



# Rapid Realist Review of Neuropsychology Rehabilitation Programmes to Improve Psychological Wellbeing and Quality of Life after Acquired Brain Injury

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## Introduction & Aims

### Introduction

Acquired brain injury (ABI) caused by traumatic injury (e.g., road traffic accidents) and non-traumatic conditions (e.g., stroke), result in over 1000 UK hospital admissions daily<sup>1</sup>.

ABI can cause changes in cognition (e.g., memory), behaviour (e.g., personality or regulating emotions), and physical ability. Changes can have a detrimental impact on participation in daily activities and chosen life roles, psychological wellbeing (PWB), and quality of life (QOL).

Neuropsychological Rehabilitation (NPR) is one approach to supporting people with ABI to participate meaningfully in activities despite challenges. Although literature supports NPR effectiveness, little is known about *change mechanisms*.

### Aims

- To identify what NPR programmes have been designed, delivered and evaluated in ABI to improve PWB and QOL, as well as providing a context-relevant understanding of what NPR includes, and how NPR might lead to positive outcomes.
- To create a 'logic model' to inform the next stage in developing a new NPR programme.

## Methods

### Methods<sup>2</sup>

A rapid realist review conducted in three phases:

#### Phase 1: Structured retrieval and evidence extraction

- Systematic literature search (March 2022): Databases and supplementary website searching
- 1109 papers screened, 145 papers considered for inclusion, 35 included
- Paper included where: (1) PWB or QOL was primary outcome; (2) delivered directly by Clinical Psychologists, Neuropsychologists, and/or mental health professionals working in NPR

#### Phase 2: Stakeholder Consultation

- Analysed using framework analysis<sup>3</sup>, informed by Consolidated Framework for Implementation Research<sup>4</sup>
- Evidence used to: (1) determine possible theoretical assumptions about how and why NPR works or not; (2) develop or refute provisional proposed mechanisms

#### Phase 3: Analysis and Synthesis

- Context-Mechanism-Outcome chains identified and grouped by mechanism in a thematic table
- Complied with reporting standards for realist evaluation, including relevance and rigour<sup>5</sup>

## Results

### Review Findings

Evidence from 35 papers led to the development of six Context-Mechanism-Outcome chains (CMOCs) related to the delivery of NPR to people after ABI. The CMOCs are interrelated, and described using 'if-then' statements<sup>5</sup>:

CMOC	Developed 'If, then' Statement
1	If interventions focusing on thoughts are delivered, then participants will <b>relate to their internal experiences differently</b> , leading to improvements in wellbeing.
2	If interventions develop a compassionate view of self, <b>self-worth is activated</b> , leading to improved PWB, and self-esteem.
3	If participants are <b>taught strategies to manage cognitive and emotional challenges</b> , they are <b>more likely to master them</b> , leading to positive wellbeing and improved symptom management.
4	If the intervention context includes others, a <b>sense of connection is created</b> , leading to reduced isolation and increased wellbeing.
5	If the intervention <b>considers cognitive and psychosocial factors of the target population</b> , then it is <b>adapted</b> , and will meet the needs of the population, leading to better outcomes.
6	If a facilitator is responsive, then the intervention will be <b>individualised</b> , and the impact will be optimised for participants.

### Stakeholder Consultation

Provisional mechanisms determined by the literature were presented to relevant stakeholders.

Stakeholders substantiated the importance of a space to learn and practice strategies (CMOC3). The environment was deemed important, particularly creating connection and psychological safety (CMOC4). Discussion on CMOC4 also extended to social-emotional functioning, considering how NPR delivered to a group of patients could be extended to support relational frameworks.

The role of the facilitator was discussed with the view that either the facilitator manual required sufficient structure, or the facilitator required skill in navigating therapeutic process and complex interactions.

### Development of a preliminary logic model

Synthesis of data from the literature search and stakeholder consultation was used to build a preliminary logic model (Figure 1)

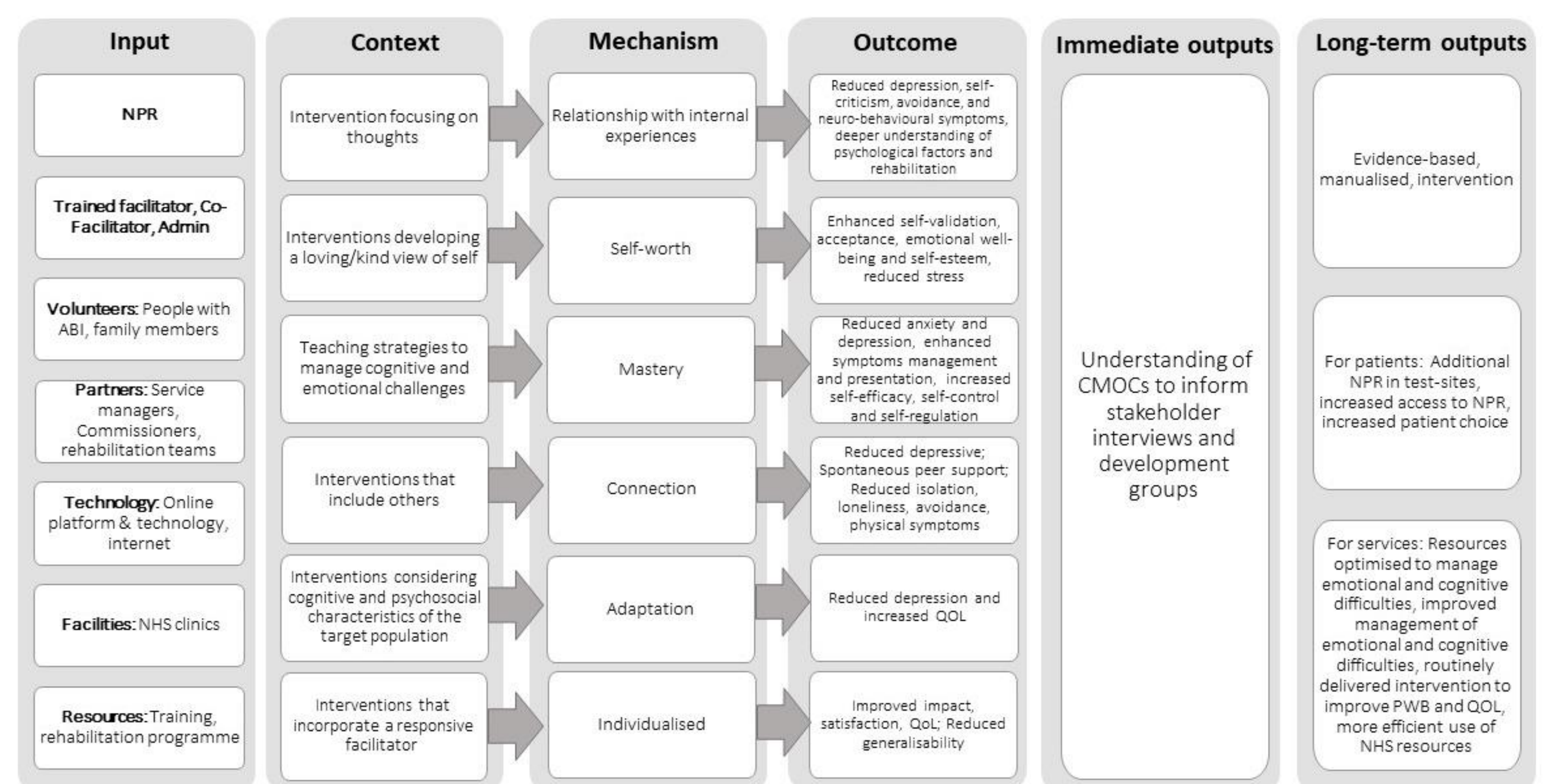


Figure 1. Logic Model of NPR programmes for ABI populations to improve PWB & QOL

## Discussion & Conclusion

Participants' relationship to internal experiences, and feelings of self-worth, mastery, and connection were mechanisms that led to improved PWB and QOL. Adaptation and individualised programmes were also key mechanisms to explain successful NPR.

The logic model developed and refined from this review can explain and improve how NPR interventions are configured for ABI survivors. The review highlights mechanisms that could maximise the success of NPR programmes and offers key contexts in which these mechanisms are most likely to be activated. The logic model will inform ongoing development of a new online, group-based, NPR programme.

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