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Research Insights

What explains high levels of food insecurity in Australia?

Food insecurity is considered to be one of the precursors to poverty and future poor health. Recent reports show rising food insecurity over the past few years, particularly for young adults and females. We explore what factors are associated with food insecurity in Australia.

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Recent Evidence on Food Insecurity

Self-reports of food insecurity have been rising in the last few years. At the start of the pandemic the rate was 0.8 in 6 adults in 2020 (Wilkins et al., 2022). It increased to 1 in 6 adults (16 percent) in 2021 (Foodbank Australia, 2021), and in August 2022 is 1.3 in six adults (22 percent) (Botha & Payne, 2022). The October 5th Taking the Pulse of the Nation (TTPN) report (Botha & Payne, 2022) illustrated that food insecurity in Australia is a serious issue.[1] This is concerning because food insecurity is one factor considered a potential precursor to living in poverty and future poor health (Gundersen & Ziliak, 2015; Nagpaul et al., 2022).

Many Australians, especially those aged 18 to 44, Tasmanian residents, and/or those expressing high levels of financial stress have indicated they are missing meals or eating less, or both, due to not having sufficient money for food. It is unclear whether these high rates have been driven by the pandemic, inflation, supply chain disruptions, or some other phenomenon. Nonetheless, a greater understanding of food insecurity is important. Nagpaul et al. (2022) highlight that there are strong associations between food insecurity and various measures of economic and social well-being in addition to it being a potential precursor to health-related issues.

What can be done about food insecurity? And is addressing food insecurity simply about ensuring Australians can maintain a consistent calorie intake or does it also involve addressing the quality of food that is easily available and affordable for most Australians?

We are keen to better understand what factors are associated with reports of food security. Are there specific populations or geographic areas that are facing a higher risk of reporting food insecurity? Are food insecure Australians seeking food-related assistance from bodies such as food banks or charities, and what are the factors that predict whether individuals receive free food or groceries?

Looking to the United States, Bitler, Hoynes and Schanzenbach (2020) highlighted that despite efforts in the US to provide increased assistance to low income families during the pandemic, with rising food costs and other challenges, food insecurity rates rose more than three times the rates observed prior to the pandemic and that the US government failed to meet needs tied to timing of payments, size of payments, and gaps in providing coverage for all groups needing help. Gunderson and Ziliak (2015) illustrate the negative effects from food insecurity on current and future health outcomes but that food programs support the reduction of food security in the US. King (2018) finds that food insecurity is associated with greater risk of housing instability, providing further evidence that establishing a strong social safety support is critical .

Measuring food insecurity

Food Security can be defined in many ways. This insight uses a broad definition and acknowledges that more work should be done to consistently capture information on food security in Australia. In this insight, a person is classified as being food insecure if during the past three months, because of a lack of money, skipped a meal, or ate less than they through they should, or both.

The United Nations' Committee on World Food Security defines food security as all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their food preferences and dietary needs for an active and healthy life. The Food and Agriculture Organisation of the UN has created a Food Insecurity Experience Scale based on the responses to eight questions tied to hunger and food access. (see https://www.fao.org/in-action/voices-of-the-hungry/fies/en/).

The United States classifies food security into four groups: high (no limitations), marginal (one or two indications), low (reduced quality or variety of diet but no indication of reduced food intake), and very low (hunger, multiple indications of disrupted eating patterns or food intake). (see https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/definitions-of-food-security/)

[1] Beginning in April 2020, the Taking the Pulse of the Nation (TTPN) was implemented by a group of researchers led by the Melbourne Institute Director. In 2022, the Melbourne Institute and Roy Morgan formed a partnership to extend the running of the TTPN. Each wave includes a set of core questions, as well as additional questions that address current and emerging issues facing Australians. The sample is stratified to reflect the Australian adult population in terms of age, gender, and location. The TTPN Survey uses a repeated cross-sectional design. The TTPN asked Australians two questions related to food insecurity that are part of the battery of questions recommended by the UN for measuring food security. These asked whether, during the past three months because of a lack of money, respondents have (i) skipped a meal, or (ii) ate less than they thought they should. A third question asked respondents whether, during the past three months, they or anyone in their household had received free groceries or meals from a food bank, charity, or other place that provides free food.

Key Insights

1 Financial stress most prevalent among younger adults, translating into greater food insecurity

The incidence of financial stress is greatest among younger Australians aged 18-44 (Figure 1). Whereas 26.8 percent of 18-44-year-olds are making ends meet or worse, 14.8 percent of those 45 and over report the same. Financial stress rates are similar between age groups stating they are 'doing OK', but among those who are financially comfortable, 55.8 percent as aged 45 or older compared to 43.8 percent of people 18-44.

Figure 1: Levels of Financial Stress By Age Group, August 2022

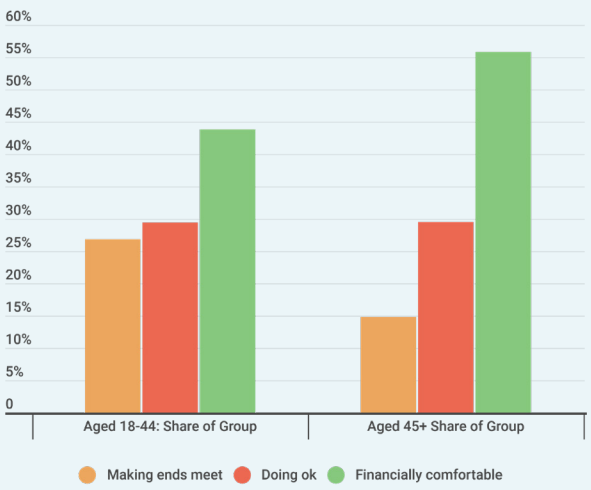
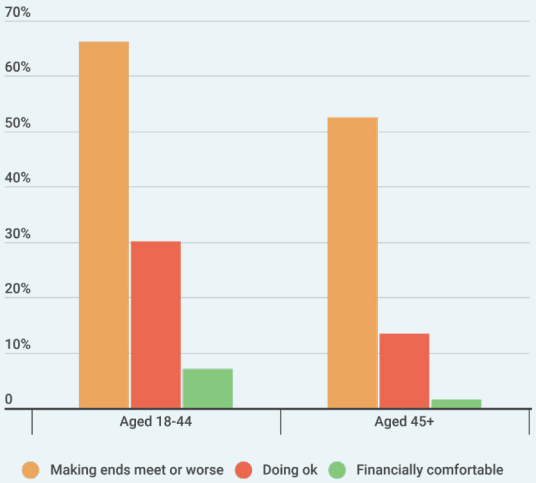


Figure 2: Reported Food Insecurity By Age Group & Financial Stress, August 2022



Age differences in the prevalence of financial stress also translates into greater reported experiences of food insecurity (Figure 2). Among people making ends meet or worse, 66.2 percent of individuals aged 18-44 report some form of food insecurity relative to 52.5% of over 45-year-olds. About 30.1 percent of 18-44-year-olds 'doing OK' financially report food insecurity as compared to 13.4% among those older than 45 in the same financial stress category.

2 Financial stress is the strongest predictor of food insecurity

While having trouble or making ends meet financially is one indicator that is attributable to a self-report of food insecurity, it is likely not the only indicator. To explore the range of factors that may be associated with a self-report of food insecurity, columns 1 and 2 of Table 1 reports the results of a regression analysis that uses a binary indicator for reporting having missed meals and/or reduced calorie intake in the previous three months due to lack of money.[2]

Our baseline analysis (column 1) controls for the following characteristics of the respondents: age, gender, marital status, having children at home, financial stress, home ownership and housing cost changes, and residential location. In the second column, we add interactions for being female and other measures as well as add in employment and educational attainment measures.

Financial stress is most strongly associated with a report of food insecurity. Respondents who identify as "just making ends meet" or worse, are approximately 50 percentage points more likely to report food insecurity as compared to those who consider themselves very financially comfortable. Equally important is that those who report they are financially OK/comfortable are 18 percent more likely to report food insecurity.

Financial stress, however, is not the only predictor of food insecurity. Even controlling for financial stress, younger respondents relative to those aged 55 to 64 are more likely to report food insecurity (19 percent of those aged 18-24 and 13 percent of those aged 25-34). Factors such as gender, marital status, and having children at home, however, play a less important role. We note, however, the influence of these factors could be captured through reports of financial stress. Owning a home (with or without a mortgage), having gainful employment and a university education are associated with lower reports of food insecurity. Compared to Victorians, respondents living in New South Wales and the ACT or Northern Territory are more likely to report food insecurity, whereas those in Queensland and South Australia are less likely to report food insecurity.

In column 3 of Table 1, we report the results of a regression that measures the association between risk factors and self-reports of receiving free food or meals from a service provider such as a food bank during the past three months. Those that report food insecurity are only 11.7 percentage points more likely to make use of services providing free food as compared to those who do not report food insecurity. Being a woman increases the chances of making use of these services, especially if not living in a capital city. While it is not possible to directly determine with the TTPN data, these results raise a question of whether individuals are (i) not using these services because they do not exist, or (ii) do not know of their existence, or (iii) choose not to use these services.

[2] The coefficients represent the independent relationship between the risk factor and the chances of reporting food insecurity, holding all other risk factors at the same level (in other words, controlling for all other factors). The relationships are measures as the difference in the rate of report of food insecurity when the factor is present, relative to when the reference category is present, holding everything else the same. For example, the coefficient of 0.194 at the top of column 3 suggests that on average, being 18-24 year-old is associated with 19.4 percentage points higher rate of reported food insecurity than being 55 to 64 (reference).

Table 1: Estimated regression model results of the associations between risk factors and report of food security (skip meals or ate less in last 3 months or both) and report of receiving free meals

	Skip meals and/or ate less in last 3 months (food insecurity)		Received free meals or groceries from food organisation (or similar)
	(1)	(2)	(3)
Constant	0.038	0.019	0.054
Skip meals and/or ate less in last 3 months			**0.117**
Age of Respondent (Reference: 55 to 64)			
Aged 18-24	**0.217**	**0.194**	-0.059
Aged 25-34	**0.105**	**0.134**	0.021
Aged 35-44	0.059	0.078	-0.007
Aged 45-54	-0.010	0.003	0.036
Aged 65-74	0.024	0.009	0.002
Gender (Reference: Male)			
Female	0.003	***0.077***	***0.051***
Marital Status (Reference: Married or de facto)			
Single	0.031	0.016	0.009
Children (Reference: No children at home)			
At least 1 child living at home	-0.014	-0.020	0.004
At least 1 child 0 to 5 years old	-0.028	-0.036	0.003
Financial Stress (Reference: Financially very comfortable)			
Making ends meet or worse	**0.538**	**0.490**	0.015
Financially ok/comfortable	**0.162**	**0.131**	***0.020***
Homeownership (Reference: Rent or living with others)			
Own home (with or without a mortgage)	**-0.112**	**-0.138**	-0.031
Housing Costs (Reference: No costs, e.g. mortgage free; costs have decreased)			
No recent change in housing costs	0.076	***0.115***	-0.005
House costs have increased	**0.120**	**0.161**	-0.025
Residential Location (Reference: Not in a capital city)			
Living in a capital city	-0.043	0.038	0.006
Living in a capital city & female		**-0.126**	***-0.081***
Employment Status (Reference: Employed full time)			
Not employed		***0.148***	**0.099**
Employed part time		0.045	0.029
Retired		0.027	0.023
Highest Level of Education (Reference: Year 10 to Year 12 completion)			
Below Year 10 completion		-0.018	-0.029
Some post Year 12 training/schooling		-0.015	**-0.084**
University degree or higher		**-0.099**	-0.038
State of Residence (Reference: Victoria)			
New South Wales		**0.034**	0.002
Queensland		**-0.031**	-0.008
South Australia		**-0.110**	**0.040**
Western Australia		-0.005	**0.010**
Tasmania		0.013	**0.062**
Other (ACT / Territories)		**0.038**	0.011
Number of observations	940	940	940

Sample: Respondents aged 18 to 74. Coefficients in bold are statistically significant at 5%. Coefficients in bold and italicised are statistically significant at 10%. Coefficients not bolded are imprecisely measured. Regressions are linear probability models. Standard errors (not shown) are clustered at the State level. Country of birth and household income were never significant and so were excluded from the final models.

3 Combining the characteristics of food insecurity illustrates the range of individuals that may be prone to food insecurity

Appreciating that interpreting the regression coefficients in Table 3 can be challenging, in Figure 3 we have constructed a few model predictions that depict the how the likelihood of reporting food insecurity varies when we pull out some of the key coefficients from the regression.

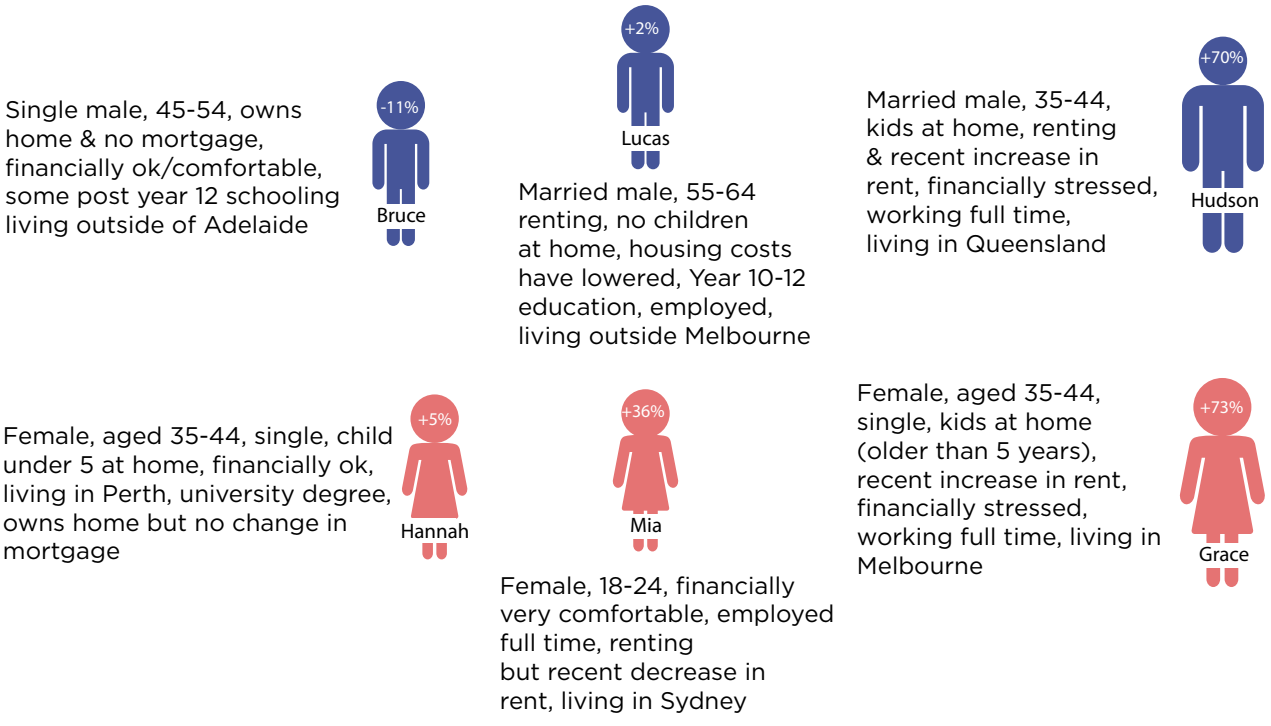
For this figure we have separated the associations for men and women. For ease of exposition, we have named our three males Bruce, Lucas, and Hudson. We have named our three females Hannah, Mia, and Grace.

Beginning with respondents aged 35-44, Hudson is married with kids, rents his home, works fulltime, and resides in Queensland (plus other characteristics); his associated probability of experiencing food insecurity of 70 percent. In contrast, Hannah who is single but with children at home living in Perth and has a university degree has an associated probability of reporting food insecurity of 5 percent. Grace, who is also aged 35-44 lives in Melbourne, and she does not have a university degree, is financially stressed, and has experienced an increase in rent. Her associated probability of food insecurity is 73 percent.

Mia, who is aged 18 to 24, employed full time and has experienced a decrease in rent in Sydney still has an associated probability of food security of 36 percent. Whereas Lucas who lives outside of a major city, is married with children, employed fulltime, and has an educational attainment between year 10 and 12 has an associated probability of +two percent.

Figure 3 illustrates the importance of not simply looking at a single factor to understand the associations of reporting food insecurity. It is the combination of factors that matter, thus illustrating that addressing food insecurity should incorporate an understanding of many individual characteristics. It also challenges assumptions that working full time, for example, while not a strong predictor of food insecurity, does not absolve one of not reporting an episode of food insecurity.

Figure 3: Likelihood of reporting food insecurity



Future Directions

In summary, we found that young age, being female, financial stress, increasing housing costs, and factors related to employment and educational attainment play important roles in determining food insecurity. These factors illustrate that like most issues, there is not a one size fits all approach to addressing food insecurity and, more broadly, poverty.

Much of the public discourse on Australian social and economic policy focuses on aspects related to housing and financial security. Our estimates also point to a low proportion of Australians seeking assistance in the form of free food or groceries from relevant organisations. Whether this rise in food insecurity and low reliance on food assistance are temporary or a signal of a longer-term trend is unknown.

While we are not the first to report on food insecurity in Australia, we believe that not enough is being done to understand the connection between the characteristics associated with food insecurity and the types of services (and funding) made available to support a reduction in food insecurity. We also believe that this research insight provides an important callout for researchers and analysts to move beyond associations and to better understand the core causes of food insecurity in Australia and why some people in need are not accessing services to alleviate food poverty.

Many political leaders around the world claim the pandemic is over. The effects of the pandemic in combi nation with the current economic environment, however, continue to pose challenges for governments. We should be taking a holistic approach to addressing the multi-dimensional factors that can support the prevention of entry into poverty through analysis that leads to policy innovation and changes in how we support individuals and families facing food insecurity and other forms financial or social stress. Our call to action should be to understand the social and economic challenges Australians are facing, including issues related to food insecurity, and how we can be improving current policy and practice to address these challenges.

Further Information

Datasets:

Beginning in April 2020, the Taking the Pulse of the Nation (TTPN) was implemented by a group of researchers led by the Melbourne Institute Director. In 2022, the Melbourne Institute and Roy Morgan formed a partnership to extend the running of the TTPN. Each wave includes a set of core questions, as well as additional questions that address current and emerging issues facing Australians. The sample is stratified to reflect the Australian adult population in terms of age, gender, and location. The TTPN Survey uses a repeated cross-sectional design.

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Further reading

Botha, F. & Payne, A.A. (2022). "High rates of food insecurity, but few Australians getting help." Taking the Pulse of the Nation (TTPN) Summary Report, 5 October 2022. Online: https://melbourneinstitute.unimelb.edu.au/data/taking-the-pulse-of-the-nation-2022/food-insecurity.

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