

# **Families, Social Capital & Citizenship Project**

## **Fieldwork Report**

*Jody Hughes and Wendy Stone*

**May 2002**  
**Australian Institute of Family Studies**

## **1. Methodology**

**Study design**  
**Coverage error**  
**Sampling, Screening and eligibility**

## **2. Fieldwork Outcomes**

**Summary**  
**Study sub-totals**  
**Response outcomes**  
**Geographic location**

## **3. Analysis of Response Outcomes**

**Reasons for non-response**  
**Response outcomes by geographic location**  
**Comparison of participants and refusals**  
**Sex**  
**Age**  
**Household composition**  
**English language proficiency**  
**Rural-urban split**  
**Socioeconomic level of area**

## **4. Analysis of Participants**

**Geographic location**  
**Age**  
**Sex**  
**Country of birth**  
**Legal marital status**  
**Relationship status/living arrangements**  
**Household composition**  
**Tenure**  
**Educational attainment**  
**Employment status**  
**Occupation**  
**Geographic location**  
**Income**

## **5. Sampling Error and non-response**

**Sampling error**  
**Non-response**  
**Weighting**

# 1. Methodology

## Study design

The *Families, Social Capital and Citizenship* project aims to examine levels of social capital associated with varying family circumstances and to assess the importance of social capital in shaping patterns of family engagement with the economy, polity and community. It aims to develop and test measures of social capital, profile social capital in Australia, and explore how social capital facilitates labour market activity; promotes civic and political life; and is distributed spatially.

To this end, a conceptual and methodological framework for measuring social capital was developed and a national survey undertaken. 1506 respondents aged 18 and over participated in the survey.

The survey was conducted Australia-wide using Computer Assisted Telephone Interviewing (CATI). CATI was selected as a fast and efficient way to collect high-quality data from Australians living in all areas of Australia. The sample of telephone numbers was randomly selected within each state from an electronic version of the white pages.

Prior to interview, introduction/contact letters were sent to each household included in the sample. The letter introduced respondents to the Institute, outlined the nature and aims of the study, and included contact information (including a 1800 number households could call for the cost of a local call).

## Extent of Coverage of Electronic Whitepages

Telstra estimates the current percentage of unlisted telephone numbers at around 15 per cent in Australia (reference). While there is no Australian evidence on the characteristics of households with unlisted telephone numbers, studies in the United States of America (USA) (for example Brick, Waksberg, Kulp and Starer 1995) have suggested that households with unlisted telephone numbers do not differ significantly on demographic and socioeconomic variables from households with listed telephone numbers. Of course, households with no telephone at all can be expected to differ significantly from the rest of the population, particularly on socioeconomic variables (Trewin and Lee 1988).

## Sampling, Screening and eligibility

The survey was conducted on a random national sample stratified by state and territory. The total sample obtained was 1,506.

All households in which a person aged 18 or over lived were considered eligible. Where more than one person was eligible within a given household, any eligible respondent who was available and willing was interviewed. In deciding not to randomly select a respondent within the household, the possibility of within-unit error was offset against the likelihood of higher rates of non-response (by not interviewing an available and willing respondent).

The exact wording of the screening used by interviewers was:

Hello, this is ... from the AIFS. We are running a survey about Australian families, friendships and communities. Have you received our letter?

[Is there someone 18 or over I could talk to?]

[If no: When would be a good time to ring back?]

[If no family or children: Our questions are relevant for everyone.]

The interview will take about 20 or 30 minutes. Participation is voluntary and all information provided will be treated confidentially.

Are you willing to participate in this study?

[If no: Would you participate if we called back at a more convenient time?]

[If no: Is there another adult in the household we could talk to?]

[If agrees to interview:]

Before we begin shall I give you a number that you can ring to get information or comment on the study [1800 XXX XXX]

## 2. Fieldwork outcomes

### Summary

- Interviewing ran from 27th November 2000 to 23rd April 2001.
- The average length of an interview was 32 minutes.
- 1,506 interviews were completed.
- 96% of respondents who participated agreed to be recontacted for future studies.

### Response outcomes

At the end of the fieldwork period, 7,166 households had been telephoned, with 1506 interviews completed. Of the 7,166 households telephoned, 41 were ineligible for the survey, (because there was no one aged 18 years or more living in the household) and 3,022 (42.2%) refused to participate. In 187 households interviews were not completed because of language difficulties, and in 182 households interviews were not completed because of illness, deafness, or incoherence on the part of household members. A further 946 telephone numbers belonged to a business, 975 numbers were disconnected, and 254 numbers were called but were continually 'no answer' or constantly on an answering machine ('non-contactable'). In 41 cases a respondent was eligible to be interviewed but an interview was not possible due to their being away or unavailable for the duration of the study. (See Table B.1.)

**Table 2.1 Response Outcomes**

	Number	Per cent
Complete interview	1506	21.1
Ineligible	41	0.6
Refused	3022	42.2
Communication/health problems	369	5.2
Language difficulty	(187)	(2.6)
Too unwell/frail	(141)	(2.0)
Deaf	(20)	(0.3)
Incoherent	(21)	(0.3)
Business number	946	13.2
Disconnected	975	13.6
Non-contactable <sup>1</sup>	254	3.6
Contacted & eligible but interview not conducted <sup>2</sup>	53	0.6
TOTAL	7166	100.0

Notes: <sup>1</sup>Telephone number was called at least once but received only 'no answer' or answering machine.

<sup>2</sup>Includes 41 cases where household was contacted and contained eligible respondent/s but person/s eligible for or willing to be interviewed were away or unavailable for the duration of the study; and 12 stopped interviews (in which cases data was not retained for study).

The response rate for the survey was calculated by dividing the completed number of interviews by the sum of completed interviews and refusals. The resulting response rate was

33.3 per cent. While the literature suggests one should only take into account eligible refusals in the calculation of response rates (Frey 1993:38, Groves & Kahn 1979:93), we assumed that all households were eligible as most would contain at least one person aged 18 years or over (thus all refusals were taken into account in calculating the response rate).

Although response rates from other studies (or the methods used to calculate them) are often not made public, evidence suggests that the response rate for the *Families, Social Capital and Citizenship* survey is similar to that of other telephone surveys using standard procedures (Ketter et al 2000:127). While some studies report much higher response rates, these are only in some instances the result of more rigorous procedures. Higher response rates also result from different methods of calculation and the use of more targeted samples.

Studies using highly targeted samples require intensive screening procedures to establish eligibility for the survey, and these serve also to filter out those who are unamenable to cooperate. In other words, once people get through the screening process and eligibility is established, they are more likely to agree to complete the survey itself. At the same time, response rates are sometimes calculated by excluding immediate refusals – those who refuse to participate *before* their eligibility for the survey has been established. Using this method for calculating response rates produces a higher response rate but can be misleading if a proportion of people who immediately refused (before the screening process was complete) were actually eligible to participate in the study.

The analyses in the following sections of this report serve to identify the sort of people who were excluded from the *Families, Social Capital and Citizenship* survey. However, it is worth noting here that experimental research provides evidence that low response rates and non-random within-household selection methods have little impact on response outcomes in terms of differences between respondents and non-respondents, particularly on non-demographic items (Keeter et al 2000). Specifically, Keeter et al (2000) found that low response rates and non-random within-household selection methods had little impact on items of relevance to social capital analyses, such as social integration, social trust and civic participation.

### 3. Analysis of Response Outcomes

In the course of fieldwork, as much information as possible was recorded about respondents who refused to or were unable to participate in the study, in order to get some idea of the sort of people who were excluded. Interviewers recorded each person's sex, an estimate of their age and a rating of their language proficiency. State and postcode information was also available for all cases as a result of the sampling strategy, enabling analysis of response outcomes by state, region and socioeconomic status of the area<sup>1</sup>. Those who refused to participate were also asked their reasons for refusing, outlined below, and questions about household composition; enabling a more detailed examination of those who refused.

#### Reasons for non-response

The main reasons given for refusing to participate in the survey are presented in Table C1. The majority of people who refused to participate in the survey reported that they were not interested or simply didn't want to do the survey (57.0%). The second most common reason given was lack of time (23%) and the third common reason was an aversion to surveys that are conducted over the telephone (8 per cent). Much smaller numbers reported privacy concerns (1.1%), ethical/political issues (0.1%) and survey overload (1.6%).

**Table 3.1 Reasons for refusal**

	Number	Per cent
Not interested	1,169	57.0
Too busy	469	22.9
Wont do telephone surveys	168	8.2
Too long	60	2.9
No explanation	83	2.7
Survey overload	33	1.6
Bad time	26	1.3
Privacy concerns	22	1.1
Moving house	7	0.3
Ethical/political issues	3	0.1
Other <sup>1</sup>	12	0.6
TOTAL	2,052	100.0

Notes:<sup>1</sup> Includes 3 cases where respondents refused on the basis of having no family in Australia, 7 cases where respondents refused in response to missed interview appointments, and 2 cases where respondents refused on the basis of having had, at some point at least, a silent number.

<sup>1</sup> Analysis of socioeconomic status of area was undertaken using two of the ABS SEIFA Indexes from the 1996 Census of Population and housing. The first, the Index of Economic Resources, reflects the economic resources of families within the areas and includes variables such as income, expenditure and home ownership. The second, the Index of Relative Socioeconomic Disadvantage, is derived from variables such as extent of low income, low educational attainment, high unemployment and unskilled occupations in an area. For full details see ABS Cat. No. 2039.0.

## Response outcomes by geographic location

Analysis of response outcomes by geographic location are tabulated below. This analysis was possible for all response outcomes, as mentioned above, because state and postcode information was available for all cases as a result of the sampling strategy.

Comparing response outcomes, we can see that refusal rates were much higher in NSW and Victoria, particularly in Sydney (46.3%), and were also high in Tasmania.

**Table 3.2 Response outcomes by state or territory and region**

	Complete	Ineligible	Refused	language problems	Too unwell	Deaf	Incoher- ent	Business	Dis- connected	Non- contact	Int not possible	Total number	Per cent of total sample
	Per cent												
Melbourne	21.4	0.8	41.2	4.3	2.9	0.3	0.3	12.8	11.7	3.1	1.0	1466	20.7
Rest of Vic	19.2	0.2	43.7	0.7	2.9	0.4	0.2	8.6	10.6	13.0	0.4	453	6.4
Sydney	19.2	0.5	46.3	5.0	1.9	0.1	0.4	11.5	12.5	2.5	0.1	1681	23.8
Rest of NSW	20.0	0.2	42.3	0.9	1.9	0.2	0.2	16.1	12.9	5.1	0.2	565	8.0
Queensland	21.2	0.5	42.2	0.3	1.3	0.2	0.2	13.8	17.8	2.1	0.3	1273	18.0
S.A.	20.5	0.5	37.5	1.5	1.6	0.4	0.1	17.8	15.8	4.1	0.1	736	10.4
W.A.	23.5	1.0	39.0	2.3	1.5	0.8	0.2	16.0	11.3	2.8	1.6	608	8.6
Tasmania	24.8	0.0	43.8	0.0	1.3	0.0	1.3	9.2	18.3	0.7	0.7	153	2.2
N.T.	32.8	0.0	31.3	1.6	1.6	0.0	0.0	9.4	21.9	1.6	0.0	64	0.9
A.C.T.	36.8	0.0	34.2	1.3	0.0	0.0	1.3	7.9	11.8	1.3	5.3	76	1.1
TOTAL	1487	40	2982	186	140	19	21	942	965	253	40	7075	100.0

## Comparison of participants and refusals

As mentioned above, those who refused to participate in the study were asked a few questions in order to get some idea of the sort of people who were excluded. This enables a comparison of participants with those who refused on the key characteristics of sex, age, household composition and language proficiency. Also, postcode information was used to compare urban, metropolitan and rural areas, and compare high socioeconomic areas with low socioeconomic areas (using two ABS SEIFA indexes). The following tables compare participants with those who refused on each of these variables.

### Sex

Table 3.3 compares the response rates of men and women and indicates that the response rate is higher for women than for men. This has been true of all Institute surveys.

**Table 3.3 Response rate by sex (4500)**

	Agreed	Refused	Number contacted
	Per cent		
Male	28.0	72.0	1,656
Female	36.6	63.4	2,844

Notes: (1)=34.92,  $p < .001$  (Chi-Square test of the hypothesis that the two variables are independent of each other. The magnitude of the chi-square value reflects the difference between the two groups in the table. If response rate and sex are independent, the probability that a random sample would result in a chi-square value of at least that magnitude is less than .001. As the probability is very small, the hypothesis of independence is rejected (Norusis 1990:117)).

### Age

Table 3.4 shows that those aged 70 or more years were less likely than younger people to participate in the survey. Illness or frailty may be a reason for the higher refusal rates among the aged, even though people who *said* they could not participate in the survey because they were too ill or frail are excluded from this table.

**Table 3.4 Response rate by age group**

	Agreed	Refused	Number contacted
	Per cent		
18-29	34.5	65.5	612
30-39	37.6	62.4	869
40-49	41.5	58.5	885
50-59	40.4	59.6	711
60-69	31.6	68.8	507
70+	25.2	74.8	600

Notes: (5)=53.93,  $p < .001$ .

### **Household composition**

Table 3.5 indicates that participation rates were highest for adults who are single but living with other people, such as group households.

**Table 3.5 Response rate by household composition**

	Agreed	Refused	Number contacted
	Per cent		
Lone person	47.4	52.6	540
Single with kids in household	51.3	48.7	152
Couple, no kids in household	57.0	43.0	917
Couple, kids in household	48.3	51.7	980
Single, others in household	71.7	28.3	244

Notes: (3)=56.09,  $p < .001$ .

### **English language proficiency**

The table below indicates that those with poor English language proficiency were significantly less likely to participate in the survey.

**Table 3.6 Response rate by English language proficiency**

	Agreed	Refused	Number contacted
	Per cent		
Poor	7.4	92.6	54
Fair	15.0	85.0	187
Good	34.5	65.5	4277

Notes: (2)=47.16,  $p < .001$ .

### **Rural-urban split**

Table 3.7 indicates that there was, overall, little variation in participation rates between capital cities, other metropolitan areas and rural/remote areas.

**Table 3.7 Response rate by Rural-urban split**

	Agreed	Refused	Number contacted
	Per cent		
Capital city	33.8	66.2	3327
Other metro	28.5	71.5	186
Rural/remote	32.5	67.5	956

Notes: (2)=2.50,  $p > .05$ .

### **Socioeconomic level of area**

Finally, the following two tables show that those living in areas of high socioeconomic status, or advantaged areas, were more likely to agree to participate in the survey.

**Table 3.8 Response rate by index of socioeconomic status of area (based on ABS Index of**

**Economic Resources)**

	Agreed	Refused	Number contacted
	Per cent		
High SES: > 90%	37.8	62.2	881
76-90%	32.3	67.7	1012
51-75%	32.9	67.1	1213
26-50%	31.2	68.8	786
11-25%	32.7	67.3	401
Low SES: < 10%	30.4	69.6	181

Notes: (5)=10.93, p=.05.

**Table 3.9 Response rate by index of socioeconomic disadvantage of area (based on ABS Index of Relative Socioeconomic Disadvantage)**

	Agreed	Refused	Number contacted
	Per cent		
High SES (Low disad): > 90%	38.1	61.9	762
76-90%	34.5	65.5	1014
51-75%	32.1	67.9	1004
26-50%	30.4	69.6	802
11-25%	32.4	67.6	553
Low SES (High disad): < 10%	31.0	69.0	339

Notes: (5)=13.15, p<.05.

#### 4. Analysis of Participants: A comparison with population estimates

The following tables benchmark key geographic, demographic and socioeconomic characteristics of respondents with those of the wider Australian population.

The tables also provide a comparison of the survey data before and after weights are applied. As the final sample obtained was found to under-represent men and those of low socioeconomic status, a weighting factor based on sex and education was constructed to take account of this bias when population estimates are being made (the standard approach to correcting for under-representation on observable characteristics). Details on how the weighting factor was constructed can be found in the following section (Section 5).

##### **Geographic location**

As Table 4.1 indicates, the *Families, Social Capital and Citizenship* project sample demonstrates a geographic spread that is reasonably close to that of the Australian population. Representativeness in terms of geographic location was guaranteed by stratifying the sample by state and territory.

**Table 4.1 Distribution of sample by State and territory: comparison with population estimates**

	FSaC Unweighted	FSaC Weighted	ABS 2000
	Per cent		
New South Wales	29.3	28.1	33.7
Victoria	26.9	26.8	24.9
Queensland	18.2	19.2	18.7
South Australia	10.0	10.6	7.8
Western Australia	9.8	9.2	9.8
Tasmania	2.6	2.8	2.4
Northern Territory	1.4	1.4	1.0
ACT	1.9	1.9	1.6
Australia (total number)	100.0 (1,506)	100.0 (1,506)	100.0 (19,277,104)

Source: Based on data from the Australian Bureau of Statistics (3101.0 Australian Demographic Statistics December 2000).

Table 4.2 shows that, in most states, capital cities were somewhat over-represented in the *Families, Social Capital and Citizenship* survey.

**Table 4.2 Distribution of sample by state, territory and region: comparison with population estimates**

	FSaC Unweighted	FSaC Weighted	ABS
	Per cent		
Sydney	21.7	19.6	21.3
Rest of New South Wales	7.6	8.4	12.4
Melbourne	21.1	20.5	18.1
Rest of Victoria	5.9	6.4	6.8
Brisbane	11.2	11.3	8.5
Rest of Queensland	7.0	7.9	10.0
Adelaide	8.2	8.5	5.7
Rest of South Australia	2.0	2.2	2.1
Perth	8.6	8.0	7.2
Rest of Western Australia	1.0	1.2	2.6
Hobart	1.9	2.1	1.0
Rest of Tasmania	0.7	0.7	1.4
Darwin	1.0	0.8	0.5
Rest of Northern Territory	0.4	0.6	0.6
Australian Capital Territory	1.9	1.9	1.6
<b>Australia (total number)</b>	<b>100.0 (1,506)</b>	<b>100.0 (1,506)</b>	<b>100.0 (19,277,104)</b>

Source: Australian Demographic Statistics, December Quarter 2000, Cat. No. 3101.0, Table 4 (Estimated Resident Population by State and Territory) and Table 5 (Estimated Resident Population by Major Population Centres)

## Age

As shown in Table 4.3, the age distribution of participants in the *Families, Social Capital and Citizenship* study appears to be quite good – close to that of the total population. However, the young (those aged 20-24 years) and the old (those aged 75 or more years) are somewhat under-represented. When the data is weighted it better represents the older age groups.

**Table 4.3 Distribution of sample by age (n=1,502): comparison with population estimates**

	FSaC Unweighted	FSaC Weighted	ABS
	Per cent		
18-19 (FSaC); 15-19 (ABS)	1.5	1.8	8.9
20-24	4.1	3.8	8.9
25-29	8.5	7.5	6.9
30-34	9.8	8.9	9.5
35-39	12.0	10.5	9.9
40-44	12.5	11.7	9.9
45-49	11.8	11.6	9.0
50-54	11.0	11.3	8.4
55-59	8.2	9.1	6.5
60-64	5.2	5.7	5.2
65-69	5.5	6.4	4.6
70-74	5.1	6.0	4.3
75-79	2.7	3.4	3.3
80-84	1.7	1.7	2.0
85 and over	0.5	0.5	1.7
Total	100.0	100.0	100.0

Source: Australian Demographic Statistics, December Quarter 2000, Cat. No. 3101.0, Table 6 (Estimated Resident Population at 30 June 2000: age groups).

## Sex

Table 4.4 shows a distinct gender bias in the unweighted survey sample. However, weighting shifts the distribution by sex so that it approaches population estimates.

**Table 4.4 Distribution of sample by sex (n=1,506): comparison with population estimates**

	FSaC Unweighted	FSaC Weighted	ABS	
			18+ years	18+ years
	Per cent			
Male	30.8	46.9	49.8	49.3
Female	69.2	53.1	50.2	50.7
Total	100.0	100.0	100.0	100.0

Source: ABS Population by Age and Sex, Cat. No. 3201.0, Table 7 (Estimated Resident Population, By Age and Sex, Preliminary-30 June 2000).

## Country of Birth

Interestingly, the following table shows that the *Families, Social Capital and Citizenship* sample includes a large percentage of people born in countries other than Australia – both other English speaking and non-English speaking countries – than exists in the wider Australian population. Weighting makes no difference to the distribution.

**Table 4.5 Distribution of sample by country of birth (n=1,505): comparison with population estimates**

	FSaC Unweighted	FSaC Weighted	ABS 1996
	Per cent		
Australia	75.1	74.8	80.5
Other English-speaking country	13.0	13.5	9.4
Non-English-speaking country	12.0	11.6	10.1
Total	100.0	100.0	100.0

Source: ABS CDATA96, Table B05.

### Legal Marital Status

Table 4.6 shows that the *Families, Social Capital and Citizenship* over-represents women who are married and under-represents never married women. The following table, Table 4.7, shows that weighting makes little difference to this pattern.

**Table 4.6 Distribution of unweighted sample by marital status and sex: comparison with population estimates**

	FSaC Unweighted			ABS: 15+ years		
	Males (n=706)	Females (n=799)	Total (n=1505)	Males	Females	Total
Per cent						
Never married	30.0	16.8	20.9	35.5	28.3	31.8
Married/ separated	55.8	64.4	61.8	55.4	53.9	54.6
Divorced	10.2	10.3	10.2	6.7	8.1	7.4
Widowed	4.1	8.5	7.2	2.4	9.8	6.1
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Australian Demographic Statistics, December Quarter 2000, Cat. No. 3101.0, Table 8 (Estimated Resident Population at 30 June 2000: marital status by sex).

**Table 4.7 Distribution of weighted sample by marital status and sex**

	Males (n=706)	Females (n=799)	Total (n=1505)
	Per cent		
Never married	29.4	13.7	21.1
Married/separated	54.8	66.1	60.8
Divorced	11.4	10.1	10.7
Widowed	4.3	10.2	7.5
Total	100.0	100.0	100.0

## Relationship Status

Table 4.8 indicates that married men are under-represented in the *Families, Social Capital and Citizenship* survey while single men and men in defacto relationships are somewhat over-represented (although note the data are compared with 1991 data in this case). Table 4.9 shows that again weighting makes little difference to the distribution.

**Table 4.8 Distribution of unweighted sample by relationship status: comparison with population estimates**

	FSaC Unweighted			ABS 1991: 25-70 yr olds		
	Males (n=705)	Females (n=799)	Total (n=1504)	Males	Females	Total
	Per cent					
Married	51.1	60.2	57.4	63.7	63.1	63.4
Defacto	10.8	8.0	8.8	5.0	4.4	4.7
Single	38.0	31.8	33.8	31.3	32.5	31.9
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: 1991: ABS Census Basic Community Profile, Cat. No. 2722.0

**Table 4.9 Distribution of weighted sample by relationship status**

	Males (n=705)	Females (n=799)	Total (n=1504)
	Per cent		
Married	50.5	61.7	56.4
Defacto	10.8	7.3	8.9
Single	38.7	31.0	34.6
Total	100.0	100.0	100.0

## Household Composition

Table 4.10 indicates that couple families without children are over-represented in the *Families, Social Capital and Citizenship* study and sole and lone person families are under-represented. Weighting reduces the percentage of sole parent families slightly further because sole parent families are primarily female headed.

**Table 4.10 Distribution of sample by household composition (n=1504): comparison with population estimates**

	FSaC Unweighted	FSaC Weighted	ABS: Total population
	Per cent		
Couple only	34.8	36.3	24.5
Couple & children	31.4	29.1	36.0
Sole parent	5.2	4.5	10.0
Lone person	16.9	19.0	22.8
Other	11.6	11.1	6.7
Total	100.0	100.0	100.0

### Tenure

Table 4.11 shows that owners and purchasers are slightly over-represented in the *Families, Social Capital and Citizenship* survey. Weighting reduces the percentage of owners but only very slightly.

**Table 4.11 Distribution of sample by housing tenure (n=1503): comparison with population estimates**

	FSaC Unweighted	FSaC Weighted	ABS
	Per cent		
Owners	44.6	46.2	41.6
Purchasers	29.0	27.4	26.2
Public Renters	3.1	3.5	5.2
Private Renters	15.2	14.4	22.1
Other <sup>1</sup>	8.0 <sup>1</sup>	8.5	4.9
Total	100.0	100.0	100.0

Source: 1996 ABS CDATA96, Table B25

1. Includes defence force housing, housing provided by employers and housing provided by other family members.

### Educational attainment

Table 4.12 shows that there is a substantial over-representation of highly educated people in the *Families, Social Capital and Citizenship* survey. Weighting shifts the distribution by education so that it is close to population estimates.

**Table 4.12 Distribution of sample by educational qualification (n=1504): comparison with population estimates**

	FSaC Unweighted	FSaC Weighted	ABS: 15-64 yr olds <sup>1</sup>
	Per cent		
Degree or higher	37.7	17.9	15.7
Certificate/diploma/Trade/Apprenticeship	20.1	28.1	28.1
Attended school to highest level (Yr 12)	14.4	18.8	18.8
Did not attend school to highest level (Yr 12)	27.7	35.1	37.4
Total	100.0	100.0	100.0

Source: 1996 ABS Transition from Education to Work, Cat. No. 6227.0 (May 2000)

1. Data for educational attainment were only available for individuals up to 64 years of age.

## Employment Status

Table 4.13 shows, interestingly, that the *Families, Social Capital and Citizenship* survey over-represents the employed and under-represents those not in the labour force.

**Table 4.13 Distribution of unweighted sample by labour force status: comparison with population estimates**

	FSaC Unweighted			ABS: 15+ yrs		
	Males (n=707)	Females (n=799)	Total (n=1506)	Males	Females	Total
	Per cent					
Employed	70.7	60.6	63.7	67.1	51.3	59.1
Unemployed	4.5	3.6	3.9	5.5	3.9	4.7
Not in the labour force	24.8	35.8	32.4	27.4	44.7	36.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: ABS Labour Force, Cat. No. 6203.0 (May 2001). Estimates for February 2001.

As can be seen in Table 4.14, weighting shifts about five per cent of female respondents and 2 per cent of male respondents from 'employed' to 'not in the labour force'.

**Table 4.14 Distribution of weighted sample by labour force status**

	Males (n=707)	Females (n=799)	Total (n=1506)
	Per cent		
Employed	68.0	55.0	63.7
Unemployed	4.8	3.6	3.9
Not in the labour force	27.2	41.4	32.4
Total	100.0	100.0	100.0

## Occupation

The following table indicates that the *Families, Social Capital and Citizenship* survey over-represents people in highly skilled occupations, particularly professionals, and under-represents people in low skilled occupations. Weighting helps correct for this bias in the unweighted sample. Weighting reduces the percentage of respondents in 'professional' occupations by about twelve per cent and increases the percentage of respondents in low skilled occupations.

**Table 4.15 Distribution of sample by occupation (n=901): comparison with population estimates**

	FSaC	FSaC	ABS:15+
	Unweighted	Weighted	years <sup>1</sup>
	Per cent		
Managers & administrators	9.4	11.3	7.6
Professionals	36.0	23.8	18.6
Associate professionals	12.0	12.2	11.5
Tradespersons & Related workers	6.4	11.0	12.7
Advanced Clerical & Service Workers	5.1	5.0	4.6
Intermediate Clerical, Sales & Service Workers	16.9	16.7	17.1
Intermediate Production & transport Workers	3.4	6.3	8.6
Elementary Clerical, Sales & Service Workers	4.3	4.8	9.9
Labourers & Related workers	6.6	8.9	9.4
Total	100.0	100.0	100.0

## Income

Finally, Table 4.16 presents gross weekly income by family grouping or income unit. The income unit grouping combines respondent and partner income for those in couple families ie. living with a married or defacto partner (this is based on the assumption that sharing of income takes place between partners in couple families and between parents and dependent children. Respondents aged 18 or more years living in family households are treated as separate income units (ABS Income Distribution Australia, p.2)).

The figures indicate that the *Families, Social Capital and Citizenship* survey over-represents high income Australians. Weighting helps correct this bias.

**Table 4.16 Distribution of sample by gross weekly income per unit (n=1211): comparison with population estimates**

	FSaC	FSaC	ABS
	Unweighted	Weighted	
	Per cent		
Nil or negative income	0.2	0.4	2.4
\$1-119	1.0	1.0	2.8
\$120-159	0.7	0.8	2.1
\$160-199	4.0	4.7	8.8
\$200-299	6.1	6.8	9.7
\$300-399	8.8	9.8	11.5
\$400-499	5.2	5.8	8.6
\$500-599	6.4	7.0	8.8
\$600-699	6.3	7.0	6.9
\$700-799	4.8	5.3	5.6
\$800-999	11.5	11.8	8.8
\$1000-1199	8.9	8.8	7.0
\$1200-1499	10.0	9.8	6.7
\$1500-1999	13.4	11.2	6.5
\$2000 and over	12.8	9.8	3.9
Total	100.0	100.0	100.0

Source: Income Distribution Australia, Cat. No. 6523.0 (1999-2000).

## 5. Sampling error, non-response and the problem of bias

Population estimates from survey data will be biased if the sample differs from the population of interest in systematic ways, such that the sample under-represents particular population groups of interest. Bias typically occurs both as a result of sampling error (when the selected sample under-represents certain population groups of interest) and non-response (when population groups of interest are representatively selected in a sample but under-represented in the study because they are not interviewable, non-contactable or refuse to participate) (de Vaus 1995).

Comparison of the *Families, Social Capital and Citizenship* survey sample with population estimates, in the previous section, indicated that the *Families, Social Capital and Citizenship* survey under-represents men and those of low socioeconomic status (reflected in a substantial over-representation of tertiary educated people, women in paid work, those in professional occupations, and those with higher incomes). The under-representation of men is typical in telephone surveys if not controlled for in data collection. The under-representation of low socioeconomic groups is also likely to relate to the survey methodology. Use of the telephone as a vehicle for data collection means that those who are highly mobile and those who do not have a telephone are under-represented. While there is a high rate of telephone coverage in Australia, evidence indicates that households with no telephone differ significantly from the rest of the population on socioeconomic variables (Trewin and Lee 1988).

The comparison of study participants with non-participants on English language proficiency showed that those with poor English language proficiency are also under-represented in the survey (see Table 3.6). As the survey was only conducted in the English language, this is as we expected. Interestingly however, the comparison of study participants with the Australian population on country of birth – a variable one would expect to be related to English language proficiency - indicated that the *Families, Social Capital and Citizenship* sample is representative of people born in non-English speaking countries, including a higher proportion than exists in the total population (see Table 4.5). It is therefore possible that poor English language proficiency is associated with low education or socioeconomic status in the *Families, Social Capital and Citizenship* sample.

A further source of potential bias of specific relevance for analysis of social capital should be mentioned. It is possible that those people who responded to the telephone survey are those most likely either to be trusting of organisations and institutions, or to engage in civic or community life. As a result, the survey could overstate levels of trust and participation in Australian life if results are generalised to the whole community. The size of this problem is unclear, since the extent to which levels of trust and connectedness differ between survey respondents and the general population remains unknown. However, research in the USA which included items of specific relevance for analysis of social capital found that Americans who were willing to participate in surveys were not much different from Americans who were less amenable in respect to levels of social trust, civic participation and social integration, but Americans who were willing to participate in surveys were more tolerant of ethnic minorities (Keeter et al 2000).

### Weighting

A weighting factor was created to take account of the major biases in the unweighted sample when population estimates are made. Weighting involves counting cases that are under-represented as being the equivalent of more than one case and counting cases that are over-represented as being worth less than one whole case. It is a way of adjusting the sample to make it more representative of the population that it is designed to represent (de Vaus 2002 : 151).

Given that the most serious biases relate to sex and education, we decided to weight the data by these two variables. We expected that weighting by education would at least partially correct the broader socioeconomic bias evident in sample distributions of employment status, occupation and income.

Following the method of iterative weighting outlined by de Vaus (2002), we weighted for sex and education sequentially. As a first step we weighted each of the females to count for less than one person and each of the males to count for more than one person. The weights obtained by dividing the population percentage by the sample percentage for this variable were 0.73265892 for females and 1.6006493 for males<sup>1</sup>.

We weighted by education as a second step, using population and sample percentages obtained *after* the first weight (for sex) was applied. The resulting weights were: 0.4522613 for tertiary educated respondents, 1.3574879 for those with a post school certificate, diploma, trade certificate or apprenticeship, 1.3428571 for those who completed yr 12 only, and 1.3710937 for those with less than yr 12 education.<sup>2</sup>

The main impact of weighting is in the distribution of the sample by sex and education – it shifts the overall percentage of male and female respondents, the overall percentage of respondents at each level of education, and the percentage of male and female respondents at each level of education so that they are close to population estimates. As expected, weighting also helps correct the employment, occupation and income biases in the unweighted sample, including the over-representation of women in paid work. Finally, it is worth noting that weighting by gender reduces the percentage of sole parent families (though only slightly) because sole parent families are primarily female headed.

## References

Brick, MJ; Waksberg, J.; Kulp, D.; Starer, A. 1995. "Bias in List-Assisted Telephone Samples." *Public Opinion Quarterly*. Vol. 59: Pp. 218-235.

de Vaus, D. A. (1995) *Surveys in Social Research*, 4<sup>th</sup> edition, Allen and Unwin, St Leonards, NSW.

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

Keeter, Scott, Millerm Carolyn, Kohut, Andrew, Groves, Robert M. and Presser, Stanley (2000) 'Consequences of Reducing Nonresponse on a National Telephone Survey', *Public Opinion Quarterly*, 64, 125-148.

Norusis, Marija J. (1990) *SPSS Introductory Statistics Student Guide*, Chicago Ill, SPSS Inc.

Trewin, Dennis and Lee, Geoff (1988) 'International Comparisons of Telephone Coverage', in Groves, Robert M., Biemer, Paul P., Lyberg, Lars E., Massey, James T. Nicholls, William L. and Walsberg, Joseph, *Telephone Survey Methodology*, John Wiley and Sons, New York, Chapter 2.

---

<sup>1</sup> Based on ABS Population estimates for Age and Sex (Cat. No. 3201.0).

<sup>2</sup> Based on 1996 Census data (Cat. No. 6227.0), estimates as at May 2000.