ACTIVITY CARD SORT - AUSTRALIA (18-64)

Test re-test Reliability
Abstract

Background: The Activity Card Sort (ACS) is a tool that measures activity engagement levels. In Australia, there is a recently developed adult version, named ACS-Aus (18-64). The test re-test reliability was tested in a previous study amongst individuals with a disability, but it has not yet been tested with individuals without a disability. Additionally, there has been developed an app-based version for the ACS-Aus (18-64). Purpose: The aim of this study was to test re-test the reliability of the ACS-Aus (18-64) using the original card version and the app-based version. Method: A parallel form reliability study was conducted to test re-test the ACS-Aus (18-64). The original card version was used and also a recently developed app-based version. Thirty-three healthy adults aged 18-64 participated in this research, completing two sessions with two weeks in between measurements. Each participant completed each version once and gave feedback about their experience. Results: The ACS-Aus (18-64) demonstrated good to excellent test re-test reliability, according to the outcomes of both versions combined: ICC value 0.87, p < .001 for the overall scores; 0.86, p < .001 for ‘personal care, daily life, home maintenance’; 0.88, p < .001 for ‘recreation and relaxation’; and 0.76, p < .001 for ‘high/low impact physical’. Conclusion: The study suggests that the ACS-Aus (18-64) has a good to excellent test re-test reliability for the combined outcomes of both versions. More research may be needed to support the app-based version of the ACS-Aus (18-64).
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Introduction
This article describes a parallel form reliability study conducted to test re-test the recently developed adult version of the ACS-Aus (18-64). This study was conducted using the original card version of the ACS-Aus (18-64) and also the app-based version of this tool. At the moment of writing this article, the study is still ongoing and results will not be complete, therefore there will be no final conclusion, but instead a preliminary discussion of results using the first analyzed data.

Background
The Activity Card Sort is an instrument that helps to make an inventory of the activities a person used to do or is still doing, using the help of photos. The ACS is mostly used by occupational therapists, because of the focus on the importance of the activities for the client, fitting in the idea in occupational therapy that occupational engagement is central to a person. Occupational engagement stands for all that a person does, being a part of their personal context and their environment (COAT, 2016). Occupational therapists are concerned with promoting health through occupation. Occupations refer to the everyday activities that people do as individuals, in families and with communities to occupy time and bring meaning and purpose to life. Occupations include things people need to, want to and are expected to do. (WFOT, 2013)

The ACS is used with individuals who are currently experiencing a barrier in their participation, who want to resume activities that they have had to give up because of their barrier. The tool contains cards with photos of activities which are common for most people. The photos work as a trigger for people to recognize the activities, and helps them to remember more about the activities they used to do before something changed in their lives after an injury or illness. The photos are sorted into five categories, showing the amount of activities that the person has never done, has given up, does not do now, does less now or is currently engaged in. The client and the therapist sort through the 85 cards, resulting in different piles of categorized cards. The insight of the results gives the therapist and the client the opportunity to collaboratively set client-centered goals for the therapy treatment. If the client wants to start an activity again that they are not doing right now or have given up, then this can be identified using the cards. This way the treatment focuses on the important things in life based on the vision of the client.

The original ACS is focused on elderly people, starting at the age of 65. The ACS has been developed in North America, but it is translated and adapted to different countries. The pictures used in the ACS are also adapted, based on the activities that are common in these cultural contexts, including Australia and the Netherlands (Poerbodipoero, Sturkenboom, van Hartingsveldt, Nijhuis-van der Sanden & Graff, 2015).

The limitations of this instrument are that it is currently not representable of, or applicable to younger people, because the photos used to date have been based on activities geared towards the
geriatric population. To make the instrument applicable to younger people, Australia recently started developing an adult version of the ACS, for people aged between 18 and 65, considering these are all adults. Due to the wide differences in ages, it is important to test the instrument before publishing it. The decision for this age range, is made based on the different stages of life people are at. For example, some people have a family at the age of 25, and are doing parenting related activities, while some people start having a family in their late thirties. This shows that it is hard to make different groups in the adult age group, because it is hard to exclude activities for this age group. Also, in order to fit in with the age of the target audience and the recent developments in providing digital healthcare, researchers in Australia made an application version of the ACS-Aus (16-64). The meaning of digital healthcare in this study is a digital version of an existing tool or instrument, accessible on an electronic device that can be used in providing healthcare. The development of the app-based version is not only for providing digital healthcare, it can also be more useful for people who have trouble holding physical cards, for example people with Parkinson’s disease who have a tremor in their hands (Gustafsson, Hung & Liddle, in press).

This study is being conducted as a collaboration between the University of Queensland and the Amsterdam School of Health Professions. An honours student from Amsterdam went to Brisbane, Australia to support the research. Through this collaboration, the knowledge that is gained from the research in Australia can contribute to the development of a Dutch adult version, including the development and use of the app-based version and its application.

The aim of this study is to contribute to the development of a new occupational therapy assessment tool for adults aged 18 to 64 years. The study aims to establish the reliability of the ACS-Aus (18-64) and how it measures the level of people’s participation in everyday activities, using both the card version and the app-based version. Besides testing the reliability of the ACS-Aus (18-64), there will also be an evaluation of the app-based version, asking the participants to talk of their experiences with both of the versions, with a purpose to investigate the need for such an app-based tool.

**Methods**

This descriptive study utilised a survey design, with a secondary qualitative questionnaire. Prior to commencement of the study, Ethical approval was obtained from The University of Queensland Behavioural & Social Sciences Ethical Review Committee.

**Participants**

Prior to beginning sampling, the researchers aimed to have 30 participants. At the time of writing this article, there have been 34 participants recruited. The participants were recruited through convenience and snowball sampling of researchers’ personal and professional networks, using email and advertising in newspapers and social media platforms. All the participants met the required
eligibility of; aged 18-64 at the time of participation, and able to follow instructions and respond to
study questionnaires. Participants with an existing neurological or mental health condition which
limit capacity to participate in life roles, or unable to complete face-to-face data collection were
excluded from the study. Participant demographic details such age, gender, ethnicity, education level
and employment status were collected through a questionnaire at the first data collection point and
can be found in Appendix 3.

The results of the demographic details are presented in table 1.

Table 1: Demographic information of participants

<table>
<thead>
<tr>
<th>Demographic details</th>
<th>N = 34</th>
<th>Percentage of sample (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-25</td>
<td>8</td>
<td>24%</td>
</tr>
<tr>
<td>26-35</td>
<td>4</td>
<td>12%</td>
</tr>
<tr>
<td>36-45</td>
<td>4</td>
<td>12%</td>
</tr>
<tr>
<td>46-55</td>
<td>14</td>
<td>41%</td>
</tr>
<tr>
<td>56-64</td>
<td>4</td>
<td>12%</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>5</td>
<td>15%</td>
</tr>
<tr>
<td>Female</td>
<td>29</td>
<td>85%</td>
</tr>
<tr>
<td><strong>Ethnic Group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australian/New Zealand</td>
<td>27</td>
<td>79%</td>
</tr>
<tr>
<td>European</td>
<td>5</td>
<td>15%</td>
</tr>
<tr>
<td>Asian</td>
<td>2</td>
<td>6%</td>
</tr>
<tr>
<td>Americas Region</td>
<td>2</td>
<td>6%</td>
</tr>
<tr>
<td><strong>Born in Australia</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>21</td>
<td>62%</td>
</tr>
<tr>
<td>No</td>
<td>13</td>
<td>38%</td>
</tr>
<tr>
<td><strong>Years lived in Australia</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 1 year</td>
<td>1</td>
<td>3%</td>
</tr>
<tr>
<td>1 - 10 years</td>
<td>4</td>
<td>12%</td>
</tr>
<tr>
<td>11 - 20 years</td>
<td>9</td>
<td>26%</td>
</tr>
<tr>
<td>21 - 30 years</td>
<td>6</td>
<td>18%</td>
</tr>
<tr>
<td>31 - 40 years</td>
<td>3</td>
<td>9%</td>
</tr>
<tr>
<td>41 - 50 years</td>
<td>6</td>
<td>18%</td>
</tr>
<tr>
<td>51 - 60 years</td>
<td>4</td>
<td>12%</td>
</tr>
<tr>
<td>&gt; 60 years</td>
<td>1</td>
<td>3%</td>
</tr>
<tr>
<td><strong>Australian Citizen</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>29</td>
<td>85%</td>
</tr>
<tr>
<td>No</td>
<td>5</td>
<td>15%</td>
</tr>
<tr>
<td><strong>ATSI Origin</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>34</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Level of Education Attained</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completed high school</td>
<td>6</td>
<td>18%</td>
</tr>
<tr>
<td>Completed a college apprenticeship or TAFE degree</td>
<td>2</td>
<td>6%</td>
</tr>
<tr>
<td>Completed a degree at university</td>
<td>10</td>
<td>29%</td>
</tr>
<tr>
<td>Completed a postgraduate degree</td>
<td>16</td>
<td>47%</td>
</tr>
</tbody>
</table>

**Current Status**

| Full time student     | 8    | 24% |
| Full time work        | 19   | 56% |
| Part time work        | 8    | 24% |
| Casual work           | 4    | 12% |
| Retired               | 1    | 3%  |

**Note.**

*N = number of participants.

ATSI = Aboriginal and Torres Strait Islanders

**Instruments**

The developed ACS-Aus (18-64) was used to measure activity engagement of Australian adults aged 18-64 years. In an earlier research it was demonstrated that this card version has high test re-test reliability and internal consistency, and it was therefore regarded as the gold standard (Gustafsson et al., in press). An app-based version of the ACS-Aus (18-64) was developed and compared against the gold standard. For both the card and app-based versions, participants were required to sort each of the 85 cards into 5 categories to represent their activity engagement levels: ‘Never done’; ‘Do not do now’; ‘Do now’; Do less now’ and ‘Given up’. Also, the 85 cards can be sorted in three different domains: ‘Personal care, daily life, home maintenance’; ‘Recreation and relaxation’; and ‘High/low impact physical’. The current, previous and retained activity engagement was then calculated. The current activity engagement level is the total number of activities classified as ‘Do now’ multiplied by 1, plus the number of activities classified as ‘Do less now’ multiplied by 0.5. The previous activity engagement level is the sum of activities classified as ‘Do not do now’, ‘Do now’, ‘Do less now’ and ‘Given up’. The retained activity engagement level is calculated by dividing the current activity engagement level by the previous activity engagement level (Gustafsson et al., in press). The scores show the percentage of activities in which a person is currently engaged, compared with one year before completing the tool. A higher score in the retained activity engagement indicates a higher amount of activity and participation in comparison to the previous year (Poerbodipoero et al, 2015). If the score is low, the person is unable to engage in certain activities, which may be considered important to them to start again someday.

**Questionnaire**

A “Feedback on the two versions of the ACS-Aus (18-64)” questionnaire was developed as a pilot means to evaluate the clinical useability of the app-based version in comparison to the card version of the ACS-Aus (18-64). The questionnaire consisted of seven questions about the participant’s experiences, their personal preference for tests, and if they have any further suggestions. The first two questions are about what the participants thought of each version. The options to choose from
were ‘excellent’, ‘good’, ‘neither good nor bad’, ‘bad’ and ‘terrible’, each given a number from 1, ‘excellent’ to 5, ‘terrible’. The feedback form can be found in Appendix 4.

Procedure

Data collection was started in April, and is still continuing until approximately the end of June. Participants received an information sheet regarding the study, containing information about the aim of the study, what they have to do to participate, protecting privacy, possible risks, benefits and contact information if they have any questions, which can be found in Appendix 1. All participants signed the consent form, as well the form was signed by the witnessing researcher. Participants were also asked to complete the demographic details form, containing questions about the background of the participant. The personal information was kept potentially identifiably through assigning each participant with an identifier, made of the first three letters of their mother’s maiden name and the last three numbers of their year of birth. Before starting the data collection, each participant was alternately given a ‘C’ (card version) or ‘A’ (app-based version) in the participant’s sheet, signifying which assessment should be started with at the first data collection point (T0). This process reduced the potential for bias through random allocation.

Each participant had to complete both the card version and the app-based version, on different times with a two week interval in between. The researchers involved in the data collection, scheduled in consultation with the participants both session times and agreed with them on testing locations. Where possible, the testing conditions were consistent at both time points. A two week interval between administration of the card version and the app-based version was determined to be appropriate for not remembering what categories they chose when they completed the first session, and to prevent the possibility of dramatic changes in their daily life (Gustafsson et al., in press). At the end of the second data collection time (T1), participants were asked to complete the “Feedback on the two versions of the ACS-Aus (18-64)” questionnaire. All participants were given the opportunity to review the results after finishing the research. Each data collection session was completed within 20 minutes. Feedback from the questionnaire was collected in order to examine participant experiences of the two versions of the tool and to begin to determine clinical useability.

The data from the outcomes of the tool was collected in a spreadsheet using Excel, which was only accessible for the researchers.

Analysis

To test the reliability, the collected data needed to be analysed. All the data were calculated into retained scores, which was earlier mentioned as retained activity engagement level, for the overall scores (using all the 85 cards) and it was also calculated per domain from the ACS-Aus (18-64).
SPSS was used for these analyses, on a Windows computer. The program was used to calculate the intraclass correlation coefficient (ICC) using a two way analysis of variance (ANOVA) random effects model, between the retained scores collected using the card version and the app-based version. The ICC equation that was used was proposed to be an appropriate analysis for the test re-test reliability between the two moments of completing the ACS-Aus (18-64) using the same tool but different versions (Rankin & Stokes, 1998). ICC values less than 0.75 are considered poor to moderate and values more or equal to 0.75 are considered good to excellent (Portney & Watkins, 2009).

To evaluate the secondary aim of clinical useability, the first and second questions from the feedback form about the different versions were compared. By calculating the median of these answers, there is a possibility that there will be preference for one of the versions. Also, there will be made a summary of the answers the participants gave on the open questions.

Results

Test re-test reliability

The outcomes of the ICC analysis of the overall retained scores containing the outcomes of both versions combined was 0.87, p < .001. The outcomes of the ICC analysis of each domain containing the outcomes of both versions combined were 0.86, p < .001 for ‘personal care, daily life, home maintenance’; 0.88, p < .001 for ‘recreation and relaxation’; and 0.76, p < .001 for ‘high/low impact physical’. These outcomes suggest, according to Portney and Watkins (2009), that the ACS-Aus (18-64) has a good to excellent test re-test reliability. The outcomes of the ICC analysis are presented in table 2.

<table>
<thead>
<tr>
<th>Intraclass Correlation Coefficient</th>
<th>95% confidence interval</th>
<th>F Test with True Value 0</th>
<th>F test with Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Measures</td>
<td>.874</td>
<td>.748</td>
<td>.937</td>
</tr>
<tr>
<td>Personal care, daily life, home maintenance:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Measures</td>
<td>.862</td>
<td>.725</td>
<td>.931</td>
</tr>
<tr>
<td>Recreation and relaxation:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Measures</td>
<td>.882</td>
<td>.765</td>
<td>.941</td>
</tr>
<tr>
<td>High/low impact physical:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Measures</td>
<td>.755</td>
<td>.508</td>
<td>.877</td>
</tr>
</tbody>
</table>
Feedback on both versions of the ACS-Aus (18-64)

Three participants (9%) thought that the original card version was neither good nor bad. Twenty-two participants (65%) identified the original card version as good, and nine participants (26%) thought the card version was excellent. Only one participant (3%) thought the app-based version was neither good nor bad. Eighteen participants (53%) thought the app-based version was good, and fifteen participants (44%) named the app-based version excellent.

Fifteen of the participants preferred the app-based version. Eleven participants preferred the original card version, and seven people had no preference for a version.

When asked if the participants preferred touch or a possible swipe option, twenty-one participants named touch. Six participants preferred a swipe function and six people didn’t have a preference.

Discussion

The results of the analysis shows that the test re-test reliability of the ACS-Aus (18-64) is good to excellent. The intraclass correlation scores show that the overall retained scores and the first two domains are very high, where the third domain has a lower score. Even though the score is still high enough to be considered good to excellent according to Portney and Watkins (2009), it is notable that the score from the ‘high/low impact physical’ is lower compared to the other domains.

When comparing the outcome of this test re-test reliability research to the previous test re-test study about the ACS-Aus (18-64) from Gustafsson et al (in press), it shows that the values of the previous research have an higher outcome compared to the values shown in this research. The cause of this difference could be the higher amount of participants in the previous research. Though both studies results suggest that the test re-test reliability of the ACS-Aus (18-64) is good to excellent.

When asked about their experience with both versions of the ACS-Aus (18-64), most of the participants named the original version good, and the app-based version also good. When looking at the numbers, it shows that more people think the app-based version is excellent compared to the original card version. There was a slightly higher preference for the app version. Participants who preferred the app-based version, gave the following reasons: Easier to use; quicker to use; faster to use; familiar with technology; it’s more portable and accessible compared to the original card version; easier to save the scores. Participants who preferred the original card version mentioned the following reasons: Easier to change; having a hard copy in their hands; felt more alert using the cards; Cards made me think more of the activities; See the overall response; physical action.

Participants who didn’t have a preference had the following thoughts: Both get the job done; both had advantages, the app version has no need to manage all the cards, and with the original version you are able to see what you’d put where. These reasons can give the clinicians an insight in why
someone would choose for the original card version or the app based version. The clinician could also explain the pros and cons of both versions, helping the client to choose what would suit best for him or her.

The questions about suggestions to improve the app-based version showed that every participant had a suggestion for the layout of the app-based version. One thing that was named multiple times was the suggestion to make the category buttons different buttons, and a ‘back’ or ‘return’ button, to be able to go to the previous picture. Also, some participants didn’t like that they first had to tap the picture before tapping a category button. One participant mentioned using a bigger screen would make it easier to see.

When asked if the participants would prefer an optional swipe version or just keep the touch option, most of them suggested to keep the touch option, because it was okay, fine or because they thought they would make more mistakes when they would have to swipe. The participants who preferred the swipe function, said it might be quicker or it could be easier for disabled people.

These outcomes suggest that it may be an option to give the client the option to choose between the different versions. This also suggest that clinicians should have access to both versions of the ACS-Aus (18-64), to be able to give the client the opportunity to choose.

The first impression of this research suggests that the app-based version gives the same outcomes using the ACS-Aus (18-64) as the original card version. More research to support this new version is needed.

Limitations

After analysing the demographic details, there are some facts that can be named as limitations. At first, the age group 46-55 are very well presented, compared to the other age groups. This means that the other ages are less represented in this research. Also, the group of male participants are not well represented, possible caused by the many staff members of the Health department of the University of Queensland who participated in this research, whom most of are female. Furthermore, there are no Aboriginal or Torres Strait Islanders represented in this research, what could make this research more culturally representative. There are also no participants who didn’t complete high school, while the participants who completed a postgraduate degree are well represented. This could also be caused by the amount of participating staff members. Finally, there are no participants who are unemployed or part-time student, while the group of people who work full-time is also well represented. In following research continuing testing the reliability of the ACS-Aus (18-64), it could be interesting to get a more wide audience of participants.
Conclusion
The aim of this study was to test re-test the reliability of the recently developed ACS-Aus (18-64). The study suggests that the ACS-Aus (18-64) has a good to excellent test re-test reliability, because of the analysed ICC values using the combined outcomes of both versions. It also shows the experiences people had with using different version of a tool, and their preferences. Concluding, the ACS-Aus (18-64) had a high test re-test reliability, supporting its utility for healthy Australian adults aged 18-64 years. This study also supports the use of a new app developed version of the same tool, giving clients the opportunity to choose a version that suits them best.
References

http://www.caot.ca/default.asp?pageid=1344


WFOT (2013) Definitions of Occupational Therapy from Member Organisations revised 2013 October.
PARTICIPANT INFORMATION SHEET

Title of Study: Development of the Validity and Reliability of the Activity Card Sort – Australia (18-64)

Lay title: How well does the Activity Card Sort- Australia (18-64) represent the activity levels of people aged 18-64?

Investigators: Louise Gustafsson¹, Jacki Liddle², Melanie Hoyle¹, Hui Min Hung¹, Tereza Stillerova¹, Aleysha Martin¹, Liane Buijsman³

¹School of Health and Rehabilitation Sciences, ²Asia Pacific Centre for Neuromodulation, ³Amsterdam School of Health Professions

What is the AIM of the research project?

The aim of this study is to contribute to the development of a new occupational therapy assessment tool for adults aged 18 to 64 years. The Activity Card Sort –Australia (18-64) [ACS-Aus (18-64)] is an interview-based tool that asks people to sort photos of people performing a range of activities into categories that reflect their current level of participation in the activities represented. We would like to know how correctly and consistently the ACS-Aus (18-64) measures the level of people’s participation in everyday activities. We have developed an electronic [App] version of the tool and we would like to compare this to the original tool.

WHAT will I have to do if I agree to participate?

We will arrange a time and location for data collection that is mutually convenient to you and the researchers. Firstly, you will be asked to complete a brief demographic questionnaire that will ask about your age, gender, ethnicity, educational status, work status, and type of work. Then you will be asked to sort 85 cards with pictures of activities on them (such as: ‘doing laundry’) into 5 different categories based on your participation in each activity. Your answers will be recorded. We will then arrange a second appointment at two weeks later for you to repeat the measurement tool. On each occasion you will be asked to complete this tool with a hard copy set of cards that you physically sort or an online version of the tool that will allow you to sort the cards electronically. You will be asked to complete a short questionnaire at the end of the second appointment regarding the two versions of the tool.

How LONG will this take?

This will take approximately 20 minutes on each occasion.
What will happen AFTERWARDS?

Once all participants’ results have been recorded, we will then use the results to calculate measures of how consistently and correctly the assessment tool is measuring people’s participation in everyday activities and the experiences of completing the two versions of the tool. You may request the overall results of this study, which will be emailed or mailed to you once it has been completed.

How will my PRIVACY be protected?

All the information collected throughout the study will be coded to maintain your anonymity. Only the research team will have access to the data, and the information will be used for the sole purpose of this research. All information will be stored securely in the School of Health and Rehabilitation Sciences at The University of Queensland.

Are there any RISKS?

We do not believe there are any risks involved above the normal level of risk for everyday living. However, some participants may find that the completion of the tool may identify the loss of some activities that are important to them and they may experience some emotional upset. Should this occur, we will ensure that appropriate support and follow-up is received.

How will this research BENEFIT me?

- You will not have any direct benefit from participating in this research project.
- The overall benefit of participating in this study is to contribute towards the development of a young adult activity card sort, which will aid Occupational Therapists to understand and collaborate with people towards better quality of life.

What if I would not like to be involved?

If you decide to contact us and participate, you are able to withdraw your consent freely at any time and discontinue your participation without prejudice. Participation in this study is completely voluntary and your decision to participate or not will not prejudice your future relations with the University of Queensland or its staff.

What if I have more QUESTIONS to ask?

If you have any questions or concerns regarding the nature of this study or the process of participation, please feel free to contact Louise Gustafsson on (07) 3365 2926.

WHO has approved this research project?

This study adheres to the Guidelines of the ethical review process of The University of Queensland and the National Statement on Ethical Conduct in Human Research. Whilst you are free to discuss your participation in this study with project staff (contactable on 3365 2926), if you would like to speak to an officer of the University not involved in the study, you may contact the Ethics Coordinator on 3365 3924.
Attachment 2.

Participant Consent Form

Title of Study: Development of the Validity and Reliability of the Activity Card Sort – Australia (18-64)

Lay title: How well does the Activity Card Sort- Australia (18-64) represent the activity levels of people aged 18-64?

Investigators: Louise Gustafsson¹, Jacki Liddle², Melanie Hoyle¹, Hui Min Hung¹, Tereza Stillerova¹

¹School of Health and Rehabilitation Sciences, ²University of Queensland Centre for Clinical Research

I _______________________________ (full name) agree to participate in the above named study

I have:

- read the Participation Information Sheet and understand the purpose of the project
- had the opportunity to ask further questions

I understand that:

- the data collection sessions will occur at a negotiated time and place
- my participation is voluntary
- all information collected during the study will be securely stored at The University of Queensland, is accessible to the research team only, and will be used for the sole purposes of this study
- any information I provide will be coded to maintain my anonymity
- the information I provide will be used to develop a new assessment tool.
- I will receive no remuneration for participating in this study
- I am able to withdraw from this study at any time without any explanation or consequences
- I may request a summary of results once the study is completed
- I have been informed of the contact details of project staff and ethics officer

Signed: ________________________________ Date: _____________

Witnessed by: ________________________________ (print name)

Witness signature: ________________________________ Date: _____________
Attachment 3.

ACS-Aus (18-64) Demographic Details

Participant identifier: _________________________________
(First three letters of mother’s maiden name: last three numbers of your year of birth)

1. What is your date of birth? _________________________________

2. What is your gender?
   a. Female
   b. Male

3. Which of these ethnic groups do you identify with
   a. Australian/New Zealander
   b. European
   c. Eastern European
   d. African
   e. Asian
   f. Americas Region

4. Were you born in Australia? Yes No

5. How many years have you lived in Australia? __________________

6. Are you an Australian citizen? (Please circle)
   a. Yes
   b. No

7. Are you of Aboriginal or Torres Strait Islander origin? (Please circle)
   a. No
   b. Yes – Aboriginal
   c. Yes – Torres Strait Islander
   d. Yes – Maori/Pacific Islander

8. What level of education have you attained? (Please circle)
   a. Did not complete high school.
   b. Completed high school.
   c. Completed a college apprenticeship or TAFE degree.
   d. Completed a degree at university.
   e. Completed a postgraduate degree

9. What is your current status? (Please circle. You may choose more than one)
   a. Full time student.
   b. Part time student.
   c. Full time work.
   d. Part time work.
   e. Casual work.
   f. Unemployed.
   g. Retired

10. If you work, what type of work? ____________________________

   The End
Attachment 4.

Feedback on the two versions of the ACS Aus (18-64)

1. How would you rate the experience of completing the original version of the ACS Aus (18-64)?

<table>
<thead>
<tr>
<th>Excellent</th>
<th>Good</th>
<th>Neither good nor bad</th>
<th>Bad</th>
<th>Terrible</th>
</tr>
</thead>
</table>

2. How would you rate the experience of completing the app version of the ACS Aus (18-64)?

<table>
<thead>
<tr>
<th>Excellent</th>
<th>Good</th>
<th>Neither good nor bad</th>
<th>Bad</th>
<th>Terrible</th>
</tr>
</thead>
</table>

3. Do you have a preference for the original or app version? Can you explain why?

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

4. Do you have any suggestions for the layout of the screen of the app version?

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

5. Do you have any suggestions for the contrast of colours of the app version?

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

6. Do you have a preference to touch or swipe the app version?

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

7. Do you have any other feedback or comments for us?

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________