

## Impact case study (REF3)

<b>Institution:</b> York St John University		
<b>Unit of Assessment:</b> UoA3 - Allied Health Professions, Dentistry, Nursing and Pharmacy		
<b>Title of case study:</b> Improving occupational therapy assessment through the implementation of two standardised assessments in clinical practice.		
<b>Period when the underpinning research was undertaken:</b> September 2010 – April 2020		
<b>Details of staff conducting the underpinning research from the submitting unit:</b>		
<b>Name(s):</b> Alison Laver-Fawcett	<b>Role(s) (e.g. job title):</b> Associate Professor	<b>Period(s) employed by submitting HEI:</b> September 2008 to date
<b>Period when the claimed impact occurred:</b> August 2013 – December 2020		
<b>Is this case study continued from a case study submitted in 2014?</b> No		
<p><b>1. Summary of the impact</b> (indicative maximum 100 words)  Research at York St John University (YSJU) developing standardised assessments has changed occupational therapists' practice to improve assessment and demonstrated benefits for older patients with conditions, such as stroke or dementia. The implementation of the Structured Observation Test of Function (SOTOF) and Activity Card Sort – United Kingdom (ACS-UK) improves clinicians' understanding and awareness of patients' problems and needs to inform goal setting and treatment planning. SOTOF enables occupational therapists to assess if older people have underlying perceptual, cognitive, motor, and/or sensory problems impacting their ability to undertake four personal activities of daily living (eating, drinking, washing, and dressing). SOTOF 2<sup>nd</sup> edition's [3.4] graduated mediation protocol facilitates occupational therapists to identify the level of prompts and cues required to maximise independence and support rehabilitation or management. SOTOF aids patients' insight into their functional problems and abilities. The ACS-UK [3.1] examines changes in engagement in personal and instrumental activities of daily living, leisure, social and cultural activities. ACS-UK improves therapists' identification of activities that are reduced or given up by older people, aiding goal setting and person-centred intervention plans. It is particularly beneficial for people with speech impairments and/or memory problems, as the ACS-UK photograph activity-cards serve as memory prompts and can be sorted into categories non-verbally.</p>		
<p><b>2. Underpinning research</b> (indicative maximum 500 words)  <b>Introduction:</b> Dr Laver-Fawcett's research related to occupational therapy assessments and outcome measures, conducted in the NHS and at universities in UK, USA, and Canada, has spanned 30 years. Laver-Fawcett's (2007) key academic text <i>Principles of Assessment and Outcome Measurement for Occupational Therapists and Physiotherapists: Theory, Skills and Application</i>, is internationally used and cited. She has contributed 4 invited chapters on occupational therapy assessment (in two American, a UK, and an Australian textbook) and contributed an invited article for the Norwegian Journal of Occupational Therapy, <i>Ergoterapeuten</i> (2014), which highlighted the importance of occupational therapists using standardised outcome measurement in routine practice to evaluate treatment effectiveness. In addition to the research she has led at YSJU, which underpins the ACS-UK and SOTOF assessments, she contributed to the development of the Hopkins Rehabilitation Engagement Rating Scale - Reablement Version (HRERS-RV) and related psychometric research studies [3.6]. The HRERS-RV provides the first standardised measure of patient engagement for use in reablement services. It was used as an outcome measure in the National Institute of Health Research funded 'Models of Reablement mixed methods evaluation of a complex intervention' study (Beresford et al, 2019: <a href="https://doi.org/10.3310/hsdr07160">https://doi.org/10.3310/hsdr07160</a>).</p> <p><b>The Activity Card Sort – United Kingdom version (ACS-UK) [3.1]:</b> This assessment comprises a test manual, three scoring forms (for the Institutional, Recovery and Community versions), category sorting cards and 93 photograph activity cards. It may be administered by occupational therapists, other health and social care professionals or assistants, and activity co-</p>		

ordinators in a wide range of settings including: hospitals; a patient's home; care homes; or day centres. Research to develop [3.2] and evaluate [3.3] the ACS-UK has been funded through YSJU QR funding. A content validity study [3.2] was undertaken to identify culturally relevant activity items to be included in the United Kingdom (UK) ACS. Items were first generated using published UK time-use studies, research related to other country's ACS versions, and occupational therapist experts' opinions. A two-round survey of community-living older adults from across the UK (round 1, n = 177; round 2, n = 21) was used for item selection, clarifying the wording of activity labels, and agreeing activity domain classification; 91 activities were identified for the ACS-UK at this stage. The face validity and clinical utility study (n = 27 older participants) found that the ACS-UK had an acceptable mean administration and scoring time of 14.5 minutes [3.3]. Most participants found the ACS-UK straightforward, easy to do and considered activity labels clear. All participants reported that photograph-cards looked like the activities they were depicting. Following older participants' feedback, 2 additional items (sleeping and doing jigsaws) were added with the final version now comprising 93 photographed activities [3.3]. Reliability studies indicated it has acceptable test-retest and inter-rater reliability [3.1].

**The Structured Observation Test of Function (SOTOF):** SOTOF, Laver-Fawcett's PhD output, was originally published by NFER-Nelson (Laver and Powell, 1995) and is a standardised assessment, used by occupational therapists or students under supervision, with older patients. It assesses occupational performance in personal activities of daily living and associated neuropsychological problems. SOTOF's 2<sup>nd</sup> edition [3.4], underpinned by research at YSJU (conducted from 2015), has been improved through the addition of a formalised dynamic assessment component comprising a 6-level graduated mediation protocol, mediation examples and related scoring method. The SOTOF 2<sup>nd</sup> edition's content validity from the perspective of an international panel of experts [3.5], face validity and clinical utility with people with dementia, and a pilot test-retest reliability study with people with stroke, have been examined through research at YSJU [3.4]. In terms of clinical utility, the administration time was approximately 30 minutes which people with dementia considered reasonable and *'the manual was extremely informative and guided [the test administrator] through the whole learning, administration and scoring process. Any questions ... regarding certain deficits or scoring of the SOTOF were answered within the manual'; '...forms were very clear and self-explanatory'; it was '...straightforward to score and calculate'; and "SOTOF administration was a lot faster than anticipated"*. The graduated mediation protocol was considered useful, easy to follow, and flexible to client need. Findings supported that the SOTOF identifies strengths and deficits to inform clinical reasoning and appropriate treatment plans, demonstrating the value of cues and prompts to maximise independence. Researchers reported SOTOF provided useful insight into deficits experienced by people with mild dementia (for example ideomotor apraxia) which may otherwise have been missed.

### 3. References to the research (indicative maximum of six references)

- [3.1] Laver-Fawcett, AJ (2019) *The Activity Card Sort – United Kingdom version (ACS-UK): Test manual*. York, York St John University [can be supplied by the HEI on request]
- [3.2] Laver-Fawcett AJ, Mallinson S H (2013). Development of the Activity Card Sort - United Kingdom version (ACS-UK). *Occupational Therapy Journal of Research (OTJR): Occupation, Participation and Health*, 33 (3), 134-145. doi: 10.3928/15394492-20130614-02
- [3.3] Laver-Fawcett AJ, Brain L, Brodie C, Cardy L, Manaton L (2016) The Face Validity and Clinical Utility of the Activity Card Sort – United Kingdom (ACS-UK). *British Journal of Occupational Therapy*, 79(8) 492–504. <https://doi.org/10.1177%2F0308022616629167>
- [3.4] Laver-Fawcett AJ, Marrison E (2016) *The Structured Observational Test of Function. (2<sup>nd</sup> edition)*. York: York St John University [can be supplied by the HEI on request]
- [3.5] Annis S, Piotrak P, Laver-Fawcett A (2017) *To explore the content validity of the six-level mediation protocol developed for the Structured Observational Test of Function (2nd edition), from the perspective of an expert panel*. Paper presentation. Royal College of Occupational

therapists Annual Conference. Birmingham. Available from:

<https://ray.yorks.ac.uk/id/eprint/2434/>

**[3.6]** Mayhew EE, Beresford BB, **Laver Fawcett A**, Aspinal F, Mann R, Bechtold K and Kanaan M. (2019) The Hopkins Rehabilitation Engagement Rating Scale - Reablement Version (HRERS-RV): Development and Psychometric Properties. *Health & Social Care in the Community*. 27 (3). pp. 777-787. doi: 10.1111/hsc.12696

#### 4. Details of the impact (indicative maximum 750 words)

**Reach and pathways to impact:** SOTOF and ACS-UK have been disseminated via: publications **[3.2; 3.3]**; Twitter; workshops delivered at YSJU; workshops delivered on request in 4 NHS Trusts: *Hull Teaching Hospital NHS Trust* and *York Hospital NHS Foundation Trust* **[5.1]** (SOTOF) and *Leeds and York Partnership NHS Trust* **[5.6]** and *Tees, Esk and Wear Valleys NHS Trust* **[5.7]** (ACS-UK and SOTOF); conference presentations at national (e.g. **[3.5]**) and European conferences; invited presentation at the OT Show (2019); a stand at the European Network of Occupational Therapists in Higher Education conference in Athens (2019); and invited teaching on SOTOF in Austria on the Master of Science in Ergotherapie, in Innsbruck (June 2015; including first SOTOF 2<sup>nd</sup> edition content validity study), and to occupational therapists at the Centre for the Rehabilitation for the Paralysed, Bangladesh (March 2017; SOTOF 2<sup>nd</sup> ed). Twitter is a successful strategy for dissemination, for example, a tweet (posted June 2020) led to 52 SOTOF requests from clinicians and students in England, Wales, Scotland, Turkey, USA, Philippines, and Australia. SOTOF also has been requested by occupational therapists in Singapore, New Zealand, Lithuania, Poland, and Canada. Some YSJU occupational therapy students introduced the SOTOF and/or ACS-UK on practice placements leading to clinicians requesting the assessments. QR funding was awarded for research in 2020 which could not be conducted owing to the COVID-19 pandemic, so instead YSJU provided funding to print additional ACS-UK copies which have been provided free to therapists in four NHS Trusts, one independent hospital, a care home and to academics in 3 Universities (who wish to teach the ACS-UK in their curricula). Laver-Fawcett has created two databases, one for each assessment, and when people receive a copy of SOTOF and/or purchase or request information about the ACS-UK, they are invited to join the relevant database. This is used to keep colleagues updated about assessment developments and to contact colleagues regarding further research or implementation evaluation. Currently the ACS-UK database comprises 72 colleagues and the SOTOF database 98 colleagues.

**Structured Observation Test of Function (SOTOF)'s impact:** SOTOF 2<sup>nd</sup> edition is published under a creative commons licence and available free of charge. It comprises a test manual, instruction protocols, record form and enlarge instructions for people with hearing deficits or benefitting from written instructions. Colleagues contact the 1<sup>st</sup> author to request a copy, this helps to ensure it is being used by people with occupational therapy qualifications. Two role-plays and an instructional PowerPoint are provided to aid learning to use SOTOF. A Senior Lecturer from St George's, University of London reported how SOTOF and role-plays were used with occupational therapy students on placement: *'We had a remote peer learning placement and as the students did not have much client interaction [owing to the pandemic] we gave them all the SOTOF files and they used them to role play the assessment together. They were able to navigate it all themselves and we watched the role play videos. They also reflected on using the assessment'* **[5.3]**. Feedback from occupational therapists who have attended SOTOF training workshops indicated SOTOF *'...help[s] me identify patients' rehab. potential and to support my clinical reasoning and be more person-centred'*; and SOTOF assists with *'...being able to track change and help with insight'* and provides *'more accurate assessment of strengths and deficits to plan ... interventions'* **[5.9]**.

Poor insight into their level of disability can hamper patients' engagement in rehabilitation, and stroke patients gained insight into their functional problems and abilities through doing SOTOF. One patient commented: *"I was shocked actually...I thought I could do a lot more than that...I didn't follow them [SOTOF instructions] as straight as I thought I would'* (Participant 8). The impact of stroke can lead to low mood and it is important for patients to see progression and

improvements, to maintain morale during rehabilitation, SOTOF demonstrated progress with their recovery to patients, for example: *'Simple everyday tasks become a problem...and pouring the drink [SOTOF task 3] felt as though they were coming back'* (Participant 6). Patients reported doing the SOTOF was useful, interesting, and they learnt from doing it [5.1, feedback collected through semi-structured interviews with 10 patients].

SOTOF's ability to identify functional improvements was reported by staff for example: *'it was a good assessment really to show that they had moved on considerably from when they were first on the ward'*. SOTOF was useful to inform treatment planning: *'The scores show so clearly... where their difficulties are. And then we could ... get together a really good programme of treatment and therapy'*. [5.1, stroke rehabilitation ward multi-disciplinary team's view of SOTOF collected via survey n=8 and focus group n=11]. Marrison [5.1] reported that the SOTOF identified a patient had right / left discrimination problems which had not been discovered in previously undertaken functional or cognitive assessments and stated if SOTOF had not been undertaken the deficit may have gone unnoticed. Information generated from SOTOF informs other multi-disciplinary team professionals' practice on the stroke rehabilitation ward [5.2], SOTOF results: *'...inform treatment techniques or treatment interventions [so]...we could get together a better programme'*.

An audit of dressing practice by occupational therapists in acute stroke settings (Worthington et al, 2020) [5.4] represented 70 (of 157) stroke units in England. The authors reported that only 23.3% of therapists 'regularly used standardised assessments, or components of standardised assessments, when assessing dressing ability' (p.667). The SOTOF (2<sup>nd</sup> edition) [3.1] was reported as the third most frequently used, of only five standardised assessments listed, by participants [5.4].

Laver-Fawcett (funded by Erasmus, 2016) provided a SOTOF workshop for occupational therapy Masters' students at KU Leuven University, Belgium followed by teaching delivered virtually in 2017. A Professor at KU Leuven continues to refer to SOTOF in her teaching with occupational therapy students. This has led to the use of SOTOF by some Belgium occupational therapists. Following a request to translate the SOTOF into Dutch, a project to evaluate SOTOF's use in practice was undertaken at Reepkaai in Belgium (with 10 neurological patients) leading to plans to implement it further in practice [5.8]. Identified SOTOF strengths included: the use of everyday objects and tasks recognised by patients; clear instructions; low cost of equipment; free assessment; that the therapist can use one test (instead of several tests); and administration can be spread over time (which helps when patients have fatigue). *'The dynamic element of the test provides extra information on learning or coaching style of patient, [and] effective cues...'* [5.8].

**Activity Card Sort – United Kingdom (ACS-UK) impact:** The ACS-UK is published by YSJU to keep costs affordable for NHS Trusts, local authorities, and care homes with limited budgets. It can be purchased from YSJU by contacting the 1<sup>st</sup> author and is printed by a local York based printers, to support the local economy. Evaluation of the implementation of ACS-UK into older people's mental health services in two NHS Trusts [5.7] found the ACS-UK has: *'...been beneficial for service users who do not have language skills anymore... [with] our more advanced dementia service users that can still look at a visual cue and ...works really well'*. Clinicians reported the ACS-UK *'definitely [provides] more information'* [compared to another assessment used previously] and *'... it helped their partner get involved as well, they ... did it together and they looked at things that they could work on together'*. Some people with mental illness or dementia find it hard to identify meaningful activities, and the ACS-UK helps with this: *'When I've used it, people have said "oh no, don't really have many hobbies or anything" ...and ... when you go through it, you find a plethora of things to do... also you build that great rapport with people and therapeutic relationship.'* The ACS-UK provides a: *'...detailed account of what the person used to do, now does, how much etc, and also some of the reasoning - this makes it easier to consider [the therapists'] role and possibilities in enabling the person to engage'* [5.7]. *'In clinical practice with people with dementia the Activity Card Sort UK (ACS-UK) has been useful in terms of talking about activity, promoting communication that is meaningful and*

*measuring activity participation/promoting ideas for new activities to add meaning to everyday life.* [5.6]. Following the ACS-UK implementation and evaluation project, Tees, Esk and Wear valleys NHS Foundation Trust purchased 14 ACS-UK copies to use across the Trust.

Clinicians felt ACS-UK aids reminiscence, supports goal setting, helps clients to think about what they would like to do again, *'tease[s] out information that may not normally be covered'*; *'focuses interventions in a client centred way'* and provides results which can be used *'to increase care home staff awareness of what the person has done previously and how best to increase their meaningful engagement'* [5.9]. An occupational therapist summarised: *'I think it [ACS-UK] is helpful as we are not using much by way of standardised assessments or those that help formulate goals and monitor engagement as much. It will also help make sure we address all domains, as sometimes the focus can end up being on self-care. It will also help to work collaboratively and make sure the goals are ones shared / made by the person'* [5.7].

The ACS-UK was requested for a funded Valuing Active Life in Dementia (VALID) Randomised Controlled Trial which examined a community occupational therapy intervention for people with dementia and carers. Participants worked with an occupational therapist to identify meaningful activities and set appropriate intervention goals; ACS-UK was used to assist this as part of the intervention process (not used as an outcome measure). It was requested because some people with dementia struggled with the interview process and the ACS-UK activity cards, containing photographs of activities, serve as a memory prompt and could be sorted into categories without the person needing to respond verbally. The Occupational Therapist Clinical Researcher, based at the North East London Foundation Trust, commented *'I used it mainly to support people with dementia who had expressive speech problems in particular word finding difficulties. Using the ACS-UK supported them to identify their meaningful activities, reduced stress levels (e.g., not having to rely on verbal speech output) and enabled choice in goal planning'* [5.5].

#### **5. Sources to corroborate the impact** (indicative maximum of 10 references)

- [5.1] Marrison E (2020) *Face and content validity and clinical utility of the Structured Observational Test of Function (SOTOF) from the perspective of patients with a neurological diagnosis and a stroke rehabilitation multi-disciplinary team*. Masters by Research Degree thesis. York St John University, School of Sciences, Technology and Health. York.
- [5.2] Marrison E, Laver-Fawcett A, Purton J (2019) The content validity of the Structured Observational Test of Function 2nd edition from the perspective of a stroke rehabilitation multi-disciplinary team. UK Stroke Forum. Poster. Available from: <https://ray.yorks.ac.uk/id/eprint/4476/>
- [5.3] Correspondence: Senior Lecturer / Practice Placement Lead – Occupational Therapy, School of Allied Health, Midwifery and Social Care St George's, University of London.
- [5.4] Worthington E, Whitehead P, Li Z, Golding-Day M, Walker M (2020). An audit of dressing practice by occupational therapists in acute stroke settings in England. *British Journal of Occupational Therapy* 2020, Vol. 83(11) 664–673.
- [5.5] Testimonial: Occupational Therapist Clinical Researcher, North East London Foundation Trust, c/o Dementia Research Centre, Research & Development Department.
- [5.6] Testimonial: Care Coordinator/Occupational Therapist, Older Person SSE Leeds Community Mental Health team, Leeds and York Partnership NHS Foundation Trust.
- [5.7] Implementation evaluation data from a survey, focus group and interview conducted February-March 2019 with occupational therapists in Tees, Esk and Wear Valleys NHS Trust and Leeds and York Partnership NHS Foundation Trust.
- [5.8] Testimonial: Occupational Therapist and Head of Unit Occupational Therapy of az groeninge Ergotherapie Revalidatie, campus Reepkaai, Belgium.
- [5.9] Occupational Therapists' feedback following workshops on SOTOF or ACS-UK.