changes to your use of personal hearing protection? Would you be more concerned about noise in your workplace?

21) How would you feel about your employer knowing the results of your hearing test?

22) What information or resources would you want to have about noise, hearing protection and hearing loss as you start work?

23) Do you have anything else to add?