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Vision Australia: Report on the Analysis of Household, Income, and Labour Force Dynamics in Australia [HILDA] Survey Data

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# Overview

## What is this report?

This report provides a plain language summary of the findings of the analysis of 13 waves of the Household, Income, and Labour Dynamics in Australia survey [HILDA]. Definitions of key terms are in the Appendix.

## What is the Household, Income, and Labour Dynamics in Australia survey?

The Household, Income, and Labour Dynamics in Australia survey is a household-based panel survey that collects information about economic well-being, household and family life, health, education, and labour market dynamics. Started in 2001, HILDA collects data on over 17,000 Australians of all ages. Annual interviews with the same participants, aged 15 and over, provide valuable information on change and trends over time. HILDA is funded through the Australian Government Department of Social Services, managed by the Melbourne Institute, and data is collected by Roy Morgan Research.

HILDA ascertains disability status through the question, “Do [you] have any long-term health condition, impairment, or disability that restricts you in your everyday activities and has lasted, or is likely to last, for 6 months or more?” Respondents who answered ‘yes’ were then asked which particular conditions or disabilities they had. Beginning in Wave 3 (2003), participants were able to specify that they had sight problems which were not corrected by lenses or glasses, including complete loss of sight.

## What have we done?

We have used 13 waves of HILDA data to assess the labour force outcomes of individuals with vision loss as compared to individuals without any impairment. Wave 3, collected in 2003, was used as the baseline wave as it was the first year information on vision loss was recorded. Wave 15, collected in 2015, was the most recent wave available at the time of analysis. Using multiple waves of data has allowed us to look at trends over time, while controlling for variation due to factors such as sex and age. However, due to a small number of individuals reporting vision loss, we were unable to restrict the analysis to those with vision loss only. As such, the individuals with vision loss in our analysis may also have other impairments.

The HILDA data was combined into a panel using Panelwhiz.1 We elected to use all available years of data collection due to a small number of individuals reporting vision impairment in the age range (15-64 years) in each year.

Baseline and final year descriptive data, as presented in Table 1, were survey weighted. Survey weighted results have been adjusted to accommodate for the sampling strategy of the survey (e.g. account for differences in selection based on geographic area). These results are therefore generalizable to the general population. Survey weighted results are typically presented as a proportion with a 95% confidence interval, which indicates the uncertainty of the true population proportion estimate.

Figures 1-12 use multinomial logistic regression to present outcomes across all 13 years of data collection. Multinomial regression allows differences due to age and sex to be controlled for, while also adjusting for repeated measures within individuals using robust variance estimates. The results of the regression analysis were used to estimate the proportion of individuals experiencing the outcome of interest each year.

Throughout this report, we discuss labour force outcomes in the context of employment, unemployment, and not in the labour force [NILF]. Individuals were employed if they were working full or part time. People who were unemployed were not working, but were actively seeking full or part time work at the time of the survey. Individuals are said to be participating in the labour force if they are either employed or unemployed. Individuals who are NILF were neither employed nor unemployed, and are therefore not participating in the labour market.

[1 Hahn, MH & Halsken-DeNew. (2013). Panelwhiz and the Australian Longitudinal Data Infrastructure in Economics. Australian Economic Review, 46(3), pp.379-386.]

## Summary of Research Findings

The analysis of HILDA data indicated that overall, individuals with vision loss have lower labour force participation than individuals without any impairment. However, a majority of individuals with vision loss also experienced additional impairments, indicating a high degree of comorbidity among those with vision loss. These comorbidities may influence labour force participation more than vision loss. While the unemployment rate is similar for those with vision loss and those without any impairment, the proportion of individuals not in the labour force [NILF] was significantly higher among people with vision loss. Overall, job characteristics, such as one’s status in main job, number of jobs, status inconsistency (i.e. whether people are overqualified for their job), or industry sector (public, private) were similar between those with vision loss and those without any impairment. However, people with vision loss were less likely to work in professional jobs, were more likely to work part time, and generally had a lower income than their peers without any impairment. We found that trends over time in labour force outcomes were generally unchanging. Finally, we were unable to ascertain any reason why individuals with vision loss were not in the labour force, or understand why such a large proportion of NILF individuals feel they do not want to work. The data also lacked depth into the kinds of employment limitations individuals with vision loss face.

## Recommendations

Further exploration into the situations of individuals with vision loss who are not in the labour force could yield important insights as to why individuals are NILF, whether it be due to choice, their own health, discrimination, or feelings of discouragement. Additional research in this area could ultimately help more individuals with vision loss into meaningful employment.

Gaining additional information on how comorbidity impacts individuals with vision loss and their ability and desire to participate in the labour force could inform how employment participation interventions are targeted toward individuals with vision loss.

Finally, by gaining a better understanding of employment restrictions, employers could better tailor workplaces to be welcoming and inclusive for individuals with vision loss.

## Limitations

Using 13 waves of HILDA data permitted us to look at trends in labour force outcomes for individuals with vision loss as compared to individuals without any impairment while controlling for factors such as sex and age. However, we were limited in our analytic approach and depth of analysis by the small number of individuals reporting vision loss and we were unable to restrict our analysis to individuals with vision loss only. Additionally, the small number of individuals with vision loss has led to greater uncertainty around the estimates of outcomes, as indicated by larger confidence intervals. While the analysis indicates important information about labour force outcomes for individuals with vision loss, it is important to keep these limitations in mind when interpreting the results.

# Demographics of the Sample

Table 1 shows the survey weighted characteristics of those who reported vision loss and those who did not report any impairments in the baseline and final year of HILDA data. Those with vision loss were more likely to be male in both years (2003: 61.9%; 2015: 58.8%) and were more likely to be in the older age group, 40-64 years (2003: 71.9%; 2015: 69.3%). Most individuals with vision loss reported at least one other additional impairment, and this percentage has increased over time (2003: 54.2%; 2015: 71.4%).

Table 1: Characteristics of baseline and final contributed years, survey weighted

**By Sex**

| Sex | Baseline, 2003 With Vision Loss *% (95% CI)* | Baseline, 2003Without Any Impairment*% (95% CI)* | With Vision Loss *% (95% CI)* | Without Any Impairment *% (95% CI)* |
| --- | --- | --- | --- | --- |
| Male | 61.9 (53.0, 70.0) | 49.2 (48.0, 50.3) | 58.8 (51.5, 65.8) | 50.0 (48.9, 51.2) |
| Female | 38.1 (30.0, 47.0) | 50.9 (49.7, 52.0) | 41.2 (34.3, 48.5) | 50.0 (48.8, 51.2) |

**By Age**

| Age | Baseline, 2003 With Vision Loss *% (95% CI)* | Baseline, 2003Without Any Impairment*% (95% CI)* | With Vision Loss *% (95% CI)* | Without Any Impairment *% (95% CI)* |
| --- | --- | --- | --- | --- |
| 15-39 | 28.1 (20.9, 36.6) | 57.7 (56.2, 59.3) | 30.7 (24.0, 38.4) | 57.0 (55.2, 58.8) |
| 40-64 | 71.9 (63.4, 79.1) | 42.3 (40.7, 43.8) | 69.3 (61.6, 76.0) | 43.0 (41.2, 44.8) |

**By Number of Impairments**

| Number of Impairments | Baseline, 2003 With Vision Loss *% (95% CI)* | Baseline, 2003Without Any Impairment*% (95% CI)* | With Vision Loss *% (95% CI)* | Without Any Impairment *% (95% CI)* |
| --- | --- | --- | --- | --- |
| One (Vision Loss Only) | 45.9 (36.8, 55.2) |  | 28.6 (21.8, 36.5) |  |
| Two or More | 54.2 (44.8, 63.2) |  | 71.4 (63.5, 78.2) |  |

# Labour Force Outcomes

Individuals reporting vision loss had poorer employment outcomes in comparison with individuals not reporting any impairment. Across the waves, approximately 40% of individuals with vision loss were employed. The proportion of individuals with vision loss who were not in the labour force [NILF] appears to have slightly decreased across the waves, while the proportion unemployed slightly increases. Labour force outcomes among the population without any impairment remain stable, with approximately 75% of individuals employed.

Figure 1: Labour force outcomes

Chart showing labor force outcomes for people with vision loss and people without any impairment. Data is shown for the years 2003 to 2015. For people with vision loss, NILF trends from 5.9 to 5.8, Employed trends from 3.8 to 3.9 and unemployed trends from 0.75 to 1. For people without any impairment, NILF trends from 2.2 to 2.1, Employed trends from 7.2 to 7.7 and unemployed trends from 0.2 to 0.5.
Transcribers Note: the above values are estimates.

Among those employed, a similar proportion of both populations held medium skill jobs. A slightly greater proportion of the population with vision loss were in low skill jobs compared with their peers without any impairment. A greater proportion of individuals without an impairment held professional jobs than those with vision loss.

Figure 2: Occupation groupings

Chart showing Occupation Groupings for people with vision loss and people without any impairment. Data is shown for the years 2003 to 2015. For people with vision loss, low skill trends from 3 to 2.7, medium skill trends from 4 to 4.1 and professional trends from 2.8 to 2.9. For people without any impairment, low skill trends from 2.2 to 2.1, medium skill trends from 3.8 to 3.9 and professional trends from 3.85 to 3.95.
Transcribers Note: the above values are estimates.


Objective status inconsistency refers to the discrepancy between educational attainment and current occupation. The patterns for status inconsistency are very similar for both individuals with vision loss and individuals without any impairment. High status inconsistency, wherein individuals are over-educated for their occupation, appears to be increasing over time for both groups, with over 60% of individuals in both populations reporting high status inconsistency in recent years.

Figure 3: Objective status inconsistency

Chart showing Objective Status Inconsistency. Data is shown for the years 2003 to 2015. With vision loss, Low Inconsistency trends from 4.3 to 3.1. Without any impairment, Low Inconsistency trends from 4 to 2.9. With vision loss, High Inconsistency trends from 5.8 to 6.8. Without any impairment, HIgh Inconsistency trends from 6.1 to 7.1.
Transcribers Note: the above values are estimates.


Subjective status inconsistency refers to whether an individual feels they use their skills and abilities in their work. Slightly more than half of individuals with vision loss report low subjective status inconsistency, that is, they feel they use their skills and abilities in their work. This proportion is slightly higher for those without any impairment, although the confidence intervals overlap.

Figure 4: Subjective status inconsistency

Chart showing Subjective Status Inconsistency. Data is shown for the years 2003 to 2015. With vision loss, Low Inconsistency trends from 5.3 to 5.6. Without any impairment, Low Inconsistency trends from 5.9 to 6. With vision loss, High Inconsistency trends from 4.5 to 4.5. Without any impairment, High Inconsistency trends from 4.1 to 3.9.
Transcribers Note: the above values are estimates.


Among employed individuals in both populations, a similar proportion were employees in their main job. The proportion of individuals who are employees has gradually risen over time for individuals in both populations, while the proportion of individuals who are employers or self-employed has gradually declined.

Figure 5: Status in main job

Chart showing Status in Main Job for people with vision loss and people without any impairment. Data is shown for the years 2003 to 2015. For people with vision loss, employee trends from 8 to 8.2, employer/Self-employed trends from 2 to 1.8. For people without any impairment, employee trends from 8.1 to 8.3, medium skill trends from 1.9 to 1.7.
Transcribers Note: the above values are estimates.

The majority of individuals in both vision loss and no impairment populations held only one job, and this proportion has remained stable over time.

Figure 6: Number of jobs

Chart showing number of jobs for people with vision loss and people without any impairment. Data is shown for the years 2003 to 2015. For people with vision loss, one job trends from 9.1 to 9.1, more than one job trends from 0.4 to 0.4. For people without any impairment, one job trends from 9 to 9.1, more than one job trends from 0.5 to 0.5.
Transcribers Note: the above values are estimates.

The majority of individuals in both population groups were employed in the private sector. This proportion appears to slightly increase over time, while the proportion of individuals employed in the public/government sector appears to decrease. However, the confidence intervals on the graph for those with vision loss suggest that the proportions have not truly changed over time.

Figure 7: Industry sector of employment

Chart showing industry sector of employment for people with vision loss and people without any impairment. Data is shown for the years 2003 to 2015. For people with vision loss, private trends from 8 to 8.1, government trends from 2 to 1.8. For people without any impairment, private trends from 7.9 to 8, more than one job trends from 2.1 to 2.
Transcribers Note: the above values are estimates.

While the proportion of individuals working part time, full time, or more than full time varies between those with vision loss and those without any impairment, the direction of change is similar for both groups of individuals. Although a larger proportion of individuals with vision loss work part time (<35 hours per week), the proportion of individuals who work part time is increasing in both populations. A greater proportion of individuals without any impairment work full time (35-40 hours per week), but this proportion is increasing in both groups. The proportion of individuals working more than 40 hours per week has decreased over time, although those without any impairment are more likely to work extended hours.

Figure 8: Hours usually worked per week

Hours Usually Worked Per Week for people with vision loss and people without vision loss. Data is shown for the years between 2003 and 2015. For people with vision loss, part time work trends from 4.1 to 4.4. Full time work trends from 2.9 to 3.2 and >40 hours trends from 2.9 to 2.5. 
For people without any impairment, part time work trends from 3.1 to 3.2. Full time work trends from 3.2 to 3.8 and >40 hours trends from 3.7 to 3.1.
Transcribers Note: the above values are approximates.


The proportion of individuals who were underemployed has changed little over time. However, a greater proportion of individuals with vision loss report wanting to work more hours, an indicator of underemployment, than their peers without any impairment.

Figure 9: Underemployment

Chart showing Underemployment: Want More Hours for people with vision loss and people without any impairment. Data is shown for the years 2003 to 2015. For people with vision loss, proportion trends from 2.1 to 2.2. For people without any impairment, proportion trends from 1.7 to 1.9.
Transcribers Note: the above values are estimates.

Individuals who were not in the labour force were asked why they were not looking for work, beginning in 2007. Many individuals with vision loss cited their own disability as the primary reason, although it is important to note that this disability may be vision loss or another impairment. Due to small numbers, other reasons for not looking for work were combined into ‘other.’ These reasons include studying, looking after children, someone else’s health, age, or other-not listed. The wide confidence intervals suggest uncertainty surrounding the reason that NILF individuals with vision loss are not looking for work.

Table 2: Main reason not looking for work among individuals with vision loss who were not in the labour force, survey weighted

| Main Reason Not Looking for Work | 2007 % *(95% CI)* | 2015 % *(95% CI)* |
| --- | --- | --- |
| Own Health/Disability | 50.1 (26.4, 73.8) | 60.3 (42.4, 75.9) |
| Other | 49.9 (26.2, 73.6) | 39.7 (24.2, 57.6) |
| Total | 100.0 | 100.0 |

All individuals reporting a long-term health condition or disability were asked if their condition limited the type or amount of work they could do. A substantial proportion of individuals with vision loss reported that their condition limited the type/amount of work they could do. However, as we were unable to restrict the analysis to those with vision loss only, the work limiting condition may be vision loss or an additional impairment. The proportion of individuals with vision loss who report they are completely unable to work has increased over time.

Figure 10: Work limitations due to disability among individuals with vision loss

Chart showing Work Limitation Due to Disability among Individuals with Vision Loss. Data is shown for the years 2003 to 2015. Limits Type/Amount of Work trends from 7 to 6.8. Cant Work trends from 0.1 to 1.8. Doesn’t limit Type/Amount of work trends from 2.8 to 2.3.
Transcribers Note: the above values are estimates.

Individuals who were not in the labour force were asked if they would like a job in the future. The proportions among NILF individuals with vision loss, and those without any impairment, are very similar. Most NILF individuals do not want to work, with the proportion ranging from roughly 0.70 to 0.80. The proportion of NILF individuals who are interested in working ranged from approximately 0.20 to 0.25. A small, stable proportion of NILF individuals are unsure if they would like a job.

Figure 11: Interest in working among NILF individuals

Chart showing Interest in Working among NILF Individuals for people with vision loss and people without any impairment. Data is shown for the years 2003 to 2015. For people with vision loss, wants to work trends from 2.5 to 2.4, Doesn’t want to work trends from 6.8 to 7, Maybe wants to work trends from 0.2 to 0.2. For people without any impairment, wants to work trends from 2.4 to 2.3, Doesn’t want to work trends from 6.9 to 7.1, Maybe wants to work trends from 0.3 to 0.4
Transcribers Note: the above values are estimates.

Financial year gross regular per-person income was arranged into quartiles, with Quartile 1 reflecting those with the lowest income, and Quartile 5 reflecting the highest income. Individuals with vision loss are more likely to have decreased personal income. Of individuals with vision loss, approximately 60% are in the first quartile of income, while only 10% are in Quartile 4. By contrast, approximately 25% of individuals without any impairment are in each quartile of income.

Figure 12: Gross yearly personal income, quartiles

Chart showing Personal Yearly Income, Quartiles for people with vision loss and people without any impairment. Data is shown for the years 2011 to 2015. For people with vision loss, quartile 1 trends from 6 to 6, quartile 2 trends from 2.3 to 2.4, quartile 3 trends from 0.8 to 0.8, quartile 4 trends from 0.5 to 0.5. For people without any impairment, quartile 1 trends from 2.4 to 2.4, quartile 2 trends from 2.3 to 2.3, quartile 3 trends from 2.3 to 2.3, quartile 4 trends from 2.3 to 2.3.
Transcribers Note: the above values are estimates.

# Appendix

## Glossary

**Hours Usually Worked per Week**

Individuals were considered to work part time if they worked between 1 and 34 hours in their job(s) in the past seven days. Individuals who worked 35 up to, and including, 40 hours per week were considered to work full time. Individuals who worked over 40 hours per week compose the >40 hours group. Outliers above 80 hours per week were excluded.

**Industry Sector of Employment**

*Public*: Individuals were considered to work in the public sector if they worked for a government organisation, government business enterprise, or government statutory authority.

*Private*: Individuals were considered to work in the private sector if they worked for a private sector for-profit organisation, a private sector not-for-profit, or another commercial organisation.

**Labour Force Status:**

*Employed*: Includes individuals who are employed full time (35 hours per week or more) or part time (less than 35 hours per week). This also includes individuals who are working on a fixed term, labour hire, or self-employed.

*Unemployed*: Includes individuals who are not working, are actively looking for work, and are currently available to start working. For further detail on unemployment definitions, see <http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/6102.0.55.001Chapter162013>

*Not in the Labour Force [NILF]*: Individuals are considered not in the labour force if they are neither employed nor unemployed. *It is possible some individuals may want to work but may be considered not in the labour force, potentially due to not actively searching for work or unavailability to start work in the next week*. For further detail, see: <http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/6102.0.55.001Chapter172013>

**Main Reason Not Looking for Work**

Individuals who were classified as NILF were asked the main reason they had not looked for work in the last 4 weeks. Most common responses included own illness or injury, studying, looking after children, another person’s health, or own age.

**Number of Other Impairments**

Individuals who only reported vision loss were considered to have only one impairment. Individuals who reported vision loss in conjunction with at least one other impairment were considered to have ‘2+ impairments.’ These additional impairments may include chronic pain, any conditions that restrict physical activity or work (such as back problems or migraines), difficulty gripping things, disfigurement or deformity, hearing problems, long term effects resulting from head injury or stroke, learning difficulties, limited use of arms or fingers, limited use of feet or legs, mental illness, nervous or emotional condition, shortness of breath or breathing difficulty, other long-term conditions such as arthritis or heart disease, difficulty learning or understanding things, and speech problems

**Occupation Groupings (Skill Level)**

*Professional*: Includes individuals who are managers and professionals. Managers plan, organise, direct, coordinate, and review the operations of organizations. Professionals perform analytical, conceptual, and creative tasks in a variety of fields, including business, engineering, sciences, and health.

*Medium Skill*: Includes individuals who are technicians and trades workers, community and personal services workers, and clerical and administrative workers. Technicians and trades workers perform skilled tasks that apply technical, trade, or industry specific skills typically in support of scientific, engineering, building, or manufacturing activities. Community and personal service workers work provide services regarding aged care, childcare, education support, hospitality, defence, police and emergency services, travel and tourism fitness, and other personal services. Clerical and administrative workers provide support to managers, professionals, and organizations by organizing, storing, manipulating, and retrieving information.

*Low Skill*: Includes sales workers, machinery operators and drivers, and labourers. Sales workers sell goods and property. Machinery operators operate machinery to move materials, transport passengers and freight, and perform agricultural, manufacturing and construction functions. Labourers perform routine, repetitive physical tasks.

For further information on classification and duties, see: <http://www.abs.gov.au/ausstats/abs@.nsf/0/2965B0EAF1D64ED1CA2571E200835401?opendocument>

**Quintiles of Gross Yearly Income**

HILDA asks respondents about their total gross yearly personal income. We divided this into quartiles using the yearly estimates for personal income provided by the ABS. The following table details cut-off points for each quartile of income in the included years. For more information, see:

http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/6524.0.55.002Main+Features12011-2015?OpenDocument

| Income | 2011 | 2012 | 2013 | 2014 | 2015 |
| --- | --- | --- | --- | --- | --- |
| Quartile 1 (Lowest) | <18,378 | <19,837 | <21,105 | <21,551 | <21,929 |
| Quartile 2 | 18,378-40,769 | 19,837-42,987 | 21,105-44,777 | 21,551-45,828 | 21,929-46,854 |
| Quartile 3 | 40,770-68,105 | 42,988-71,840 | 44,778-74,805 | 45,829-76,547 | 46,855-78,205 |
| Quartile 4 (Highest) | ≥68,106 | ≥71,841 | ≥74,806 | ≥76,548 | ≥78,206 |

**Status Inconsistency**

Status inconsistency refers to a mismatch between the position a person holds in one area as compared to their position in another domain. We have followed the approach used by Milner et al2 to assess objective and subjective status inconsistency.

*Objective:* Individuals who have high objective status inconsistency report higher than median levels of education as compared to others in their occupation. Individuals with low objective status inconsistency report education levels consistent with, or below, the median education levels for their occupation

*Subjective:* Individuals who have high subjective status inconsistency report that they do not use their abilities and skills at their job, regardless of occupation. Individuals with low subjective status inconsistency report that they do use their abilities and skills at work.

[2 Milner, A., Aitken, Z., Kavanagh, A., Lamontagne, A. D., & Petrie, D. (2017). Status inconsistency and mental health: A random effects and instrumental variables analysis using 14 annual waves of cohort data. *Social Science & Medicine,189*, 129-137. doi:10.1016/j.socscimed.2017.08.001]

**Underemployment**

Individuals were asked if they would prefer to work fewer hours, about the same hours, or more hours than they currently work. Individuals who responded fewer hours or about the same hours were considered to not be underemployed. Individuals who preferred to work more hours were considered to be underemployed.

**Vision Loss**:

Vision loss is defined as a long-term health condition wherein sight problems are not corrected by glasses or lenses. Respondents could answer ‘Yes’ or ‘No.’

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