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# The Australian Housing Conditions Dataset

Technical Report

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## 1 INTRODUCTION

Housing is a fundamental basis from which individuals can participate both economically and socially in our country. The quality, location, suitability, security and affordability of our housing affect us all. Housing is, for most Australians, their largest lifetime investment and ongoing expenditure. Housing affordability affects the quality of housing we can secure, the money left over for savings, education, health and leisure, and can be a direct source of diagnosable anxiety when it comprises a large amount of household income.

The lack of housing, homelessness, has severe impacts on physical and mental health, and wellbeing, as well as more broadly on the ability of individuals to enter employment or maintain social or familial interactions. Furthermore, we know that poor quality housing can impact on occupants' respiratory health (e.g. Free et al. 2010; Bonnefoy 2003), mental and physical health (e.g. Howden-Chapman & Wilson 2000), cardiovascular disease (e.g. Clinch & Healy 2000), educational outcomes (Mueller & Tighe 2007), children's health (e.g. Gifford & Lacombe 2006; Evans et al. 2001) and economic participation (e.g. Dockery et al. 2008).

In order to adequately explore these issues within the Australian context, it is vital that both researchers and policy makers have quality data on contemporary housing conditions. The last national survey on housing conditions, the Australia Housing Survey, was completed in 1999 by the Australian Bureau of Statistics (ABS). Since this time, the Australian housing market has undergone significant structural and economic change, and we are seeing increasing affordability stress, undersupply of affordable housing, appropriateness, access and quality of housing, amongst other issues (e.g. see Baker et al, 2016).

Responding to call from the research and policy community for a timely, systematic and accessible data resource on Australia's housing conditions, the Australian Research Council (ARC) funded the Australian Housing Conditions Data infrastructure (AHCD) project in 2015. The project has systematically gathered a robust data infrastructure on the housing conditions of Australians. In order to provide a dataset of sufficient depth, it was focussed on three States (New South Wales, Victoria, and South Australia). This Project is designed as a baseline dataset, made available to researchers and policy stakeholders to use and build upon. The dataset sits with a package of standardised research protocols and survey tools enabling researchers to replicate the survey with target populations while still retaining the ability for comparison with baseline Australian housing condition characteristics.

**Access, intended uses and procedures FAQ**How might this data infrastructure be used?

*The AHCD is a baseline dataset to which additional samples may be added or compared. Analyses of the data can help researchers address questions of housing adequacy, amenity and accessibility, and formulate policy relevant evidence on Australian housing conditions.*

Who will find the AHCD useful?

*Researchers from various fields including housing, public health, architecture, planning, construction and geography will find the AHCD useful. The survey collects information across a broad range of housing dimensions including tenure, morphology, construction, maintenance and renovation, amenity, satisfaction, and household demographic characteristics.*

How to access the AHCD?

*The AHCD can be accessed upon application from the Australian Data Archive (ADA): <https://www.ada.edu.au/ada/home>. The dataset is free to access and use.*

Adding to the dataset?

*Adding to the dataset is strongly encouraged. The AHCD is published together with a set of materials enabling replication of the research design, including the main survey and follow-up quality assurance interviews. If you would like to add to the survey – please get in-touch with the research team via the contact details listed on: <http://architecture.adelaide.edu.au/AHCD/>.*

**2 SURVEY DEVELOPMENT AND DATA COLLECTION**

Ethics Approval for the data collection was granted by The University of Adelaide (UoA) Human Research Ethics Committee (HREC) in June 2016 (approval number H-2016-145), and subordinate ethics approval was also granted the five partner institutions.

**2.1 Development of the survey tool**

Where possible, the survey was developed to align with previous similar surveys, current comparable surveys, as well as national housing research priorities.

Content

The initial development of the survey tool was based around five central research streams: 1) health and wellbeing; 2) ageing, disability and affordability; 3) productivity and tenure; 4) construction and renovation; and 5) energy efficiency. The draft survey tool was based on precedents such as the ABS Social Standards, ABS Census 2016, ABS Survey of Income and Housing, ABS Australian Housing Survey, HILDA survey, English Housing Survey, Scottish Housing Survey and the BRANZ Housing Condition survey. The items taken from these surveys were kept in their original format as much as possible, except for where modification was needed to increase the understanding or relevance of the question. Several unprecedented questions were included where they represented the collection of important information. The final survey can be divided across seven main topics:

- 1) Dwelling tenure & accommodation;
- 2) Construction & maintenance;
- 3) Energy, indoor environment & safety;
- 4) Quality & satisfaction;

- 5) Health status;
- 6) Demographics; and
- 7) Contact information.

The final survey, including the source and origin of the items can be found in Appendix 1.

The survey was conducted by telephone taking between 12 – 15 minutes to complete, depending on the number of questions relevant to the participant. It is important to note that the content and format of the tool was largely influenced by the data collection methodology (i.e. telephone survey), many of the precedent surveys mentioned above benefit from in-person interviews and building inspections which were outside the scope of this particular data collection exercise.

## **2.2 Baseline data collection**

Population Research and Outcomes Studies (PROS) in the School of Medicine, Faculty of Health Sciences at the UoA were engaged to provide computer-aided telephone interview (CATI) services following a competitive tender process. Data collection began on the 1<sup>st</sup> August 2016, in order to be begin in parallel with collection of the ABS Census 2016 data on the 9<sup>th</sup> August, and was completed on the 7<sup>th</sup> October 2016. A quality assurance exercise was conducted from mid-2017 to early-2018 and is detailed in Appendix 2.

### Sample selection

A total of 4,501 interviews were completed across three States: South Australia, Victoria and New South Wales. The sample was stratified by State (approximately 1,500 per State) and the households randomly selected within each State. Dual-frame sampling (i.e. landline and mobile phones) was used in an attempt to capture responses from an increasing proportion of mobile phone only households. The landline numbers were sourced from the Electronic White Pages (EWP) (2011 version with partial updates in 2015), while the mobile numbers were randomly generated.

For the landline sample, the person in the house with the most recent birthday over the age of 18 years old was selected to complete the interview. For the mobile sample, the person answering the call, if over the age of 18 years old, was interviewed. Selected respondents were non-replaceable, therefore if the appropriate person was not available, the interviews were not conducted with other household members.

No information was sent to the households prior to calling, predominantly due to the cost and time-frame implications of mass postal recruitment. Instead, respondents had the opportunity to receive written information about the survey and reschedule the interview (see Appendix 3 for the flyer). This information was also provided on a UoA webpage (<http://architecture.adelaide.edu.au/AHCD/>). This enabled respondents to give their informed consent to participate in the survey. A text message was sent to the mobile phone numbers prior to calling as PROS had previously found this effective in increasing response rates in mobile phone samples.

### Interview preamble and follow-up

A preamble to the survey (covering the information provided in the flyer) was given at the start of the interview to ensure that the respondents were sufficiently advised of the aims and objectives of the project before participating. Included within the preamble was a brief description of the project, information on ethics approval, funding sources, collaborating institutions, use of the data, and full explanation the voluntary nature of the survey. Both at the beginning and end of the interview, respondents were given the contact details of one of the members of the research team and of the relevant ethics contact.

### Pilot testing

The survey tool was piloted on the 25<sup>th</sup> July 2016 with 53 households across the three States. Four issues arose from the pilot run:

- a) A more detailed explanation of the project was required in the survey preamble;
- b) The wording of Item Z.6 caused confusion with participants;
- c) Participants were very reluctant to provide their surname; and
- d) Some participants were frustrated by Items A.41 & A.43 as they were perceived to be asking for the same information.

Addressing these issues, a more detailed explanation of the project was included in the preamble, Item Z.6 was reworded, the Item requesting respondents' surname was removed, and a screening question (Item A.42) was added to ease the collection of responses to Items A.41 & A.43.

### Call routine, follow-up and refusal aversion

Interviews were conducted in English. No provision was made to conduct the interviews with respondents not proficient in English due to the baseline nature of the survey. The interviewing was conducted with a rotation of shifts across all times of the day and evening with coverage over seven days of the week (generally between 9:30am and 8:30pm on weekdays, and between 11am and 5:00pm on weekends). The call routine included up to eight call backs to busy or unanswered numbers, regardless of whether or not the target sample sized had been reached.

### Interviewer monitoring

Quality data collection was ensured through several measures: the data from the first day of interviewing was checked, the data was checked weekly for disposition, a supervisor was always in attendance with a maximum supervisor/interviewer ratio of 1:20, and 10% of each interviewer's work was audited.

## **2.3 Post-data collection procedures**

In total, 4,501 interviews were completed from 1<sup>st</sup> August to 7<sup>th</sup> October 2016. Basic frequencies are reported in Appendix 4.

Response rates

Table 1. Response rates (Source: Methodological Report produced by PROS)

<b>Interview (Category 1)</b>	
Complete	4554
<b>Eligible non-interview (Category 2)</b>	
Refusal and breakoff (terminated)	0
Refusal	1022
Non-contact	
<i>Respondent never available</i>	35
<i>Answering machine household-message left</i>	
Other, non-refusals	
<i>Physically or mentally unable/incompetent</i>	312
<i>Language problem</i>	410
<b>Unknown eligibility, non-interview (Category 3)</b>	
Always busy	
No answer	3626
<b>Not eligible (Category 4)</b>	
Fax/data line	166
Disconnected number	7858
Special technological circumstances	
Pager	
Non-residential number	711
No eligible respondent	105
<b>Total phone numbers used</b>	<b>18839</b>
I=Complete Interviews (1.1)	4554
P=Partial Interviews (1.2)	0
R=Refusal and break off (2.1)	1022
NC=Non Contact (2.2)	35
O=Other (2.0, 2.3)	722
Calculating e:	0.416
UH=Unknown Household (3.1)	3626
UO=Unknown other (3.2-3.9)	0
Response Rate 1 [& 2] $I / (I+P) + (R+NC+O) + (UH+UO)$	45.7%
Response Rate 3 [& 4] $I / ((I+P) + (R+NC+O) + e(UH+UO))$	58.1%
Cooperation Rate 1 [& 2] $I / (I+P)+R+O$	72.3%
Cooperation Rate 3 [& 4] $I / ((I+P)+R)$	81.7%
Refusal Rate 1 $R / ((I+P)+(R+NC+O) + UH + UO)$	10.3%
Refusal Rate 2 $R / ((I+P)+(R+NC+O) + e(UH + UO))$	13.0%
Refusal Rate 3 $R / ((I+P)+(R+NC+O))$	16.1%
Contact Rate 1 $(I+P)+R+O / (I+P)+R+O+NC+ (UH + UO)$	63.2%
Contact Rate 2 $(I+P)+R+O / (I+P)+R+O+NC + e(UH+UO)$	80.3%
Contact Rate 3 $(I+P)+R+O / (I+P)+R+O+NC$	100.0%

### Confidentialisation

All identifying details have been removed from the sharable version of the final dataset. The data are re-identifiable using a participant identification code; however identifying personal information is only accessible to the research team.

### Weights

The AHCD includes a weighting variable to account for biases inherent in the data collection process. In most surveys nationally and internationally, regardless of methodology or sample, older people, women and people living in country areas are more likely to participate. Interestingly the trend is to get a higher participation from landline telephones compared to mobile telephones. While a mobile sample was included in an attempt to get younger people and men, they are also difficult to get to participate once reached, hence, the higher proportion of women and older people. The weighting procedure known as 'raking' was used to weight the respondents by probability of selection within the household and by age group, sex and area (metropolitan/country) for each state using the June 2015 ABS Estimated Residential Population so that the estimates are reflective of the structure of the state (Dal Grande et al. 2015). As each state involved a discrete sample, these were weighted separately to enable state level analyses. The variable is called, wt\_ASA. No weights were created to account for the different population sizes between the states.

### Format

The final dataset is provided in \*.xlsx Excel file format with a data key on sheet two.

## **3 DATA STORAGE AND SHARING**

The AHCD will be made available to researchers through the Australian Data Archive (ADA) Data Catalogue free of charge in late 2018 (<https://www.ada.edu.au/ada/data-access>). Users will be required to register with ADA to conduct online analyses or download the data. The ADA National Manager is responsible to preserve individual confidentiality and will act at all times to ensure full anonymity of survey respondents. Users are also expected to attain the appropriate level of ethical approval through their institution prior to use.

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**APPENDIX 1: HOUSING CONDITIONS SURVEY**

Item code	Item	Notes & precedent
<b>Dwelling tenure &amp; accommodation</b>		
A.1	Tenure	<i>Census of Population and Housing, 2016.</i>
A.2	Landlord type	Filtered for rental tenure. <i>ABS Housing Variables, 2014 (1200.0.55.011).</i>
A.3	How the dwelling was purchased	Filtered for ownership tenure. This item arose from discussions around proportion of architect designed houses with the hypothesis that architect involvement results in higher quality housing conditions. The question was broadened for greater relevance to other forms of dwelling procurement. <i>No precedent available.</i>
A.4	Years lived in current dwelling	<i>ABS Housing Mobility and Conditions, 2007-2008 (4130.0.055.002).</i>
A.5	Times moved in past 5 years	Question aimed at determining housing mobility. <i>Survey of Income and Housing, 2013-2014 (6553.0).</i>
A.6	Dwelling type	<i>ABS Housing Variables, 2014 (1200.0.55.011).</i>
A.7	Number of storeys	Question used to distinguish between low and high rise apartments buildings, and single and double storey separate houses. <i>No precedent available.</i>
A.8	Level of flat or apartment	Filter for "Flat or apartment". <i>No precedent available.</i>
A.9	Dwelling age	<i>ABS Australian Housing Survey, 1999 (4182.0).</i>
A.10	Number of bedrooms	Question used to determine overcrowding. <i>Census of Population and Housing, 2016.</i>
A.11	Number of car parking spaces	<i>ABS Australian Housing Survey, 1999 (4182.0).</i>
A.12	Presence/adequacy of outdoor space	<i>No precedent available.</i>
<b>Construction &amp; maintenance</b>		
A.13	Main material of roof	<i>ABS Australian Housing Survey, 1999 (4182.0).</i>
A.14	Main material of outside walls	<i>ABS Australian Housing Survey, 1999 (4182.0).</i>
A.15	Major building problems	<i>ABS Survey of Income and Housing, 2013-2014 (6553.0).</i>
A.16	Need for repairs	<i>ABS Survey of Income and Housing, 2013-2014 (6553.0).</i>
A.17	Repairs or maintenance completed in last 12 months	<i>ABS Survey of Income and Housing, 2013-2014 (6553.0).</i>
A.18	Value of repairs or maintenance	Question used to distinguish between large scale renovations and ongoing maintenance or repairs. <i>No precedent available.</i>
<b>Energy, indoor environment &amp; safety</b>		
A.19	Dwelling modifications	Filtered for ownership tenure. Variables added to cover mobility & access modification, kitchen & bathroom renovations, and extensions. <i>ABS Household Energy Consumption, 2012 (4671.0).</i>
A.20	Ability to keep warm in winter	<i>English Housing Survey 2013-2014.</i>
A.21	Ability to keep cool in summer	<i>English Housing Survey 2013-2014.</i>
A.22	Adequacy of natural light indoors	<i>Adapted from CBE Occupant Indoor Environmental Quality (IEQ) Survey.</i>

A.23	Frequency of bothersome noise	<i>Scottish Housing Survey 2013.</i>
A.24	Presence of electrical safety switch or circuit breaker	Determine minimum electrical safety requirements. <i>No precedent available.</i>
A.25	Presence of functioning smoke detector	<i>Housing Mobility and Conditions, 2007-2008 (4130.0.055.002).</i>
A.26	Main sources of energy or fuel	<i>Housing Mobility and Conditions, 2007-2008 (4130.0.055.002).</i>
A.27	Maintenance of gas heating appliances in last 2 years	<i>No precedent available.</i>
A.28	Physical security of dwelling	One of aspects of adequate housing is safety. <i>No precedent available.</i>
A.29	Feeling of safety during the day	<i>Housing Mobility and Conditions, 2007-2008 (4130.0.055.002).</i>
A.30	Feeling of safety at night	<i>Housing Mobility and Conditions, 2007-2008 (4130.0.055.002).</i>
<b>Quality &amp; satisfaction</b>		
A.31	Self-assessed quality of dwelling	<i>BRANZ House Condition Survey, 2005.</i>
A.32	Physical injury as a result of dwelling condition	<i>No precedent available.</i>
A.33	Aspects of dwelling dissatisfaction	In previous ABS surveys A.33 follows A.34 and is only asked if participants report low satisfaction with their dwelling which has previously been a very low proportion. To get more information from this questions the order has been switched and the question is asked of all respondents. <i>ABS Survey of Income and Housing, 2013-2014 (6553.0).</i>
A.34	Satisfaction with dwelling	<i>ABS Survey of Income and Housing, 2013-2014 (6553.0).</i>
A.35	Satisfaction with the location of the dwelling	<i>ABS Survey of Income and Housing, 2013-2014 (6553.0).</i>
A.36	Housing condition to enable social interaction	Housing as social capital. <i>No precedent available.</i>
A.37	Intention to move in the next 5 years	<i>Housing Mobility and Conditions, 2007-2008 (4130.0.055.002).</i>
A.38	Reasons for wanting to move	<i>Housing Mobility and Conditions, 2007-2008 (4130.0.055.002).</i>
A.39	Barriers to moving	<i>Housing Mobility and Conditions, 2007-2008 (4130.0.055.002).</i>
<b>Housing costs &amp; financial strain</b>		
A.40	Household housing costs	Question to determine housing affordability. <i>Census of Population and Housing, 2016.</i>
A.41	Self-assessed affordability of housing costs	<i>No precedent available.</i>
A.42	Financial strain in last 12 months – screening question	Screening question <i>No precedent available.</i>
A.43	Financial strain in last 12 months – by item	<i>ABS General Social Survey, 2014 (4159.0).</i>
<b>Health status</b>		
B.1	Self-assessed health	Used to gauge general health & wellbeing of reference person. <i>ABS Self Assessed Health in Australia, 2004-2005 and 2011-13 (4365.0.55.001 and 4828.0.55.001).</i>
B.2	Physical health conditions	Reference person. <i>European Health Interview Survey.</i>
B.3	Mental health in the last 12 months	Reference person.

		<i>SA Monitoring and Surveillance System questionnaire, 2016.</i>
B.4	Long-term health condition that restricts daily activities	Reference person. <i>The Household, Income and Labour Dynamics in Australia Survey, wave 15.</i>
B.5	Long-term health condition that restricts daily activities	Other members of the household. <i>The Household, Income and Labour Dynamics in Australia Survey, wave 15.</i>
<b>Demographics</b>		
Z.1	Age	<i>Census of Population and Housing, 2016.</i>
Z.2	Age bracket	If participant declined to give exact age, their age bracket was sought instead. <i>Standard PROS Item format.</i>
Z.3	Sex	<i>ABS Standard for Sex and Gender Variables, 2016 (1200.0.55.012).</i>
Z.4	Household's gross annual income	Data collected in brackets as CATI service provider advised that participants are often very reluctant to disclose exact income. <i>ABS Standards for Income Variables, 2015 (1287.0).</i>
Z.5	Main source of household's income	<i>ABS Standards for Income Variables, 2015 (1287.0).</i>
Z.6	Household family structure	Enables standard family composition coding. <i>ABS Family, Households and Income Unit Variables, 2014 (1286.0).</i>
Z.7	Number of children under the age of 18 years old	ABS normally use 15 years old as definition for a child – it was decided that 18 years old may be a more appropriate reflecting on employment and education status. Used to determine overcrowding. <i>No precedent available.</i>
Z.8	Number of adults over the age of 18 year old	Used to determine overcrowding. <i>No precedent available.</i>
<b>Contact details</b>		
Z.9	Postcode	Data collected to enable spatial mapping of housing conditions information. <i>Standard PROS Item format.</i>
Z.10	Town or suburb	<i>Standard PROS Item format.</i>
Z.11	Number of telephones within dwelling (including mobiles)	<i>Standard PROS Item format.</i>
Z.12	Number of times that numbers appear in the White Pages	<i>Standard PROS Item format.</i>
Z.13	Consent to be contacted regarding future research	<i>Standard PROS Item format.</i>
Z.14	First name	Participants were reluctant to disclose their surname in the pilot so the question was removed. <i>Standard PROS Item format.</i>
Z.15	Contact details – phone number	<i>Standard PROS Item format.</i>
Z.16	Contact details – address	<i>Standard PROS Item format.</i>
Z.17	Contact details – email	<i>Standard PROS Item format.</i>

## **APPENDIX 2: QUALITY ASSURANCE EXERCISE**

### **Overview**

Following primary data collection, a quality assurance exercise was completed. The overall aim of this fieldwork was to 'ground-truth' responses to the Housing Conditions Survey, focusing on those respondents whom reported major building problems or concerns regarding the physical quality of their dwelling.

The fieldwork was undertaken by the University of South Australia in South Australia, the RMIT University and Swinburne University in Victoria, and UNSW in New South Wales. The interviews were completed from mid-2017 to early 2018.

### **Interview protocol**

In-person interviews were conducted at the respondents' dwellings, which included observation of dwelling amenity and quality (see below for the interview schedule and observational checklists). The interviews provided examples of major building problems or poor physical quality dwellings, how these cases related to the participants' perception and use of their dwelling, and how these concerns were managed or resolved. An observational checklist was used to gather baseline information about each dwelling. Photographs were used to capture examples of poor building quality or major building problems, taking care not to indirectly or directly identify the participant or their property.

Initial contact was made through an approach letter sent via mail. The approach letter included a copy of the Participant Information Sheet and Consent Form. Following initial contact, follow up contact was made either via email or telephone call. Consent was obtained prior to the commencement of the interview at the time of the appointment. Interviews were expected to take no longer than 1 hour. Reimbursement, a gift card to the value of \$40AUD, was offered to each household as recognition of the time given to participate in the interview. Two researchers attended each appointment.

### **Sample selection**

Participants were selected from those who gave their consent to be contacted regarding further research at the completion of the Housing Conditions Survey. Of those consenting to be contacted, respondents who reported poor or very poor physical quality (Item A.31), major building problems (Item A.15), dissatisfaction with the physical condition (A.33) or the need for essential and urgent repairs (A.16) were shortlisted. From this shortlist, people reporting multiple problems (e.g. very poor physical quality, and the need for urgent and essential repairs) were prioritised in front of people reporting only one problem (e.g. dissatisfaction with the physical condition of the dwelling). Selection of participants within this shortlist also aimed to cover a mix of tenures, metro/non-metro areas and diversity in Socio-Economic Indexes for Areas (SEIFA), while also being broadly grouped by location to enable more efficient fieldwork. Prior to making an appointment to conduct the interview, the participants were asked two additional screening questions: 1) whether or not they still live in the same house as when they completed the Housing Conditions Survey; and 2) whether or not they still have problems or concerns with their dwelling. Participants answering in the negative to either of these questions were deemed ineligible to continue.

### **Results & reporting**

Each interview was reported using a common template, incorporating fields for written notes from the interview, observational checklist and notes, and insertion of images within appropriate captions. All reports were anonymised before sharing with broader research team.

Reports may be accessed upon request to the research team via the contact details on the project webpage.

**QUALITATIVE INTERVIEW SCHEDULE**

Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Researchers' ID: \_\_\_\_\_  
 Time & date: \_\_\_\_\_

**1. In the Housing Survey, you mentioned some problems or concerns with your dwelling. Are you able to tell us a little more about these?**

Prompts – ask about each problem in turn:

- What is the nature of the problem?
- When did you first notice the problem?
- How have the problem come about? – e.g. lack of maintenance; poor quality maintenance; poor quality construction; accidental damage.
- Has the problem become worse?
- How does it affect living in the property?
  - i. Physical comfort
  - ii. Security
  - iii. Energy use/energy efficiency
  - iv. General health
  - v. Physical risk or injury
  - vi. Relationships/socialising
  - vii. Financial
- If these problem has resulted in any physical injury, could you please tell us a little more about what happened and where?
- [If respondent is a tenant] Is your landlord aware of the problem? If yes, what is your landlord's attitude to the problem? If no, why have you not reported the problem?
- What do you think are the prospects of getting the problem fixed?

**2. Generally, how well would you say your current home meets the needs of you (and your household)?**

Prompts:

- Is it big enough, or too big?
- Are all members of the household able to get around it with ease (i.e. supports mobility of older occupants or those with disabilities)
- Is it in a location close to schools and/or work?
- Is it affordable?

**3. If you could make any changes to your housing, what would your priorities be?**

**4. Finally, thinking back to the Housing Survey, were there any questions that were not quite clear or that you had trouble answering?**

**OBSERVATIONAL CHECKLIST – TO BE COMPLETED WITH THE PARTICIPANT**

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Researchers' ID: \_\_\_\_\_  
Time & date: \_\_\_\_\_

**1. What facilities does the dwelling have?**

- Inside toilet
- Outside toilet
- Bath or shower
- Hand basin
- Kitchen sink
- Laundry wash-trough or basin
- Washing machine
- Water outlet, waste disposal & space for a washing machine
- Oven & cooktop
- Kitchen bench space for food preparation
- Food storage cupboard

*Mark all that are present.*

**Bathroom amenity/condition**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*Observe bathroom, make note of any outstanding issues & take pictures.*

**2. Major building problems**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*Note all major building problems & take pictures.*

**3. Kitchen amenity/condition**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*Observe kitchen, make note of any outstanding issues & take pictures.*

**OBSERVATIONAL CHECKLIST – TO BE COMPLETE POST-INTERVIEW**

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Researchers' ID: \_\_\_\_\_  
Time & date: \_\_\_\_\_

*Note any unusual or extreme conditions within or in close proximity to the property:*

**1. What is the external condition of dwelling?**

- Very good/excellent
- Good
- Average
- Poor
- Very poor/almost derelict
- Variable (*describe below*)

*Take pictures. Make note of any outstanding instances that demonstrate particularly poor or good quality.*

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**2. Is the property generally well maintained, free from rubbish, fire hazards, etc.?**

- Yes, completely
- Yes, mostly
- No

**3. What is the internal condition of dwelling?**

- Very good/excellent
- Good
- Average
- Poor
- Very poor/almost derelict
- Variable (*describe below*)

*Make note of any outstanding instances that demonstrate particularly poor or good quality.*

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**4. Do all rooms appear to be reasonably well lit and ventilated?**

- Yes, completely
- Yes, mostly
- Variable
- No

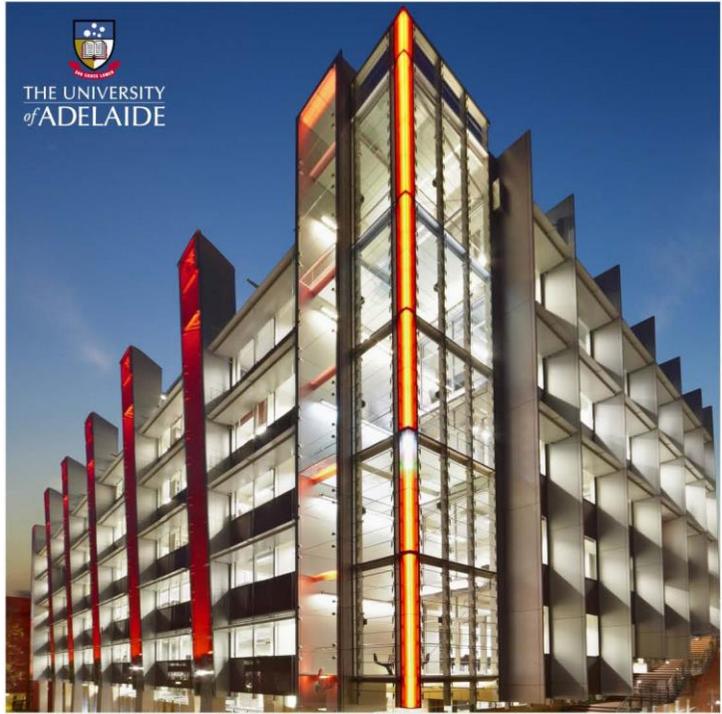
**5. Does the house appear to be reasonably draught proof and weatherproof?**

- Yes, completely
- Yes, mostly
- Variable
- No

**6. Is there any signs of moisture and damp in the dwelling?**

- Yes, many
- Yes, few
- Variable
- No

**APPENDIX 3: HOUSING CONDITIONS SURVEY FLYER**



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 SOUTH AUSTRALIA

School of Architecture & Built Environment  
**Housing Conditions  
Survey 2016**

[adelaide.edu.au](http://adelaide.edu.au) 

### About the survey

The Housing Conditions Survey is undertaken by the School of Architecture & Built Environment at The University of Adelaide. It is aimed at providing high quality data on current housing conditions in Australia.

The project is funded by the Australian Research Council (LE160100056) and The University of Adelaide, in partnership with The University of South Australia, The University of Melbourne, RMIT University, Swinburne University of Technology and The University of New South Wales. The project is led by Associate Professor Emma Baker at The University of Adelaide.

The project has approval from The University of Adelaide Human Research Ethics Committee, approval number H-2016-145.

### Participating in the survey

Your household was randomly selected to participate in the telephone survey. One of our interviewers has already been in contact with your household to interview the adult in the household aged over 18 years old who had the last birthday.

The interview is conducted over the telephone and takes around 15 minutes. Your phone number was randomly selected from all telephone listings in the State via the Electronic White Pages.

*All personal contact information collected will be confidential and your responses made anonymous.*

*While your input in the survey is important to us, participation is voluntary and you can choose to not answer any question or section, and you are free to withdraw from the survey at any time.*

If you do not wish to participate, or if you have any concerns or questions about the survey, please contact the researchers via either email or telephone (details on right-hand page).

### How your responses will be used

The information collected from this survey will form a resource that will be used by researchers nationwide. Its storage and administration will be overseen by The University of Adelaide and all use will be subject to ethical review. Importantly, no one will have access to your personal contact details or be able to identify you through your responses.

The information that you provide during the interview will be combined with other participants' responses and reported as a whole. No individual responses will be identified.

All personal contact information collected (i.e. name and contact numbers) and held by the University will be confidential and will not be identified in the research.

If you wish to access any personal information held or collected by the University you can do so by contacting the researchers via telephone or email.

### Contact Information:

If you would like to speak with an independent person about any concerns or complaints about the study you can contact The University of Adelaide's Human Research Ethics Committee's Secretary:

[hrec@adelaide.edu.au](mailto:hrec@adelaide.edu.au)

OR

(08) 8313 6028

If you would like to speak to one of the researchers about the project, please contact Dr Lyrian Daniel:

[lyrian.daniel@adelaide.edu.au](mailto:lyrian.daniel@adelaide.edu.au)

OR

(08) 8313 4592

**APPENDIX 4: FREQUENCIES**

*Table 2. Unweighted frequencies*

Item code	Item	Frequency	Percent
	State		
	New South Wales	1486	33.0
	Victoria	1499	33.3
	South Australia	1516	33.7
Total		4501	100
<b>Dwelling tenure &amp; accommodation</b>			
A.1	Tenure		
Total	Owned outright	2825	62.8
	Owner with a mortgage	1129	25.1
	Being rented	459	10.2
	Other	51	1.1
	Don't know	15	0.3
	Refused	22	0.5
			4501
A.2	Landlord type (if renting)		
Total	Real estate agent	206	44.9
	State or territory housing authority	133	29.0
	Person not in the same household	98	21.4
	Employer	1	0.2
	Other	19	4.1
	Don't know	1	0.2
		459	100
A.3	How the dwelling was purchased (if owning)		
Total	Purchase this dwelling from a previous owner	2837	71.8
	Commission an architect	67	1.7
	Commission a building designer or draftsman	157	4.0
	Purchase it off the plan (Land had been purchased prior to building)	270	6.8
	Purchase a house and land package (i.e. buying both the land and house at the same time)	178	4.5
	Knock down an existing dwelling and rebuild	50	1.3
	Self-build	310	7.8
	Other	64	1.6
	Don't know	19	0.5
	Refused	2	0.1
		3954	100
A.4	Years lived in current dwelling		
	Less than one year	80	
	Average	21.7 years (n 4410)	
A.5	Times moved in past 5 years		
	No moves in past 5 years	3980	
	Average	1.7 moves (n 513)	
A.6	Dwelling type		
Total	Separate house	3766	83.7
	Semi-detached, row or terrace house, townhouse, etc.	412	9.2
	Flat or apartment	304	6.8
	Other	19	0.4
			4501

Item code	Item	Frequency	Percent
A.7	Number of stories		
	Average	1.4 stories (n 4497)	
A.8	Level of flat or apartment		
	Average	3.4 (n 185)	
A.9	Dwelling age		
	Average	46.4 years old (n 4195)	
A.10	Number of bedrooms		
	Average	3.2 bedrooms (n 4498)	
A.11	Number of car parking spaces		
	Average	2.6 car parking spaces (n 4499)	
A.12	Presence/adequacy of outdoor space		
	Adequate	4308	95.7
	Inadequate	189	4.2
	Not applicable	4	0.1
Total		4501	100
<b>Construction &amp; maintenance</b>			
A.13	Main material of roof		
	Tiles	2624	58.3
	Metal sheeting	1655	36.8
	Concrete	101	2.2
	Other	33	0.7
	Don't know	88	2.0
Total		4501	100
A.14	Main material of outside walls		
	Masonry (include brick, double brick, brick veneer, stone, concrete)	3673	81.6
	Timber	448	10.0
	Fibro cement sheet	238	5.3
	Steel or aluminium	53	1.2
	Other	68	1.5
	Don't know	21	0.5
Total		4501	100
A.15	Major building problems		
	Have major building problems	532	11.8
	No major building problems	3950	87.8
	Don't know	19	0.4
Total		4501	100
	Rising damp	74	13.9
	Mould	47	8.8
	Cracks in walls/floors	276	51.9
	Sinking/moving foundations	90	16.9
	Sagging floors	34	6.4
	Walls/windows out of plumb (not plumb means out of alignment)	41	7.7
	Wood rot/termite damage	33	6.2
	Electrical problems	18	3.4
	Roof defect	73	13.7
	Other	67	12.6
Total		532	-
A.16	Need for repairs		
	No need	1946	43.2
	Desirable, but low need	1651	36.7
Total	Moderate need	694	15.4

Item code	Item	Frequency	Percent
	Essential need	128	2.8
	Essential and urgent need	61	1.4
	Don't know	21	0.5
		4501	100
A.17	Repairs or maintenance completed in last 12 months		
	No repairs carried out	2116	47.0
	Repairs carried out	2350	52.2
	Don't know	35	0.8
Total		4501	100
	Painting	1236	52.6
	Roof repair/maintenance	543	23.1
	Tile repair/maintenance	263	11.2
	Electrical work	724	30.8
	Plumbing	1035	44.0
	Other	51	2.2
Total		2032	-
A.18	Value of repairs or maintenance		
	Average	\$5,834 (n 1820)	
<b>Energy, indoor environment &amp; safety</b>			
A.19	Dwelling modifications (if owning)		
	Modifications completed	3853	85.6
	No modifications completed	638	14.2
	Don't know	7	0.2
	Refused	3	0.1
Total		4501	100
	Replaced electric hot water system with gas hot water system	1105	28.7
	Installed solar hot water system	445	11.5
	Installed solar electricity	1088	28.2
	Installed insulation	1357	35.2
	Installed ceiling fans	1354	35.1
	Installed double glazed windows	224	5.8
	Installed outside awnings/shutters that improved energy efficiency	1135	29.5
	Modified the dwelling for age or disability (e.g. ramps, rails, wider doors, etc.)	495	12.8
	Major kitchen renovation	1621	42.1
	Major bathroom renovation	1440	37.4
	Added rooms or extensions	1113	28.9
	Other	125	3.2
Total		3853	-
A.20	Ability to keep warm in winter		
	Yes	4240	94.2
	No	258	5.7
	Don't know	3	0.1
Total		4501	100
A.21	Ability to keep cool in summer		
	Yes	4227	93.9
	No	235	5.2
	Not applicable	10	0.2
	Don't know	29	0.6
Total		4500	100
A.22	Adequacy of natural light indoors		
Total	Yes	4067	90.4

Item code	Item	Frequency	Percent
	No	420	9.3
	Don't know	14	0.3
		4501	100
A.23	Frequency of bothersome noise		
	Very often	119	2.6
	Fairly often	312	6.9
	Not very often	2231	49.6
	Never	1836	40.8
	Refused	3	0.1
Total		4501	100
A.24	Presence of electrical safety switch or circuit breaker		
	Yes	4071	90.4
	No	191	4.2
	Don't know	239	5.3
Total		4501	100
A.25	Presence of functioning smoke detector		
	Yes	4325	96.1
	No	144	3.2
	Don't know	31	0.7
	Refused	1	0.0
Total		4501	100
A.26	Main sources of energy or fuel		
	Electricity	4246	94.4
	Mains gas	2541	56.5
	Bottled gas/LPG (excluding small bottles used occasionally)	244	5.4
	Wood	424	9.4
	Solar (solar electricity or solar hot water)	721	16.0
	Other	12	0.3
Total		4497	
	Don't know	3	0.1
	Refused	1	0.0
Total		4501	-
A.27	Maintenance of gas heating appliances in last 2 years		
	Yes	1164	25.9
	No	1033	23.0
	Not applicable	2245	49.9
	Don't know	59	1.3
Total		4502	100
A.28	Physical security of dwelling		
	Adequate	4384	97.4
	Inadequate	107	2.4
	Don't know	9	0.2
	Refused	1	0.0
Total		4501	100
A.29	Feeling of safety during the day		
	Very safe	3762	83.6
	Safe	668	14.8
	Neither safe nor unsafe	26	0.6
	Unsafe	17	0.4
	Very unsafe	3	0.1
	Never home alone during the day	21	0.5
Total	Don't know	2	0.0

Item code	Item	Frequency	Percent
	Refused	2	0.0
		4501	100
A.30	Feeling of safety at night		
	Very safe	3479	77.3
	Safe	922	20.5
	Neither safe nor unsafe	31	0.7
	Unsafe	46	1.0
	Very unsafe	6	0.1
	Never home alone after dark	9	0.2
	Don't know	5	0.1
	Refused	3	0.1
Total		4501	100
<b>Quality &amp; satisfaction</b>			
A.31	Self-assessed quality of dwelling		
	Excellent	1760	39.1
	Good	2029	45.1
	Average	645	14.3
	Poor	50	1.1
	Very poor	13	0.3
	Don't know	4	0.1
Total		4501	100
A.32	Physical injury as a result of dwelling condition		
	Yes	99	2.2
	No	4398	97.7
	Don't know	3	0.1
	Refused	1	0.0
Total		4501	100
A.33	Aspects of dwelling dissatisfaction		
	Dissatisfied with some aspect(s) of dwelling	1006	22.4
	Not dissatisfied with any aspects of dwelling	3465	77.0
	Don't know	28	0.6
	Refused	2	0.0
Total		4501	100
	Too big	62	6.2
	Too small	162	16.1
	Too cold	103	10.2
	Too hot	62	6.2
	Poor condition of dwelling	115	11.4
	Structurally unsound	58	5.8
	Needs to be more secure	17	1.7
	Maintenance too high	143	14.2
	Other	477	47.4
Total		1006	-
A.34	Satisfaction with dwelling		
	Very satisfied	2856	63.5
	Satisfied	1536	34.1
	Neither satisfied nor dissatisfied	37	0.8
	Dissatisfied	58	1.3
	Very dissatisfied	11	0.2
	Don't know	2	0.0
	Refused	1	0.0
Total		4501	100
A.35	Satisfaction with the location of the dwelling		

Item code	Item	Frequency	Percent
Total	Very satisfied	3492	77.6
	Satisfied	891	19.8
	Neither satisfied nor dissatisfied	42	0.9
	Dissatisfied	65	1.4
	Very dissatisfied	9	0.2
	Don't know	2	0.0
		4501	100
A.36	Housing condition to enable social interaction		
Total	Yes, completely	4132	91.8
	Yes, with reservations	298	6.6
	No	63	1.4
	Don't know	7	0.2
	Refused	1	0.0
		4501	100
A.37	Intention to move in the next 5 years		
Total	Stay in current dwelling	3376	75.0
	Move to a different dwelling	687	15.3
	Don't know	437	9.7
	Refused	1	0.0
		4501	100
A.38	Reasons for wanting to move (those wanting to move)		
Total	Housing reasons	238	34.6
	Employment reasons	28	4.1
	Accessibility reasons	48	7.0
	Family reasons	122	17.8
	Lifestyle reasons	260	37.8
	Neighbours/neighbourhood reasons	14	2.0
	Health reasons	42	6.1
	Other	66	9.6
Don't know	7	1.0	
		687	-
A.39	Barriers to moving (those wanting to move)		
Total	No barriers	501	72.9
	Barriers	176	25.6
	Don't know	10	1.5
		687	100
Total	Can't afford the costs associated with moving	113	64.2
	Too much effort to move	18	10.2
	For frailty, disability or ill health reasons	16	9.1
	Other	34	19.3
		176	-
<b>Housing costs &amp; financial strain</b>			
A.40	Household housing costs		
	Average	\$341 per week (n 1127)	
A.41	Self-assessed affordability of housing costs (those not owning their home outright)		
Total	Yes, completely	1298	77.4
	Yes, with reservations	278	16.6
	No	38	2.3
	Don't know	40	2.4
	Refused	22	1.3
		1676	100
A.42	Financial strain in last 12 months		
Total	Yes	560	12.4

Item code	Item	Frequency	Percent
	No	3896	86.6
	Don't know	20	0.4
	Refused	25	0.6
		4501	100
A.43	Financial strain in the last 12 months (those experiencing financial strain)		
	Could not pay electricity, gas or telephone bills on time	155	56.6
	Could not pay mortgage or rent payments on time	74	27.0
	Could not pay for car registration or insurance on time	92	33.6
	Could not make minimum payment on credit card	60	21.9
	Pawned or sold something because you needed cash	55	20.1
	Went without meals	38	13.9
	Were unable to heat your home	40	14.6
	Sought financial assistance from friends or family	127	46.4
	Sought assistance from welfare or community organisations	48	17.5
Total		274	-
	None of these	284	50.7
	Refused	2	0.4
Total		560	100
<b>Health status</b>			
B.1	Self-assessed health		
	Excellent	973	21.6
	Very good	1563	34.7
	Good	1325	29.4
	Fair	452	10.0
	Poor	175	3.9
	Don't know	4	0.1
	Refused	9	0.2
Total		4501	100
B.2	Physical health conditions		
	Yes	2400	53%
	No	2052	46%
	Don't know	26	1%
	Refused	23	1%
Total		4501	100
	Asthma	637	26.5
	Chronic bronchitis, or other respiratory illnesses	260	10.8
	Coronary heart disease or angina	413	17.2
	High blood pressure (hypertension)	1354	56.4
	Allergy, such as rhinitis, hay fever, eye inflammation, dermatitis, food allergy or other allergy (not asthma)	832	34.7
Total		2400	-
B.3	Mental health in the last 12 months		
	Mental health condition	637	14.2
	No mental health condition	3811	84.7
	Don't know	20	0.4
	Refused	33	0.7
Total		4501	100
	Anxiety	339	53.2
	Depression	342	53.7
	A stress related problem	239	37.5
	Any other mental health problem	41	6.4
Total		637	-

Item code	Item	Frequency	Percent
B.4	Long-term health conditions that restricts daily activities (reference person)		
Total	Yes	964	21.4
	No	3505	77.9
	Don't know	10	0.2
	Refused	22	0.5
		4501	
B.5	Long-term health conditions that restricts daily activities (other members of household)		
Total	Yes	677	15.0
	No	3400	75.5
	Not applicable	394	8.8
	Don't know	8	0.2
	Refused	22	0.5
	4501	100	
<b>Demographics</b>			
Z.2	Age bracket		
Total	18-24	87	1.9
	25-34	80	1.8
	35-44	340	7.6
	45-54	849	18.9
	55-64	1146	25.5
	65-74	1086	24.1
	75+	913	20.3
	4501	100	
Z.3	Gender		
Total	Male	1920	42.7
	Female	2581	57.3
	4501	100	
Z.4	Household's gross annual income		
Total	Up to \$12,000	64	1.4
	\$12,001 - \$20,000	335	7.4
	\$20,001 - \$40,000	638	14.2
	\$40,001 - \$60,000	414	9.2
	\$60,001 - \$80,000	363	8.1
	\$80,001 - \$100,000	317	7.0
	\$100,001 - \$150,000	407	9.0
	\$150,001 - \$200,000	244	5.4
	More than \$200,000	213	4.7
	Not stated/Refused	750	16.7
	Don't know	756	16.8
	4501	100	
Z.5	Main source of household's income		
Total	Wages or salary (including from own incorporated business)	2082	46.3
	Own unincorporated business or share in a partnership	244	5.4
	Government pension or allowance	1293	28.7
	Superannuation, an annuity or private pension	641	14.2
	Other	92	2.0
	Don't know	28	0.6
	Refused	121	2.7
	4501	100	
Z.6	Household family structure		
Total	Couple with no children	1434	31.9
	Couple with children	1472	32.7

Item code	Item	Frequency	Percent
	One parent family with children	240	5.3
	Lone person	1056	23.5
	Other family structure	216	4.8
	Shared living arrangement with friends	36	0.8
	Refused	47	1.0
		4501	100
Z.7	Number of children under the age of 18 years old		
	Average	1.8 children ( <i>n</i> 876)	
Z.8	Number of adults over the age of 18 year old		
	Average	2.1 adults ( <i>n</i> 4455)	