

Family and Work Decisions Study

Fieldwork Report

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1. Introduction

This document describes the Family and Work Decisions (FAWD) survey conducted by the Australian Institute of Family Studies in 2002. A brief discussion of the research questions the survey was designed to address is provided. The selection of the sample is also described. The subsequent sections detail the fieldwork procedures followed and the response rates obtained. The representativeness of the sample in terms of observable characteristics is assessed. Finally sampling error, non-response and bias are discussed.

The FAWD Survey was primarily conducted to collect information on factors that influence the labour supply decisions of Australian lone and couple mothers. Information on a wide range of topics was collected. A novel feature of the FAWD survey content is that information on knowledge of the income support and tax systems and how they interact with income earned in the labour market is collected. The survey is also unusual in that it collects a wide range of information on support networks and formal services such as child care, personally and culturally-based beliefs and attitudes towards parenting and paid work as well as detailed information on the role of financial incentives in labour supply decisions.

The survey collected information from 2,405 mothers, 1,160 who reported being lone mothers and 1,245 who reported being couple mothers. The sample was randomly selected from the Centrelink records of female Family Tax Benefit recipients. Where survey respondents gave consent, administrative records from the Centrelink Client database were obtained and combined with the survey data. The interviews were conducted using Computer Assisted Telephone Interviewing (CATI).

2. Questionnaire

The questionnaire collected a wide range of demographic, cognitive, labour market and attitudinal information. The variables include: employment status, education level, self reported health, income, family structure and other demographic characteristics. Information was also collected on previous relationships and work history, attitudes towards paid work and parenting, other caring responsibilities, usage of childcare and access to informal support. The questionnaire was pilot tested on 50 cases from the sample.

The topics covered in each section of the questionnaire are as follows:

Subject
Contact and informed consent
Household compositions
Health
Mother's training, study and paid work
Child care
Partners' paid work
Job search
Job skills and attitudes of employers
Things that are important in a job
Government payments and child support
Financial hypotheticals
Housing
Other demographics
Work and parenting norms and future expectations
Future contact

The full questionnaire is provided at Appendix A.

3. Sample selection and recruitment

Sample selection

The sample was randomly selected from the Centrelink administrative data base from mothers who received a fortnightly payment of Family Tax Benefit (FTB) Part A or Part B in a fortnight in August 2002. Approximately fifty per cent of the sample were lone mothers and fifty per cent were couple mothers.

The sample was selected so as to give the broadest possible coverage of Australian mothers with dependent children who received a Centrelink payment. Accordingly, lone mothers were sampled from those in receipt of a FTB B payment. To be eligible for FTB B lone mothers must have a dependent child aged under 16 or a dependent full-time student up to the age of 18.¹ All lone mothers with a qualifying dependent child are eligible to receive FTB B (irrespective of their income), although there may not be 100 per cent take-up of these benefits.

The couple mothers were sampled from those who were receiving either FTB A or FTB B. The vast majority of couple mothers received FTB A (only 1.3 per cent received FTB B only).² Thus, the vast majority of couple mothers have at least one dependent child aged less than 21 years or a dependent full-time student aged 21 to 24

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1. In addition a child 16 to 18 years who is a full-time student cannot be receiving Youth Allowance or a similar government payment in their own right in order for the child to qualify as being dependent.
 2. Single income families where the income earner receives a very high income receive FTB B only.

years and the family income is less than the cut-out income level for receipt of FTB A.³ For partnered mothers, FTB is payable to the primary carer (in most cases the mother). This means that couple mothers whose partner receives the family's FTB payments are excluded from the sample.

These criteria for the selection of the sample were chosen because they provide the broadest range of mothers in receipt of Centrelink payments. For couple mothers, eligibility for FTB A extends to family incomes of \$83,184 to \$122,000 per annum or more depending upon the number and age of children in the family. We estimate that around 75 per cent of all couple families in Australia receive a FTB A payment as a fortnightly payment from Centrelink. In addition, a proportion of couple families will receive a FTB payment through the tax system and hence are not included in the FAWD survey.

There are a number of exclusions from the sample. These are:

- The sample is restricted to those who received their FTB payment as a regular fortnightly payment through Centrelink. A small proportion of FTB recipients received their payment annually through the tax system. Most of those claiming their FTB through the tax system have a relatively high income.
- Centrelink customers who are assessed as being at high risk, including those in a Witness Protection Scheme or at risk of domestic violence.
- Potential respondents who, after being sent a letter about the survey contacted the Australian Government Department of Family and Community Services (FaCS) to "opt-out of the survey" and any customers whose information letter was returned unopened to FaCS. (Of the original sample a total of 725 potential respondents "opted-out" of the survey)
- Those who do not take-up their FTB entitlement are not in the sampling frame, as they do not appear on the Centrelink administrative data base.
- In order to be interviewed a current valid telephone number is needed. Therefore potential respondents without a telephone or whose telephone number was not available on the administrative data could not be interviewed.
- Family Tax Benefit is only payable to one member of a couple; therefore couple mothers whose partners are receiving Family Tax Benefit payments are excluded from the sample. Family Tax Benefit is paid to the lower income earner in a couple; therefore all of the couple mothers in our sample are on lower incomes than their partners.

Recruitment of sample

The sample was selected randomly from Centrelink records of payment recipients. The sample was stratified by relationship status with equal numbers of lone and couple mothers being selected. Each selected customer was sent a letter advising them of their selection for inclusion in the study. It also provided them with an 1800 number at FaCS that the customer could call to opt out of the study if they wished. If the opt-out letter was returned to FaCS as being undeliverable the customer was

3. A child or student cannot be a dependent if: (i) they are receiving a pension, Labour Market Program payment or benefit such as Youth Allowance; or (ii) are aged 5-15 years, are not studying full-time and their annual taxable income is more than \$8,346; or (iii) are aged 16-24 years and their annual taxable income is more than \$8,346 or they are receiving a Prescribed Education Scheme payment such as ABSTUDY.

excluded from the sample provided to AIFS. In the remainder of this fieldwork report these customers were classified as “opted-outs” because the data provided to the institute did not distinguish between opt-out and exclusion from the sample because the opt-out letter was returned to FaCS as undeliverable. The freecall number could also be used if the customer wished to update their contact details, request an interpreter if they were unable to be interviewed in English, or ask for further information about the study and its purpose. Detailed information on the number and characteristics of those opting out is provided in Section 5.

The remaining sample was then provided to AIFS and then to the Wallis Group who conducted the interviews. After Wallis began the interviewing process, additional Centrelink customers were excluded from the study if they were away for the survey period, refused to participate, had a disconnected telephone number or abandoned the interview. Some of those with language difficulties were also excluded, though some were later interviewed with use of an interpreter.

4. Fieldwork outcomes

The interviews were conducted over the period between 7th November 2002 and 10th December 2002 and 2,405 successful interviews were completed. The average interview length was 22 minutes. On average, 9.1 telephone calls were made per completed interview.

Response outcomes

The initial sample selected consisted of 7,850 customers. After the 725 customers who opted out the sample were excluded 7,125 cases were provided to AIFS then to the Wallis Group. Of this sample, in 629 cases there was no phone number recorded on the administrative data and a phone number could not be obtained from the electronic Whitepages. These cases were not used. 130 cases were set aside for use as the Pilot test sample and the fielded sample for the main survey consisted of the remaining 6,366 cases.

Table 1 shows the outcome for the main survey sample members. Fieldwork ceased when 2,405 interviews were completed. When this occurred there were 534 members of the fielded sample for whom no attempt to contact had been made. The most common reason for non-interview was that an appointment had been made but was not conducted because the quota of interviews had been achieved (14 per cent), followed by refusal (13 per cent), unable to trace the sample member (12 per cent), answering machine (6 per cent), did not receive the opt-out letter and not happy to be interviewed (also a type of refusal) (6 per cent) and no answer (5 per cent). Smaller numbers were not interviewed because they were not available in the survey period, because of language difficulties and because the phone was engaged.

Table 1. Response Outcomes

	Fielded cases	
	Number	Per Cent
Interviewed	2,405	41
Not available in survey period	53	1
Language difficulties	93	2
Letter not received, not happy to proceed	375	6
Refused	737	13
Unable to trace	686	12
Answering machine	355	6
Engaged	24	0
No answer	310	5
Appointment (quota full)	794	14
Total tried sample	5,832	100
Never called	534	
Total field sample	6,366	

Note: Percentages in the table relate to the sample where contact was attempted.

There are many different ways to calculate response rates. We calculate the response rate as the number interviewed divided by the total number of sample members contacted.⁴ We treat sample who were not available in the survey period and those who were not interviewed because of language difficulties as non-responders and thus our calculated response rate is conservative. Using this method the response rate for the FAWD survey was 65.6 per cent. Excluding those who were not available in the survey period and those who were not interviewed because of language difficulties would increase the response rate to 68.3 per cent.

Relative to other telephone surveys, this response rate is quite high.⁵ This is likely to be the result of strategies used, such as advance letters and repeated call-backs, which have, in the past, been found to be effective in increasing response rates (Keeter et al 2000).

5. Representativeness of the interviewed sample

While the response rate achieved was 65.6 per cent, only one-third of the sample initially selected from the Centrelink administrative data were successful interviewed. These ‘response’ and ‘interview’ rates are not unusual for surveys of Centrelink customers.⁶ It is therefore important to assess whether the characteristics of the sample interviewed differ from the characteristics of those who were not interviewed. An important advantage of sampling from the Centrelink administrative data is that

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4. The calculation of the response rate is complicated by the fact that 14 per cent of the sample who were contacted, agreed to be interviewed and an appointment was made to conduct the interview at a later time, but the interview was never attempted because the quota of completed interviews had been achieved. In the calculation of the response rate we assume that those who had agreed to be interviewed but were not subsequently interviewed because the quota was full would have had the same response rate for the rest of the sample. We believe this to be a conservative assumption.
 5. Response rates for other surveys conducted by the Australian Institute of Family Studies include 33 per cent for the Families, Social Capital and Citizenship Project.
 6. Particularly since no attempt was made to ‘exhaust’ the sample and 14 per cent of the sample contacted had agreed to be interviewed at a later more convenient time and then were not followed up as the quota was reached.

the characteristics of those who were interviewed can be compared to the characteristics of the initial sample in order to assess whether there are biases in the final sample (for the variables contained on the Centrelink administrative data).

Comparisons between respondents, refusals and the original sample

The following tables compare various characteristics of the total original sample according to whether they were interviewed and if they were not interviewed, the reasons for an interview not being obtained. The data analysed is the sample data provided by Centrelink from their administrative database. Therefore the information was current at the time the sample was drawn, however information on some characteristics had changed for a small number of respondents by the time the survey took place.

The reasons for not being interviewed were: opt-out; refusal; phone difficulty; and other reasons. The “refusal” category includes those who claimed to have not received the letter and were not happy to receive as well as those who outright refused to participate. “Phone difficulty” includes cases where the line was engaged, there was no answer, an answering machine picked up or where the phone number could not be traced, that is the number was found to be disconnected or incorrect. The “other” category includes those who were never called, those with whom an appointment was made but the quota was filled before they were called back, those who were classified as not available to complete the survey during the survey period, those who had language difficulties and for whom an interpreter was not called and those who participated in the pilot test of the survey. All characteristics are from the Centrelink administrative data.

Table 2. Average age by reason for non-response

	Respondents	Opt-outs	Refusals	Phone Difficulty	Other	Total non-respondents	Total Sample
	Age in years						
Mean	39.2	37.2	39.6	37.7	37.6	38.0	38.4
Median	40	38	40	38	39	39	39
Standard Deviation	8.0	9.0	8.3	8.3	8.3	8.4	8.3
Observations	2,347	705	1,069	1,324	2,183	4,390	7,628

Note: Differences in age between the five response groups were statistically significant ($F(4,7623)=22.2, p<0.001$ (Single factor between subjects ANOVA)).

The numbers of observations for each response category differ from other tables as 222 respondents were missing on the age variable obtained from the Centrelink administrative data.

Source: Centrelink Client database.

There is little difference in the average age of respondents and non-respondents, although the difference is statistically significant (Table 2).

Table 3. Average age of youngest child by reason for non-response

	Respondents	Opt-outs	Refusals	Phone Difficulty	Other	Total non- respondents	Total Sample
	Age in Years						
Mean	8.6	8.1	9.0	8.4	7.8	8.2	8.3
Median	9.0	8.0	9.0	8.0	8.0	8.0	9.0
Standard Deviation	5.1	5.2	5.1	5.1	5.2	5.2	5.1
Observations	2,324	703	1,065	1,309	2,168	5245	7,569

Note: Differences in age of youngest child between the five response groups were statistically significant $F(4/7564)=12.2$, $p<0.001$ (Single factor between subjects ANOVA).

The numbers of observations for each response category differ from other tables as 281 respondents were missing on the age of youngest child variable obtained from the Centrelink administrative data.

Source: Centrelink Client database.

There is little difference between respondents and non-respondents in the age of the youngest child (Table 3). The average age of the youngest child of respondents is 8.6 years and for the total sample is 8.3 years.

Indigenous Australians are significantly under-represented as respondents (Table 4). This can be explained by the disproportionately high occurrence of phone difficulties and opt-outs amongst this group.

The distribution of respondents across the measure of geographic remoteness differed significantly to that for the sample as a whole. People from major cities were under-represented as were those from very remote areas. Correspondingly, people from inner regional and outer regional areas were slightly over-represented amongst respondents. The under-representation of very remote areas is probably because of the higher proportion of the population in these areas are likely to be Indigenous, a group who have lower rates of representation in telephone surveys.

The distribution of respondents across the states of Australia is similar to the total sample. The main differences are that a higher proportion of respondents live in New South Wales than for the total sample and a lower proportion live in Queensland and Western Australia than the total sample.

Table 4. Demographic and geographic characteristics by response status

	Respondents	Opt-outs	Refusals	Phone Difficulty	Other	Total non- response	Total Sample
	Per cent						
Indigenous status							
Indigenous ^a	1.3	3.2	1.6	3.6	2.5	2.7	2.2
Non-Indigenous	45.4	48.0	39.5	41.1	46.5	43.9	44.4
Not stated	53.3	48.8	58.9	55.4	51.0	53.4	53.4
Remoteness							
Major cities	55.5	.	62.6	61.5	65.2	63.5	60.7
Inner regional	29.5	.	25.9	24.4	21.1	23.2	25.3
Outer regional	13.0	.	9.4	10.3	10.8	10.3	11.3
Remote	1.5	.	1.7	1.5	1.7	1.6	1.6
Very remote	0.5	.	0.4	2.3	1.2	1.3	1.1
State of residence							
New South Wales	33.1	.	35.5	34.6	20.2	28.0	29.6
Victoria	25.6	.	28.8	23.9	22.8	24.5	24.8
Queensland	20.5	.	18.1	18.9	29	23.5	22.5
Western Australia	7.9	.	7	10	14.6	11.5	10.3
South Australia	7.8	.	6.1	6.4	9.3	7.7	7.7
Tasmania	2.6	.	2.1	2.3	1.6	1.9	2.2
Australia Capital Territory	1.8	.	1.5	2	1.1	1.4	1.5
Northern Territory	0.6	.	0.9	2	1.6	1.6	1.3
Observations	2,405	725	1,112	1,375	2,233	5,445	7,850

Note: Differences in Indigenous status, remoteness area and state of residence between the response groups were statistically significant (Indigenous status: $\chi^2(8) = 52.6$. $p < 0.001$; Remoteness areas: $\chi^2(12) = 95.7$. $p < 0.001$; State of residence: $\chi^2(21) = 284.9$. $p < 0.001$).

Source: Centrelink Client database.

Table 5. Relationship and marital status by response status

	Respondents	Opt-outs	Refusals	Phone Difficulty	Other	Total non- response	Total Sample
	Per cent						
Relationship status							
Single	49.9	.	44.9	57.2	41.2	46.8	47.9
Couple	50.1	.	55.1	42.8	58.8	53.2	52.1
Marital status							
Married	42.3	23.5	47.6	33.7	49.2	41.5	41.8
Defacto	6.8	4.6	5.5	8.3	8.6	7.4	7.2
Separated	29.5	39.7	23.8	30.8	23.4	27.5	28.1
Divorced	2.0	2.3	2.3	1.6	1.9	2.0	2.0
Widowed	1.9	1.0	1.6	2.1	0.9	1.4	1.5
Single	15.1	26.2	15.3	19.9	13.8	17.3	16.6
Missing information	2.4	2.8	3.9	3.7	2.2	3.0	2.8
Observations	2,405	725	1,112	1,375	2,233	5,445	7,850

Notes: The percentages given for relationship status exclude those with missing information and those who opted-out. Differences in relationship status and marital status between the response groups were statistically significant (Relationship status $\chi^2(3) = 95.7$. $p < 0.001$; Marital status $\chi^2(24) = 294.1$. $p < 0.001$).

Source: Centrelink Client database.

The sample was stratified by relationship status to ensure approximately equal numbers of lone and couple mothers were in the survey. The final sample slightly over-represents lone mothers and correspondingly slightly under-represents couple mothers (Table 5). The refusal rate was lower amongst lone mothers and the other reasons for non-response but higher because of difficulties with the phone.

There are small but statistically significant differences in legal marital status between the respondents and the total sample drawn from the Centrelink Client data base (Table 5). A slightly lower proportion of those who were interviewed were defacto or single than amongst the total sample. A correspondingly higher proportion of defacto mothers had phone difficulty and lone mothers were much more likely to opt-out than be in any of the other response categories.

Table 6. Average Fortnightly Earnings by response status

	Respondents	Opt-outs	Refusals	Phone Difficulty	Other	Total non- response	Total Sample
	Per cent						
Reported earnings *	21.4	16.0	16.3	20.0	17.3	17.6	18.8
	\$ per fortnight						
Mean earnings if reported positive earnings **	\$580 (\$387)	\$568 (\$368)	\$571 (\$398)	\$615 (\$375)	\$528 (\$346)	\$566 (\$368)	\$571 (\$375)
Median earnings if reported positive earnings	\$529	\$497	\$506	\$580	\$480	\$507	\$515
Observations	2,405	725	1,112	1,375	2,233	5,445	7,850

Notes: * Differences in whether or not earnings were reported between the five response groups were statistically significant ($\chi^2(4) = 23.27$, $p < 0.001$) However differences between respondents and non-respondents were non-significant ($\chi^2(1) = 2.68$, $p = 0.101$) ** Differences in reported earnings amounts between the response groups were statistically significant ($F(4/4939) = 9.71$, $p < 0.001$ (Single factor between subjects anova))

Source: Centrelink Client database.

Respondents to the survey were more likely to have reported earnings for the fortnight in which they were selected than the total sample drawn from the Centrelink Client database (Table 6). Those who opted out were the least likely to have earnings. Of those who did report having earnings, those who responded to the survey had higher average earnings than all groups of those who didn't respond, with the exception of those who had phone difficulties.

Table 7. Housing tenure and receipt of Rent Assistance by response status

	Respondents	Opt-outs	Refusals	Phone Difficulty	Other	Total non- response	Total Sample
	Per Cent						
Home Ownership							
Own Home	32.3	18.7	32.3	24.0	27.0	26.2	28.1
Non-homeowner	40.6	64.7	36.2	53.5	46.3	48.5	46.1
Purchasing Home	16.2	10.6	16.6	12.9	16.3	14.7	15.2
Missing information	10.8	6.1	15.0	9.7	10.5	10.7	10.7
Rent Assistance Receipt							
Received rent assistance	17.5	28.7	14.2	20.4	21.4		19.7
Observations	2,405	725	1,112	1,375	2,233	5,445	7,850

Note: Differences in housing tenure and rent assistance receipt between the response groups were statistically significant (Housing tenure $\chi^2(12) = 220.3$, $p < 0.001$; Receipt of Rent Assistance $\chi^2(4) = 70.2$, $p < 0.001$).

Source: Centrelink Client database.

A higher proportion of respondents than non-respondents were homeowners (Table 7). Amongst those who opted-out of the survey or had phone difficulties a much higher proportion were non-home owners. Corresponding to the higher rates of interview being conducted amongst homeowners than for those with other types of housing tenure, the interviewees have a lower rate of receipt of Rent Assistance than for the sample as a whole.

In Table 8, receipt of government benefits is explored in relation to respondents' response status. Firstly, receipt of Family Tax Benefit B is examined followed by receipt of income support payments.

Table 8. Receipt of Centrelink payments by response status

	Respondents	Opt-outs	Refusals	Phone Difficulty	Other respondents	Total non-	Total Sample
	Per Cent						
Family Tax Benefit B receipt							
Received FTB B	70.6	82.8	65.1	70.1	67.4	69.7	70.0
Income support receipt							
Parenting Payment Single	35.5	52.4	30.0	38.3	30.5	35.3	35.4
Parenting Payment Partnered	5.1	7.5	6.9	5.0	9.1	7.4	6.7
Disability Support Pension	1.6	3.0	2.3	1.4	1.3	1.7	1.7
Carer Payment	1.0	1.4	0.4	0.4	0.9	0.7	0.8
Wife Pension (Disability)	0.5	0.1	1.0	0.2	0.6	0.5	0.5
New Start Allowance	0.5	1.1	0.5	1.0	0.3	0.6	0.6
Wife Pension (Aged)	0.2	0.0	0.1	0.1	0.0	0.04	0.1
Age Pension	0.1	0.3	0.5	0.3	0.2	0.3	0.2
Austudy	0.1	0.0	0.0	0.2	0.2	0.1	0.1
Partner Allowance	0.0	0.0	0.1	0.0	0.0	0.02	0.0
Widow Allowance	0.0	0.1	0.3	0.1	0.1	0.1	0.1
Special Benefit	0.0	0.0	0.0	0.0	0.0	0.02	0.0
No Payment	55.1	34.1	58.1	53.2	56.8	53.1	53.7
Observations	2,405	725	1,112	1,375	2,233	5,445	7,850

Note: Differences in FTB B and income support receipt between the five response groups were statistically significant (FTB B: $\chi^2(4) = 76.5$. $p < 0.001$; Income support payment: $\chi^2(56) = 251.7$. $p < 0.001$). However, differences in FTBB and income support receipt between respondents and non-respondents were non-significant (FTBB: $\chi^2(1) = 0.77$. $p=0.381$; Income support payment: $\chi^2(1) = 2.58$. $p=0.108$)

Source: Centrelink Client database.

The proportion of respondents who received FTB B was very similar to the proportion of the whole sample receiving FTB B (Table 8). The proportion of respondents to the survey not receiving an income support payment (55.1 per cent) is very similar as the proportion of the entire sample not receiving an income support payment (53.7 per cent). Interestingly, a much lower proportion of those who opted-out did not receive an income support payment than for the sample as a whole. There are few differences in the types of income support payment received amongst those who were interviewed and the sample as a whole.

Table 9. Receipt of Income Support Payments in 1998 by response status

	Respondents	Opt-outs	Refusals	Phone Difficulty	Other	Total non- respondents	Total Sample
	Per Cent						
Recipient	74.3	84.6	68.5	72.4	74.7	74.2	74.2
Non-recipient	25.7	15.5	31.5	27.6	25.3	25.8	25.8
Total	2,405	725	1,112	1,375	2,233	5,445	7,850

Note: Differences in income support receipt status in 1998 between the five response groups were statistically significant ($\chi^2(4) = 61.88$, $p < 0.001$). However, differences between respondents and non-respondents were non-significant ($\chi^2(1) = 0.02$, $p=0.876$).

Source: Centrelink Client database.

The proportion of respondents who received income support payments in 1998 was very similar to the proportion of the total sample that received income support payments in that year.

6. Regression Analysis

The previous section has presented information on whether there are differences in a range of characteristics between the sample that was interviewed and the total sample selected from the Centrelink Client database. This section extends the analysis to consider the extent to which the different characteristics are related to the probability of being interviewed by using logistic regression. The advantage of the regression analysis is that it allows the effects of a characteristic on the probability of being interviewed to be estimated while holding constant the effects of other variables. The dependent variable is whether a mother was interviewed (takes the value of one) or not interviewed (takes the value of zero). Variables included in the regression are those analysed in Section 5 plus the number of children in different age groups. The Institute was not provided with complete information on those who opted out of the survey. The regression modelling therefore excludes this group.

Because the effects of changes in the explanatory variables on the probability of responding to the survey varies with the value of all the explanatory variables in the models, simply reporting these coefficients conveys very little. Thus the “marginal effects” are also included in the tables to illustrate the effects of each of these variables on the probability of responding to the survey. The marginal effects show the impact of each of the explanatory variables relative to a particular type (base case) of mother. In this analysis the base case has been set using the mean value on the continuous variables (mother’s age, estimated annual income, weekly earnings and age of the youngest child) and as having the modal value for the attributes represented by the sets of dummy variables (age and number of children, State, remoteness area, Indigenous status, rent assistance receipt status, FTB B receipt status, marital status and housing type).

This means that the base case against which all marginal effects must be compared is a mother who: is 38 years old; has an estimated annual income of \$13,068; has weekly earnings of \$109; has only one child, and that child is aged 8 years old; lives in an urban area in New South Wales in a rental home; is not an Indigenous Australian; is married; does not receive a pension; was an income support recipient in 1998 and doesn’t receive rent assistance, but receives Family Tax Benefit part B.

The results of the first regression model are presented in Table 10. There were some statistically significant differences between respondents and non-respondents in regard to the characteristics included in the model, though these differences were, on the whole, relatively small. Those from the Northern Territory, Queensland and Western Australia were significantly less likely to respond to the survey than those from New South Wales. Aboriginal and Torres Strait Islanders were significantly less likely to be respondents than non-Indigenous Australians and each extra year of age of respondents' youngest children significantly decreased their likelihood of responding.

The likelihood of responding to the survey was significantly higher for those in inner and outer-regional areas compared to those from major cities. Sample members who owned or were purchasing their own home were significantly more likely to respond than those who were non-homeowners. Those in receipt of government benefits in 1998 were significantly more likely to be respondents than those who were not in receipt in 1998. Each extra year of age significantly increased sample members' likelihood of responding to the survey.

The strength and direction of these findings correspond with the bi-variate analyses in section 3, with the exception that in the bi-variate analyses there was virtually no difference between response rates for those who received and didn't receive income support payments in 1998.

Although several of the explanatory variables included in the regression analysis differed significantly between respondents and non-respondents, it is important to note that examination of the marginal effects reveals that in most cases these differences are very small. Variables relating to locality (including both remoteness area and state) and to indigenous status showed the greatest differences between respondents and non-respondents. Compared to those living in New South Wales, those living in the Northern territory were 18.6 per cent less likely to respond to the survey and those in Queensland and Western Australia were 6.2 per cent and 12.4 per cent respectively less likely to respond. Compared to those in major cities, those living in inner regional areas were 8.7 per cent less likely to respond to the survey and those in outer regional areas were 12.4 per cent less likely to respond. Indigenous Australians were 12.2 per cent less likely to respond to the survey than non-Indigenous Australians.

Table 10. Logistic regression analysis with response status (excluding opt-outs) as the dependent variable

	Coefficients	T-statistic	Marginal Effects
Age	0.019**	4.08	0.004
Estimated Income	0.000*	2.05	0.000
Earnings	0.000	1.67	0.000
Age of youngest child	-0.0230*	-2.49	-0.005
Number of children less than 13 years	-0.048	-1.29	-0.010
Number of children 13 to 15 years	0.078	1.59	0.017
Number of children 16+	0.025	0.37	0.006
NSW (omitted category)			
ACT	0.205	0.98	0.046
Northern Territory	-1.098**	-3.59	-0.186
Queensland	-0.300**	-4.02	-0.062
South Australia	-0.121	-1.15	-0.026
Tasmania	-0.111	-0.63	-0.024
Victoria	-0.108	-1.54	-0.023
Western Australia	-0.464**	-4.60	-0.092
Major city (omitted category)			
Inner region	0.377**	6.10	0.087
Outer region	0.529**	6.15	0.124
Remote	0.239	1.27	0.054
Non-home owner (omitted category)			
Own home	0.176**	2.61	0.040
Purchasing home	0.170*	2.11	0.038
Received income support payment in 1998	0.215**	2.92	0.045
Receives income support	0.002	0.03	0.001
Indigenous status	-0.644**	-3.00	-0.122
Rent assistance receipt	-0.074	-0.93	-0.016
Receives FTB B	0.116	1.48	0.025
Married (omitted category)			
Separated	0.173	1.89	0.039
Defacto	-0.011	-0.11	-0.002
Single	0.061	0.60	0.013
Divorced	-0.025	-0.13	-0.005
Widowed	0.047	0.22	0.010
Constant	-1.631	-8.45	
Number of Observations	6866		
R-squared	0.023		

Note: * p<0.05, **p<0.01

5. Sampling error, non-response and bias

The sample of FTB recipients selected from the Centrelink administrative database was completely random, except that lone mothers were intentionally over-sampled. Random sampling is optimal when a representative sample of a population is desired, as the characteristics of most random samples will resemble those of the population.

However, even with random sampling, biases that affect representativeness are difficult to avoid. These biases are most commonly the result of sampling error (where the selected sample under-represents certain groups of the population) or non-response error (where people who don't respond due to refusal, contact issues, or an inability to respond are different to non-respondents in regards to important characteristics) (de Vaus, 1995).

Non-response doesn't necessarily cause non-response error. It is only an issue when those who respond differ systematically on variables of interest from those who don't respond (Keeter et al 2000). The bi-variate and regression analyses show that there were some significant differences between FAWD respondents and non-respondents on the characteristics studied in this report; however, these differences were mostly small. The analyses show that those from the Northern Territory, Queensland or Western Australia, those living in major cities and those who were Aboriginal or Torres Strait Islander were the groups most under-represented in the FAWD sample. Those with older children, those who were non home-owners, those who were younger and those who didn't receive government benefits in 1998 were also under-represented but to a lesser degree. Younger people and renters are often under-represented in surveys as they are difficult to reach (Keeter et al 2000). Phone difficulty contributed substantially to the under-representation of those who were younger, those who were Aboriginal or Torres Strait Islander, those from the Northern Territory and those who were non-home owners. Refusal to participate was a particular problem for those who were younger and those from major cities.

Sampling error can occur by chance, but it is also affected by factors like sample size, which can be controlled. The FAWD study involved a relatively large sample, which means that the amount of sampling error is not likely to be high. Statistics can be used to calculate the likely level of sampling error for a particular sample size (de Vaus 1995). Because the FAWD sample was stratified according to relationship status, we need to calculate the sampling error separately for the lone and couple mother populations. However because the sample sizes were very similar (1204 lone mothers and 1201 couple mothers) the sample error will be approximately the same. According to the formula set out in de Vaus (1995) we can be 95 per cent confident that the results taken from the population of lone mothers will be the same for the sample plus or minus between 2.5 and 3 per cent.⁷ The same applies for the couple mother population.

There is another potential bias specific for surveys such as FAWD that are carried out on samples of government benefit recipients by government agencies or departments. It is likely that those who responded to the FAWD survey were those more trusting of the government, those who had less frustrations with the income support system and those who were most in compliance with the system. The increased likelihood of respondents with these attitudes responding to the survey may create systematic biases on some of the variables of interest (for example, income and income support payment receipt).

7. This assumes a 50/50 split on the variable in question.

Weighting

Information on the FTB population as a whole was not available for all variables therefore population weights could not be applied. However, for the variable on which we stratified our sample (i.e. whether the mother was a lone or couple mother) population information was available and population weights could be calculated. The majority of the analyses planned for the FAWD data will examine lone and couple mothers separately. However, it is sometimes useful to carry out analyses on the data set as a whole. Lone mothers account for 48.2 per cent of the FAWD sample, but they account for only 29 per cent of the FTB recipient population. Therefore in order to adjust for the over-sampling lone mothers, weights can be added to the data. The weights obtained by dividing the population percentage by the sample percentage were 1.37153 for couple mothers and 0.60125 for lone mothers.

References

de Vaus, D. A. (2002) *Analyzing Social Science Data*, Sage, London.

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