

Face Validity and Clinical Utility of the Activity Card Sort -United Kingdom

a Student as Co-Researcher project

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Students as Co-Researchers

- 3rd year BHSc(Hons) Occupational Therapy students
- Collaborated in this study for their final year project
- Focus is on students and tutors collaborating in a research team
- Provides students with an experience of gaining ethical approval, participant recruitment and consent procedures, administering and scoring the ACS-UK, conducting a semi-structured interview, transcribing and data analysis.

Students as Co-Researchers

- Pedagogic drivers = Research informed Teaching (RiT) and Enquiry Based Learning (EBL).
- Professional drivers = evidence based practice
- Level 3 module in our new curriculum
'Contributing to the Evidence Base'
- Assignment 5000 word written assignment in the format of a BJOT article



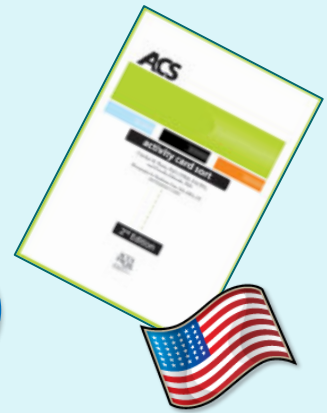
Acknowledgments



Grateful thanks to:

- 27 participants who gave up their time to participate in the data collection and the people who supported the recruitment of participants.
- The 8 occupational therapy undergraduate students who contributed to this study: Group 2: Leanne Brain, Courtney Brody, Lauren Cardy and Lisa Group 1: Jessica Harrison, Hannah Lewis, Lucy Shaw and Debbie Agar.
- Professor Carolyn Baum for permission to develop a UK version of the Activity Card Sort.

Background: Activity Card Sort (ACS)



- The Activity Card Sort (ACS; Baum & Edwards, 2008) is recognised internationally as a useful self-report measure of participation for clinical practice and research (e.g., Eriksson, et al., 2011)
- ACS-UK (Laver-Fawcett & Mallinson, 2013) has 91 Photograph cards for activities grouped in 4 categories:
 - Instrumental, Low Demand Leisure, High Demand Leisure, Social/Cultural
- 3 ACS-UK versions: Recovery, Institutional and Community Living (using the same 91 photo activity cards)
- Different sorting categories of participation levels used for each of the three versions

Not Done
Since Age 60

Do Less

Given up

Do Now
(at same level as before)



Work (paid)

ACS 20



Gardening/Growing
Flowers

ACS 72



Laundry

ACS 4



Taking Care of a Pet

ACS 14



Studying for Personal
Advancement

ACS 73



Household Maintenance

ACS 8



Volunteer Work

ACS 84



Listening to Radio

ACS 54



Dancing

ACS 82



Sewing
(clothing and household, including mending)

ACS 24



Dishes

ACS 3



Taking Out the Trash

ACS 6

Sorting categories for ACS-UK

Community-Living
version (Form C)

Never
Done

Not done
in past
year
(optional)

Do More
(score as
do now)

Do Now
(1)

Do Less
(0.5)

Given Up
(0)

Done
Previously
Calculated after sort:
 $\text{Do More} + \text{Do Now} + \text{Do Less} + \text{Given Up}$

+ At the end participants are asked to “identify the five most important activities to you (they may be those you no longer do)”

Example – part of ACS-UK scoring form (HDL domain)

ACS-UK card	ACS-UK Activity	Never Done	Not done in past year	Do More	Do Now	Do Less	Given Up	Done Previously	Scores	Comments
	High Demand Leisure		Not sorted							
53	Going to the Beach					0.5		I		
54	Recreational Shopping					0.5		I		
55	Dancing						0	I		Used to go to tea dances with her husband
56	Swimming						0	I		
57	Indoor Bowling	X								
58	Outdoor Bowling	X								
59	Playing Golf	X								
60	Walking					0.5		I		
61	Hiking / Rambling	X								
62	Exercising					0.5		I		
63	Riding a Bicycle						0	I		
64	Going on Holiday / Travelling					0.5		I		
65	Attending a Hobby / Leisure Group			X	I			I		Joined a local tai chi club
66	Going to Gardens / Parks					0.5		I		Would like to go more
67	Fishing	X								But use to go with father as a child and watch him fishing
	Total High Demand Leisure Activities	5		I	I	3	3x 0= 0	10	Current	1 + 3 = 4 (CA)
									Previous	10 (PA)
									% Retained	4/10 = 0.4 x100 = 40% (RAS)

Objectives



- Determine the time required to administer and score the ACS-UK (duration - clinical utility)
- Explore the ease of use of the ACS-UK for the people administering the assessment - occupational therapy students considering their future practice (clinical utility)
- Explore the acceptability of the ACS-UK to community dwelling older people (face validity and clinical utility)
- Measure the ACS-UK Global Activity Retention Scores among community dwelling older people.

Method

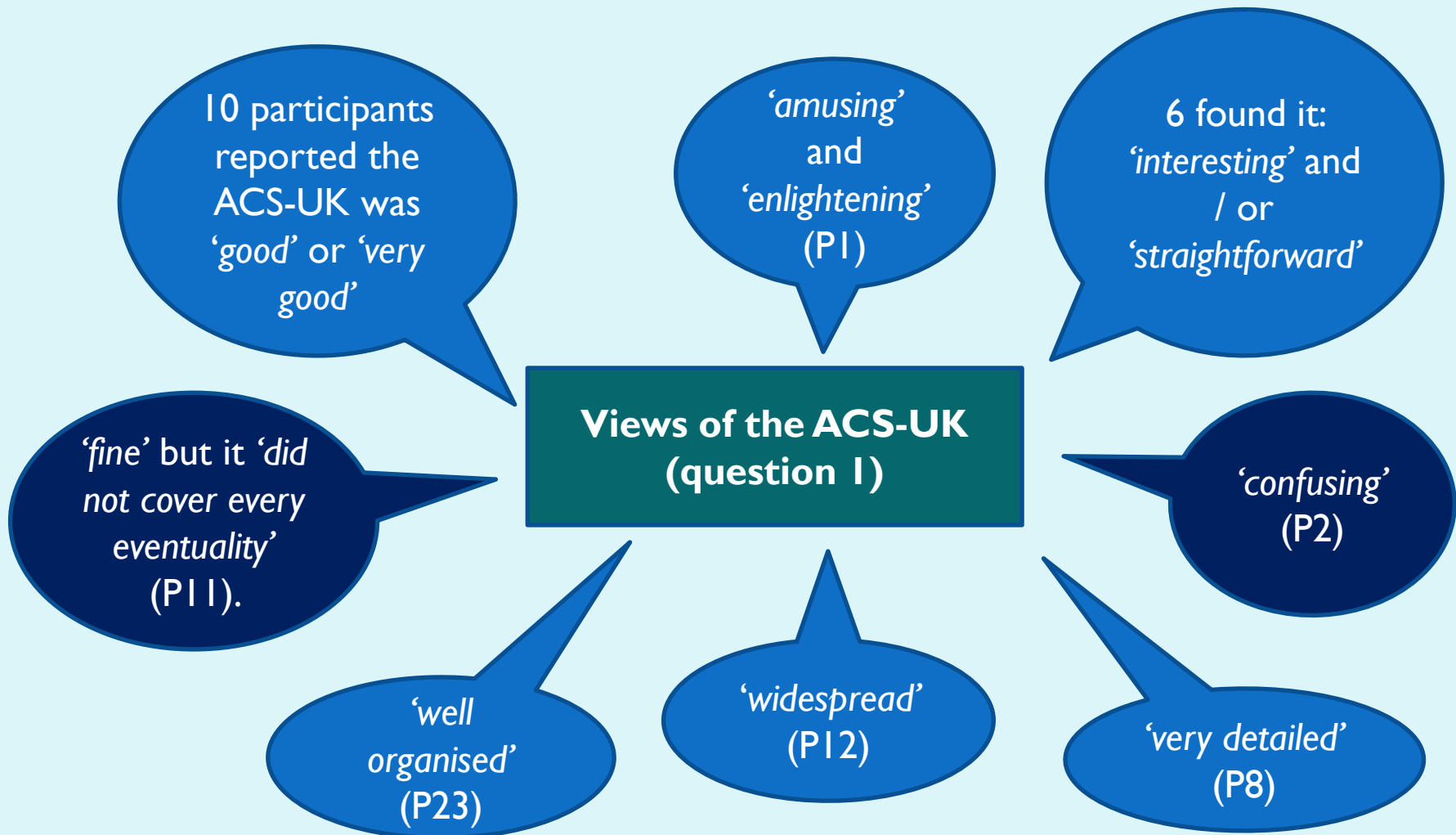
- Mixed methods approach (Creswell and Plano Clark, 2011)
- ACS-UK was administered, scores obtained for: Current Activity (CA), Previous Activity (PA) and Retained Activity (RA)
- Time taken to administer and score the ACS-UK (in seconds)
- A semi-structured interview was developed to explore aspects of face validity, content validity and clinical utility
- Open ended questions were used to allow participants to state opinions and explore ideas further
- Students carried out interviews in pairs for consistency
- Interviews were audio recorded and transcribed verbatim

Sample



- 27 White British participants (16 women; 11 men) aged 65 or over.
- Convenience Sample (recruited through local community centres, religious groups, coffee mornings, libraries and contacts known to the researchers)
- Community dwelling older adults (not living in a residential or nursing home)
- over the age of 65
- who could comprehend and communicate in English (the project did not have the resources for translation and the ACS-UK activity labels on cards are written in English)
- had capacity to provide informed consent (according to the Mental Capacity Act 2005 (English legislation))
- Exclusion criteria: people who were currently receiving secondary health care or social services
- Participants could be receiving check-ups/ routine care from their General Practitioner (e.g. seasonal flu jabs)

Qualitative Findings (n = 27)



Qualitative Findings (n = 23)

85% (n = 23)
stated the ACS-UK
was easy and
straightforward to
do

100% agreed
the ACS-UK
instructions
were easy to
follow

4 participants
were unsure
where certain
cards should be
placed

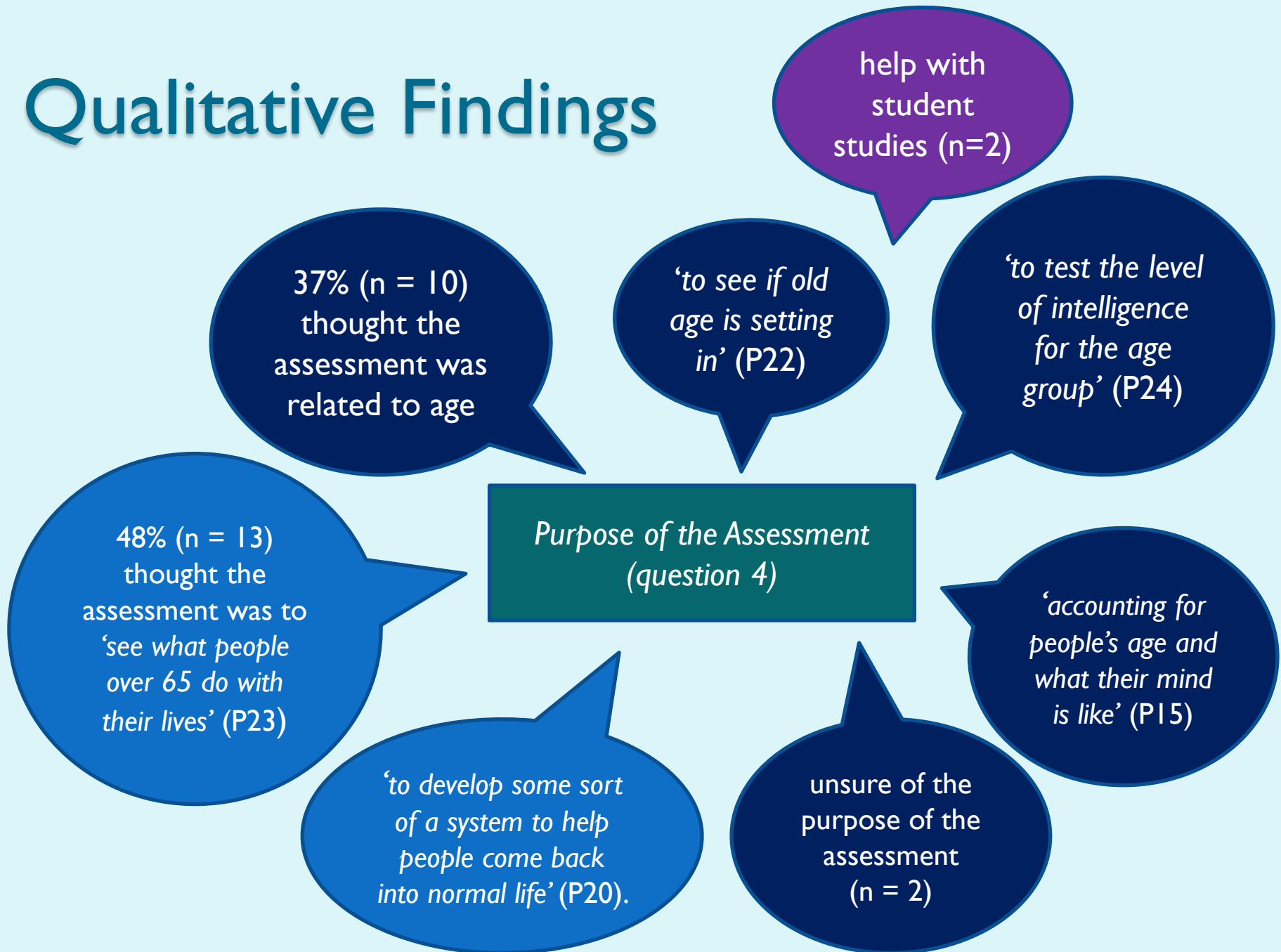
Completing the ACS-UK (questions 2 and 3)

2 had difficulty
sorting item 80
'being with your
spouse or
partner' (they
were widowed)

9 said sorting
category labels
made sense; *'there
couldn't be any more
alternatives'* (P25)

3 had difficulty
deciding which 5
activities to choose as
their most important

Qualitative Findings



Qualitative Findings (n = 26)

100% the photographs looked like the activities they were depicting

N = 2: age range of people in the photographs noting that they 'showed people a lot older than 65' (P19)

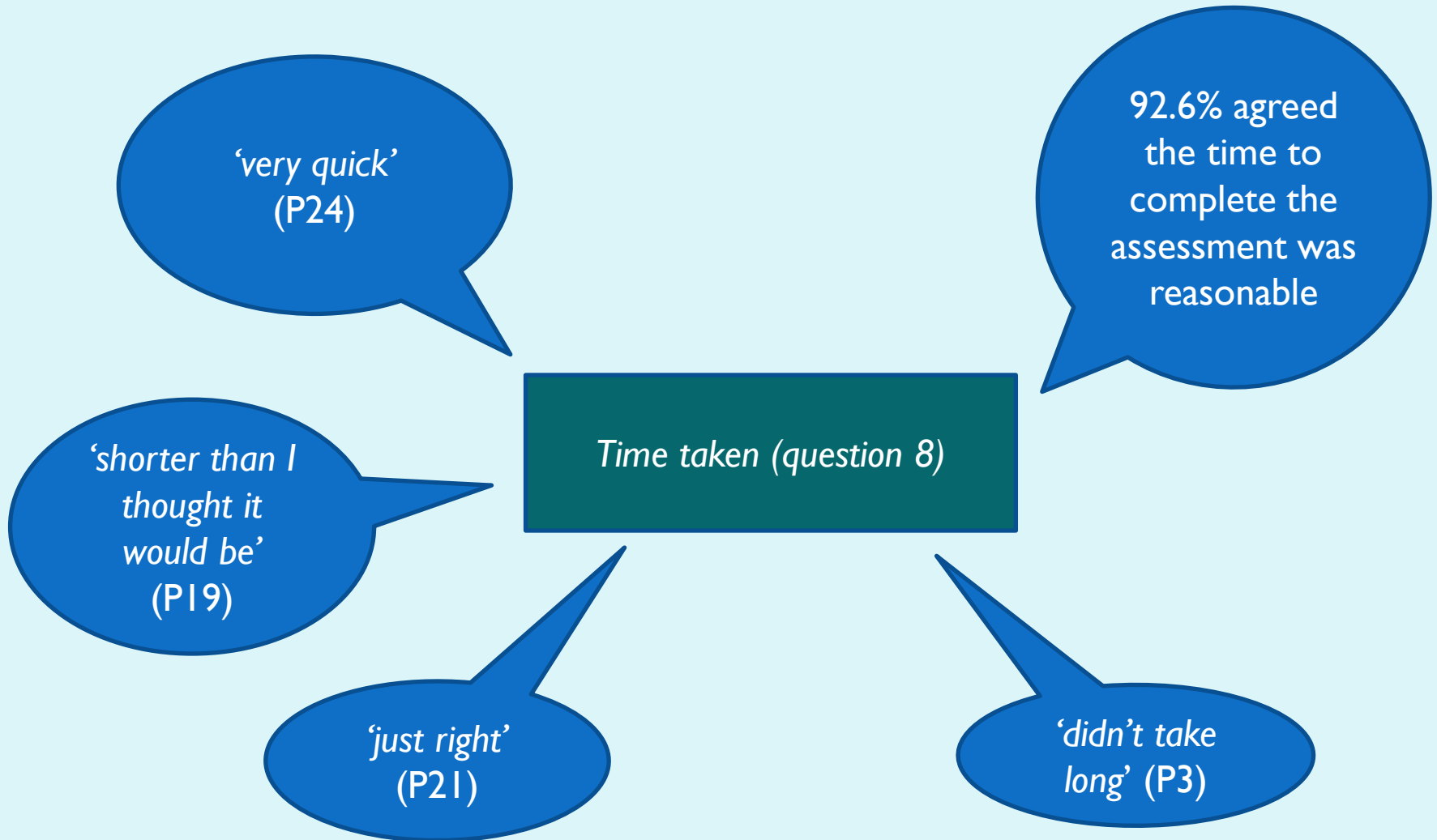
96% agreed the activity labels matched the photographs on the cards

*Views of the Activity Items
(questions 5, 6 and 7)*

81% no activities that older people engage in had been missed

Missing items: 'volunteering with people' (P18); 'sleeping' (P7); 'football' (P14); 'jigsaws' (P14, P26); and 'playing an instrument' (P16)

Qual. Findings (n = 26)



Qual. Findings

89% did not identify anything they did not like about the assessment

N = 1:
pictures did not represent 65 year olds

70% could not think of any way to make the assessment better

*Suggestions to improve the assessment
(questions 9, 10 and 11)*

P16 was unsure of the purpose of the assessment and so felt unable to answer question

some photographs did not present people physically doing the activities

Suggestion for further sorting categories : 'wish I could do' (P18); 'aims for the future' (P18); 'not applicable' (P3); 'not often' (P7); and 'sometimes' (P7)

Discussion: qualitative findings

Feedback from study	Consideration	Decision
ACS-UK item 80 'Being with your spouse / partner' difficult to categorise for some participants	Identified as problematic for participants who had been widowed	Manual will suggest that therapists could remove this item if they are aware that the client has been widowed, divorced or separated
Most difficult aspect of the assessment appeared to be choosing five most important activities	ACS-NL (Jong et al., 2012) has four overview cards which show smaller size photographs of all activity items for each domain on one sheet.	Overview sheets showing all the ACS-UK IADL, LDL, HDL and SC activities have now been produced

Discussion: qualitative findings

Feedback from study	Consideration	Decision
Items that cover a number of activities, such as 'Managing financial matters', need more clarity	Consider having more than one photograph on a card or add some examples in brackets under the activity label	To review combined activities and add examples
Two participants who were under 70 years old commented that most of the people in the photographs appeared quite a bit older than 65 years.	As the assessment is for people aged 65 and over it is important that the photographs included are representative of the whole age group.	Several items have now been re-photographed to show people under 70 completing activities
Several participants were unsure of the purpose or had not correctly identified the reason for the assessment	It is important that people fully understand the purpose of an assessment	More detailed guidelines provided in the ACS-UK test manual to instruct therapists how to explain the purpose of the ACS to clients

Feedback from study	Consideration	Decision
Add an item for sleeping (n = 1)	<p>The ACS-UK item 15 'Taking a rest' shows someone sitting on a sofa with her eyes closed.</p> <p>Literature review – sleeping as an occupation</p>	Item for 'Sleeping' to be added to ACS-UK
Add an item to represent volunteering with people (n = 1) to show an active role of volunteering such as working with children or adults	ACS-UK item 78 'Volunteer Work' can include a wider range of volunteering activities	Further written examples in brackets will be added to item 78
Add item for 'playing an instrument' (n = 1)	Playing instrument had not met the cut-off level for inclusion during content validity study	If the person mentions playing an instrument this can be added as an 'other' activity

Feedback from study	Consideration	Decision
Add an item for doing jigsaw puzzles (n = 2)	In content validity study 'Putting together puzzles' had mean frequency above the cut-off during Round 1. But had been combined: item 32 'Doing Puzzles / Crosswords'	New item 'Doing Jigsaws' has been added as ACS-UK item in the Low Demand Leisure domain.
Football was not included (n = 1); playing or watching football?	Item 30 'Going to watch a sports event' and item 62 'Exercising'. Do people perceive participating in team games, such as football, as 'exercise'?	Further written examples in brackets will be added to item 62.

Quantitative findings:

Time taken to score the ACS-UK

Sample	Range in seconds (minutes and seconds)	Mean in seconds (mins and secs)	Standard deviation (seconds)
Sample 1 (n = 16)	208-368 (3 m 28 s – 6 m 8 s)	277 (4 m 37 s)	47
Sample 2 (n = 11)	255-415 (4 m 15 s – 6 m 55 s)	310 (5 m 10 s)	50
Combined sample (N = 27)	208-415 (3 m 28 s – 6 m 55 s)	290 (4 m 50 s)	50

Time taken to administer the ACS-UK

(n = 11 participants and 4 assessors)

Sample	Range in seconds (minutes and seconds)	Mean in seconds (mins and secs)	Standard deviation (seconds)
Sample 2	290-1020 (4 m 50 s – 17 m)	581 (9 m 41 s)	225 (3 m 45 s)

Mean time for administering and for scoring the ACS-UK was combined
The average duration was 14 minutes 31 seconds

Discussion: duration



- Despite having the most items of any ACS versions, the average time for administering and scoring the ACS-UK was approx. 14 ½ minutes
- longest scoring time < 7 minutes
- longest administration time was 17 minutes
- total assessment time approx. 24 minutes
- total ACS-UK time was 4 minutes longer than the 20 minutes reported for the ACS-HK (Chan et al., 2006) and ACS (Baum and Edwards, 2008)
- It may be that test administration will take longer with some client groups.

Summary of ACS-UK Retained Activity Scores

Domain	Range (%)	Mean (%)	Standard deviation (%)
Global Retained Activity Score (GRAS)	51.09 - 89.47	70.10	10.32
Instrumental Activities of Daily Living (IADL) RAS	66.00 - 95.83	79.36	8.42
Low Demand Leisure (LDL) RAS	36.84 - 96.66	71.78	14.19
High Demand Leisure (HDL) RAS	12.50 – 100	57.41	20.27
Social / Cultural (SC) RAS	28.94 - 85.71	63.49	14.60

Limitations and future research

- This study involved a small homogenous convenience sample.
- It would be beneficial to conduct a further study with a more ethnically diverse sample that better represents the UK older adult population.



Limitations and future research

- As a number of changes are being made to the ACS-UK in response to the results of this study, it would be useful to evaluate whether the changes lead to improved face validity with another sample.

Conclusion

- The study showed that overall the ACS-UK has good acceptability and utility in terms of older adult's first impressions, ease of understanding instructions, activities, activity labels and carrying out the card sort.
- However, understanding of the purpose of the ACS-UK was varied and this aspect of face validity can only be considered as fair.
- In terms of clinical utility, the reasonable time required to administer and score the ACS-UK, along with the ease of administering and scoring the assessment suggests that the ACS-UK has good clinical utility.



Conclusion (continued)

- The study also identified potential additional activities for consideration and shed new light on some activities which were previously removed during initial test development.
- A sample of ACS-UK scores for community dwelling older adults was obtained for a future discriminative validity study.



Questions and discussion



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Ethical approval



- A pilot of the Activity Card Sort – United Kingdom [ACS-UK] with a sample of community dwelling, healthy older people (ACS-UK II study)
- The York St John University ethics committee approved both rounds of data collection for this study:
 - UG10-4Nov11-DS approved on 4.11.2011
 - UG4-1NOV12-ALF approved 1.11.2012

Appendix: Interview questions

1. What are your first impressions of the Activity Card Sort?
2. Did you find the assessment straightforward to carry out?
3. How easy were the instructions to follow, in relation to:
 - Categories make sense
 - Sorting the cards
 - Choosing 5 most important / favourite activities
4. What do you think the purpose of this assessment is?

Interview questions (continued)

5. Do the photographs look like the activities they are representing?
6. Do the descriptions match the pictures on the cards?
7. Have we missed any activities that you know older people participate in?
8. What do you think about the time it took to complete the assessment?
9. Was there anything you didn't like about the assessment?
10. Is there any way we can improve the assessment?
11. Do you have any additional comments you would like to make?

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