




## Reliability & Validity of the Revised Triple C: Checklist of Communication Competencies for Adults with Severe & Multiple Disabilities

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- Few tools to assess skills of adults functioning at unintentional to early symbolic level (most start at symbolic level)
- Access to specialist services limited
- Disability Support Workers (DSW) integrally involved with:
  - Assessment
  - Implementing communication strategies




- Accuracy of information provided by staff is questionable
  - Over-estimate comprehension skills (Purcell, Morris, McConkey, 1999)
  - Problems identifying non-verbal signals
  - Difficulty making overall judgement re: ability
- Triple C asks DSW to report on observable behaviours
- Triple C seeks information from familiar communication partners (6 months +)




### Why involve DSW in the assessment process

- Aim to embed appropriate communication strategies into daily interaction
  - Participation in assessment process – increase knowledge and increase sensitivity to potentially communicative behaviours
  - Shared ownership of outcomes



- Triple C target group
  - Unintentional, early intentional/symbolic communicators
  - Original Triple C = defined 6 stages
    - Stage 1: Preintentional reflexive
    - Stage 2: Preintentional reactive
    - Stage 3: Preintentional proactive
    - Stage 4: Intentional informal
    - Stage 5: Intentional formal
    - Stage 6: Intentional referential



### History of Triple C

- Developed in response to need. Project involving DSW in assessment & intervention process (Picture It: Bloomberg, West & Iacono. 2003)
- Retrospective study demonstrated internal consistency of tool. Reviewed 172 completed checklists.
- Problem with Stage 1 (KR20 = 0.77) cf. Stages 2 – 6 (KR20 = 0.85+) Kruder Richardson

### Triple C (revised)



- Collapsed stages 1 & 2 – clinically = same intervention options
- Changed terminology
- Each item scored - observed or not observed
  - Unintentional Passive (Stage 1 / 2 )
  - Unintentional Active (Stage 3 )
  - Intentional informal (Stage 4)
  - Symbolic (Basic) (Stage 5)
  - Symbolic (Established) (Stage 6)

### Research aims



- For revised Triple C determine:
  - support worker agreement for each item
  - internal consistency & underlying constructs
  - extent of agreement between Triple C (DSW data) & speech pathologist (observations)
- Ethics approval gained (Proxy next-of-kin for clients)

### Participants



- Adults with intellectual disability
  - Not linguistic (less than 50 words)
  - $n = 72$  - males (44); females (28)  
(Direct observations  $n = 20$ )
- Support workers
  - No training or experience with the Triple C
  - Worked for 6 mo. + with adult (Mean = 4 years)
  - $N = 118$  - males (29); females (89)
  - Most completed one checklist for one person (76). Some did more than one. eg. 25 did 2

### Procedure



- 2 – 3 hour training session by researcher
  - How to complete Triple C: teaching video &/or shared example using knowledge of client not involved in study
  - Complete consent form & background questionnaire
  - Identified pairs of DSW per client
- 2 weeks to complete checklist
  - Each item observed or not observed
  - Complete checklist for individual (asked not to discuss with other DSW in the pair)
  - Checklist submitted (de-identified information)

### Allocation of communication stage




- Completed checklist - 2 researchers used consensus to assign stage
- 20 adults in stage 2 of study
  - Observed by pairs of speech pathologists (2 -3 hours)
  - Observed at home or day service
  - Arrived at estimate of person communication according to Triple C stages

### Results



- Support worker agreement
    - Agreement per item = number of agreements ÷ agreements + disagreements x 100.
  - Mean =
    - Unintentional passive (85%)
    - Unintentional active (81%)
    - Intentional informal (83%)
    - Symbolic (basic) (84%)
    - Symbolic (established) (87%)
- Moderate to high agreement between stage assignment for DSW 1 vs DSW 2 data  
Cohen's kappa  $k = 0.63$  ( $p < .001$ )


**Results**



- Relatively even spread of checklist assigned across all 5 stages


Stage	Stage assignment <i>n</i> = 64 (as a %)	
	DSW 1	DSW 2
Unintentional passive	10 (16 %)	12 (19 %)
Unintentional active	14 (22 %)	12 (19 %)
Intentional informal	12 (19 %)	16 (25 %)
Symbolic (basic)	16 (25 %)	13 (20 %)
Symbolic (established)	12 (19 %)	11 (17 %)

**Results**




- High internal consistency
  - (i.e. how items relate to each other within the stages)
  - KR 20 = 0.97 for both DSW1 & DSW2
- Construct validity
  - One underlying factor – pre-linguistic communication
- Difference in stage allocation was never more than one stage between DSW 1 & DSW 2 data

**Discussion**




- High level of agreement between DSWs may be due to:
  - Training provided eg. Information on stages, relevant examples
  - Nature of the task ie. Report on specific behaviours (not make a judgement about skills)
- First study show one factor with the possibility of a second not supported in second study
  - Larger sample size would always be preferable but results were strong

**Discussion**




- Poor agreement between stage according to DSW checklist and researcher (speech path) observations although never more than one stage difference.
  - Can't say who was right
  - Can't use another tool to check (as there aren't any)

**Clinical implications**




- If used collaboratively (DSW gather information, speech path confirms result) can be used with confidence
- Triple C designed to sensitise communication partners to potentially communicative behaviours
- Identify communication strategies to support the client – InterAACtion manual

**Revised manual**




- Targeted at speech pathologists
- How to assess & what to observe (for each item)
- Pre-use training essential
  - DVD not available
  - Practice on shared client
  - Practice with case study scenarios with example clients
  - Administration and scoring information
- Modified and simplified language

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Unintentional Active Communication (UA) (Stage 3)



**The person.....**

- Uses a range of actions on objects eg. bangs, tears, pulls, shakes, waves
- Takes turns in familiar routines eg. "high five", responds when someone spreads arms to receive a hug
- Has a means of indicating "more" eg. keeps a massage going by putting the person's hand back on his/her on head
- Searches for preferred objects within the immediate environment using his/her hands
- Searches for and finds a sound source eg. turns towards the radio when it's turned on
- Shows an awareness of different tones of voice
- Uses varying pitch and volume in his or her voice to reflect emotions
- Reaches or moves towards familiar people in familiar situations
- Is aware of familiar routines eg. dressing – puts foot out when shoe is presented
- Reaches for or looks at an object to indicate preference/choice
- Moves/pushes another person's hand away to show protest or dislike

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