

**Employment and related economic outcomes for Australian apprenticeship and traineeship graduates with disabilities: baseline findings from a national three-year longitudinal study.**

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## **Abstract**

**BACKGROUND:** Apprenticeships and traineeships are beneficial vocational pathways for people with disabilities as they include work-based training and provide nationally recognised formal qualifications. While vocational education and training (VET), particularly apprenticeships and traineeships, has been found to benefit people with disabilities, graduate outcomes are not well documented over time.

**OBJECTIVE:** Identify economic and related outcomes among a cohort of apprenticeship and traineeship graduates with and without disability in Australia from a prospective longitudinal study.

**METHODS:** A total of 489 participants completed the first of three annual surveys. A disability group (DG) consisted of 404 graduates and 85 graduates constituted a comparison group (CG).

**RESULTS:** Positive employment and economic outcomes were reported. DG apprenticeship graduates and DG traineeship graduates who obtained full-time employment following graduation had outcomes comparable with CG participants. The findings identified many other similarities in outcomes between the DG and CG.

**CONCLUSIONS:** There are strong graduate employment and related outcomes for apprentices and trainees with disabilities. Findings from the second and third waves will shed further light on the sustainability of outcomes over time.

**Keywords:** Apprenticeship and traineeship graduate, Australia, economic outcomes, prospective longitudinal study

## **Employment and related economic outcomes for Australian apprenticeship and traineeship graduates with disabilities: baseline findings from a national three-year longitudinal study.**

### **1. Introduction**

This article presents the initial economic outcomes among Australian apprenticeship and traineeship graduates with disabilities from the first of three annual surveys in a national longitudinal study. The objective of the study was to identify employment and related economic outcomes achieved by a cohort of apprenticeship and traineeship graduates with and without disability in Australia. In this article, employment outcomes include paid employed, volunteer work, looking for paid employment, or not in the workforce. Related economic outcomes are sources of income, employment benefits, weekly hours of work, wages, and access to credit.

Australian apprenticeships and traineeships, commonly referred to as *Australian Apprenticeships*, are nationally certified courses within the broader vocational education and training (VET) pathway (Naidu, 2011). The benefits of apprenticeships and traineeships are that they combine work-based training with study and constitute a form of employment with practical, hands-on, on-the-job training. Work-based training or education has been identified as an effective approach to enhance outcomes for vulnerable populations including people with disabilities (Hutchinson et al., 2011; Lewis, Thoresen, & Cocks, 2011a, 2011b). VET has been acknowledged internationally as enhancing the employability of people with disability (Bagshaw & Fowler, 2008; Luftig & Muthert, 2005; National VET Equity Advisory Council, 2011). Apprenticeships and traineeships are managed by each State Training Authority across Australia. For example, in Western Australia, more than 500 different courses are on offer (Government of Western Australia, 2013a, 2013b). Courses range from entry level traineeships in trades, services, and industries, to full trade qualifications through apprenticeships. Traineeships may encompass further education and professional development, for example, in management and leadership. The Australian *National Mental Health and Disability Employment Strategy* specifically identified ‘improving linkages between schools, higher education

and VET providers' as a strategy to improve education and training for people with disabilities through the National Disability Coordination Officer program (Australian Government, 2009). Despite this, Australians with disabilities are underrepresented in apprenticeship and traineeships and in VET generally (Australian National Training Authority, 2000; Bagshaw & Fowler, 2008; Ball, 2004; Ball & John, 2005; Cavallaro, Foley, Saunders, & Bowman, 2005; Griffin & Beddie, 2011; Lewis et al., 2011a, 2011b; NCVET, 2011c).

Although people with disabilities experience high unemployment rates and may experience other challenges in the workforce such as discrimination (Campolieti, 2002; Deloitte Access Economics, 2011; Gold, Shaw, & Wolffe, 2005; Jones, Latreille, & Sloane, 2006; Kidd, Sloane, & Ferko, 2000; Lewis et al., 2011b; Lysaght, Ouellette-Kuntz, & Lin, 2012; Moore, Konrad, Yang, Ng, & Doherty, 2011; Wilkins, 2004), the positive impact of open employment on social participation, community integration, quality of life, and wellbeing for people with disabilities is well established (Corbiere & Lecomte, 2009; Eggleton, Robertson, Ryan, & Kober, 1999; FaHCSIA, 2011; Jiranek & Kirby, 1990; Kober & Eggleton, 2005). It is important to expand the evidence base of successful outcomes that are related to vocational strategies and pathways. It is also important to raise expectations as low, non-vocational goals in the transition from school to adult life will affect employment and vocational outcomes (Grigal, Hart, & Migliore, 2011). The longitudinal study upon which this article is based is documenting the social and economic outcomes of apprenticeship and traineeship graduates, how these change over time and their sustainability, and the interrelationships between outcomes, pathways, and key transition points. This article presents employment and other economic outcomes identified in the first wave of the study.

## **2. Methods**

The human research ethics committee at the authors' university provided ethical approval for this research project in 2011. Research participants were selected in two phases: Apprenticeship and traineeship graduates with disabilities were recruited in the second half of 2011. Participants

recruited for the disability group (DG), met two inclusion criteria: Completion of an apprenticeship or traineeship in 2009 – 2011 and self-identifying as having a disability.

The DG was initially recruited through Group Training Organisations (GTOs) and Disability Employment Services (DES). GTOs specialise in employing and training apprentices and trainees with and without disabilities who are indentured through host-employers. GTOs are the largest group of employers of apprentices and trainees in Australia. DES are specialist service providers that place and support workers with disabilities in open employment (Lewis et al., 2011b). Insufficient eligible research participants were recruited for the study through GTOs and DES. To increase participant numbers, additional recruitment took place by contacting in two States all disability liaison officers of all public Registered Training Organisations (RTOs). RTOs are made up of vocational or technical colleges. In addition, State Training Authorities that operated within State Education Departments in four States were approached. Several RTOs and all four State Training Authorities agreed to circulate invitations to participate in the research to people on their records who met eligibility criteria.

CG participants were recruited in the first quarter of 2012. Inclusion criteria were: Completion of an apprenticeship or traineeship in 2009 – 2011 and *not* self-identifying as having a disability. CG participants were recruited through GTOs following the recruitment of graduates with disabilities. This enabled the recruitment of graduates without disability to approximate the proportion of graduates with disability on three key variables: Age, gender, and apprenticeship or traineeship level. A total of 489 apprenticeship and traineeship graduates were recruited: 404 DG participants and 85 CG participants. The CG is smaller due to cost and time constraints and in recognition that the emphasis of the study is apprentices and trainees with disability. However, the low number of CG participants inflates the percentage in some subgroups

Employment and related economic outcomes are presented mainly as descriptive statistics in this paper. These include frequencies and percentages to summarise the demographic data, sources of income, employment, employment benefits, and forms of credit. Basic statistical data are also

presented, including means, standard deviations, and minimum and maximum values. In addition, independent samples t-tests were utilised to compare the mean scores of different groups.

### **3. Participants**

Research participants' age and gender are summarised in Table 1. The proportion of males and females is similar to all Australian apprenticeship and traineeship commencements in 2010 although there is a larger proportion of older graduates among research participants (NCVER, 2011a). This is largely accounted for because research participants' age was determined by when they completed the survey which was up to three years following graduation compared to administrative data that recorded age upon course-commencement for all apprentices and trainees. DG participants' geographical distribution across Australia is fairly reflective of the proportional distribution of apprenticeship and traineeship graduates with disabilities with the exception of a much lower proportion of participants from the State of Victoria. While 27% of all apprenticeship and traineeship commencements in 2010 were in Victoria (NCVER, 2011a), only 3% of research participants with disabilities were residing there. The underrepresentation of Victorian graduates with disabilities resulted from a decision on the basis of budget and time restrictions not to approach the Victorian State Training Authority for assistance to recruit research participants.

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Insert Table 1 about here

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As illustrated in Table 2, a large proportion of DG participants had intellectual or learning disabilities (40%), followed by physical disabilities (17%), medical conditions (13%), and sensory impairments (12%). These proportions are markedly different from those reported for intellectual or learning disabilities among all VET graduates in 2009. According to administrative data, 22% of VET graduates had intellectual or learning disabilities, 18% medical conditions, 14% physical disabilities, and 12% sensory impairments (NCVER 2011c). The cause for the higher proportion of research participants with intellectual and learning disabilities compared to that of administrative records is unknown. It

may be that a proportion of apprenticeship and traineeship graduates having intellectual or learning disabilities are not captured in administrative records, resulting in underestimation. An Australian study found that a large proportion of apprentices and trainees had incorrectly been recorded as having disabilities while the record should have reflected the apprentices and trainees receiving additional support (Lewis, 2002). It should also be noted that disability status is based on self-report, and a number of apprentices and trainees with mild intellectual or learning disabilities may have been reluctant for their disability status to be recorded. The spread of other disability classifications among participants mirror those reported for all VET graduates.

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Insert Table 2 about here

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A range of apprenticeship and traineeship areas were reported by research participants, representing all major apprenticeship and traineeship industry areas. For DG participants, the most common courses were in finance, property, and business (24%); community services, health and education (12%); and wholesale, retail and personal services (10%). For CG participants, the most common courses were in finance, property and business (35%); building and construction (12%); and primary industry (10%). Details of participants' socio-demographic characteristics, motives for undertaking their training courses, and barriers and facilitators for course completions have been reported elsewhere (Cocks & Thoresen, 2013).

#### **4. Economic outcomes**

Although a meta-analysis of pay and job satisfaction found pay to be marginally related to job-satisfaction (Judge, Piccolo, Podsakoff, Shaw, & Rich, 2010), economic and related outcomes are important graduate indicators. Research suggests that job satisfaction encompasses much more than satisfaction with wages, and includes psychological reward (Hofmans, Gieter, & Pepermans, 2012). For vulnerable populations such as workers with disabilities, economic outcomes can be used as indicators of 'fair employment and decent work' (Commission on Social Determinants of Health,

2008). The economic and related outcomes accounted for in this paper include sources of income, employment benefits, hours of work and wages, and access to credit. The results and subsequent discussion that compares outcomes between DG and CG participants underscores the importance of raising vocational expectations for people with disabilities, and the value of apprenticeships and traineeships as vocational pathways into sustainable employment for people with disabilities.

#### *4.1 Sources of income*

As illustrated in Table 3, the main source of income for research participants was wages. A larger proportion of CG than DG participants reported wages as their main source of income. This was also the case with apprentices within each group. A total of 104 graduates (25%) in the DG group were Disability Support Pension (DSP) recipients. For the majority of recipients, the DSP was their main source of income and a larger proportion of trainees than apprentices received the DSP. The DSP is the Australian social security scheme to ensure minimum income protection for working-aged adults with disabilities. DSP recipients' disabilities have been assessed as inhibiting (full-time) employment and/or recipients' work productivity. In order to be eligible for the DSP, recipients have caps on hours they can work and income from wages that mean DSP benefits can be rolled-back or cut-off (Australian Government, n.d.). This is recognised as a perverse incentive for people with disability to limit their employment opportunities (Cocks & Harvey, 2008) leading to welfare dependency and the benefits that employment entails. The Australian Government recently has relaxed the caps somewhat. Very few DSP recipients undertake paid employment. There were 818,815 DSP recipients recorded in June 2011, of which 91.5% reported nil earnings in the fortnight to 24 June 2011 (FaHCSIA, 2012). Only 0.7% of DSP recipients reported a fortnightly income of \$1,000 or greater (ibid).

Trainees were more likely to report additional sources of income than apprentices in both the DG and CG. More than one-third of participants in the DG cited additional sources of income compared to less than one-fifth of participants in the CG. Wages was the most frequently cited additional source of income for both apprentices and trainees in the DG while government allowances such as



Youth or New Start Allowances (which can be provided to people in Australia in training, looking for work, or with limited income from paid work) was the most frequently cited additional source of income for graduates in the CG.

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Insert Table 3 about here

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#### *4.2 Employment outcomes*

A key employment outcome is labour force participation, defined as people being employed, or being unemployed and seeking work, and distinct from people who are not employed and not seeking employment (ABS, 2012). Table 4 outlines participants' main activity since graduation and current employment status. Participants were asked what their main activity had been since graduating: mostly working; mostly looking for work; or mostly something else. The proportion of research participants whose main activity was mostly working is similar for participants in the DG and CG although the proportion of apprentices and trainees mostly working following graduation differed. DG participants had a higher labour force participation rate with a higher unemployment rate than CG participants, while more CG participants undertook further study and training. Only 4.3% of DG participants and 4.7% of CG were not employed or looking for work when surveyed. This gives a workforce participation rate of 95.7% for DG participants and 95.3% for CG participants. Over the past three years, the workforce participation rate in Australia has been between 71.7% and 72.6%, (ABS, 2012) indicating that apprenticeships and traineeships are strong vocational pathways into the labour market. However, graduates with disabilities are more likely to be unemployed than their nondisabled peers. The proportion of DG participants looking for work, 12.7%, is higher than the reported 7.8% unemployment rate for all working age Australians with disabilities in 2009 (ABS, 2011). It should be noted, however, that the 7.1% of CG participants looking for work is also higher than the reported unemployment rate of 5.1% of all working age Australians without disabilities in 2009 (ibid). This trend may reflect the high proportion of younger research

participants and high Australian youth unemployment rates which are 3-4 times the adult population (ABS, 2012). It should also be noted that although a much higher proportion of apprentices than trainees in the DG had mainly been working since graduating, the proportion of apprentices and trainees currently in paid work or looking for work was similar. This was reversed for the CG, with a similar proportion of apprentices and trainees whose main activity was mostly working and mostly looking for work, and a higher proportion of apprentices currently in paid work.

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Insert Table 4 about here

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#### *4.3 Employment benefits*

Table 5 outlines the employee benefits participants reported having received in their current job. A larger proportion of participants in the CG (74.1%) reported receiving at least one employee benefit compared with participants in the DG (59.5%). As a result, a lower proportion of CG participants (25.9%) reported having no benefits compared to DG participants (40.5%). Participants in the CG also reported receiving more benefits on average (2.5) than participants in the DG (2.1). A larger proportion of apprenticeship graduates reported receiving employee benefits and also more benefits, than trainees. This was more so for graduates in the DG than CG. For both the DG and CG, the most common employee benefits were increased responsibilities, pay increases, and receiving a permanent contract.

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Insert Table 5 about here

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#### *4.4 Hours of work and wages*

Tables 6 – 8 present the hours of work and wages for three groups of participants: all participants, full time workers, and all participants excluding workers receiving the DSP. Salaries are presented in Australian dollars. The exchange rate between Australian and US dollar was AU\$1.00 = US\$ 1.04 on

November 30, 2012 (Reserve Bank of Australia, 2012). From July 1, 2012, the national minimum wage in Australia increased to \$15.96 an hour (Fair Work Australia, 2012). Workers in Australia are entitled to at least the national minimum wage unless they are under the age of 21, undertaking work-based training as an apprentice or trainee, or have a disability whereby 'productivity is reduced as a result of their disability' (Australian Government, 2012:4). Industries may have minimum 'award wages' above the national minimum wage and individual States are entitled to create State awards which differ from the national minimum standards.

Table 6 shows that apprentices worked more hours than trainees in both the DG and CG. There is no statistical difference between the weekly hours of work of apprentices in the DG and CG. However the higher weekly hours of work of trainees in the CG compared with trainees in the DG is statistically significant between trainees in the CG compared with trainees in the DG ( $t = 2.68, p < 0.01$ ), and all CG participants compared with DG participants ( $t = 2.42, p < 0.05$ ). Although apprentices in the CG reported higher wages than apprentices in the DG, hourly wage and annual wage differences between apprentices in the DG and CG are not statistically significant. The differences in hourly and annual wages for trainees are statistically significantly lower for DG participants than CG participants. This is also the case for all DG and CG participants. On average, participants in the DG worked 33.21 hours a week, earning \$20.31 an hour and \$36,216 per annum. CG participants on average worked 36.56 hours a week, earning \$23.18 an hour and \$45,331 per annum.

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Insert Table 6 about here

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Table 7 outlines hours of work and wages for full-time workers. These are similar for participants in the DG and CG. Differences in hours of work and wages are not statistically significant for apprentices in the DG and CG. The slight differences in weekly hours among trainees and all participants in the DG and CG in full-time employment are not statistically significant. However, the

higher hourly wage for trainees in the CG compared to the DG is statistically significant ( $t = 2.15$ ,  $p < 0.05$ ) as is the higher hourly wage for all CG participants compared with all DG participants ( $t = 2.14$ ,  $p < 0.05$ ). As trainees in the DG worked slightly more hours than trainees in the CG, the differences annual wages are not statistically significant for trainees or all participants in the DG and CG. On average, full-time workers in the DG worked 41.07 hours a week, earning \$21.47 an hour and \$46,461 per annum. Full-time workers in the CG worked on average 40.90 hours a week, earning \$24.00 an hour and \$51,924 per annum.

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Insert Table 7 about here

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The hours of work and wages outlined in Table 8 excluded 70 employed DSP recipients. The differences in weekly hours, hourly wage and annual wage between DG and CG participants are not statistically significant. This applied to all workers (both full-time and part-time) when excluding the DSP recipients. All DG workers (excluding DSP recipients), on average, worked 36.63 hours a week, earning \$21.66 an hour and \$41,982 per annum while all CG participants, on average, worked 36.56 hours a week, earning \$23.18 an hour and \$45,331 per annum. All full-time workers in the DG (excluding DSP recipients) worked 41.30 hours a week, earning \$22.20 an hour and \$48,199 per annum, while all full-time workers in the CG worked 40.90 hours a week, earning \$24.00 an hour and \$51,924 per annum.

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Insert Table 8 about here

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As illustrated in Table 9, DSP recipients work fewer weekly hours at a lower hourly wage than non-DSP recipients in the DG. This is also the case when accounting for full-time workers only. The outcome is expected as the eligibility criteria for the DSP specify that recipients must have a disability that restricts their work-capacity or work-productivity. There appears to be some

inconsistencies, however, when reviewing the minimum and maximum wages for DSP recipients and non-recipients. The maximum hourly wage (\$29), weekly wage (\$1,015), and annual wage (\$52,780) for DSP recipients working full-time are higher than what the DSP eligibility guidelines may provide (standard deviation of 9.48, 350, and 18,206 respectively). Conversely, the minimum hourly wage (\$1.75), weekly wage (\$61), and annual wage (\$3,185) for DSP non-recipients working full-time are low and suggest a productivity based wage (referred to as the Supported Wage Scheme in Australia). It may be that some respondents have provided inaccurate information regarding whether they receive the DSP or not. There are also plausible explanations for why some DSP recipients have relatively high wages. For example, they may be new in their jobs and yet to complete an assessment for disability support entitlements or they may have specific disability limitations such as severe vision loss which entitles them to a DSP independent of their support needs. With regard to DSP non-recipients with relatively low wages, their assets or income from other sources may exceed the caps allowed for DSP eligibility. Further investigation into DSP recipients and non-recipients is warranted, particularly in light of recent reforms to the eligibility criteria for the pension (which were implemented following the data collection presented in this article).

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Insert Table 9 about here

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#### *4.5 Access to credit*

The research also mapped participants' access to credit. The researchers viewed credit as an indication of access to financial benefits and an employment-related economic outcome. Credit is typically granted by a financial institution or equivalent if the applicants are credit worthy. This is usually based on an assessment of the applicants' incomes to determine if they are sufficiently stable and adequate to service the loan. Table 10 outlines the forms of credit or loans reported by participants. A larger proportion of CG participants (68.2%) than DG participants (55.0%) reported having access to at least one source of credit. Consequently, a lower proportion of CG participants

(31.8%) reported having no credit compared to DG participants (45.0%). This may reflect the higher proportion of unemployed participants in the DG. Similar patterns of forms of credit are noticeable for all DG and CG participants except in the area of personal loans. A higher proportion of CG participants (31.9%) than DG participants (26.8%) had personal loans.

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Insert Table 10 about here

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## **5. Discussion**

With some caveats, the economic outcomes achieved by apprenticeship and traineeship graduates with disabilities participating in this study are comparable to graduates in the CG without disability. The differences in hours of work and wages between apprentices in the DG and CG were not statistically significant. This suggests that apprenticeship graduates with disabilities had similar employment outcomes as their non-disabled peers. Although the hourly wage for trainees in the DG was significantly lower than trainees in the CG, the hours of work, hourly wages and annual wages were not statistically significantly different for full-time workers. Apprenticeship and traineeship graduates with disabilities who obtained full-time employment following graduating, also had similar employment outcomes as their non-disabled peers. It has previously been argued that apprenticeships and traineeships equalise outcomes for people with disabilities (Lewis et al., 2011a). Employment and other economic outcomes presented in this article support that view. However, cost and time constraints have resulted in a small number in the CG sample and caution is required when interpreting the results.

A recent Canadian study identified similar labour market participation outcomes among recent junior/community college graduates with and without disabilities (Fichten et al., 2012). One of the caveats raised with regard to the outcomes among participants with disabilities in that study was that a large number of recent graduates with disabilities continued with further studies. While education has intrinsic value, studies have found that some educational endeavours are enabling

courses without emphasis on vocational outcomes (Australian National Training Authority, 2000; Cavallaro et al., 2005; Lewis et al., 2011a; National VET Equity Advisory Council, 2011). It was unknown whether the participants in the Canadian study were required, or believed they were required, to continue their education to obtain employment. The absolute majority of participants in the current study were participating in the labour market (employed or looking for paid work), indicating that completing apprenticeships and traineeships provides valuable employment and vocational pathways for people with disabilities.

Administrative data collected by the National Centre for Vocational Education Research (NCVER) indicated that employment and other economic outcomes achieved by the DG were comparable to the general population of apprenticeships and traineeships graduates. The proportion of all apprenticeship and traineeship graduates in 2010 in paid employment (86.7%) (NCVER, 2011b), is somewhat higher than DG participants in paid employment (81%). However, the annual wage for all full-time workers in the DG (\$46,561) is slightly higher than the average of all apprenticeship and traineeship graduates (\$45,800) in 2010. If DPS recipients in the DG are excluded, the annual wages increase to \$48,199.

Outcome summaries do not reflect the varied outcomes among research participants. The annual wage in the DG ranged from \$2,904 to \$87,693 for trainees, and from \$6,240 to \$149,760 for apprentices. Graduating from an apprenticeship or traineeship serves to equalise outcomes for people with disabilities collectively, but some individual outcomes may still be poor. Some apprentices and trainees with disabilities may still require extensive on-the-job support and have a reduced productivity at work as a result of their disabilities.

There are varying explanations for the relative benefits of apprenticeships compared to traineeships which reflect the different types of traineeships. Some traineeships, particularly at certificate levels I and II, are enabling courses which may lead to entry level jobs. On the other hand, some traineeships, including several at certificate levels III and IV, are higher level courses often required for management positions. Traineeships incorporate both entry level jobseekers as well as

established professionals seeking promotions. The differences in employment and other economic outcomes between graduates with and without disabilities in this study was greater for trainees. A previous study has shown better outcomes among apprenticeship graduates with disabilities relative to traineeship graduates with disabilities (Lewis et al., 2011a). While the strong link between apprenticeships and the traditional trades may account for strong outcomes among apprentices with the resilience of the resource sector in Australia, the full account as to why there are greater differences in outcomes among traineeship graduates in the DG and CG compared to apprenticeship graduates in this study remains unclear.

The differences in outcomes among DG and CG traineeship graduates may suggest that some employers are reluctant to employ traineeship graduates with disabilities, particularly if they completed lower level certificates. Eligibility criteria attached to the DSP may also play a role in the relative poorer outcomes among DG compared to CG trainees. Interviews with a small group of DG participants (n=30) suggested that some participants limited their hours of work and thus their income to maintain their DSP. For some, it was not necessarily the income of the DSP which was the motivating factor for this, but access to a range of services and concessions for which they were eligible as a DSP recipient. The comparable weekly hours and weekly wages (no statistical significant differences) among trainees working full-time in the DG and CG suggest that the differences in outcomes relate to trainees working part-time in the DG.

Identifying changes in outcomes over time enables the sustainability of outcomes to be investigated. Although three years is a relatively short longitudinal study, identifying changes in outcomes in the forthcoming second and third wave of this study will provide valuable insights. This will monitor changes to employment and economic outcomes, including those of DSP recipients and traineeship graduates for whom outcomes were more equivocal than those of apprenticeship graduates.

The baseline employment and other economic outcomes of apprenticeship and traineeship graduates with disabilities reported in this article show comparable outcomes to graduates without disability for apprenticeship graduates and full-time workers. The workforce participation rate (in



paid employment or looking for work) is similar for the DG and CG although the unemployment rate was higher among DG participants. Completing apprenticeships and traineeships appear to be strong vocational pathways. Apprenticeships and traineeships provide both a nationally recognised formal qualification and work-experience as part of the work-based training. Combined, these can mitigate the reservations some employers may have to employ people with disabilities. The second and third waves of this study will contribute to our understanding of the sustainability of outcomes.

In light of the strong economic and related outcomes for apprenticeship and traineeship graduates in this study, additional support for young people with disabilities to embark on a vocational pathway through apprenticeships and traineeships are warranted. It has been suggested that cost-savings to the Australian public by increasing the support for people with disabilities and other equity groups such as Indigenous Australians and people from a non-English speaking background to undertake and complete vocational education and training (VET) including apprenticeships and traineeships can lead to savings of \$12 billion in 2020 (National VET Equity Advisory Council, 2011). Although there are some policies and programs to support young people with disabilities in high school to undertake work-experience and VET while in high school, additional support for young people with disabilities to embark on a vocational pathway towards open employment in the transition from school is needed. Young people with disabilities, like other young people, should be informed and experience different vocational options or pathways in their transition from school. While employment and other economic outcomes are important for financial independence, vocational development can contribute to social outcomes and quality of life. Information on these outcomes was also collected as part of this study and will be the subject of further reports.

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**Table 1: Age and gender**

	<b>Disability group (DC)</b>			<b>Comparison group (CG)</b>		
	Apprentices n (%)	Trainees n (%)	All DG <sup>a</sup> n (%)	Apprentices n (%)	Trainees n (%)	All CG n (%)
<i>Age</i>						
15-24	55 (49.5)	111 (40.5)	169 (42.8)	7 (29.2)	28 (49.1)	35 (43.2)
25-34	40 (36.0)	67 (24.5)	109 (27.6)	8 (33.3)	10 (17.5)	18 (22.2)
35-44	10 (9.0)	36 (13.1)	46 (11.6)	8 (33.3)	5 (8.8)	13 (16.0)
45-54	2 (1.8)	34 (12.4)	38 (9.6)	1 (4.2)	8 (14.0)	9 (11.1)
55-64	3 (2.7)	24 (8.8)	30 (7.6)	-	5 (8.8)	5 (6.2)
65+	1 (0.9)	2 (0.7)	3 (0.8)	-	1 (1.8)	1 (1.2)
All	111 (100.0)	274 (100.0)	395 (100.0)	24 (100.0)	57 (100.0)	81 (100)
<i>Gender</i>						
Females	15 (13.2)	151 (54.3)	170 (42.1)	2 (7.7)	35 (59.3)	37 (43.5)
Males	99 (86.8)	127 (45.7)	232 (57.4)	24 (92.3)	24 (40.7)	48 (56.5)
All	114 (100.0)	278 (100.0)	402 (100.0)	26 (100.0)	59 (100.0)	85 (100.0)

A dash (-) represents a true zero.

<sup>a</sup>A few participants did not indicate if their course was an apprenticeship or traineeship. 'All DG' includes participants with missing data on apprenticeship or traineeship level and is not a sum of apprentices and trainees.



**Table 2: Disability types**

	Participants' main disability			Participants' additional disabilities		
	App. n (%)	Trainees n (%)	All n (%) <sup>a</sup>	App. n (%)	Trainees n (%)	All n (%)
Blind or vision impairment	10 (8.8)	15 (5.4)	26 (6.4)	2 (9.5)	11 (9.3)	13 (8.9)
Deaf or hearing impairment	17 (14.9)	31 (11.2)	49 (12.2)	1 (4.8)	9 (7.6)	11 (7.5)
Epilepsy	3 (2.6)	3 (1.1)	6 (1.5)	1 (4.8)	2 (1.7)	3 (2.1)
Head injury or acquired brain injury	3 (2.6)	11 (4.0)	14 (3.5)	1 (4.8)	6 (5.1)	7 (4.8)
Intellectual or learning	59 (51.8)	98 (35.4)	159 (39.7)	4 (19.0)	11 (9.3)	16 (11.0)
Medical condition	12 (10.5)	38 (13.7)	50 (12.5)	4 (19.0)	38 (32.2)	45 (30.8)
Mental illness	3 (2.6)	20 (7.2)	25 (6.2)	3 (14.3)	16 (13.6)	20 (13.7)
Physical	6 (5.3)	59 (21.3)	69 (17.)	1 (4.8)	22 (18.6)	24 (16.4)
Other	1 (0.9)	2 (0.7)	3 (0.7)	4 (19.0)	3 (2.5)	7 (4.8)
All	114 (100.0)	277 (100.0)	401 (100.0)	18 (100.0)	99 (100.0)	122 (100.0)

A dash (-) represents a true zero.

<sup>a</sup>Includes participants with missing data on apprenticeship or traineeship level.

**Table 3: Sources of income**

	Disability group (DC)			Comparison group (CG)		
	App. n (%)	Trainees n (%)	All DG <sup>a</sup> n (%)	App. n (%)	Trainees n (%)	All CG n (%)
<i>Main income</i>						
DSP	8 (7.0)	62 (22.2)	72 (17.9)	N/A	N/A	N/A
Government allowance	7 (6.1)	17 (6.1)	25 (6.2)	1 (3.8)	6 (10.5)	7 (8.4)
Family support	3 (2.6)	10 (3.6)	13 (3.2)	1 (3.8)	3 (5.3)	4 (4.8)
Wage	91 (79.8)	182 (65.2)	280 (69.5)	24 (92.3)	46 (80.7)	70 (84.3)
Other	4 (3.5)	6 (2.2)	10 (2.5)	-	2 (3.5)	2 (2.4)
None	1 (0.9)	2 (0.7)	3 (0.7)	-	-	-
All	114 (100.0)	279 (100.0)	403 (100.0)	26 (100.0)	57 (100.0)	83 (100.0)
<i>Additional income</i>						
DSP	3 (12.5)	26 (19.3)	32 (19.5)	N/A	N/A	N/A
Government allowance	3 (12.5)	23 (17.0)	26 (15.9)	1 (50.0)	7 (46.7)	8 (47.1)
Family support	6 (25.0)	23 (17.0)	30 (18.3)	-	3 (20.0)	3 (17.6)
Wage	7 (29.2)	48 (35.6)	56 (34.1)	1 (50.0)	3 (20.0)	4 (23.5)
Other	5 (20.8)	15 (11.1)	20 (12.2)	-	2 (13.3)	2 (11.8)
All	24 (100.0)	135 (100.0)	164 (100.0)	2 (100.0)	15 (100.0)	17 (100.0)

A dash (-) represents a true zero.

<sup>a</sup>Includes participants with missing data on apprenticeship or traineeship level.

**Table 4: Employment**

	Disability Group (DG)			Comparison Group (CG)		
	Apprentices n (%)	Trainees n (%)	All DC <sup>a</sup> n (%)	Apprentices n (%)	Trainees n (%)	All CG n (%)
<i>Main activity since graduating</i>						
Mostly working	100 (87.7)	208 (74.6)	308 (78.4)	21 (80.8)	47 (79.9)	68 (80.0)
Mostly looking for work	8 (7.0)	47 (16.8)	55 (14.0)	3 (11.5)	3 (5.1)	6 (7.1)
Further study or training	2 (1.8)	9 (3.2)	11 (2.8)	-	5 (8.5)	5 (5.9)
Mostly something else	4 (3.5)	15 (5.4) <sup>b</sup>	19 (4.8) <sup>b</sup>	2 (7.7) <sup>c</sup>	4 (6.8) <sup>c</sup>	6 (7.1) <sup>c</sup>
All	114 (100.0)	279 (100.0)	393 (100.0)	26 (100.0)	59 (100.0)	85 (100.0)
<i>Currently working</i>						
Yes, paid work	95 (82.6)	226 (81.0)	321 (81.5)	25 (96.2)	50 (84.7)	75 (88.2)
Yes, volunteer work	1 (0.9)	5 (1.8)	6 (1.5)	-	-	-
No, looking for work	14 (12.2)	36 (12.9)	50 (12.7)	-	6 (10.2)	6 (7.1)
No, not in workforce	5 (4.3) <sup>d</sup>	12 (4.3) <sup>d</sup>	17 (4.3) <sup>d</sup>	1 (3.8) <sup>e</sup>	3 (5.1) <sup>e</sup>	4 (4.7) <sup>e</sup>
All	115 (100.0)	279 (100.0)	394 (100.0)	26 (100.0)	59 (100.0)	85 (100.0)

A dash (-) represents a true zero.

<sup>a</sup>Includes participants with missing data on apprenticeship or traineeship level.

**Table 5: Employment benefits**

	Disability group (DC)			Comparison group (CG)		
	App. n (%)	Trainees n (%)	All DG <sup>(a)</sup> n (%)	App. n (%)	Trainees n (%)	All CG n (%)
Increased responsibilities	61 (33.9)	122 (39.6)	188 (37.7)	18 (34.6)	37 (35.2)	55 (35.0)
Pay increase	56 (31.1)	85 (27.6)	144 (28.9)	14 (26.9)	28 (26.7)	42 (26.8)
Permanent contract	35 (19.4)	54 (17.5)	91 (18.2)	8 (15.4)	22 (21.0)	30 (19.1)
Performance payment	21 (11.7)	32 (10.4)	54 (10.8)	9 (17.3)	13 (12.4)	22 (14.0)
Other benefits	7 (3.9)	15 (4.9)	22 (4.4)	3 (5.8)	5 (4.8)	8 (5.1)
All forms of benefits	180 (100.0) <sup>b</sup>	308 (100.0) <sup>c</sup>	499 (100.0) <sup>d</sup>	52 (100.0) <sup>e</sup>	105 (100.0) <sup>f</sup>	157 (100.0) <sup>g</sup>
At least one benefit	81 (71.1)	149 (54.4)	237 (59.5)	20 (76.9)	43 (72.9)	63 (74.1)
No benefit	15 (28.9)	75 (45.6)	91 (40.5)	5 (23.1)	8 (27.1)	13 (25.9)

<sup>a</sup>Includes participants with missing data on apprenticeship or traineeship level.

<sup>b</sup>An average of 2.20 employee benefits were reported

<sup>c</sup>An average of 2.05 employee benefits were reported

<sup>d</sup>An average of 2.09 employee benefits were reported

<sup>e</sup>An average of 2.60 employee benefits were reported

<sup>f</sup>An average of 2.44 employee benefits were reported

<sup>g</sup>An average of 2.49 employee benefits were reported

**Table 6: Hours of work and wages: All participants (AUD)**

	Disability group (DC)			Comparison group (CG)		
	Apprentices n = 96	Trainees n = 215	All DG <sup>a</sup> n = 319	Apprentices n = 23	Trainees n = 51	All CG n = 74
<i>Weekly hours (hours)</i>						
Mean	39.48	30.45**	33.21*	40.02	34.86**	36.56*
SD	9.02	12.62	12.39	10.50	10.08	10.44
Minimum	10.00	4.50	4.50	10.00	8.00	8.00
Maximum	72.00	84.00	84.00	72.00	60.00	72.00
<i>Hourly wage (\$)</i>						
Mean	23.76	18.85**	20.31**	26.69	21.60**	23.18**
SD	9.16	7.51	8.29	8.79	5.72	7.16
Minimum	3.26	1.75	1.75	10.50	12.79	10.50
Maximum	57.50	60.00	60.00	50.00	38.96	50.00
<i>Weekly wage (\$)</i>						
Mean	962	580***	696***	1,098	770***	872***
SD	512	350	441	654	347	484
Minimum	120	56	56	200	169	169
Maximum	2,880	1,686	2,880	3,600	1,920	3,600
<i>Annual wage (\$)</i>						
Mean	50,007	30,167***	36,216***	57,101	40,023***	45,331***
SD	26,616	18,223	22,920	33,990	18,033	25,185
Minimum	6,240	2,904	2,904	10,400	8,788	8,788
Maximum	149,760	87,693	149,760	187,200	99,840	187,200

<sup>a</sup>Includes participants with missing data on apprenticeship or traineeship level.

\* p < 0.05

\*\* p < 0.01

\*\*\* p < 0.001

**Table 7: Hours of work and wages: Full-time workers (AUD)**

	Disability group (DC)			Comparison group (CG)		
	Apprentices n = 85	Trainees n = 111	All DG <sup>a</sup> n = 199	Apprentices n = 20	Trainees n = 37	All CG n = 57
<i>Weekly hours (hours)</i>						
Mean	41.80	40.30	41.07	42.52	39.94	40.90
SD	6.07	7.10	6.81	7.80	4.44	5.99
Minimum	35.00	35.00	35.00	38.00	35.00	35.00
Maximum	72.00	84.00	84.00	72.00	60.00	72.00
<i>Hourly wage (\$)</i>						
Mean	23.84	19.72*	21.47*	26.74	22.52*	24.00*
SD	8.56	7.17	8.01	9.18	5.95	7.45
Minimum	3.26	1.75	1.75	10.50	13.80	10.50
Maximum	57.50	38	57.50	50.00	38.96	50.00
<i>Weekly wage (\$)</i>						
Mean	1,025	791	893	1,171	906	999
SD	503	320	424	659	292	468
Minimum	130	61	61	420	518	420
Maximum	2,880	1,686	2,880	3,600	1,920	3,600
<i>Annual wage (\$)</i>						
Mean	53,309	41,120	46,461	60,869	47,088	51,924
SD	26,155	16,636	22,025	34,283	15,199	24,317
Minimum	6,781	3,185	3,185	21,840	26,910	21,840
Maximum	149,760	87,693	149,760	187,200	99,840	187,200

<sup>a</sup>Includes participants with missing data on apprenticeship or traineeship level.

\* p < 0.05

**Table 8: Hours of work and wages: Excluding DSP recipients**

	<b>All workers</b>		<b>Full-time workers</b>	
	Disability Group n = 249	Comparison Group n = 74	Disability Group n = 186	Comparison Group n = 57
<i>Weekly hours (hours)</i>				
Mean	36.63	36.56	41.30	40.90
SD	10.78	10.44	6.96	5.99
Minimum	4.50	8.00	35.00	35.00
Maximum	84.00	72.00	84.00	72.00
<i>Hourly wage (\$)</i>				
Mean	21.66	23.18	22.20	24.00
SD	7.66	7.16	7.39	7.45
Minimum	1.75	10.50	1.75	10.50
Maximum	60.00	50.00	57.50	50.00
<i>Weekly wage (\$)</i>				
Mean	807	872	927	999
SD	423	483	408	468
Minimum	58	402	61	420
Maximum	2,880	3,600	2,880	3,600
<i>Annual wage (\$)</i>				
Mean	41,982	45,331	48,199	51,924
SD	21,985	25,185	21,241	24,317
Minimum	3,005	8,788	3,185	21,840
Maximum	149,760	187,200	149,760	187,200

**Table 9: Hours of work and wages: DSP recipients and non-recipients in disability group**

	<b>All Disability Group (DG)</b>		<b>Full-time workers in DG</b>	
	<b>DSP Recipients</b>	<b>Non-DSP Recipients</b>	<b>DSP Recipients</b>	<b>Non-DSP Recipients</b>
<i>Weekly hours (hours)</i>				
N	72	255	13	190
Mean	21.13	36.63	37.68	41.30
SD	9.95	10.78	2.29	6.96
Minimum	5.00	4.50	35.00	35.00
Maximum	41.30	84.00	41.30	84.00
<i>Hourly wage (\$)</i>				
N	70	251	13	186
Mean	15.50	21.66	10.97	22.20
SD	8.71	7.66	9.48	7.39
Minimum	2.30	1.75	2.33	1.75
Maximum	50.00	60.00	29.00	57.50
<i>Weekly wage (\$)</i>				
N	70	249	13	186
Mean	302	807	415	927
SD	225	423	350	408
Minimum	56	58	89	61
Maximum	1,015	2,880	1,015	2,880
<i>Annual wage (\$)</i>				
N	70	249	13	186
Mean	15,706	41,982	21,588	48,199
SD	11,716	21,985	18,206	21,241
Minimum	2,904	3,005	4,604	3,185
Maximum	52,780	149,760	52,780	149,760



**Table 10: Forms of credit**

	Disability group (DC)			Comparison group (CG)		
	App. n (%)	Trainees n (%)	All DG <sup>(a)</sup> n (%)	App. n (%)	Trainees n (%)	All CG n (%)
Credit card	39 (33.6)	97 (41.1)	142 (38.8)	10 (32.3)	24 (40)	34 (37.4)
Mortgage	24 (20.7)	57 (24.2)	84 (23.0)	8 (25.8)	11 (18.3)	19 (20.9)
Personal loan	37 (31.9)	57 (24.2)	98 (26.8)	10 (32.3)	19 (31.7)	29 (31.9)
Store credit	12 (10.3)	21 (8.9)	34 (9.3)	3 (9.7)	4 (6.7)	7 (7.7)
Other	4 (3.4)	4 (1.7)	8 (2.2)	-	2 (3.3)	2 (2.2)
All forms of credit	116 (100.0) <sup>b</sup>	236 (100.0) <sup>c</sup>	366 (100.0) <sup>d</sup>	31 (100.0) <sup>e</sup>	60 (100.0) <sup>f</sup>	91 (100.0) <sup>g</sup>
At least one source of credit	75 (65.8)	137 (50.0)	219 (55.0)	22(84.6)	36 (61.0)	58 (68.2)
No credit	38 (34.8)	138 (50.0)	179 (45.0)	4 (15.4)	22 (39.0)	26 (31.8)

A dash (-) represents a true zero.

<sup>a</sup>Includes participants with missing data on apprenticeship or traineeship level.

<sup>b</sup>An average of 1.55 sources of credit were reported

<sup>c</sup>An average of 1.71 sources of credit were reported

<sup>d</sup>An average of 1.66 sources of credit were reported

<sup>e</sup>An average of 1.41 sources of credit were reported

<sup>f</sup>An average of 1.67 sources of credit were reported

<sup>g</sup>An average of 1.57 sources of credit were reported