

NeuroRehab Evidence Database

Target Area: Challenging Behaviour

Neurological Group: Traumatic Brain Injury

Treadwell and Page (1996). Functional analysis: Identifying the environmental determinants of severe behaviour disorders. *J Head Trauma Rehabil*, 11(1):62-74.

RoBiNT score - 13/30

Method / Results

Design

- **Study Type:** SCD. Functional analysis and AB design (A baseline, B intervention).
- Population: n=1, male, age 37, diagnosed with severe TBI (motor vehicle accident 13 years prior to his admission), seizure disorder and behaviour disorder.
- **Setting:** Inpatient unit.

Target behaviour measure/s:

- Increasing compliance and decreasing maladaptive behaviour as operationally defined:
 - Self-injury: forceful contact between open palm and cheek.
 - Aggression: forceful contact between closed fist or foot and another person's body.
 - Spitting: spittle landing within 1 foot of another person.
 - Banging furniture: forceful contact between closed fist and furniture.
 - Overturning furniture: object being turned on its side or overturned.
 - Throwing objects: objects landed greater than 1 foot from another person.
 - Compliance: independent compliance to instruction within 10 seconds.

Primary outcome measure/s:

• No other standardised measure.

Results: Graphs showed treatment was effective in increasing compliance and decreasing maladaptive behaviours. Generalisation was observed to daily living activities and vocational program. No statistical analysis was conducted.

Rehabilitation Program

Aim: To increase frequency of prosocial and communication responses and decrease maladaptive responses by using functional analysis to determine environmental variables maintaining maladaptive responses.

Materials: Mop, bucket, clothing, dinnerware and towels (for demand tasks).

Treatment Plan:

- **Duration**: Unclear from report.
- Procedure: Sessions conducted morning and afternoon, 5 days a week. Session length was 10 minutes, and 8-12 sessions were conducted in a day.
- Content:
- Functional analysis conducted, with four approximations of environmental conditions: 1) social attention, 2) access to tangible rewards, 3) escape from demands, and 4) recreation. Results showed behaviour was maintained by escape and treatment was implemented taking this into account.
- 3 elements from functional analysis used in treatment:
 - 1. <u>Guided compliance:</u>
 - a. Verbal instructions provided at first prompt.
 - b. Gestural paired with verbal instruction if compliance not observed within 5 seconds.
 - c. Physical prompting with verbal instructions if compliance not observed within next 5 seconds.
 - d. Praise was given following independent compliance.
 - 2. <u>Behaviour momentum:</u> 2 relatively easy instructions that resulted in high compliance were followed by 1 difficult demand to increase probability of being compliant with difficult demand.
 - **3.** Extinction: Ignoring maladaptive behaviour and continuing with learning trial.