



THE UNIVERSITY OF QUEENSLAND  
AUSTRALIA

**Group therapy interventions in traumatic brain injury rehabilitation:  
processes, perceptions and effectiveness**

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Bachelor of Occupational Therapy

Master of Public Health (Health Promotion)

A thesis submitted for the degree of Doctor of Philosophy at  
The University of Queensland in July 2018  
The School of Health and Rehabilitation Sciences

## Abstract

Background: Groups are an integral part of everyday life. Some groups are chosen by participants whereas membership in other groups may not be an active choice. The benefits of participation in groups are widely documented, and perhaps most commonly cited are Yalom's eleven curative factors of group therapy, examples of which include the instillation of hope and imparting of knowledge. Groups have long been used therapeutically and are increasingly used as a context for delivery of rehabilitation interventions. Following a traumatic brain injury (TBI), rehabilitation is recommended to maximise recovery and the use of groups in TBI rehabilitation programmes is common practice, particularly in occupational therapy. TBI results in a complex variety of impairments that can interfere with an individual's ability to participate in their life roles and activities. Therefore, groups in TBI rehabilitation may pose some unique challenges for facilitators. Currently there is limited research evidence to guide clinicians in the facilitation of groups with this population group. In addition, there is limited literature investigating key stakeholder's perspectives of group participation in TBI rehabilitation. The purpose of this thesis is to explore processes and perspectives of participation in inpatient occupational therapy groups in TBI rehabilitation.

Objectives: The aims were 1) to scope the current state of evidence regarding the use of groups in rehabilitation following TBI; 2) to explore the perspectives of patients with TBI about participation in inpatient occupational therapy groups; 3) to investigate the perspectives of clinicians from multiple rehabilitation settings about facilitation of groups with patients following TBI; and 4) to explore the nature of interactions in inpatient occupational therapy groups in TBI rehabilitation.

Method: A mixed methods approach was used. The primary components of the thesis were a scoping review, focus groups with clinician participants, questionnaires and individual interviews with patient participants, and video-recordings of inpatient occupational therapy groups. A total of 46 rehabilitation inpatients recruited from the occupational therapy groups programme at the hospital participated in the study, with fifteen completing individual interviews. Twenty-two clinicians and four student

clinicians who worked in inpatient occupational therapy teams in brain injury, spinal cord injury and geriatric rehabilitation settings from one hospital participated in the study. The thesis explored the experiences and perspectives of participants and was guided by a phenomenological approach. The method of qualitative analysis for focus groups was framework analysis. Thematic content analysis was utilised to analyse interview data. Descriptive statistics were used to analyse questionnaire data. Qualitative analysis guided by qualitative description was used to analyse video data.

**Results:** The scoping review concluded that existing research about the use of groups in TBI rehabilitation consisted mostly of pre-post intervention studies that addressed specific cognitive impairments with outpatient participants. Most studies identified significant positive changes on targeted outcome measures, suggesting group interventions were effective. The findings from patient interviews and questionnaires indicated that participation in inpatient groups helped patients to learn because they felt comfortable and experienced a sense of normality. Patients highlighted that they learned by doing activities, observing others and sharing experiences, which was particularly valuable coming from peers. They also made practical recommendations for facilitation of groups including achieving the right mix of participants. From the perspectives of clinicians, a recurring theme that emerged was that of achieving a good fit of participants in groups. Clinicians across the three rehabilitation settings also highlighted the need for structured group formats and pre-group planning in TBI rehabilitation compared to other settings. Clinician skill and confidence particularly for managing cognitive impairments, as well as opportunities for peer support and learning were emphasised by clinicians. Video analysis of inpatient occupational therapy groups in TBI rehabilitation demonstrated that these groups were activity-based and rehabilitation-focused, and highlighted that interactions occurred predominantly between clinicians and individual participants. Clinicians were observed to use a number of strategies to encourage interaction including activity choice, physical positioning of group members, and knowledge of group participants.

**Conclusion:** This series of studies has contributed new information to the existing body of evidence about rehabilitation following TBI, specifically regarding the use of

groups. The importance of stakeholder perspectives has been highlighted, and overall participation in inpatient occupational therapy groups in TBI rehabilitation was perceived as positive by both patients and clinicians. Practical implications for facilitation of groups were identified by patients. Clinicians emphasised the importance of facilitator skills and described strategies they utilised, particularly in planning groups. They were also observed to utilise a number of strategies to encourage interactions during group facilitation. Further exploration of the nature of interactions occurring in occupational therapy TBI rehabilitation groups would enable wider understanding of what strategies facilitate peer interaction successfully in the context of these activity-based groups. The findings of these studies have been translated into a tool for use in clinical practice to guide clinicians in the facilitation of occupational therapy groups in TBI rehabilitation.



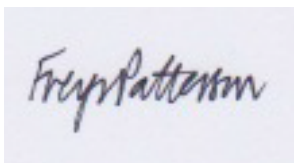
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## Publications during candidature

### Peer reviewed papers

Patterson, F., Doig, E., Fleming, J., & Marshall, K. (Submitted). A descriptive video analysis of interactions during occupational therapy brain injury rehabilitation groups.

Patterson, F., Fleming, J., & Doig, (Revision submitted). Patient perceptions of participation in group-based rehabilitation in an inpatient brain injury rehabilitation setting. *Patient Education and Counseling*.

Patterson, F., Fleming, J., Doig, E., & Griffin, J. (2017). Participant evaluation of an inpatient occupational therapy groups program in brain injury rehabilitation. *Australian Occupational Therapy Journal*, 64(5), 408-18. doi:10.1111/1440-1630.12392

Patterson, F., Fleming, J., & Doig, E. (2017). Clinician perceptions about inpatient occupational therapy groups in traumatic brain injury rehabilitation. *Brain Injury*, 31(8), 1077-1087. doi:10.1080/02699052.2017.1296974

Patterson, F., Fleming, J., Marshall, K., & Ninness, N. (2017). Student perspectives of a Student-Led Groups Programme model of professional practice education in a brain injury rehabilitation unit. *Australian Occupational Therapy Journal*, 64(4), 391-399. doi:10.1111/1440-1630.12382

Patterson, F., Fleming, J., & Doig, E. (2016). Group-based delivery of interventions in traumatic brain injury rehabilitation: a scoping review. *Disability and Rehabilitation*, 38(20), 1961-1986. doi: 10.3109/09638288.2015.1111436

Canty, A. L., Fleming, J., Patterson, F., Green, H. J., Man, D., & Shum, D. H. (2014). Evaluation of a virtual reality prospective memory task for use with individuals with severe traumatic brain injury. *Neuropsychological Rehabilitation: An International Journal*, 24(2), 238-265. doi: 10.1080/09602011.2014.881746

## Conference abstracts

- Patterson, F., Fleming, J., & Doig, E. (2018, May). *Patient experiences of occupational therapy groups in TBI rehabilitation*. Paper presented at the Australasian Society for the Study of Brain Impairment ASSBI 41<sup>st</sup> Annual Brain Impairment Conference, Adelaide.
- Patterson, F., Fleming, J., & Doig, E. (2017). Occupational therapist perceptions of group therapy interventions in TBI rehabilitation. *Australian Occupational Therapy Journal*, 64(S2), 34. Paper presented at the Occupational Therapy Australia 27th National Conference, Perth, Australia. Abstract retrieved from <http://onlinelibrary.wiley.com.ezproxy.library.uq.edu.au/doi/10.1111/1440-1630.12405/epdf>
- Patterson, F., Fleming, J., & Doig, E. (2017). Rehabilitation groups – What is unique about groups in TBI rehabilitation? *Brain Impairment*, 18(3), 363. Paper presented at the Australasian Society for the Study of Brain Impairment ASSBI 40th Annual Brain Impairment Conference, Melbourne, Australia. Abstract retrieved from <https://doi-org.ezproxy.library.uq.edu.au/10.1017/Brlmp.2017.24>
- Patterson, F., Fleming, J., Doig, E., & Griffin, J. (2016). An inpatient occupational therapy groups programme in brain injury rehabilitation: An overview of principles, processes and consumer evaluation. *Brain Impairment*, 17(3), 312. Paper presented at the Australasian Society for the Study of Brain Impairment ASSBI 39th Annual Brain Impairment Conference, Macau. Abstract retrieved from <https://doi-org.ezproxy.library.uq.edu.au/10.1017/Brlmp.2016.25>
- Patterson, F., Fleming, J., & Doig, E. (2015, November). *Perceptions of occupational therapy staff about group rehabilitation for individuals with TBI*. Paper session presented at The School of Health and Rehabilitation Science Postgraduate Conference, The University of Queensland, Brisbane, Australia.
- Patterson, F., Fleming, J., Doig, E., & Griffin, J. (2015, May). *Group therapy interventions in traumatic brain injury rehabilitation: Clinicians perceptions of processes and effectiveness*. Poster session presented at the Australasian Society for the Study of Brain Impairment ASSBI 38th Annual Brain Impairment Conference, Sydney, Australia.

- Patterson, F. (2014, August). *Use of groups in brain injury rehabilitation: A mixed methods study of group processes and effectiveness*. Paper session presented at the meeting of Health Research Alliance in Transforming Care, Princess Alexandra Hospital Health Symposium, Brisbane, Australia.
- Patterson, F., Fleming, J., & Doig, E. (2013, July). Systematic review of group therapy interventions in inpatient brain injury rehabilitation. *Australian Occupational Therapy Journal*, 60(s1). Paper presented at the Occupational Therapy Australia, 25th National Conference and Exhibition, Adelaide, Australia. Abstract retrieved from <http://onlinelibrary.wiley.com.ezproxy.library.uq.edu.au/doi/10.1111/1440-1630.12060/epdf>
- Patterson, F., Fleming, J., & Doig, E. (2013, May). *Review of group therapy in inpatient brain injury rehabilitation*. Paper session presented at the Australasian Society for the Study of Brain Impairment ASSBI 36th Annual Brain Impairment Conference, Hobart, Australia.
- Patterson, F., Ninness, N., Griffin, J., & Fleming, J. (2013, May). *Evaluating a Student-Led Group Occupational Therapy Programme in Inpatient Brain Injury Rehabilitation*. Poster session presented at the Australasian Society for the Study of Brain Impairment ASSBI 36th Annual Brain Impairment Conference, Hobart, Australia.
- Patterson, F., Fleming, J., & Doig, E. (2012, November). *Group therapy interventions in traumatic brain injury rehabilitation: Processes, perceptions and effectiveness*. Paper session presented at The School of Health and Rehabilitation Science Postgraduate Conference, The University of Queensland, Brisbane, Australia.

## Publications included in this thesis

Patterson, F., Fleming, J., & Doig, E. (2016). Group-based delivery of interventions in traumatic brain injury rehabilitation: a scoping review. *Disability and Rehabilitation*, 38(20), 1961-1986. doi: 10.3109/09638288.2015.1111436 – incorporated as Chapter 3.

Contributor	Statement of contribution
Patterson, Freyr (Candidate)	Literature search (90%) Wrote the paper (70%)
Fleming, Jennifer	Wrote and edited paper (20%)
Doig, Emmah	Literature search (10%) Wrote and edited paper (10%)

Patterson, F., Fleming, J., Doig, E., & Griffin, J. (2017). Participant evaluation of an inpatient occupational therapy groups programme in brain injury rehabilitation. *Australian Occupational Therapy Journal*, 64(5), 408-18. doi:10.1111/1440-1630.12392 – incorporated as Chapter 5.

Contributor	Statement of contribution
Patterson, Freyr (Candidate)	Designed study (60%) Data analysis (70%) Wrote the paper (60%)
Fleming, Jennifer	Designed study (20%) Data analysis (15%) Wrote and edited paper (15%)
Doig, Emmah	Designed study (20%) Data analysis (15%) Wrote and edited paper (15%)
Griffin, J.	Wrote and edited paper (10%)

Patterson, F., Fleming, J., & Doig, E. (2017). Clinician perceptions about inpatient occupational therapy groups in traumatic brain injury rehabilitation. *Brain Injury*, 31(8), 1077-1087. doi:10.1080/02699052.2017.1296974 – incorporated as Chapter 7.

Contributor	Statement of contribution
Patterson, Freyr (Candidate)	Designed study (60%) Data analysis (60%) Wrote the paper (70%)
Fleming, Jennifer	Designed study (20%) Data analysis (15%) Wrote and edited paper (25%)
Doig, Emmah	Designed study (20%) Data analysis (25%) Wrote and edited paper (15%)

Patterson, F., Fleming, J., & Doig, E. (2018). Patient perceptions of participation in group-based rehabilitation in an inpatient brain injury rehabilitation setting. *Patient Education and Counseling* – incorporated as Chapter 6.

Contributor	Statement of contribution
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Fleming, Jennifer	Designed study (20%) Data analysis (20%) Wrote and edited paper (15%)
Doig, Emmah	Designed study (20%) Data analysis (20%) Wrote and edited paper (15%)

Patterson, F., Doig, E., Fleming, J., & Marshall, K. (Submitted). A descriptive video analysis of interactions during occupational therapy brain injury rehabilitation groups - incorporated as Chapter 8.

Contributor	Statement of contribution
Patterson, Freyr (Candidate)	Designed experiments (60%) Data analysis (40%) Wrote the paper (65%)
Fleming, Jennifer	Designed experiments (20%)

	Data analysis (10%) Wrote and edited paper (10%)
Doig, Emmah	Designed experiments (20%) Data analysis (20%) Wrote and edited paper (15%)
Kathryn Marshall	Data analysis (20%) Wrote and edited paper (10%)

## Contributions by others to the thesis

The PhD candidate was primarily responsible for the concept and design of the studies, gaining ethical approval, grant applications, participant recruitment, data collection, data analysis and interpretation, and manuscript preparation.

Professor Jennifer Fleming and Dr Emmah Doig had substantial input to the research including the conception and design of each of the studies, analysis and interpretation of research data; and critical revision of written work so as to contribute to the interpretation.

Janelle Griffin significantly contributed to participant recruitment and data collection for the study as a whole. Kathryn Marshall had substantial input into the data analysis and interpretation for write up of the final qualitative study (Chapter 8).

To the best of my knowledge and belief, no person who has offered contributions consistent with the above has been excluded as an author. Persons who have contributed to the work but not at the level which would constitute authorship have been acknowledged in the body of the thesis.



Statement of parts of the thesis submitted to qualify for the award of another  
degree

There are no parts of the thesis that were submitted to qualify for the award of another  
degree.

## Research Involving Human or Animal Subjects

Ethical clearance and approval was granted from the Metro South Hospital and Health Service Human Research Ethics Committee (EC00167) (dated 26/07/2013) and Centres for Health Research, Metro South Health (dated 13/08/2013). Refer to Appendix A.

In addition to this, ethical clearance and approval was granted from The University of Queensland Human Research Ethics Committee (21/08/2013 – expedited review on basis of approval from the Metro South Hospital and Health Service Human Research Ethics Committee (dated 26/07/2013). Refer to Appendix B.

A University of Queensland and Metro South Hospital and Health District Agreement was obtained. Refer to Appendix C.

Subsequent amendments were approved by the Metro South Hospital and Health Service Human Research Ethics Committee and The University of Queensland Human Research Ethics Committee.

## Acknowledgements

I have received so much support through the journey of completing this thesis.

Firstly, I would like to thank the patients and clinicians who participated in the studies that made up this thesis. To the patients who participated, thank you so very much for sharing your experiences at such an early stage in your recovery and rehabilitation – your opinions, perspectives and experience are the essence of this thesis. To the clinicians who participated, many of whom I have worked with at various times and in various settings – thank you. In an environment where time and resources are precious, thank you for prioritising this research and taking the time to participate.

To my supervisors, Professor Jennifer Fleming and Dr Emmah Doig – I could not have asked for more. Your unending support has allowed me to develop ideas, question myself and the processes I was engaging in, and in the end come to complete this thesis. Your approaches to teaching and supervision have allowed me to develop confidence in my own skills, confidence to trust my opinions and confidence to follow the research processes with the knowledge I have your support. You have both inspired me to follow my dreams and aspirations. Jenny, you have been an incredible role model of balancing work and ‘outside’ life, as well as the paths that academic careers can take. Emmah, your openness to exploring ideas, concepts and sharing with me has instilled in me an approach I hope to emulate in the future. Thank you both so very much.

To staff in the Occupational Therapy Department and the Brain Injury Rehabilitation Unit, at the Princess Alexandra Hospital. Thank you for your assistance with participant recruitment, data collection and general support for the journey I was embarking on. I would specifically like to acknowledge Janelle Griffin, Nicole Weir, Ann-Maree Collier, Rebecca Hayes - thank you so much. To the Directors of Occupational Therapy Department at the time Mary Whitehead and Ruth Cox, thank you for your support of clinicians conducting research.

To the University of Queensland library staff, particularly Christine Dalais, thank you for your assistance especially in the early stages of the development of this thesis.

I would like to acknowledge the financial support that I received during the completion of this thesis from the PA Research Support Scheme, the Moving Ahead Centre for Research Excellence, and the Australasian Society for the Study of Brain Injury.

And last, but certainly by no means least, thank you to my family. To my Mum, I think that without realising it I was always going to do this, always going to follow in your footsteps towards an academic and research career. And although you are not here to read this thesis or celebrate with me in person, you are a constant source of inspiration and self-belief. Dad, thank you for your interest in what I was doing, and the path that I was following. Thank you for the many airport pick-ups to come to supervision meetings, thank you for trusting that I would indeed finish this. Tom and Mijan – Thank you both for listening, and asking, and being there for me throughout this journey.

To my husband, thank you – thank you for the technical support, thank you for the ‘attention to detail’ support, thank you for your time, and our time – I could not have done this without you. And Hugh, my little one, you may not remember this time but thank you too. Thank you for sometimes sleeping when I needed to study, thank you for ‘helping’ organise my desk, and for being an inspiration for the things that I want to achieve.

## Financial support

This research was supported by the following grants:

- Australasian Society for the Study of Brain Injury – Student Conference Grant 2017 (Conference attendance costs). Presentation: Rehabilitation groups – what is unique about groups in traumatic brain injury rehabilitation? Awarded to F. Patterson.
- Small Seed Grant 2016 – Moving Ahead Centre for Research Excellence (\$2000). Project: Group therapy interventions in traumatic brain injury rehabilitation: processes, perceptions and effectiveness. Awarded to F. Patterson.
- Awarded the PA Research Support Scheme 2015 Post Graduate Scholarship (\$43,000pa for up to 3 years). Project: Use of groups in brain injury rehabilitation: A mixed methods study of group processes and effectiveness. Awarded to F. Patterson (unable to take up to due interstate relocation).
- PA Research Support Scheme Small Grant, - 2013 (\$20,000). Project: Use of groups in brain injury rehabilitation: A mixed methods study of group processes and effectiveness. Awarded to F. Patterson, J. Fleming & E. Doig.

## Keywords

Groups, rehabilitation, traumatic brain injury, occupational therapy

## Australian and New Zealand Standard Research Classifications (ANZSRC)

ANZSRC code: 110321 Rehabilitation and Therapy (excl. Physiotherapy) 80%

ANZSRC code: 111703 Care for Disabled 10%

ANZSRC code: 170299, Cognitive Sciences not elsewhere classified 10%

## Fields of Research (FoR) Classification

FoR code: 110321 Rehabilitation and Therapy (excl. Physiotherapy) 80%

FoR code: 111703 Care for Disabled 10%

FoR code: 170299, Cognitive Sciences not elsewhere classified 10%



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## List of Abbreviations used in the thesis

ABI	Acquired Brain Injury
BIRU	Brain Injury Rehabilitation Unit
COPM	Canadian Occupational Performance Measure
GARU	Geriatric Assessment and Rehabilitation Unit
OT	Occupational Therapy or Occupational Therapist
PEDro	Physiotherapy Evidence Database
PEO	Person Environment Occupation
PICF	Participant Information and Consent Form
PTA	Post Traumatic Amnesia
RCT	Randomised Controlled Trial
SIU	Spinal Injury Unit
TBI	Traumatic Brain Injury
USA	United States of America
WHO	World Health Organisation

# Chapter 1

## Introduction

This thesis focuses on occupational therapy groups in inpatient traumatic brain injury rehabilitation. Chapter 1 provides an introduction to the thesis including the rationale for the topic. A preface to the context and continuum of care for rehabilitation following traumatic brain injury is also presented, as well as definitions of key terms such as traumatic brain injury and rehabilitation. The chapter concludes with the aims for the thesis and an outline of the thesis structure.

## 1.1 Traumatic brain injury

Traumatic brain injury (TBI) refers to “an alteration in brain function, or other evidence of brain pathology, caused by an external force” (Brain Injury Association of America, 2018). A brain injury can also be classified as non-traumatic, being caused by an internal force such as stroke, seizure, tumour, or lack of oxygen (Brain Injury Association of America, 2018; Menon et al., 2010). An external force may include any of the following events:

1) The head being struck by an object; 2) the head striking an object; 3) the brain undergoing an acceleration/deceleration movement without direct external trauma to the head; 4) a foreign body penetrating the brain; 5) force generated from events such as blast or explosion; or 6) other force to be defined (Menon et al., 2010, p. 1639).

An alteration in brain function is indicated by the presence of any loss of consciousness or decreased consciousness, neurological deficits, a period of amnesia for events prior to or following the injury, or an alteration in mental state at the time of the injury (Menon et al., 2010).

According to the World Health Organisation (WHO), 10 million people are affected by TBI annually meaning that TBI will surpass many diseases as a major cause of death and disability by 2020 (Hyder, Wunderlich, Puvanachandra, Gururaj, & Kobusingye, 2007). It is estimated that in the United States of America (USA) at least 1.7 million people have a TBI every year, and that TBI is a contributing factor to a third (30.5%) of all injury-related deaths (Faul, Xu, Wald, & Coronado, 2010). Furthermore, at the beginning of 2005 an estimated 1.1% of the civilian population of the USA, approximately 3.17 million people were living with a long-term disability resulting from TBI (Zaloshnja, Miller, Langlois, & Selassie, 2008). The Survey of Disability, Ageing and Carers conducted by the Australian Bureau of Statistics (2004) identified that around 1 in 45 Australians, or 432,700 people had an acquired brain injury (ABI), including TBI, with resulting activity or participation restrictions. This survey found that almost three-quarters of the people with ABI were aged less than 65 years. The Survey of Disability, Ageing and Carers also identified that people with ABI tended to have complex disability, and more health conditions than the average person with disability (Australian Bureau of Statistics, 2004).

## 1.2 Impact of traumatic brain injury

Consequences of a TBI are not always visible, and as such, TBI is often referred to as a 'hidden disability'. This is particularly the case among people who have no obvious physical changes, or only mild to moderate physical disability (Hyder et al., 2007). In others, motor changes or physical impairments can be present, affecting upper and lower limbs and impacting an individual's ability to mobilise and use their upper limbs for functional tasks such as eating and dressing (Khan et al., 2003). TBI often results in a complex array of neuro-behavioural and cognitive impairments (Centres for Disease Control and Prevention, 2014; Khan, Baguley, & Cameron, 2003). Cognitive impairments such as changes with memory, concentration and executive functioning skills are common following TBI (Centres for Disease Control and Prevention, 2014; Khan et al., 2003). Changes with behaviour and emotion can affect ability to interact socially, communicate, and ultimately affect relationships (Dahlberg et al., 2006; Khan et al., 2003; Tam, McKay, Sloan, & Ponsford, 2015). Impaired awareness of deficits is also common following TBI and can impact on engagement in rehabilitation and recovery outcomes (Hart, Sherer, Whyte, Polansky, & Novack, 2004; Ownsworth & McFarland, 2004; Sherer, Boake, et al., 1998).

TBI can result in significant restrictions to an individual's ability to participate fully in education, employment and other aspects of life (Centres for Disease Control and Prevention, 2014; Colantonio et al., 2004; Khan et al., 2003). TBI is a major cause of long-term disability, disrupting participation in life roles and occupations, and resulting in significant economic and social costs (Access Economics, 2009; Centres for Disease Control and Prevention, 2014; Helps, Henley, & Harrison, 2008; Zaloshnja et al., 2008). Relationships with families, friends and carers can also be affected by personality and cognitive-behavioural changes and resulting challenging behaviours (Khan et al., 2003; Tam et al., 2015). Participation in leisure activities can also be compromised by TBI. Wise et al. (2010) reported that one year after TBI, 81% of participants had not returned to their pre-injury levels of participation in leisure activities.

In terms of burden of injury, a WHO study of European countries reported that 'skull-brain injury and spinal cord injury' (SCI) resulted in the highest burden of injury due to permanent disability (Polinder et al., 2006). Access Economics' (2009) report, *The Economic Cost of Spinal Cord Injury and Traumatic Brain Injury in Australia* described that

in 2008 alone the cost of TBI and SCI was an estimated \$10.5 billion. The costs of care following TBI are incurred not only in the acute stages of medical management and inpatient care but are ongoing and continue for years following the initial injury due to the long-term nature of disability (Access Economics, 2009; Ponsford, Spitz, Cromarty, Gifford, & Attwood, 2013). The social and economic costs associated with TBI are high, both in terms of direct financial costs for care but also in terms of loss of quality of life and productivity (Access Economics, 2009; Ponsford et al., 2013).

### 1.3 Outcomes of traumatic brain injury

Factors that are reported to influence outcomes following TBI include: type and severity of TBI, initial medical management and care, as well as access to rehabilitation services (Centres for Disease Control and Prevention, 2014; Ponsford, 2013). Individual patient characteristics such as age, pre-injury health and level of functioning, and social-environmental factors such as socioeconomic status, family and social supports, as well as cultural background are also reported to impact outcomes after a TBI (Centres for Disease Control and Prevention, 2014; Corrigan et al., 2015; Ponsford, 2013). Ponsford (2013) emphasised the importance of understanding this complex interplay of factors that influence outcomes to inform allocation of resources and guide delivery of appropriate rehabilitation interventions.

Timely access to appropriate services has been linked to outcomes in TBI rehabilitation. The time from injury onset to admission to rehabilitation has been correlated to better functional outcomes, shorter lengths of stay and lower costs (Kunik, Flowers, & Kazanjian, 2006). Intensity of rehabilitation has also been associated with enhanced functional outcomes (Cifu, Kreutzer, Kolakowsky-Hayner, Marwitz, & Englander, 2003; Turner-Stokes, Nair, Sedki, Disler, & Wade, 2005). Consequently, research and practice guidelines recommend specialist rehabilitation following TBI (Das-Gupta & Turner-Stokes, 2002; Khan et al., 2003; Royal College of Physicians and British Society of Rehabilitation Medicine, 2003; Turner-Stokes et al., 2005).

### 1.4 Rehabilitation following traumatic brain injury

Rehabilitation can be defined as, “an active and dynamic process through which a disabled person is helped to acquire knowledge and skills in order to maximise their

physical, psychological, and social functioning” (Barnes, 2003, p. iv4). Within rehabilitation, patient-centred practice and evidence-based practice are seen as central to guiding the delivery of services (Seel, Barrett, et al., 2015). Seel, Barrett, et al. (2015) described patient-centred practice in the inpatient TBI rehabilitation setting as “being responsive to patients’ holistic needs, including taking into account patients’ preferences and health care needs relative to injury severity, functional impairment, and ability and matching treatments to patients’ goal and desired outcomes” (p. S197). Evidence-based practice is described as “the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients” (Sackett, Rosenberg, Muir Gray, Haynes, & Richardson, 1996, p. 71).

Participation in specialist rehabilitation to maximise return to pre-injury level of functioning is recommended following TBI (Centres for Disease Control and Prevention, 2014; Das-Gupta & Turner-Stokes, 2002; Khan et al., 2003). Rehabilitation typically follows the continuum of care from acute hospital-based rehabilitation through to community-based rehabilitation, and long-term involvement from specialist services to maintain recovery and maximise long-term participation in life roles (Centres for Disease Control and Prevention, 2014; Das-Gupta & Turner-Stokes, 2002; Khan et al., 2003; Royal College of Physicians and British Society of Rehabilitation Medicine, 2003). Generally, inpatient rehabilitation is required for patients with more severe and complex TBI and resulting impairments (Khan et al., 2003). Inpatient rehabilitation typically focuses on monitoring of post-traumatic amnesia, re-training in basic activities of daily living, therapy to address behavioural and cognitive impairments, discharge planning including equipment and environmental modifications, and family education and counselling (Beaulieu et al., 2015; Khan et al., 2003).

Seel, Barrett, et al. (2015) highlighted the contemporary challenges of delivering high quality rehabilitation services within cost constraints. They further outlined the specific challenges of providing quality inpatient TBI rehabilitation programmes given the heterogeneous nature of clinical presentations post TBI (Seel, Barrett, et al., 2015). This includes the challenge of responding to the individual values, needs and goals in a group of patients whose impairments can impact on their ability to both understand the situation they are in, and to communicate their needs. Furthermore, it necessitates balancing these individual needs and a client-centred approach with the logistical requirements of service provision within a rehabilitation setting (Seel, Barrett, et al., 2015).

Considerations of accountability, cost-effectiveness, resource allocation and evidence-based practice in healthcare are relevant and important in the current healthcare environment. This is reflected in key national and state workforce documents such as *National Disability Agreement* (Australian Government Department of Social Services, 2009) and *Queensland Health Strategic Plan 2016-2020* (State of Queensland, 2016).

Health care costs and spending are increasing, and in Australia the total expenditure on health increased from \$95 billion in 2003-04 to an estimated \$155 billion in 2013-14 (Australian Institute of Health and Welfare, 2016). Australian Institute of Health and Welfare's report, *Australia's Health 2016* highlighted that health spending for this same period increased faster than the overall gross domestic product (Australian Institute of Health and Welfare, 2016). Increasingly health departments and organisations are being required to demonstrate cost-efficiency and effective resource management.

## 1.5 Group-based rehabilitation and therapy

One measure of enhancing cost-efficiency and resource allocation in rehabilitation settings is the use of therapy groups where the therapist-to-patient ratio is optimised by seeing patients with similar needs in a group context (Drum, Swanbrow Becker, & Hess, 2011; McCarthy & Hart, 2011). Literature identifies several advantages to the use of group therapy interventions including: 1) cost-effectiveness, 2) intensity of rehabilitation and more opportunities to practice skills and activities, 3) opportunities for participants to learn about their own capabilities, and 4) opportunities to practise skills and strategies within 'real world' social and physical environments that can provide feedback and support to clients (Bertisch, Rath, Langenbahn, Sherr, & Diller, 2011; Cole & Tufano, 2008).

Provision of therapy in groups has distinct cost-efficiencies which is imperative in the current health care environment where resources must be strategically allocated. The use of groups is commonly reported in TBI rehabilitation settings and programmes (Hammond et al., 2015; Pagan et al., 2015). Hammond et al. (2015) described the frequency of the use of groups across disciplines in 10 inpatient TBI rehabilitation settings. They reported that groups accounted for 13.7% of all therapy sessions, and 15.8% of therapy hours (Hammond et al., 2015). Treatment site was identified as the strongest

predictor of group therapy opportunities, along with discipline and cognitive functioning (Hammond et al., 2015).

The peer aspects of groups, such as opportunities for peer learning and support, are widely reported in the general groups literature and TBI literature. The opportunities to interact with peers that groups provide can have positive effects in terms of adjustment and normalisation post TBI (Lexell, Alkhed, & Olsson, 2013; von Mensenkampff et al., 2015). Opportunities to develop insight and awareness about strengths and limitations following TBI can also be facilitated in groups (Ownsworth, Fleming, Shum, Kuipers, & Strong, 2008).

A study by Beaulieu et al. (2015) identified that in the early stages of inpatient rehabilitation (first ten hours of therapy) most patients engaged with occupational therapy to address the following activities: 1) basic personal care, 2) activities to treat physical impairments, and 3) activities to treat cognitive impairments. Within the profession of occupational therapy, groups are a core component of service delivery, addressing a wide range of purposes (Higgins, Schwartzberg, Bedell, & Duncombe, 2014). In TBI rehabilitation occupational therapy groups typically address cognitive and functional activities, including a focus on the use of the upper limb (Hammond et al., 2015). Hammond et al. (2015) reported that groups accounted for 10.4% of occupational therapy time.

## 1.6 Rationale for the thesis

The use of groups in TBI rehabilitation is common practice (Hammond et al., 2015; Malec, 2014). Provision of therapy in groups has distinct cost-efficiencies which is imperative in the current health care environment where resources must be apportioned strategically. Given the complexity and variety of impairments experienced by individuals following TBI, it is important that therapy provided in groups remains client-centred and evidence-based. It is also imperative that individual patient needs are not neglected within group therapy programmes, and that therapists have the skills and knowledge to tailor group treatments to meet individual goals, thereby making therapy meaningful for each patient (Doig, Fleming, Cornwell, & Kuipers, 2009).



There is extensive literature investigating specific groups in out-patient or community TBI rehabilitation settings. Examples include cognitive groups (das Nair & Lincoln, 2012; Huckans et al., 2010; O'Neil-Pirozzi et al., 2010; Rath, Simon, Langenbahn, Sherr, & Diller, 2003), coping skills and mindfulness groups (Anson & Ponsford, 2006; Bedard et al., 2005; Lexell et al., 2013; Muenchberger, Kendall, Kennedy, & Charker, 2011), social and communication skills groups (Bornhofen & McDonald, 2008; Dahlberg et al., 2007; McDonald et al., 2008) and physical activity such as aquatic programmes (Blake & Betson, 2009; Driver, O'Connor, Lox, & Rees, 2004; Driver, Rees, O'Connor, & Lox, 2006; Gemmell & Leathem, 2006). Generally, these studies investigate the effectiveness of the particular group intervention against predetermined outcome measures, and not necessarily the impact of the group format and processes on outcomes or experiences. There is a paucity of literature regarding the processes and impact of participating in a group *per se* for people with TBI (Bertisch et al., 2011). Consequently, there is little research evidence to guide therapists in the delivery of group interventions for people following TBI, and there is a pressing need to improve understanding of what makes group interventions effective in TBI rehabilitation.

Consumer feedback and engagement is widely accepted as essential for service development and improvement (Gregory, 2008; Sarrami Foroushani, Travaglia, Eikli, & Braithwaite, 2012), and is reflected in global health directives such as the WHO Declaration of Alma Ata (World Health Organisation, 1978). In current healthcare, consumer engagement is poorly understood and defined, and inconsistently practised (Gregory, 2008; Sarrami Foroushani et al., 2012). This is also the case with the current limited understanding of experiences of TBI rehabilitation groups from the perspectives of consumers and service providers. Whilst there are challenges to conducting the type of research in inpatient TBI rehabilitation settings, such as the varying levels of cognitive and communication impairments experienced post-TBI, the use of evidence-based strategies can enhance participation in research (Carlsson, Paterson, Scott-Findlay, Ehnfors, & Ehrenberg, 2007; Greenwood, Theadom, Kersten, & McPherson, 2015; Paterson & Scott-Findlay, 2002)

The purpose of this study was to investigate the processes and perspectives of participation in inpatient occupational therapy groups in TBI rehabilitation. It is anticipated that outcomes of this research will inform practice and lead to development of recommendations for provision of group therapy interventions to people with TBI.

## 1.7 Thesis aims

The aims of the study were:

1. To map and review the existing literature regarding group therapy interventions in TBI rehabilitation.
2. To explore the perceptions and experiences of people with TBI about their participation in inpatient occupational therapy rehabilitation groups;
3. To explore the experiences and perspectives of clinicians about the benefits, challenges and processes of facilitating inpatient occupational therapy groups with patients following with TBI;
4. To describe and understand the nature of interactions within inpatient occupational therapy groups in TBI rehabilitation to inform recommendations for group facilitation.

## 1.8 Overview of the thesis

This is a hybrid 'thesis by publication' which includes a combination of published papers, papers submitted for publication and unpublished thesis chapters. This will enable timely dissemination and clinical application of the findings of the studies into clinical practice. Chapters with published articles have additional introductions to embed them within the thesis and have been reformatted where necessary for consistency of style. A brief outline of the thesis follows.

The following chapter, Chapter 2, presents an overview of the history and theory of groups. This includes the history of the use of groups in the profession of occupational therapy and in TBI rehabilitation. This is an unpublished chapter.

Chapter 3 presents findings of a scoping review which used systematic searching of the literature. The three main research questions explored in the scoping review were: 1) What types of group delivered interventions have been researched with patients following TBI? 2) What group delivered therapy interventions are effective following TBI? and 3) What are patient and clinician perceptions of group delivered interventions following TBI? This chapter has been published in *Disability and Rehabilitation*.

The methodology used and detailed descriptions of the different phases of data collection and data analysis to address the thesis aims are provided in Chapter 4. This is an unpublished chapter.

Chapter 5 provides a context overview outlining the current model for delivery of rehabilitation groups in occupational therapy in the Brain Injury Rehabilitation Unit in a large tertiary hospital in Australia. The structure and processes for provision of group therapy interventions are described. Patient perspectives regarding specific aspects of group therapy interventions and a case study of group participation are also presented. This chapter provides a 'snap shot' of an existing occupational therapy group programme in an inpatient brain injury rehabilitation setting. This chapter was published in *The Australian Occupational Therapy Journal*.

Chapter 6 is under review for publication with *Patient Education and Counselling*, and presents the findings of a qualitative study of patient perceptions of participation in occupational therapy groups in TBI rehabilitation. Thematic analysis of interview transcript data was conducted. Key themes are identified and recommendations for clinical practice are presented.

Following this, Chapter 7 outlines a qualitative study using focus groups which aimed to explore the experiences and perceptions of clinicians about the benefits, challenges and processes of facilitating inpatient occupational therapy groups in TBI rehabilitation. Themes and practical strategies for facilitating groups in TBI rehabilitation are suggested. This paper was published in *Brain Injury*.

The final research chapter, Chapter 8, has been submitted for publication. This chapter presents the results of qualitative data analysis of audio-visual recordings of group rehabilitation sessions, exploring the nature of interactions that occur in inpatient occupational therapy groups in TBI rehabilitation to inform recommendations for clinical practice.

The closing chapter of the thesis, Chapter 9, presents the discussion and conclusion. It summarises findings of the studies in relation to the thesis aims. Recommendations for clinical practice are made including presentation of a clinical reflection tool for facilitating group therapy interventions with people with TBI. The

limitations of the thesis are discussed. Recommendations for future research will be presented. This will be an unpublished chapter.

## 1.9 Conclusion

This chapter has provided an introduction to TBI, explained the rationale for the topic, and outlined the aims of this thesis. The following chapter provides an overview and background on the use of group therapy interventions. Theoretical underpinnings and approaches are presented including the history of the use of group therapy interventions, specifically in occupational therapy, and in TBI rehabilitation.

## Chapter 2

### An overview of the history and theory of groups

Chapter 1 provided an introduction to the thesis, including the rationale for the topic, and the purpose and aims of the study. An overview of the context and continuum of care for rehabilitation following TBI was also presented, including definitions of key terms. This chapter provides further description of the background and context to group therapy interventions. This includes the use of group therapy with reference to group theory, and the history of the use of groups in the profession of occupational therapy. An introduction to the use of groups in TBI rehabilitation practice is also presented. The purpose of this chapter is to provide an overview of some theories and approaches relevant to the analysis of groups. It is not intended to provide an in-depth discussion of all group theories.

## 2.1 Introduction

Groups are an integral part of participation in life, and the groups that we belong to can define us; from the family group we are born into, to the social and productive groups we join throughout our lifespan (Schwartzberg, Howe, & Barnes, 2008). Johnson and Johnson (2009) proposed that “our ability to function effectively in groups may be the reason humans exist today” (p. 11). They further reasoned that “human evolution has depended on individuals coming together in various types of groups to live, work and govern” (Johnson & Johnson, 2009, p. 11). Yalom and Leszcz (2005) described that the “need for belonging is innate in us all” (p. 56), emphasising the inherent gravitation of humans towards groups.

The role of participation in groups on human growth and development is acknowledged in the literature, and as such provides support for the use of groups in a therapeutic context (Benjamin, Bessant, & Watts, 1997; Johnson & Johnson, 2009). Benjamin, et al. (1997) in their discussion of groups and group work in the Australian context, described the breadth and depth of time people spend in groups, and the range of experiences that people have in groups. Participation in groups is not just limited to therapy groups but can include primary groups such as the family unit, other groups important for development such as school-based groups, and optional groups that people choose to participate in such as sporting teams or clubs for learning or practising particular skills. Benjamin et al. (1997) also highlighted that membership of some groups is not necessarily an active choice; for example, we are born into certain groups.

Kurt Lewin (1943) articulated his view of groups, including the importance of understanding groups and group work in saying,

Although the scientific investigations of group work are but a few years old, I do not hesitate to predict that group work – that is, the handling of human beings not as isolated individuals, but in the social setting of groups – will soon be one of the most important theoretical and practical fields... There is no hope for creating a better world without deep scientific insight into the... essentials of group life. (p. 114)

Understanding group dynamics is important for quality of life, particularly those aspects that relate to family, business and industry, education, and health and well-being (Johnson & Johnson, 2009). Participation in groups is inherent to most roles people participate in, and the nature and context of such groups can vary.

## 2.2 Overview of groups

### 2.2.1 Definitions of groups

Definitions of groups are broad and differ depending on the context. One definition commonly used in the groups literature is that of Mosey (1973), who described a group as, "...an aggregate of people who share a common purpose which can be attained only by group members interacting and working together" (p. 45). Johnson and Johnson (2009) acknowledged the breadth of definitions of groups, presenting a number of definitions, one being a collection of individuals who join together to achieve a mutual goal, where the mutual or shared goal may be the motivation or core concept for group participation and membership. They then presented definitions of groups in the context of six other core concepts: interpersonal interaction, interdependence, perception of membership, mutual influences, structured relationships, and motivation. For example, regarding interpersonal interaction, a group would not exist unless there was interaction occurring between group members (Johnson & Johnson, 2009).

Interestingly, Benjamin, et al. (1997) also emphasised the broader nature of group work. They proposed that group work refers to a wide variety of activities that are conducted with a wide range of people and for a variety of purposes in a group setting. Furthermore, group work could occur in unplanned settings where a group of people come together to address a problem or facilitate a change. Some of the more specific definitions of groups do not necessarily reflect all the ways in which groups and group work occur, and group work can include group therapy, awareness raising groups, self-help groups, and even forms of explicit group political and community action. Benjamin and colleagues argued that not all groups or group work are facilitated by professionals or occurs in professional workplaces. They described that being in groups was a core component of our social existence as humans, and that all humans live in groups and utilise groups in their lives (Benjamin et al., 1997). Therefore, definitions of groups and group work are broad, and appear to be somewhat reflective of the context and setting the groups are occurring in.

Rather than providing one specific definition of groups, often authors have identified properties or traits that are common to all groups. For example, Loeser (1957) proposed

that there were five essential properties that were present to varying degrees in all true groups. He described that the presence of these factors influenced the functioning of groups. Loeser's five essential properties of groups were identified as:

1. Dynamic interaction among members: Some level of interaction, and relationship must be present between group members. This interaction may be positive or negative, and the group process is diminished when most of the action occurs between the individual members and the leader, or directed at the leader.
  2. A common goal: A shared goal facilitates group functioning whereas the absence of a common goal diminishes group functioning.
  3. Relationship of size and function: A direct relationship exists between group size and function, and when groups are either too large or too small, they cannot function effectively.
  4. Volition and consent: A group functions well only when its members consent freely to participation.
  5. A capacity for self-determination: The group functions best in a democratic climate.
- (Loeser, 1957, pp. 6-7)

Interestingly, the majority of these properties align closely with the different concepts that 'define' groups as described previously by Johnson and Johnson (2009). For example, Johnson and Johnson discussed that a group could be defined as "a collection of individuals who join together to achieve a goal" (p.5), questioning whether the group would exist if not for the common goal that group members were striving for.

Schwartzberg, Howe and Barnes (2008) identified that all groups have in common content and process. In explaining these concepts, content refers to not only what is communicated verbally and non-verbally, but also the nature of participation in the group task. Process refers to the way in which information is communicated and group goals are achieved (Schwartzberg et al., 2008). In addition to traits that are common to groups, the literature also presents a variety of different types of groups, with different formats, processes and purposes.

## 2.2.2 Types of groups

A wide range of classifications or labels for different groups are presented in the literature, and in different settings and contexts for practice. Examples of different types of groups include; open versus closed groups (Andrews, 1995; Yalom & Leszcz, 2005),



activity groups (Schwartzberg et al., 2008), and professional-led or peer-facilitated groups such as self-help or support groups (Johnson & Johnson, 2009; Unsworth, 1999).

Benjamin et al. (1997) presented three different perspectives of group work orientation (or types of groups): a remedial perspective, a reciprocal perspective, and a social goals perspective. Within the remedial perspective, the authors highlighted two distinct groups; 1) social control group work in which processes are set up to enable participants to learn the 'right' ways to behave, and focus on 'fixing' a deficit, and 2) therapeutic group work, which is described as an opportunity to remedy or cure an identified problem, disability or disease (such as emotional problems) through a systematic process and activity. The reciprocal perspective describes groups focusing on the development of support systems in which people identify challenges and problem solve (Benjamin et al., 1997), and is commonly associated with self-help groups. The third perspective, relating to social goals, uses group work to bring about social change and is often observed in groups that have explicit political goals (Benjamin et al., 1997).

Another type of group widely cited in the groups and health literature is activity or task-focused groups. Activity groups have been described as groups that facilitate participation in a common activity or task, with a purpose oriented towards learning and maintaining occupational performance (Schwartzberg et al., 2008). Fidler (1969) emphasised the true purpose of activity (or task-focused) groups as being to provide an environment and task which facilitates opportunities for participants to reflect on their skills and performance, learn from each other and trial new strategies. According to Fidler (1969), task completion or achievement is not the true purpose of the group but rather, the means by which purpose is achieved. Schwartzberg et al. (2008) emphasised that the value of activity groups lies in participating in meaningful activities for maintenance and development of skills. The relationship between health and occupation, and engagement in meaningful roles and activities is widely accepted and reflected in key documents such as the *Ottawa Charter for Health Promotion* (WHO, 1986). As the role and type of groups can vary greatly, so too can the role and scope of group leaders, impacting significantly on group processes and experiences.

### 2.2.3 Group leadership

History has demonstrated that leaders can have significant influence on shaping life experiences and outcomes (Johnson & Johnson, 2009). Fidler (1969) described the role of a group leader as facilitating a process and milieu that supports group participant learning and development. Milieu is an important concept in group therapy. Malec (2014) defined therapeutic milieu as “a treatment environment in which virtually every action and interaction has a therapeutic value that is, assists participants in accomplishing the goals of treatment” (p. 288). He further discussed that it is not only the formal treatment or ‘therapy sessions’ that are valued and reinforced but also all the other activities that occur in the rehabilitation setting such as the informal interactions between participants, and activities such as eating a meal together (Malec, 2014). Hogg (2001) reflected on the concepts of leadership, influence and power in the context of the social identity theory of leadership. He described leadership not as a process involving coercion or exercising power over participants, rather as a process of influence by which leaders engage participants to achieve group goals (Hogg, 2001; Johnson & Johnson, 2009). In describing leaders and leadership a variety of approaches are noted in the literature including a focus on personal traits of leaders, and styles of leadership.

A number of different styles of leadership are identified in the literature, including those identified by Lewin, Lippitt and White (1939): authoritarian, democratic and *laissez-faire*. These styles of leadership reflect both the amount of self-determination the group and group members have, and also how ‘involved’ the leader is in the group activities and discussions (Lewin et al., 1939). The style of leadership directly influences group atmosphere and outcomes; for example greater group cohesion and higher morale are associated with democratic groups rather than autocratic or *laissez-faire* groups (Lewin et al., 1939; Schwartzberg et al., 2008). Further to this, there is a large field of research investigating personal traits or skills of effective group leaders (Andrews, 1995; Schneider Corey, Corey, & Corey, 2010). For example, traits commonly associated with effectiveness in leaders include conscientiousness, trustworthiness, intelligence, emotional stability, and charisma (Judge, Piccolo, & Kosalka, 2009; Nichols & Cottrell, 2014). Traits seen to hinder effectiveness include social dominance and narcissism (Judge et al., 2009). The role of leaders within groups can vary greatly depending on the type of group, group purpose and the theoretical premise of the group.

## 2.3 Theoretical perspectives on groups

Much of the existing groups literature lies within the fields of psychology and psychotherapy, as does much of the theoretical premise or support for the use of groups and group therapy. The following section presents a snapshot of a number of these theoretical approaches to groups.

### 2.3.1 Social Identity Theory

Originally developed in the 1970s by Henri Tajfel and John Turner, the interaction between social and personal identities is the underlying focus of the social identity theory. This theory is based on the premises that “group memberships can help people instill meaning in social situations”, and that “group memberships help people define who they are and how they relate to others” (Ellemers, 2010, p. 2). Social identity theory has been used to examine interactions occurring between members of real social groups, to improve intergroup relations and to further develop understanding of important group dynamics (Ellemers & Haslam, 2012).

### 2.3.2 Yalom’s Curative Factors of group therapy

Based in psychotherapy, widely cited and influencing current group therapy practice, are the eleven curative factors of group therapy identified by Yalom (Yalom & Leszcz, 2005). Table 2.1 presents descriptions of these curative factors. Yalom highlighted that these factors do not occur in isolation, rather are interdependent. Yalom’s research identified that clients and therapists place value on different therapeutic or curative factors that occur within groups. For example, clients highlight the value of the relationships both between group members and with facilitators for group effectiveness, whereas therapists identify specific techniques that are important for group effectiveness (Yalom & Leszcz, 2005). His work provides support for the use of group therapy, particularly how these therapeutic factors influence group dynamics and bring about positive change.

Table 2.1

*Yalom's eleven curative factors of group therapy*

Curative Factor	Description
1. Instillation of hope	Groups can facilitate opportunities for participants at different stages of the recovery and rehabilitation continuum to interact, share similar experiences and to observe improvements as a result of therapy.
2. Universality	Especially in early stages participation in groups can challenge client's views of uniqueness and provide relief, reinforcing that others are in a similar situation. Sharing of experiences and group participation can provide opportunities to be accepted and validated by the group.
3. Imparting information	Formal education processes such as didactic instruction provided by therapists/group facilitators, and information interactions and sharing of advice or suggestions from either the group facilitator or other group members.
4. Altruism	Groups are the only form of therapy that facilitate opportunities for participants to give to each other and to be of benefit to others. Participants can benefit from being in the role of help providers, and 'giving' as well as being recipients.
5. The corrective recapitulation of the primary family group	Some clients within groups have a background of highly unsatisfactory experience with their primary family group and group participants can assist each other to work through outstanding or unresolved issues from these experiences.
6. Development of socializing techniques	Learning social skills, and how to interact with others in the group; can occur explicitly through group processes and activities, or more indirectly within groups.

7. Imitative behavior	Group members may model themselves on aspects of the other group members as well as of the therapist.
8. Interpersonal learning	Groups provide opportunities for social interaction, and for members to become aware of, reflect on, and learn about their interpersonal behavior including behaviours that challenge others.
9. Group cohesiveness	Group members acceptance of each other, and the development of meaningful relationships between individual group members, the facilitator and the group as a whole.
10. Catharsis	Emotional expression and disclosure, or the sharing of one's feelings.
11. Existential factors	The realisation that ultimate responsibility for one's own life is their own.

*Note.* Adapted from “The Theory and Practice of Group Psychotherapy,” by I.D. Yalom and M. Leszcz, 2005.

### 2.3.3 Tawardros' factors in group therapy

In 1956, Tawardros identified a number of factors that are exclusive to groups in psychotherapy, and not present in individual therapy. These factors are not dissimilar in concept to Yalom's curative factors, and include: the socialisation process, re-evaluation in the group, activity of the patient, communal catharsis, similarity to others in the group (the homogeneity of suffering), milestones in the group, the reduced resistance to discussion of intimate problems, intellectualisation in group discussions, and meeting basic personality needs (Tawadros, 1956).

While the above-mentioned theories and approaches do differ, commonalities are evident, with a focus on the meaning that membership of a group can have to participants, and the social or interaction aspects of groups. For example, the concept labelled by Tawadros as, 'similarity to others in the group (the homogeneity of suffering)' could be likened to 'universality' as defined by Yalom.

## 2.4 Stages of group development

As well as the theory underpinning groups, the literature identifies a number of processes or stages of group development. While there are a number of different approaches on the stages of group development, similarities and overlap appear across these approaches. One of these approaches is that of Tuckman (1965), who identified the forming, storming, norming, performing, and adjourning stages of development.

The initial stages of group development are generally centred around members getting to know each other and the group, and is reflected in Tuckman's (1965) 'forming' stage of group development. Johnson and Johnson (2009) reflect that this is a stage where group procedures are defined and structured, and where expectations are clarified. Yalom and Leszcz (2005) highlighted that during this initial stage of development group members are faced with two tasks: 1) to understand the purpose for the group and how they will achieve their goal, and 2) to address the social and relationship aspects of group participation.

Following this initial stage, groups move to a stage of developing trust and cooperation, and addressing group norms. This stage can also involve addressing and resolving conflict. For example, as described by Johnson and Johnson (2009), this period can involve group members rebelling against the evolving group norms, the group leader, and each other. Yalom and Leszcz (2005) reinforced that this conflict can occur between group members and with the group leader, can reflect a struggle for control, and can be a challenging phase for the group leader. This stage is reflected in Tuckman's (1965) 'storming' stage. Following this, the 'norming' stage leads to the development of group norms and procedures. Typically, following this stage an increase in cooperation and strengthening of relationships is observed.

Subsequently, after a group has been together for a period of time members develop particular ways of interacting with each other and working, or 'performing' together. This stage of group development focus on strengthened and mature relationships between group members, such as Yalom's stage of 'cohesive maturity' (Yalom & Leszcz, 2005). Tuckman (1965) refers to this stage as 'performing', where group members work cohesively and productively on tasks to achieve goals. During this stage,

group members demonstrate a commitment to the group, and function maturely to take ownership of the group goals and achievement (Johnson & Johnson, 2009).

The final stage of group development, described by Tuckman (1965) as 'adjourning' occurs when groups have achieved their goals, or must end their group meetings. Johnson and Johnson (2009) highlighted that this period of 'terminating' can be upsetting for some groups and group members, but the challenges of separating can be dealt with.

Overall, the approaches reflect the development of a more group-centred approach as the group progresses through the stages. These stages recognise that group members, as they get to know each other and their own roles within groups, are able to interact and balance their needs and goals with those of the group. The stage of development that a group is in at any point in time will influence how members interact and work with each other to achieve goals. Researchers in group therapy have also identified a number of common issues that groups frequently face that can further impact on group dynamics and outcome achievement. These include a change in the size or membership of the group, leader-to-member communication, and member-to-member communication and interaction (Schwartzberg et al., 2008). These issues and stages of group development highlight the importance of selection of group participants or members.

In addition to the stages of group development impacting on group experiences and outcomes, the group participants themselves can have a significant impact. As articulated by Yalom and Leszcz (2005), "good group therapy begins with good client selection" (p. 231). Considerations for selection of participants and group composition includes appropriateness for the groups such as level of functioning and ability to engage in group activities, total number of participants, and selection of the appropriate type of group (Fuller, 2013; McCarthy & Hart, 2011; Yalom & Leszcz, 2005). Inappropriate selection of participants for groups can result in negative experiences for both the individual and the group as a whole (Fuller, 2013; Yalom & Leszcz, 2005).

## 2.5 The recent emergence of groups in the healthcare context

Within Australia, as in many other countries, the growth and sustainability of health care spending is a significant concern to governments (Australian Institute of Health and Welfare, 2016; Boxall, 2011). Measures to contain costs are common policy initiatives and

include such actions as determining what services will be covered by public funding, changing the way providers are paid, and imposing costs on individuals (Boxall, 2011). In a special edition of the *Journal for Specialists in Group Work*, authors described the emergence of the use of groups in health care including opportunities and challenges for the use of groups, and key considerations for their evaluation (Drum et al., 2011; McCarthy, 2011; McCarthy & Hart, 2011). Along with the financial rationale, Drum et al. (2011) identified that the increasing prevalence of chronic conditions is a second factor propelling the increased use of group interventions. Drum et al. (2011) described the evolution of health psychology as a third force driving the change in the delivery of health services, particularly in terms of opportunities for the use of groups in the health setting.

While the history of the use of groups, and much of the theory is based in the fields of psychology and psychotherapy, the use of groups has been documented across many disciplines and settings in healthcare. For example, within the rehabilitation context, recent studies identified that in hospital inpatient TBI and spinal cord injury rehabilitation, group therapy accounted for 15.8% and 27% of therapy time respectively (Hammond et al., 2015; Zanca et al., 2013). Within the profession of occupational therapy, a study of 273 occupational therapists revealed that 50% reported using groups in their practice (Higgins et al., 2014). Groups have a long history in occupational therapy practice, and to this day are core forms of service delivery for occupational therapists. Occupational therapists work with diverse populations in different settings and thus, occupational therapy group interventions are diverse and differ across settings and populations being worked with.

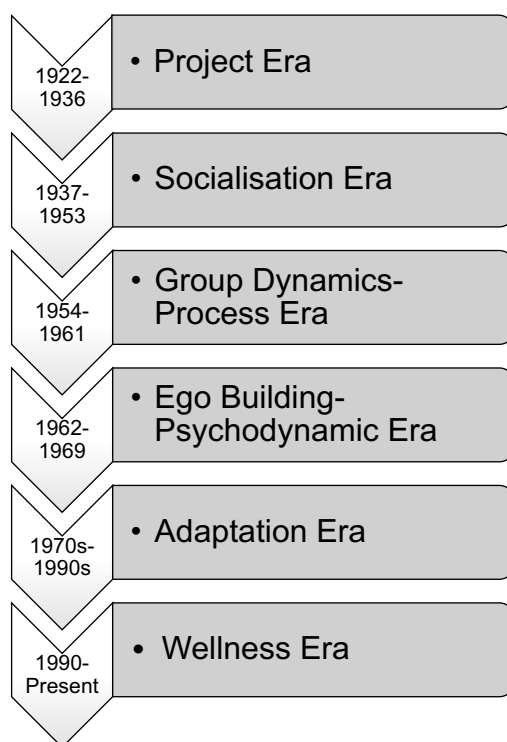
### 2.5.1 History of groups in occupational therapy

First documented by Adolph Meyer in the 1920s, groups have been and remain a core component of occupational therapy practice (Duncombe & Howe, 1985; Duncombe & Howe, 1995; Meyer, 1922). Meyer's (1922) descriptions of early groups in occupational therapy were that of using simple craft tasks to engage groups of patients in activity. Fidler (1969) described the development of task orientated groups within occupational therapy in a psychiatric setting in the 1960s. He explained the intent of such groups as being "...to provide a shared working experience where in the relationship between feeling, thinking and behavior, their impact on others and on task accomplishment and productivity can be viewed and explored" (Fidler, 1969, p. 45). He also described the use of tasks or everyday activities such as cooking or gardening that create or produce an end product or service



for the group and/or for people outside of the group (Fidler, 1969). This highlighted the use of meaningful activity, which is a core premise of the profession of occupational therapy (American Occupational Therapy Association, 2014) within groups. While the focus and approaches to group work have changed over time, the use of groups as a treatment modality continues to be central to occupational therapy practice.

Howe and Schwartzberg (2001) synthesised the history of group work in occupational therapy practice into six periods of focus or practice. Figure 2.1 outlines the historical periods of occupational therapy group practice.



*Figure 2.1.*

Historical periods of occupational therapy group practice as identified by Howe and Schwartzberg (2001)

During the Project Era (1922-1936) there was little emphasis on group dynamics or interactions, with the focus being on participation in individual activities such as crafts, and participants learning acceptable behaviours through being with other group members. The Socialisation Era (1937-1953) provided a shift in focus from individual activity within groups to providing an environment and opportunities for socialisation amongst patients. Budget cuts and increased demands for occupational therapy services that occurred

during and following World War Two meant that more patients could be seen when therapy was provided in groups. The curative and positive effects of groups were recognised during the Group Dynamics-Process Era (1954-1961) which resulted in occupational therapists providing more structure to their groups in order to facilitate positive experiences. The importance of group interactions and dynamics between group participants and facilitators was also acknowledged during the era, and subsequently influenced group facilitation. The importance of therapy milieu, and focus on group dynamics, participant experience and skill development were key themes of the Building-Psychodynamic Era (1962-1969). During the Adaptation Era (1970s-1990s) occupational therapy groups were generally based on diagnosis, role, or setting, with the unifying theme of participants developing daily living skills through adaptation. It was during this era that the Functional Group Work model emerged, prompting a shift towards a focus on the health and well-being of the individual, with participants taking an active role in their health care as central to the Wellness Era (1990-present).

## 2.5.2 The use of groups in current occupational therapy practice

Education competency standards identify that occupational therapists are required to demonstrate skills with regards to group therapy interventions. These include the ability to gather information about participants, group facilitation skills, provision of client-centred practice to groups, and skills to evaluate group therapy interventions (American Occupational Therapy Association, 2017; Occupational Therapy Australia, 2010; Occupational Therapy Board of Australia, 2018). Occupational therapists are also required to actively engage these groups in the therapy process, and to optimise “client occupational performance, engagement and well-being” (Occupational Therapy Australia, 2010).

The use of groups in occupational therapy clinical practice has remained fairly consistent since the 1980s, with approximately 50% of occupational therapists reporting to use groups (Duncombe and Howe 1985; Duncombe and Howe 1995; Higgins, et al., 2014). The most commonly used groups reported in occupational therapy were exercise groups (including yoga and range of motion), task groups, and sensory-based groups, all with reported ‘high use’ (Higgins et al., 2014). A variety of other types of groups were used by occupational therapists in this study including but not limited to school-based groups, activities of daily living groups, instrumental activities of daily living groups, and

social/communication groups. Of the 273 occupational therapists surveyed by Higgins et al. (2014), 54% strongly agreed or agreed that groups were effective in their setting. A variety of barriers to using groups have been identified by therapists including reimbursement, groups not being supported by the organisation or setting, time availability, and inadequate space for groups (Duncombe & Howe, 1985; Duncombe & Howe, 1995; Higgins et al., 2014; Meyer, 1922).

More recent studies in occupational therapy have specifically measured participation in groups. For example, Scanlan, Argent, Ayling, Mouward and Woodard (2015) piloted a rating scale to measure participation in groups in a mental health setting. The scale rated observations such as 'join activity with minimal prompting', 'take turns with minimal prompting', and 'participate at an appropriate energy level for the group' on a four-point scale (none of the time, some of the time, most of the time, and all of the time). The authors concluded that the rating scale has two primary benefits: 1) improving the quality and consistency of reporting participation in groups and, 2) providing the ability to monitor group participation over time (Scanlan et al., 2015).

Although the overall rate of the use of groups in occupational therapy has remained stable, changes have been noted in rates in different clinical settings (Higgins et al., 2014). For example, compared with previous surveys conducted in the 1980s and 1990s by Duncombe and Howe (1985; 1995), a reduction in the reported use of groups was noted in rehabilitation settings, hospital settings and nursing home settings, and an increase in use of groups was noted in school programmes (Higgins et al., 2014). In practice, occupational therapy groups are not only diverse in terms of their focus, for instance exercise, activities of daily living or sensory groups, but also in regards to the participant population and setting. For example, Lloyd and Williams (2010) in their review of occupational therapy practice in the inpatient mental health setting identified the use of therapeutic groups as one of four core components of occupational therapy practice. Within a physical setting Schmid et al. (2015) examined the feasibility and outcome of a group-based falls risk management programme for outpatient adults following stroke. The study found that group-based falls prevention was feasible, improvements in the management of falls risk factors were observed, and the number of people with fear of falling decreased Schmid et al., 2015). Hay et al. (2002) investigated a preventative occupational therapy group programme for independent living older adults, and determined that compared with a

social activity group and a non-treatment group, the occupational therapy programme demonstrated cost-effectiveness.

### 2.5.3 Groups in traumatic brain injury rehabilitation

The use of groups in TBI rehabilitation is widely reported in the literature (e.g., Hammond et al., 2015; Malec, 2014; Pagan et al., 2015). Malec (2014) described that 'most' comprehensive brain injury rehabilitation programmes provide some therapy in groups. A study by Hammond et al. (2015) of 2130 consecutive admissions for TBI rehabilitation to 10 inpatient rehabilitation facilities reported that on average, patients spent 2.9 hours per week in group therapy, and that group therapy accounted for 13.7% of all therapy sessions, and 15.8% of therapy hours. In a survey of multidisciplinary clinicians working in TBI rehabilitation, Pagan et al. (2015) reported that group interventions were used in clinical practice in all of the six disciplines involved in the study, with reported use ranging from 11.1% to 68.9% across the disciplines.

The use of groups in TBI rehabilitation has also been recognised in clinical practice guidelines and recommendations. For example, the INCOG Recommendations for Management of Cognition Following TBI, Part III: Executive Function and Self-Awareness concluded that "Group-based interventions may be considered for remediation of executive and problem-solving deficits" (Tate et al., 2014). As documented by Prigatano et al. (1984), Ben-Yishay and Diller (2011), and Malec (2014), groups also form a core component of comprehensive neuropsychological brain injury rehabilitation programmes. Five major components have been identified within neuropsychological rehabilitation programmes, and a number of these are facilitated in group settings (Prigatano & Ben-Yishay, 1999). The five components are: formal psychotherapy, cognitive retraining and rehabilitation, protected work trials, consultation with and education of family members, and the establishment of a therapeutic milieu (Prigatano & Ben-Yishay, 1999). Prigatano and Ben-Yishay (1999) described the purpose of formal psychology groups as being able to provide opportunities for discussion about brain injury and subsequent feelings of loss and adjustment. In their description of one specific neuropsychological rehabilitation programme, Prigatano and Fordyce (1986) discussed different groups facilitated in the programme. This included cognitive group therapy which focused on identification and remediation of cognitive deficits as well as the development of self-awareness of deficits

and strengths. Other group sessions within this programme included group psychotherapy, and 'milieu', which was described as a meeting involving all the rehabilitation community, including both patients and staff, to discuss rehabilitation events and promote consistency within the programme (Prigatano & Fordyce, 1986).

As in other health settings, the benefits of peer support and learning components of groups are acknowledged in TBI rehabilitation. When discussing the use of groups within comprehensive brain injury rehabilitation programmes, Malec (2014) described that,

Like their peers, people with TBI tend to listen more closely to their peers, to those people who they identify are most like themselves and who they feel share their life experience. The therapist's skill is required to manage the group process and to keep its energy focused on moving its members positively toward accomplishing their goals. (Malec, 2014, p. 289).

The value of groups in TBI rehabilitation for supporting adjustment and the development of self-awareness is widely supported in the brain injury literature (Bertisch et al., 2011; Lexell et al., 2013; von Mensenkampff et al., 2015).

With regards to specific recommendations for facilitation of groups in TBI rehabilitation, there appears to be limited research evidence to guide clinicians or facilitators. Only a small number of studies provide specific strategies to facilitate participation and engagement of participants with TBI in group interventions. Bertisch et al. (2011) reported that "formats must be adapted to incorporate the disruption to the sense of 'self' as well as the cognitive and emotional disturbances common to ABI" (p.276). The authors described a number of practical strategies to assist with this including repetition, note-taking, reviews of previous sessions, generalisation of session content to real world activity, consistent feedback, and checking comprehension. Torkelson Lynch and Kosciulek (1995) cautioned against the assumption that experiences of group members with TBI will be similar, highlighting the individual nature of TBI presentations. They identified strategies to assist with ensuring positive group experiences for participants such as pre-group orientation to provide information about expectations of group participation including the group purpose, goals, format of group and timeframes. The use of appropriate group activities and exercises with consideration of the duration and complexity of tasks, and referral to appropriate follow-up services to assist with effective social interaction and adjustment was also described. Forssman-Falck and Christian (1989) emphasised the importance of groups being highly structured with expectations

about the purpose of the group and the role of the facilitator explained and repeated to avoid uncertainty.

Given the paucity of research to guide clinicians and facilitators in facilitating groups in TBI rehabilitation, and the complexity of clinical presentation following TBI, further research to inform best practice is warranted. These general suggestions for how to structure groups in TBI rehabilitation tended to be drawn from clinical experience or opinion.

## 2.6 Conclusion

This chapter has provided an overview of some of the theories of groups and group work, including a number of 'key components' of group work and stages of group development. A brief historical perspective of the use of groups in the profession of occupational therapy, and TBI rehabilitation has also been presented. It is evident that this is an area made up of a broad range of theoretical approaches and contexts. The following chapter presents findings from a scoping review conducted about the current use of groups in TBI rehabilitation.

## Chapter 3

### Group-based delivery of interventions in traumatic brain injury rehabilitation: a scoping review

This chapter presents a scoping review of the current evidence concerning the use of groups in TBI rehabilitation. The chapter addresses thesis aim 1 and has been published in *Disability and Rehabilitation* as:

Patterson, F., Fleming, J., & Doig, E. (2016). Group-based delivery of interventions in traumatic brain injury rehabilitation: a scoping review. *Disability and Rehabilitation*, 38(20), 1961-1986. doi: 10.3109/09638288.2015.1111436

### 3.1 Abstract

**Purpose:** Whilst there are potential advantages of group-based interventions in rehabilitation, facilitation of groups for patients following TBI has challenges due to the complexity of impairments experienced. This paper aims to review the literature concerning therapy groups within TBI rehabilitation. **Method:** A scoping review with systematic searching of relevant databases and review of reference lists of included studies was conducted. Key search terms included brain injury, group, and rehabilitation OR therapy OR intervention. Studies were included if at least some participants had a TBI diagnosis and they investigated rehabilitation interventions conducted in a group setting. Articles were collated, summarised and key findings presented. **Results:** The total number of included articles was 99. The results indicated group interventions are widely practised in TBI rehabilitation. Existing research consists mostly of pre-post intervention studies addressing cognitive impairments with outpatient participants. Most studies have identified significant positive changes on some targeted outcome measures suggesting group interventions are effective. **Conclusions:** Studies of the effectiveness of interventions targeting 'real-world' activities and participation-based goals are underrepresented in the TBI rehabilitation literature. Further research investigating the effectiveness of group processes and the perceptions of patients and clinicians is warranted to guide clinical practice.

### 3.2 Implications for rehabilitation

- Group-based interventions are common in TBI rehabilitation, usually targeting cognitive skills and impairments. The majority of studies demonstrated positive changes pre-post group interventions on some outcome measures.
- Few studies directly compare the outcome of an intervention delivered in a group setting to the same intervention delivered in an individual setting.
- Patients perceive group interventions to be beneficial for sharing experiences and reducing isolation, receiving help and feedback and, assisting with adjustment and adaptation to life after TBI however, this research is limited.



- Greater emphasis on group-delivered interventions that target 'real world' activities, or participation may be beneficial with this population.
- Further research regarding consumer experiences and processes that facilitate effective group interventions in TBI rehabilitation is recommended.

### 3.3 Introduction

Greater intensity of rehabilitation following TBI has been linked to better outcomes and earlier discharge (Gordon et al., 2006; Khan et al., 2003; Turner-Stokes et al., 2005). One method to increase the intensity of rehabilitation is provision of therapy to groups of patients, thereby increasing the number of patients that can be seen by therapists (Duncombe & Howe, 1995; Spilak, 1999; Trahey, 1991). Whilst groups can provide more opportunities for task practise than with individual therapy sessions alone, there is potential for the therapy to be 'diluted' by dispersing the therapists' attention across multiple patients in a group setting, especially with this population with complex cognitive and behavioural changes (Bertisch et al., 2011). In addition to increasing the intensity of practice, groups also provide rehabilitation patients with opportunities for peer support and learning (Howe & Schwartzberg, 2001). However, there are limited clinical guidelines or reviews of the research evidence for services to draw on when designing group rehabilitation programmes for people with TBI. Various systematic reviews have been conducted providing a high-level of evidence for different aspects of clinical practice in TBI rehabilitation (Chung, Pollock, Campbell, Durward, & Hagen, 2010; Cicerone et al., 2000; Cicerone et al., 2005; Cicerone et al., 2011; De Silva et al., 2009; Lane-Brown & Tate, 2009; Soo & Tate, 2007; Turner-Stokes et al., 2005). Clinical guidelines have also been developed to support rehabilitation processes however, with the exception of the recent INCOG Guidelines for Cognitive Rehabilitation following TBI, which includes recommendations for group-based cognitive rehabilitation interventions (Bayley et al., 2014), these are not specifically related to group-delivery of interventions (Barnes, 2003; Bayley et al., 2014; Golisz, 2009; Turner-Stokes, 2003). This scoping review focuses on examining the evidence related to the use of, and patient and clinician perceptions about group interventions in TBI rehabilitation.

TBI is a major cause of hospitalisation, disability and death and in Australia results in direct hospital costs estimated at \$184 million per year (Helps et al., 2008). In 2004-05 there were approximately 22,710 hospital admissions in Australia involving TBI with the highest rates for males who were either young in age (15-19 years), or elderly (85+ years) (Helps et al., 2008). The younger group is at the start of their working lives creating long-term economic implications in terms of ongoing need for rehabilitation and support, and loss of work and other roles (Access Economics, 2009; Helps et al., 2008; Langlois, Rutland-Brown, & Wald, 2006). Therefore evidence-based methods for optimising the use of resources and maximising outcomes in TBI rehabilitation are needed. Group-based delivery of therapy interventions has the potential to assist in meeting this need.

Group-based interventions have emerged within health care environments over recent decades to address challenges associated with providing cost-effective services. Health care costs and spending are increasing at a rate that is considered unsustainable (Australian Institute of Health and Welfare, 2012). Consequently, health services are required to demonstrate accountable and effective resource management. However, in rehabilitation services, there is an expectation of evidence-based and client-centred practice as well as cost effectiveness. Hence, it is important that group-based delivery of rehabilitation is informed by both the research literature and consumer perspectives (Drum et al., 2011; McCarthy & Hart, 2011).

The potential therapeutic benefits of delivering interventions in a group modality are evident in theories about group work. Yalom (2005) identified eleven curative factors that occur within the context of group treatment including universality, the instillation of hope, and development of socialising techniques and self-understanding (Yalom & Leszcz, 2005). These factors underpin the approach used in many group-delivered interventions both in general health care and rehabilitation (Bertisch et al., 2011; Finlay, 1993; Forssmann-Falck & Christian, 1989; Howe & Schwartzberg, 2001; McCarthy & Hart, 2011; Torkelson Lynch & Kosciulek, 1995). Forssmann-Falck and Christian (1989) presented a number of different theoretical frameworks that have been specifically applied to group-delivered interventions following TBI including therapeutic community model, behaviour modification techniques and group psychotherapy. They concluded that group treatment appeared to be a viable method but must be highly structured, with a clear purpose and role for group leaders (Forssmann-Falck & Christian, 1989).

In clinical practice groups are commonly used across different areas of rehabilitation. A survey of 120 occupational therapists identified that across all areas of practice 60 percent of therapists used group-based therapy interventions (Duncombe & Howe, 1985). This survey was repeated ten years later with similar findings indicating continued use of groups in a variety of settings with many different patient groups (Duncombe & Howe, 1995). Duncombe and Howe (1995) concluded that the pursuit of cost-effectiveness may have promoted the use of group therapy. Malec (2014) outlined the use of group therapy within comprehensive TBI rehabilitation programmes and identified benefits as including facilitation of the development of insight, opportunities for reinforcement of efforts and progress, and creation of therapeutic milieu. He commented that “members of the group will respond to their peers more readily than to therapists and that the guidance and reinforcement that they receive from each other is more powerful than that of a therapist.”(Malec, 2014, p. 288).

In considering the use of groups in TBI rehabilitation, attention needs to be paid to specific challenges found in this group that may impact on group processes. For example, changes to behavioural, cognitive and other psychological functions are common following TBI (Colantonio et al., 2004; Khan et al., 2003) and could potentially compromise involvement in group interventions (Bertisch et al., 2011; Torkelson Lynch & Kosciulek, 1995). The heterogeneity of the TBI population in terms of the complex mix of impairments experienced may make it difficult to tailor group programmes to meet individual needs. Furthermore, impaired self-awareness has been reported in up to 97% of patients with TBI (Sherer, Bergloff, et al., 1998), and although reported incidence rates are considerably lower in other studies (Vanderploeg, Belander, Duchnick, & Curtiss, 2007), impairment of self-awareness could lead to challenges engaging participants in group-based interventions. Whilst there is some literature regarding the application of group processes and theory approaches to TBI rehabilitation (Bertisch et al., 2011; Forssmann-Falck & Christian, 1989; Hawley & Newman, 2010; Hill & Carper, 1985; Torkelson Lynch & Kosciulek, 1995) further information about how best to facilitate engagement and meet the unique needs of people with TBI in group-based interventions is essential. In this instance, the perceptions of patients and clinicians on what makes groups effective with this population could be useful.

To the authors' knowledge there have been no reviews of the use of rehabilitation groups in TBI rehabilitation published to date. Recent focus on evidence-based practice has led to increasing numbers and varying types of reviews of the research literature, including systematic reviews, meta-analyses, and scoping reviews (Arksey & O'Malley, 2005). Scoping reviews differ from systematic reviews. Systematic reviews "focus on a well-defined question where appropriate study designs can be identified in advance, whilst a scoping study tends to address broader topics where many different study designs might be applicable" (Arksey & O'Malley, 2005, p. 20). In this instance, a scoping review was considered most appropriate as the topic was of a broad nature incorporating all group therapy interventions in TBI rehabilitation, and the state of the evidence in this field is emerging. Scoping reviews are becoming an increasingly popular approach for health researchers reviewing evidence (Davis, Drey, & Gould, 2009; Levac, Colquhoun, & O'Brien, 2010). Whilst a number of specific definitions of scoping reviews exist in the health research literature, the general consensus is that scoping reviews provide a method of assessing or mapping scope, size and nature of research on a topic, and identifying research gaps (Arksey & O'Malley, 2005; Davis et al., 2009; McKinstry, Brown, & Gustafsson, 2014; Rumrill, Fitzgerald, & Merchant, 2010). As well as mapping and dissemination of current research regarding group therapy interventions following TBI, a scoping review would enable the authors to identify gaps in existing literature, and guide future research (Arksey & O'Malley, 2005). Given the potential challenges of conducting therapy groups with the TBI population, and also the potential benefits, a scoping review was employed to map the extent to which this practice has been documented and evaluated in the research literature.

This paper aims to review the literature regarding therapy groups within TBI rehabilitation.

### 3.4 Method

This scoping review followed the five-stage framework developed by Arksey and O'Malley (2005):

Stage 1: identifying the research question

Stage 2: identifying relevant studies

Stage 3: study selection

Stage 4: charting the data

Stage 5: collating, summarising and reporting the results (p. 22).

An additional optional stage of consultation described by Arksey and O'Malley (2005) which provides an opportunity for consumer and stakeholder input is not presented in this paper. In addition to this, strategies identified by Levac, Colquhoun and O'Brien (2010) to enhance the reliability of the review were implemented including independent reviewers and consultation to reach consensus. The five stages of the review process are described below.

### 3.4.1 Identifying the research question

The research team established three research questions to guide the scoping review. Clearly identified concepts and target population provided direction and clarity, and informed the proceeding search processes (Levac et al., 2010).

There were three main research questions identified in the scoping review:

1. What types of group delivered interventions have been researched with patients following TBI?
2. What group delivered therapy interventions are effective following TBI?
3. What are patient and clinician perceptions of group delivered interventions following TBI?

### 3.4.2 Identifying relevant studies

The first author (FP) searched for articles in the following databases: CINAHL, Cochrane Systematic Review Database and Cochrane Database of Clinical Trials, Embase, PubMed, OT Seeker, and PsycNET. Manual searches of the reference lists of included articles were also carried out. Examples of search terms (MeSH terms) included brain injury, group, and rehabilitation OR therapy OR intervention. Refer to Appendix D for search strategy from PsycINFO and PsycARTICLES. The syntax of this search was adapted to apply to each database. In one database (PubMed) the initial search of key words, title and abstract yielded an unwieldy large number of irrelevant articles (e.g., the term 'group' referred to 'control group'), so searching was limited to include 'group OR groups' in the title for this database. A research librarian was consulted throughout the literature searching phase.

### 3.4.3 Study selection

The review examined qualitative, quantitative and mixed methodology studies that evaluated interventions that were facilitated in a group context for participants post TBI. Eligibility criteria incorporated studies that were published between 1980 and January 2014 and were available in English. Further inclusion criteria were: (1) At least some participants in the study had a diagnosis of TBI (i.e., a combination of participants with TBI and other diagnoses within the group or purely TBI); (2) Adult participants (mean age over 16 years); (3) The group intervention comprised of more than two participants; (4) The group had a rehabilitation focus (i.e., aimed to restore function, and to promote activity and participation, or adjustment to disability) (WHO, 2001). Studies were excluded if they were conference abstracts or dissertation papers, critique or commentary articles, or if participants were caregivers only (i.e., no participants in the groups had a TBI).

The first author conducted initial screening of titles and abstracts of all articles identified to determine eligibility. If eligibility was not clear from review of the title and abstract the articles were retained at this point. All retained articles proceeded to full-text review by two independent reviewers (FP and a research assistant) to enhance the methodology of the scoping review (Levac et al., 2010). Due to differences in opinion regarding eligibility, 27 articles were reviewed by a third independent reviewer (ED). In four instances, this was due to a lack of information about the number of participants with TBI ( $n=3$  studies) or whether the intervention was a group programme ( $n=1$  study). The first authors of these four articles were contacted and all responded with further details which clarified eligibility. For the remaining 23 articles, consensus about eligibility was reached following discussion between the three reviewers.

### 3.4.4 Charting the data

The key group characteristics of included studies, which were based on theoretical and pragmatic aspects of group-based therapy, were identified and collated. A template for data charting was developed and utilised, which included; participants (numbers and diagnosis), intervention focus, group size and facilitators, inclusion of family members in the programmes, and participant perceptions in the study. The methodological quality of included randomised controlled trials (RCT) was assessed using the Physiotherapy Evidence Database (PEDro) Scale. The PEDro Scale is an 11-item rating scale, where

scores range from 0-10 with higher scores indicating higher methodological quality (Maher, Sherrington, Herbert, Moseley, & Elkins, 2003). The PEDro scale scores aspects of the methodology including random allocation to groups, blinding of all subjects and blinding of all therapists and assessors, with points being awarded when a criterion is clearly met (Maher et al., 2003). For qualitative articles, in addition to the key group characteristics and methodology, the key themes generated from the studies were identified, and charted in table format. The methodological quality of qualitative studies was assessed based on guiding principles for evaluation of quality in qualitative research identified by Spencer, Ritchie, Lewis and Dillon (2003), and the framework utilised by Turner, Fleming, Ownsworth and Cornwell (2008). The quality evaluation scale and criteria are outlined in Table 3.1. Studies were rated on a scale from 0 to 7, where a score of one point was assigned for each of the seven criteria met, with higher scores indicated higher quality. The articles were reviewed by two researchers (FP and ED) and where differences in scores arose, reviewers met and discussed to reach a consensus. Given the volume of studies, the lack of uniformity of approaches, and the use of less rigorous designs, the non-RCT quantitative studies were not rated for methodological quality and tabulated in the results.

Table 3.1

*Quality evaluation scale used for qualitative articles<sup>a</sup>*

	Criteria	Definition
A	Research design	The design of the study was clearly outlined and the style of qualitative research was documented (i.e., phenomenology, case-study, grounded theory, etc). Furthermore, the author/s discussed the rationale for the study design, including how the design related to the overall aims/objectives of the study.
B	Prospective and longitudinal	The design of the study was prospective in nature and involved the collection of data during and/or after participation in group therapy intervention.
C	Participant recruitment and sampling	The processes of participant recruitment and participant sampling were clearly outlined with a specific acknowledgement of the purposeful sampling technique being utilized in the study (e.g., theoretical, maximum variation, snowball, convenience, etc.). Furthermore, the method of determining sample size was discussed with justification provided (e.g., saturation).
D	Sample characteristics	The characteristics of the sample and the selection criteria for the study were clearly stated.



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Demographic and injury-related information was provided to describe the study sample. Information provided included most of the following: referral source, inclusion/exclusion criteria, age, education or pre-injury occupational status, time since injury and injury severity data.

The data were obtained using the most objective sources (e.g., medical records for injury data rather than self-reports or relative's reports).

E Data collection

The techniques and procedures used to collect the data were adequately documented to the extent that replication would be possible.

There was discussion/explanation of who conducted data collection, where data collection took place, the procedures used for data collection and checks on origin/status/authorship of the documents.

F Data analysis

The specific techniques used to analyse the data were clearly outlined. The following issues were clearly addressed:

1. description of form of original data (e.g., use of verbatim transcripts, observation or interview notes, documents, etc.);
2. clear rationale for choice of data management method/tool/package;
3. evidence of how descriptive analytic categories, themes, classes, labels etc. were generated and utilized;
4. discussion of how constructed analytical concepts/typologies were devised and applied.

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G	Research rigour	Methods for enhancing the rigour of the study were outlined and appropriate rationale provided (e.g. participant checks, consensus coding, audit trail, reflexivity etc.).  The technique adopted to enhance rigour was consistent with the aims and objectives of the study and the research design.
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<sup>a</sup> Scale adapted from Turner et al. (2008), 2008; Spencer et al. (2003).

### 3.4.5 Collating, summarising and reporting the results

Data were charted in table format that enabled extraction of key characteristics such as comparisons of participant groups and settings across different studies.

The results of qualitative studies were reviewed, identifying generated themes within each study. Findings were then collated across all qualitative studies to identify key issues relating to group-based delivery of rehabilitation following TBI from the perspectives of clinicians and patient participants. This enabled comparison of key themes identified by clinicians and patient participants in group-based delivery of therapy.

## 3.5 Results

### 3.5.1 Study selection and characteristics

A summary of the results of searches and stages are outlined in Figure 3.1. Seventy-four articles were excluded following full text review and reasons for exclusion are outlined in Table 3.2. A total of 99 studies were included in the review.

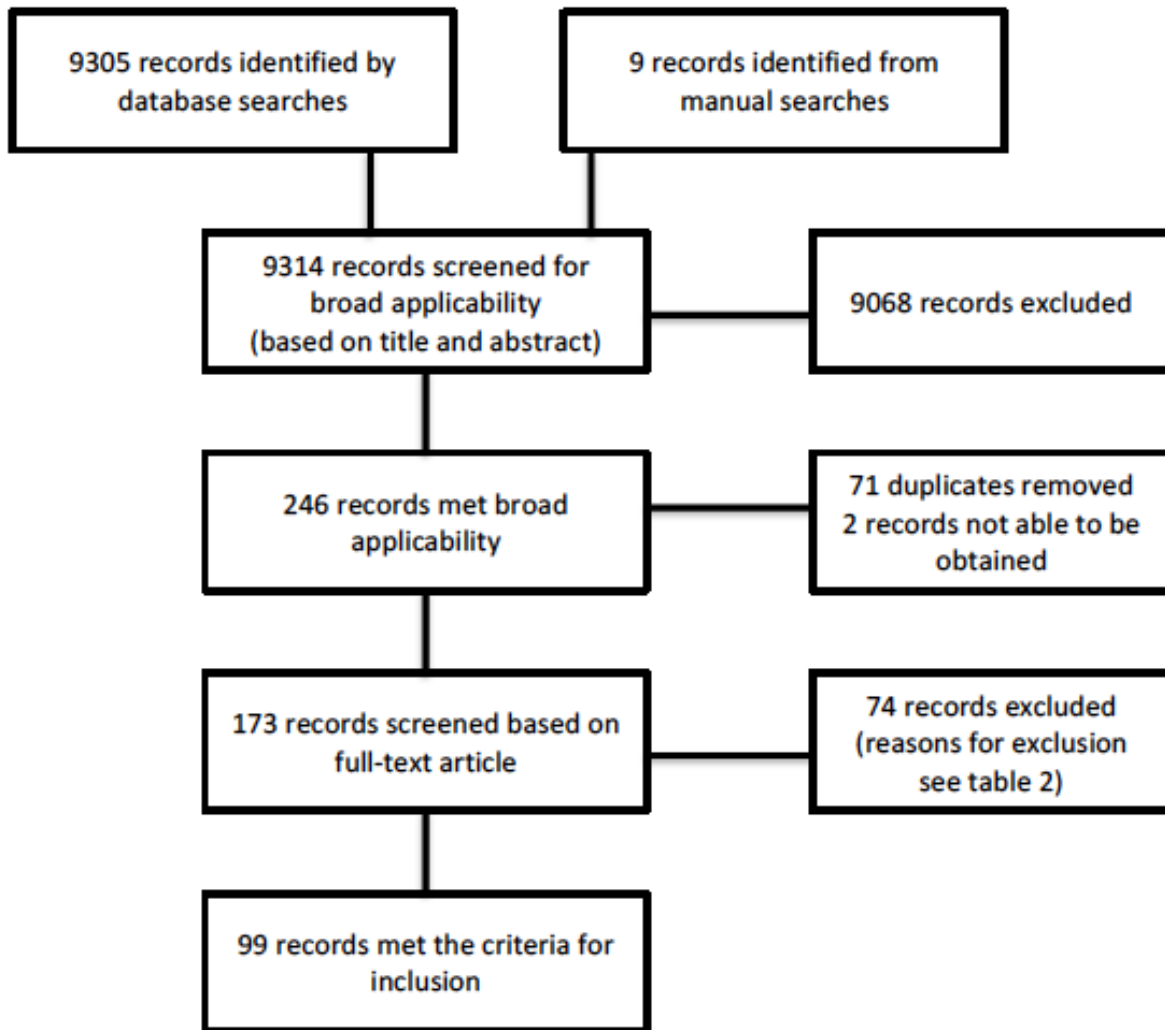


Figure 3.1.  
Summary of search stages and results

Table 3.2

*Reasons for exclusion of studies*

Reason	Number of studies
Journal article not published in English	1
No TBI participants in the group	9
Participants not adults (<16years)	1
Did not evaluate a group intervention (e.g., <2 participants)	23
Conference abstract or dissertation paper	7
Critique/review or commentary articles (not research)	30
Participants were caregivers only (i.e., participants themselves had not had a TBI)	3
Total number of articles excluded	74

Note:  $n=2$  articles not able to be obtained

All 99 included studies, intervention focus and other key characteristics are summarised in Table 3.3. No systematic reviews were identified. Of the 75 quantitative studies, 20 were RCTs. The most common quantitative research design was pre-post assessment without concurrent controls ( $n=26$ ). Eighteen mixed methods studies (these are included in Table 3.3) and six qualitative studies were included (see Table 3.5 for qualitative studies).

Table 3.3

*Summary of the nature of groups*

Study & country	Intervention focus	Participants	N	Setting	Duration/Frequency	Group size	Facilitators
Barker-Collo (2000) New Zealand	Cognition	Mixed*	20	Mixed	45mins, twice a week for 4 weeks	6 - 8	2 therapists (profession not reported)
Chandrashekar & Benshoff (2007) USA	Cognition	TBI	36 (17 intervention)	Outpatient	1.5 hours, once a week for 6 weeks	Not reported	Not reported
Cheng & Man (2006) Hong Kong	Cognition	TBI	21	Inpatient	2-3 group sessions per day	Not reported	Not reported
Corrigan et al. (1985) USA	Cognition	TBI	46	Inpatient	Daily (5 days per week)	Not reported	2 facilitators (Mon-Fri) occupational therapist or psychologist. 1 facilitator on weekend.

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das Nair & Lincoln (2012) United Kingdom	Cognition	Mixed*	72	Outpatient	1 x 1.5 hour session weekly for 10 sessions	4	Trained research assistants
Evans & Wilson (1992) USA	Cognition	TBI	5	Outpatient	2 hours, once a week for 11 months	Not reported	Not reported
Fong & Howie (2009) Hong Kong	Cognition	Mixed*	33	Outpatient	75 mins, twice a week for 15 weeks (22 sessions).	4-5	3 occupational therapists
Hildebrandt et al. (2006) Germany	Cognition	Mixed**	62	Inpatient	1 hour, 5 times a week for 4 weeks	No more than 6 participants.	Not reported
Huckans et al. (2010) USA	Cognition	TBI	16	Outpatient	2 hours, once a week for 6 or 8 weeks	Not reported	Two facilitators

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Jackson et al. (1989) USA	Cognition	TBI	42	Inpatient	Daily whilst in PTA	Not reported	Not reported
Jennett & Lincoln (1991) United Kingdom	Cognition	Mixed*	18	Outpatient	4 hours, once a week for 6 weeks	9	3 psychologists
Levine et al. (2011) Canada	Cognition	Mixed*	19	Outpatient	2 hours once a week for 7 weeks	2-4	Authors (2)
Miotto et al. (2009) United Kingdom	Cognition	Mixed*	30	Outpatient	1.5 hours, once a week for 10 weeks	10	2 therapist facilitators (profession not reported)
Novakovic-Agopian et al. (2011) USA	Cognition	Mixed*	16	Outpatient	2 hours, twice a week for 5 weeks	2-5	1 occupational therapist & 1 neuropsychologist

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O'Neil-Pirozzi et al. (2010) USA	Cognition	TBI	94 (54 intervention)	Outpatient	90mins, twice a week for 6 weeks (12 sessions)	3-6	2-3 facilitators (one being first author).
Owensworth et al. (2004) Australia	Cognition	Mixed*	28	Outpatient	90mins, once a week for 16 weeks	7-13	Not reported
Owensworth et al. (2008) Australia	Cognition	Mixed*	35	Outpatient	3 hours (group intervention) or 1.5 hours (combined intervention), once a week for 8 weeks	5-6	Psychologist
Owensworth et al. (2000) Australia	Cognition	Mixed*	21	Outpatient	1.5 hours, once a week for 16 weeks	8-13	Neuropsychologist
Port et al. (2002) Australia	Cognition	TBI	30	Outpatient	1.5 hours, once a week for 8 weeks	Not reported	1 therapist (profession not reported)

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Radford et al. (2012) Australia	Cognition	Mixed*	56	Outpatients	2 hours, once a week for 6 weeks	9-15	2 neuropsychologists & 1-2 student assistants
Rath et al. (2003) USA	Cognition	TBI	60	Outpatient	2-3 hours once a week + additional dependent on intervention	5-8	2 psychologists
Ryan & Ruff (1988) USA	Cognition	Mixed*	20	Outpatient	5.5hours per day, 4 days per week, for 6 weeks.	Differed throughout the day (majority ratio 3 patients: 1 staff)	1 therapist facilitator (profession not reported)
Salazar et al. (2000) USA	Cognition	TBI	20	Inpatient and outpatient/home-based programme	Intensive inpatient 8-week rehab programme v home programme with weekly phone call	Not reported	Multi-disciplinary facilitators

Schmitter- Edgecombe et al. (1995) USA	Cognition	TBI	8	Outpatient	1 hour twice weekly for 9 weeks	4	Two doctoral students supervised by a licenced psychologist
Strangman et al. (2008) USA	Cognition	TBI	54	Outpatient	1.5 hrs, twice a week for 6 weeks	3-6	3 facilitators (profession not reported)
Thickpenny- Davis & Barker-Collo (2007) New Zealand	Cognition	Mixed*	14	Outpatient	1 hr, twice a week for 4 weeks	Not reported	Not reported
Vas et al. (2011) USA	Cognition	TBI	28	Outpatient	12 sessions over 8 weeks	4-5	1 speech pathologist & 1 occupational therapist
Anson & Ponsford (2006) Australia	Coping skills & adjustment	TBI	33	Outpatient	1.5 hr, twice a week for 5 weeks (10 sessions)	Not reported	2 clinical neuropsychologists

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Anson & Ponsford (2006) Australia	Coping skills & adjustment	TBI	33	Outpatient	1.5hr, twice a week for 5 weeks (10 sessions)	Not reported	2 clinical neuropsychologists
Armegol (1999) USA	Coping skills & adjustment	TBI	6	Outpatient	2.5 hr, once a week for 10 weeks	6	1 therapist (profession not reported)
Arundine et al. (2012) Canada	Coping skills & adjustment	Mixed*	17	Outpatient	11 weekly sessions	Not reported	2 psychologists & 2 psychology students
Azulay et al. (2013) USA	Coping skills & adjustment	TBI	22	Outpatient	2 hrs, once a week for 10 weeks	6	2 neuropsychologists
Backhaus et al. (2010) USA	Coping skills & adjustment	Mixed*	40	Outpatient	12 x 2 hour sessions. Frequency not reported.	10 (5 patients, 5 caregivers)	2 facilitators (profession not reported)

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Bedard et al. (2005) Canada	Coping skills & adjustment	TBI	7 only completed follow up	Outpatient	Once a week for 12 weeks	10	Not reported
Bedard et al. (2003) Canada	Coping skills & adjustment	TBI	10	Outpatient	Once a week for 12 weeks	10	Not reported
Bradbury et al. (2008) Canada	Coping skills & adjustment	Mixed*	20 (10 intervention)	Outpatient	10 sessions	Not reported	1 clinical neuropsychologist and 1 student
Forman et al. (2006) United Kingdom	Coping skills & adjustment	Mixed*	10 (4 drop outs)	Outpatient	2 hrs, once a week for 16 weeks	Not reported	Not reported
Lexell et al. (2013) Sweden	Coping skills & adjustment	Mixed*	11	Outpatient	9am-4pm, three times a week for 6 week blocks with 2 months break in between	5	Various (physician, occupational therapist, social work, physiotherapist & neuropsychologist)

Lundqvist et al. (2010) Sweden	Coping skills & adjustment	Mixed*	21	Outpatient	2 hrs, 11 sessions over 6 months	Not reported	Neuropsychologist with guest rehabilitation presenters
Muenchberger et al. (2011) Australia	Coping skills & adjustment	Mixed*	103	Outpatient	6 week programme	3-10	Trained local peer leader or health professional
Niemeier, Kreutzer & Taylor (2005) USA	Coping skills & adjustment	Mixed*	29	Inpatient	3 times weekly (30mins), duration not reported	5-12 (plus caregivers)	Clinical psychologist
Nilsson et al. (2011) Sweden	Coping skills & adjustment	Mixed*	10	Outpatient	9-3pm, once a week for 16 weeks.	5-8	1 occupational therapist & 1 neuropsychologist (physiotherapist one session)
Sinnakaruppan et al. (2005) United	Coping skills & adjustment	TBI	41 patients and 42 carers	Outpatient	2.5 hrs x 8 sessions	7	Carer group: neuropsychologist

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Kingdom (Scotland)							Patient Group: 2 psychologists
Thomas (2004) Australia	Coping skills & adjustment	Mixed*	22 (14 intervention)	Outpatient	Stage 1: fundraising frequency not reported. Stage 2: 9-day programme. Stage 3: fortnightly meetings (~2hrs) for 3-4 months	Not reported	Not reported
Vickery et al. (2006) USA	Coping skills & adjustment	Mixed*	18	Inpatient	1 hr, once a week for 6 weeks	3-7	1 facilitator (First author or neuropsychology technician)
Appleton et al. (2011) Australia	Social communication skills	Mixed*	7	Inpatients	1 hr, three times a week for 4 weeks (12 sessions).	3-5	1 speech pathologist & 1 clinical psychologist

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Bick Carlson & Wind Buckwalk (1993) USA	Social communication skills	TBI	1	Outpatient	Twice a week for 12 weeks	6 - 8	Speech pathologists & vocational counsellors
Bornhofen & McDonald (2008) Australia	Social communication skills	TBI	18	Outpatient	2.5 hrs, once a week for 10 weeks	2-3	1 therapist (profession not reported)
Bornhofen & McDonald (2008) Australia	Social communication skills	TBI	12	Outpatient	1.5 hrs, twice a week for 8 weeks.	2-3	1 therapist (profession not reported)
Braden et al (2010) USA	Social communication skills	TBI	30	Outpatient	1.5 hr, once a week for 13 weeks.	7-8	Not reported
Cherney et al. (2011) USA	Social communication skills	Mixed*	7	Outpatient	18 week class	Not reported	Speech language pathologist & drama therapist

Dahlberg et al. (2007) USA	Social communication skills	TBI	52	Outpatient	1.5 hr, once a week for 12 weeks.	Maximum 8	2 facilitators (e.g. social work & speech pathology)
Falconer & Antonucci (2012) USA	Social communication skills	Mixed*	N 4	Outpatient	1.5-2 hrs, twice week for 7 weeks	4	1 facilitator
Goldburn et al. (2001) South Africa	Social communication skills	Mixed*	6	Outpatient	1.5 hrs, once a week for 6 months to 6 years	Not reported.	2 speech language therapy students
Johnson & Newton (1987) United Kingdom	Social communication skills	TBI	10	Outpatient	1.5 hrs, once a week for 1 year	10	Not reported
Kovarksy et al. (2009) USA	Social communication skills	TBI	6	Outpatient	Café open 3 hours a week, 1 session videoed	6	2 students & one supervisor (profession not reported)

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Marshall & Wallace (2009) USA	Social communication skills	Mixed*	10	Outpatient	3-5 hours (group + individual) for 6 weeks.	Not reported	1 speech language pathologist
McDonald et al. (2008) Australia	Social communication skills	Mixed*	51	Outpatient	3 hrs, once a week for 12 weeks	3-5	2 therapist facilitators (profession not reported)
Sargeant et al. (2000) United Kingdom	Social communication skills	Mixed*	31	Inpatient	45 mins, once a week (duration not reported)	7 maximum	1 therapist (profession not reported)
Vandiver & Christofero-Snider (2000) USA	Social communication skills	TBI	54	Outpatient	2 hrs, twice a month for variable duration	Not reported	Volunteers

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Blake & Betson (2009) United Kingdom	Physical	TBI	20	Outpatient	1 hr, once a week for 8 weeks.	10	Tai Chi instructor
Cooper et al. (2009) United Kingdom	Physical	Mixed*	7	Outpatient	90 mins, once a week for 8 weeks	7	Occupational therapist & rehabilitation assistant
Driver & Ede (2009) USA	Physical	TBI	16 (8 control)	Outpatient	8 weeks	8	Not reported
Driver et al. (2004) USA	Physical	TBI	16	Outpatient	8 weeks	8	Not reported
Driver et al. (2006) USA	Physical	TBI	18 (9 control)	Outpatient	8 weeks	9	Not reported

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Gemmell & Leathem (2006) New Zealand	Physical	TBI	18	Outpatient	45 mins twice weekly for 6 weeks	Not reported	1 principal instructor and assistant instructors (professions not reported)
Hassett et al. (2012) Australia	Physical	TBI	53 (40 in trial)	Mixed (inpatient, transitional living & community-based)	1 hr, three times a week for 2 weeks	8 (capacity for 14)	2-4 physiotherapists, students & assistants
Henderson & Manns (2012) Canada	Physical	Mixed*	13	Outpatient	3.5 hrs per day x 10 days	3	1 occupational therapist & 1 therapy assistant
Blair & Lanyon (1987) USA	Multi-disciplinary rehabilitation programme	TBI	20	Inpatient	6-7 hours per day, 5x week. Duration not reported.		Not reported

Braulung-McMorrow et al. (2010) USA	Multi-disciplinary rehabilitation program	TBI	205	Inpatient	A number of weekly groups – frequency/ duration not reported	Not reported	Multi-disciplinary facilitators, professions/ numbers not reported
Goranson et al. (2003) Canada	Multi-disciplinary rehabilitation programme	TBI	42	Outpatient	5.5 hrs/day, 4 x week for 1-7months	Not reported	Multi-disciplinary facilitators (professions/numbers not reported)
Hashimoto, Okamoto & Watanabe (2006) Japan	programme	Mixed*	37	Outpatient	2-4hours, 2x weekly. Duration 3-6 months.	6-7	Multi-disciplinary clinician facilitators
Malec (2001) USA	Multi-disciplinary rehabilitation programme	Mixed*	96	Outpatient	Daily until graduation from programme	Not reported	Multi-disciplinary team.

Malec & Degiugio (2002) USA	Multi-disciplinary rehabilitation program	Mixed*	114	Outpatient	Dependent on pathway	Not reported	Occupational therapist, speech pathologist or neuropsychologist
Vanderploeg et al. (2008) USA	Multi-disciplinary rehabilitation programme	TBI	360	Inpatient	1.5-2.5 hrs daily. Duration varied	Not reported	Therapists
Watanabe (2013) Japan	Multi-disciplinary rehabilitation programme	TBI	300	Inpatient	Not reported	Not reported	Not reported
Aboulafia-Brakha et al. (2013) Switzerland	Behaviour management	TBI	10	Outpatient	60mins, once a week for 8 weeks.	2-4	Not reported
Manchester et al. (2007)	Behaviour management	TBI	3	Inpatient	30 mins, 4 times a week for 6 weeks (24 sessions)	Not reported	2 therapists (profession not reported)

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United Kingdom							
McMorrow et al. (1998) USA	Behaviour management	TBI	71	Inpatient	Intensive inpatient rehabilitation programme	Not reported	Multi-disciplinary team (numbers not reported)
Walker et al. (2010) Australia	Behaviour management	TBI	52	Outpatient	2 hrs, once a week for 12 weeks plus 1 follow up	4-8	2 (clinical psychologist or brain injury case managers)
Charles et al. (2007) Australia	Family focus	Mixed*	6 families (11 adults & 9 children)	Outpatient	12 x 2hr sessions over 6 months	6 families	2 family therapists
Perlick et al. (2013) USA	Family focus	TBI	14 (plus family)	Outpatient	Bi-monthly group meetings for 9 months	4-5	Therapist facilitators (profession not reported)
Rodger, et al. (2007) USA	Family focus	Mixed*	27 patients and 28 caregivers	Outpatient	1.5 hrs, bi-monthly and monthly meetings for 12-18months.	4-8 families	2 multi-disciplinary facilitators

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Straits-Troster et al. (2013) USA	Family focus	TBI	8 patients TBI and 8 family members	Outpatient	Bi-monthly group meetings for 9 months	Not reported	Therapist facilitators (number /profession not reported)
Purk (2004) USA	Investigation of support groups	Mixed*	50	Outpatient	Not reported	Not reported	Not reported
Schulz (1994) USA	Investigation of support groups	TBI	4	Outpatient	Not reported	13	Author
Schwartzberg (1994) USA	Investigation of support groups	TBI	13	Outpatient	2 hrs, 28 over 16 months.	13	Author
Christensen (1992) Denmark	Return to work	Mixed*	46	Outpatient	Phase 1: 6hrs/day, 4 days per week, for 4 months. Phase 2: monthly for 6 months	Not reported	Not reported
Niemeier et al. (2010) USA	Return to work	Mixed*	71	Outpatient	Twice a week for 10 weeks.	5-6	Not reported

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Parente & Stapleton (1999) USA	Return to work	TBI	33	Outpatient	Not reported	10-20	Author
Newman & Newstadt (2009) USA	Outdoor/ adventure programme	TBI	7	Outpatient	3 hour session 1 x weekly for 8 weeks	3-4	Not reported
Walker et al. (2005) Australia	Outdoor/ adventure programme	TBI	11	Outpatient	Stage 1 & 3 group meetings (stage 3 met fortnightly).	11	Not reported
Davis & Chirrum (1994) USA	Engagement in leisure activity	TBI	6	Residential group home	9 weeks, frequency varied	6	Not reported
Fleming et al. (2009a) Australia	Environment focus	Mixed*	36 (18 intervention)	Outpatient	2 hrs, once a week for 6 weeks.	6 (plus significant others)	Social worker & co- facilitator

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Fraas et al. (2007) USA	Long term needs	Mixed*	206 (33 patients, 16 caregivers, 157 clinicians)	Outpatient	Not reported	Not reported	Not reported
Wheeler et al. (2003) USA	Music therapy	Mixed*	10	Inpatient	30-40 mins, three times a week (4-10 sessions)	Not reported	1 music therapist
Knis-Matthews et al. (2006) USA	Clinician perceptions	TBI	4 clinicians	N/A	N/A	N/A	N/A
Richard et al. (2008) USA	Clinician perceptions	TBI	82	N/A	N/A	N/A	N/A
Smalley et al. (2007) United Kingdom	Clinician perceptions	Mixed*	5 clinicians	Transitional Living Unit	1 hr, once a week for 12 weeks	5	2 therapists (profession not reported)

Mixed\* indicating a combination of TBI and other ABI, e.g. stroke

### 3.5.2 The nature of groups

In terms of participant characteristics, of the 99 studies included in the review, 53 (53.5%) had participants with TBI only and 46 (46.5%) were 'mixed' (i.e., participants were a combination of patients with TBI and other ABI such as stroke). The majority ( $n=76$ , 76.8%) of studies included participants who were attending outpatient groups, and the remainder were conducted in inpatient settings. Most commonly, the interventions were delivered weekly ( $n=37$ , 37.4%), and ranged from 6 weeks to 3 months in duration. The number of participants in the group-delivered interventions varied and in just over one third of studies, the group size was not explicitly reported. Individual goal setting processes were described as part of the intervention in 16 (16.1%) of the studies. Family members or significant others were reported to be involved in some aspect of study for 33 (33.3%) of all included studies. Of these, family members or significant others were only involved in the assessment processes (i.e., not involved in the group/intervention *per se*) for 11 (11.1%) studies. Of the 99 studies, a total of 22 (or 22.2%) involved family members or significant others as a part of group-delivered intervention (i.e., involved in the group *per se*). For these studies where family members or significant others were involved in the group-delivered intervention, six targeted coping skills and adjustment and four targeted social communication skills. The remainder of the studies had a variety of different intervention focuses.

With regards to intervention focus (research question 1), a 'cognitive' focus was most common ( $n=27$ , 27.3%). These studies targeted cognitive impairments such as memory, problem solving and self-awareness. Of these 27 studies, the vast majority were based in an outpatient setting ( $n=21$ , 77.8%), four (14.8%) were in an inpatient setting and two (7.4%) were mixed inpatient and outpatient.

Interventions targeting coping skills and adjustment (including stress management, mindfulness and self-management) comprised 18 (18.2%) of the studies identified.

This was followed by social communication skills (including emotional perception and speech/language) ( $n=15$ , 15.1%) and physical interventions ( $n=8$ , 8.1%) such as circuit class, cardiorespiratory fitness or fatigue management. Other studies reported on evaluations of multidisciplinary rehabilitation programmes or comparisons of different multi-disciplinary rehabilitation approaches ( $n=8$ , 8.1%), family-focussed interventions

( $n=4$ , 4.0%), and behaviour management interventions ( $n=4$ , 4.0%). The remainder of the studies ( $n=12$ , 12.1%) reported on the following types of groups: support groups ( $n=3$ ), return to work programmes ( $n=3$ ), outdoor/adventure programmes ( $n=2$ ), engagement in leisure activity ( $n=1$ ), environment-focussed interventions ( $n=1$ ), addressing long-term needs following brain injury ( $n=1$ ), and music therapy ( $n=1$ ). Three studies (3.0%) focussed on clinician perceptions of group therapy interventions.

### 3.5.3 Effectiveness of groups

#### 3.5.3.1 Randomised controlled trials

The 20 RCTs identified by the review are described in Table 3.4 and similar to the rest of the studies, the intervention focus for the RCTs was varied with the majority addressing cognitive impairments ( $n=8$ , 40%).

Table 3.4

*Summary of randomised controlled trials*

Study	Intervention focus	Comparison	Participants	Primary outcome measure(s)	Results	PEDro score
das Nair & Lincoln (2012)	Cognition	Compared memory compensation group to memory restitution group, to self-help group.	72 outpatients with mixed TBI/ABI. No information regarding severity.	Everyday Memory Questionnaire, secondary outcome measures including mood and activities of daily living.	Compensation and restitution groups used significantly more internal memory aids compared with self-help group. No significant difference between groups on self-reported memory or measures of mood, adjustment and activities of daily living.	6/10
Salazar et al. (2000)	Cognition	Compared intensive inpatient cognitive rehabilitation programme (individual and group) to limited home rehabilitation.	120 inpatient and outpatients with moderate to severe closed head injury	Actual return to gainful employment and fitness for military duty at 1-year follow up. Cognitive, psychiatric, and neurological outcomes, quality of life, and estimated treatment costs were also	No significant difference between groups for return to employment and fitness for duty, cognitive, behavioural or quality of life measures.	6/10

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				compared between groups.		
Owensworth et al. (2008)	Cognition	Compared group to individual and to combined intervention formats for goal attainment and psychosocial function. Waitlist control participants.	35 outpatients with mixed TBI/ABI. Average Glasgow Coma Scale score presented for TBI patients to give an indication of severity.	Canadian Occupational Performance Measure, Patient Competency Rating Scale and Brain Injury Community Rehabilitation Outcome 39 Scales.	Significant improvement in performance for individual and combined intervention groups. Significant improvement in satisfaction with performance post-intervention -for all intervention formats and at follow-up for group and combined interventions. Gains in behavioural competency and psychosocial outcomes more likely to occur in group and individual interventions. No significant improvement for socialization and productivity scales for any groups.	5/10
Ryan & Ruff (1988)	Cognition	Compared formal memory remediation	20 outpatients with mixed TBI/ABI.	Memory measures: the Benton Visual Retention Test, the Rey-Osterrieth	Significant improvements in both groups on neuropsychological memory measures. The	5/10

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		group to a group focusing on psychosocial issues.	'Serious head trauma'.	Complex Figure Test, the Taylor Complex Figure, the Selective Reminding Test, the Ruff-Light Trail Learning Test, and the Wechsler Memory Scale (subtest).	experimental group did not improve significantly more than did the control group; however, subjects (in experimental group) with mild impairments benefited more from memory remediation compared to subjects with more severe impairment.	
Cheng & Man (2006)	Cognition	Compared Awareness Intervention Programme (group) to conventional rehabilitation programme.	21 inpatients with TBI No specific comments regarding severity.	The Self-Awareness of Deficits Interview (SADI), the Functional Independence Measure (Functional Independence Measure) and Lawton Instrumental Activities of Daily Living Scale Chinese Version.	Experimental group demonstrated significant improvement in self-awareness compared to controls. No significant difference between the groups on functional measures.	5/10
Fong & Howie (2009)	Cognition	Compared conventional cognitive training	33 outpatients with mixed TBI & ABI. No	Key Search and the Modified Six Elements Tests, Social Problem-	No significant different between groups on neuropsychological measures used. Significant	4/10



		+ explicit training in problem solving skills (group) to conventional cognitive training only.	information regarding severity.	Solving Video Measure, Means-Ends Problem-Solving Measure, Raven's Progressive Matrices and Metacomponential Interview.	difference between groups on paper-and-pencil reasoning tasks (Meta-componential Interview).	
Vas et al. (2011)	Cognition	Compared top-down Strategic Memory and Reasoning Training (SMART) to information-based Brain Health Workshop (BHW).	28 outpatients with TBI (5 = severe, 2 mild, remainder no information regarding severity available)	Primary measure of gist-reasoning: The Test of Strategic Learning.	SMART group significant improvements on gist-reasoning compared to BHW group (no significant improvements). SMART group significantly greater improvement at 6-month follow up compared with BHW group on community integration measures, no significant changes on functional rating scales for either group.	4/10
Rath et al. (2003)	Cognition	Compared an innovative group treatment	27 outpatients in treatment group, and 19 in control group,	Neuropsychological measures, self-report inventories, objective	Significant improvement in problem solving for innovative group. Innovative group also	1/10

		focused on the treatment of problem-solving deficits to a conventional neuropsychological rehabilitation group.	variety of mild to severe severity.	observer ratings, and significant-other reports to assess: (1) cognitive skills, (2) psychosocial functioning, and (3) problem solving.	demonstrated significant differences on visual memory, immediate recall and self-esteem measures. For psychosocial functioning the conventional group endorse significantly less severe somatic symptoms after treatment, and the innovative group reported significantly increased self-esteem after treatment.	
Blake & Betson (2009)	Physical	Compared Qigong exercise sessions (group) to non-exercise-based social and leisure activities for same intervention period.	20 outpatients with TBI. No information regarding severity.	General Health Questionnaire-12, the Physical Self-description Questionnaire and the Social Support for Exercise Habits Scale.	Small but significant difference in mood between exercise and control group, trend towards greater improvement in mood and physical self-esteem in the exercise group. No significant differences in physical functioning.	8/10

Hassett et al. (2012)	Physical	Compared exercise class (group) and exercise intensity feedback to exercise class (group) only.	53 inpatients and outpatients with severe and extremely severe TBI.	Time spent in the heart rate training zone (i.e. at $\geq 50\%$ heart rate reserve).	No significant difference between groups for time spent in the heart rate training zone.	7/10
Gemmell & Leathem (2006)	Physical	Compared Tai Chi (group) to wait list.	18 outpatients with mild, moderate or severe TBI.	Medical Outcome Scale Short Form 36 (SF-36), the Rosenberg Self-Esteem Scale and the Visual Analogue Mood Scales.	Tai Chi was associated with significant improvement on all mood scores (except fatigue). No significant between group differences for health limitations or self-esteem measures.	5/10
Driver et al. (2006)	Physical	Compared aquatic programme to vocational rehabilitation class (group).	18 outpatient participants with TBI. Above level 6 on Rancho Los Amigos Scale of Cognitive Functioning.	The Health Promoting Lifestyle Profile II and the Physical Self-Description Questionnaire.	Significant differences and large effect size were found between scores for the experimental group only, indicating an increase in health promoting behaviours, physical concept and self-esteem.	4/10

Driver & Ede (2009)	Physical	Compared aquatic programme to vocational rehabilitation class (group).	16 outpatients with TBI. Above level 6 on Ranchos Los Amigos Scale of Cognitive Functioning.	Profile of Moods States.	Within experimental group (aquatic group) results indicated significant difference (improvement e.g. lower score for depression, higher score for vigour) and large effect sizes for tension, depression, anger, vigour, fatigue and confusion from pre to post programme. Significant difference between groups. No significant differences found within control group across all variables.	4/10
Driver et al. (2004).	Physical	Compared aquatic programme to vocational rehabilitation class (group).	16 outpatient participants with TBI. Above level 6 on Ranchos Los Amigos Scale of Cognitive Functioning.	Components of physical fitness including cardiovascular endurance, body composition, muscular strength and endurance and flexibility.	Participants in experimental group experienced increased in all physical fitness parameters (some statistically significant). Experimental group self-reported functional capacity.	3/10

Dahlberg et al. (2007)	Social communication skills	Compared weekly group social skills training sessions to deferred treatment.	52 outpatients with moderate to severe TBI.	The Profile of Functional Impairment in Communication, Social Communication Skills Questionnaire-Adapted, Goal Attainment Scale, Craig Handicap Assessment and Reporting Technique-Short Form, Community Integration Questionnaire, Satisfaction with Life Scale.	Significant treatment effect compared with no treatment on functional impairment in communication measures, social communication skills measure, and life satisfaction measures. Significantly better scores on these measures at 6 months follow up compared with baseline.	6/10
McDonald et al. (2008)	Social communication skills	Compared social skills training programme (group) to social activity alone and to waitlist.	51 outpatients with severe TBI.	Behaviourally Referenced Rating Scale of Intermediary Social Skills-Revised, The Awareness of Social Inference Test and the Depression,	Social skills training group significant improvement on one of two social behaviour measures. Social activity alone did not lead to improved performance relative to waitlist on any outcome variable. No treatment effect for	6/10

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				Anxiety and Stress Scale.	measures of social perception or emotional adjustment.	
Bornhofen & McDonald (2008)	Social communication skills	Compared cognitive (group) rehabilitation to wait list.	12 outpatients with severe TBI.	The Facial Expression Naming Task, The Facial Expression Matching Task, The Awareness of Social Inference Test, the Sydney Psychosocial Reintegration Scale.	Significant improvement in judging basic emotional stimuli and in making social inferences compared to wait list controls. No significant difference/improvement psychosocial reintegration.	4/10
Bornhofen & McDonald (2008)	Social communication skills	Compared errorless learning (group) to self-instruction training (group) to wait list.	18 outpatients with severe TBI.	Photograph-based emotion recognition tasks, The Awareness of Social Inferences Test, and questionnaire measures (e.g. , the Sydney Psychosocial Reintegration Scale).	Significant treatment effect for errorless learning group on one static emotion identification measure. Relatives of individuals in errorless learning treatment group reported significant increase in socially favourable behaviours. No other significant effects were found on social functioning measures.	4/10

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Vanderploeg et al. (2008)	Multi-disciplinary rehabilitation programme	Compared cognitive-didactic rehabilitation to functional-experiential (group) rehabilitation.	360 inpatients with moderate to severe TBI	Functional independence in living and return to work and/or school at 1-year follow up.	No between group differences at 1 year for functional independence in return to work and independent living), or on secondary outcome measures of quality of life, psychosocial functioning, behaviour and mood state measures.	8/10
Backhaus et al. (2010)	Coping skills & adjustment	Compared Brain Injury Coping Skills group to no intervention.	20 outpatients with ABI (9 TBI and 11 ABI), and 20 caregivers. No information regarding severity.	Brief Symptom Inventory-18 (BSI-18) and Brain Injury Coping Skills Questionnaire.	No significant difference between groups for distress. Significantly improved perceived self-efficacy immediately post-treatment for Brain Injury Coping Skills group compared to control group, and this was maintained over time.	5/10

Table 3.4 provides a summary of the 20 RCTs including intervention focus (or comparison), participants, results and methodological quality rating (PEDro scores). Methodological quality of the studies was variable with PEDro rating scores ranging from 1 to 8 out of 10, with a mean of 5.0 out of 10. Participants were outpatients in 16 (80.0%) RCTs, two (10.0%) involved inpatients, and two (10.0%) involved both inpatients and outpatients. Participant numbers ranged from 12 to 360, and 14 (70.0%) of the studies involved only participants with TBI. Severity of injury was specified in 14 (70.0%) of the studies, and this varied from mild to extremely severe (where available, measures of severity are outlined in Table 3.4).

Significant improvements as a result of group intervention were identified on at least one of the outcome measures used in 17 of the 20 RCTs, however this was not always on the primary outcome measure. Only one RCT compared a group intervention with therapy with similar goals delivered in an individual intervention, a group intervention, and a combined group and individual intervention (Ownsworth et al., 2008). This study concluded that the gains in goal attainment (self-rated satisfaction) were significantly associated with the group and the combined intervention for the pre-and follow-up assessments, and that all three interventions settings were associated with significant gains in goal attainment performance self-rating. The group and individual interventions were associated with overall greater gains in behavioural competency and psychological well-being compared to the combined intervention group. The effect of the group format or group attendance was not specifically investigated by any of the other RCTs as they compared the group with no intervention or deferred treatment, or with another type of group intervention.

#### 3.5.3.2 Quantitative research

There were a large number of pre-post studies that report on outcomes of groups, however do not specifically address the effectiveness of the group format *per se*. Two non-RCT quantitative studies directly compared individual and group, or combined group/individual treatments. Marshall and Wallace (2009) compared the effect of individual treatment with combined individual and group treatment on functional communication in aphasia for 10 participants with ABI. Whilst a positive trend was observed in the experimental group on both of the functional communication outcome measures, this was only significant for one subtest of one of the outcome measures. No statistically significant changes in quality of life or pragmatics measures within either group or between groups were found (Marshall & Wallace, 2009). Wheeler, Shiflett and Nayak (2003) investigated



mood and behaviour changes according to the number and setting (combined individual and group, or group only) of music therapy sessions. The number of group sessions was reported to have a positive impact on social interaction, and the individual sessions marginally improved motivation for treatment. Neither the number of, nor the setting had a significant effect on self-reported mood, however the number of group sessions had a significant effect on family reported mood in past 24 hours (Wheeler et al., 2003). The authors of both of these studies acknowledged limitations including small sample sizes, limitations of outcome measures used, and highlighted the need for further clinical research to establish an evidence base for clinical practice (Marshall & Wallace, 2009; Wheeler et al., 2003)

### 3.5.3.3 Qualitative research

Six qualitative research studies were identified, key characteristics and methodology charted, and key themes collated. The studies are summarised in Table 3.5. The six included qualitative studies were also evaluated against the seven methodological quality evaluation criteria presented in Table 3.1. The two independent reviewers were in agreement for 76.2% (32 of 42) of the quality ratings given, and for the remaining ratings, there was further discussion and a consensus reached before a score was allocated. The mean quality rating was 4.5/7.

Of the six studies, two investigated clinician or group facilitator perspectives of group-based interventions (Knis-Matthews et al., 2006; Smalley et al., 2007) and four investigated group participant perceptions (Lexell et al., 2013; Nilsson et al., 2011; S. Schwartzberg, 1994; Straits-Troster et al., 2013). The studies utilised a variety of qualitative methods including thematic analysis (Knis-Matthews et al., 2006; S. Schwartzberg, 1994), content analysis (Lexell et al., 2013; Straits-Troster et al., 2013), grounded theory and constant comparative analysis (Nilsson et al., 2011), and one study did not identify a qualitative methodology (Smalley et al., 2007). The following three concepts were identified as key themes: adjustment and adaptation, support, and education and developing skills. All of the six studies identified themes around adjustment and adaptation to life following TBI for example; the group rehabilitation helped me to adjust to a new life (Lexell et al., 2013). Similarly, all six studies identified themes of groups providing peer support, addressing isolation and shared experiences for example, universality and altruism are two therapeutic factors that can be influential during group sessions (Knis-Matthews et al., 2006) and exploring common struggles and reducing

isolation (Straits-Troster et al., 2013). With regards to education and development of skills, all six studies highlighted themes around this concept for example, increasing understanding of the interconnection between TBI and post-traumatic stress disorder (Straits-Troster et al., 2013) and the group rehabilitation gave me knowledge and tools to change my everyday life (Lexell et al., 2013).

Both studies investigating clinician perspectives identified themes of the challenges or potential barriers to group-based delivery of therapy such as managing different cognitive and behavioural changes (Knis-Matthews et al., 2006; Smalley et al., 2007). Overall, the studies highlighted that from the perspectives of clinicians and participants group-based delivery of therapy could be influential and effective.

Table 3.5

*Summary of qualitative studies*

Study	Focus	Methodology	Participant/s	Major themes	Quality evaluation scale rating <sup>b</sup>
Nilsson et al. (2011) Sweden	Perceptions of effective holistic therapy group rehabilitation programme and how the programme affects the rehabilitation process	Grounded theory with constant comparative method for analysis	10 outpatients with mild ABI of mixed aetiology.	Core category: the process of change (gradual change in awareness of deficits and adaptation to new lives). Sub-categories: The Group Rehabilitation Programme, The individual, Work, and Family /Social relations.	7/7
Straits-Troster et al. (2013) USA	Evaluation of feasibility, acceptability, and helpfulness of multi-family group treatment for	Content analysis	16 participants (8 with TBI, and 8 family members). Limited information regarding severity.	Exploring common struggles and reducing isolation. Building coping skills to cope with TBI and related problems. Restoring	5/7

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	veterans and their families/caregivers.			relationships through communication and understanding. Increasing understanding of interconnection between TBI and post-traumatic stress disorder. Improving the multi-family group treatment and increasing engagement.	
Knis-Matthews et al. (2006) USA	The experiences and perceptions of therapists using groups as a therapeutic modality in the treatment of individuals with TBI	Thematic analysis	4 rehabilitation therapists (occupational therapy, physical therapy, recreational therapy & speech therapy)	Group treatment often complements a persons' individual therapy. Universality and altruism are two influential therapeutic factors found during groups. Groups help to prepare individuals for the real world. Groups	5/7

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				help a person's recovery, but there are potential barriers to the process.	
Schwartzberg (1994) USA	Identification of helping factors in a peer-developed support group for persons with head injury.	Ethnographic study (thematic analysis)	13 group members with head injury. Limited information re severity.	Legitimation (acceptance of the head injury) appeared to be core concept for this group. Helping factors identified were peer group experiences and self-help processes such as, believing and feeling part of the group because members have a common problem, and the sharing and receiving information on the effects of the injury.	5/7
Lexell et al. (2013) Sweden	The experience of persons with ABI of	Content analysis	11 outpatients with mixed ABI. Limited	"The group rehabilitation helped me	4/7

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	an outpatient group rehabilitation programme, and how the programme contributed to their lives		information re severity.	adjust to a new life.” Two categories; a) the group rehabilitation gave me knowledge and tools to change my everyday life; and b) rehabilitation is a long-term, individual and collaborative process.	
Smalley et al. (2007) United Kingdom	Description of clinicians’ experience of running a psycho-educational/support group with clients with brain injury.	No explicit approach identified	Clinicians working in TBI rehabilitation – number and professions not identified	Importance of preparation/planning and supervision for facilitator. Peer support and supportive environment, promote self-awareness. Emotional and behavioural changes impacted on group dynamics.	1/7

<sup>b</sup> See Table 3.1 for Quality evaluation scale

#### 3.5.3.4 Mixed methods studies

Eighteen mixed methods studies that collected both qualitative and quantitative data were identified in this review. The majority of the mixed methods studies targeted social communication skills ( $n=5$ , 27.8%), and the intervention focus of the remaining mixed methods studies varied greatly. Key findings in relation to patient or clinician perceptions generated by the mixed-methods studies are summarised below.

### 3.5.4 Patient and clinician perceptions of group-delivered therapy interventions

#### 3.5.4.1 Patient perceptions

Of all 99 included studies, 30 (30.3%) formally explored patient perceptions, whereby participant feedback was sought post-intervention, and findings analysed qualitatively and/or quantitatively. One RCT presented participant feedback that was obtained after each group intervention and explored participant opinions and satisfaction about the intervention (Backhaus et al., 2010). The study concluded that 87% of participants reported feeling 'very to extremely satisfied' with the group content (Backhaus et al., 2010).

The most common method for obtaining participant feedback was via questionnaires or surveys and these were used in 16 of the 30 (53.3%) studies. Most of these studies did not evaluate perceptions about participation in a group, rather gathered basic feedback about the intervention (e.g., satisfaction with content, facilitator style, etc.). Five studies utilised focus groups or interviews to collect qualitative feedback data about participant perceptions, and six utilised a combination of questionnaires and interview or focus groups to gather quantitative and qualitative feedback about the intervention. Two studies did not identify a formal process for obtaining feedback and only presented 'a few comments' from participants in results with no formal analysis of data. And one qualitative study described data collection via a number of formal methods in addition to informal 'contacts and conversations' with participants (Schwartzberg, 1994). Seven of the mixed methods studies (Charles et al., 2007; Fleming et al., 2009; Fraas et al., 2007; Lundqvist et al., 2010; Rodgers et al., 2007; Schulz, 1994; Thomas, 2004) and four of the qualitative studies (Lexell et al., 2013; Nilsson et al., 2011; Schwartzberg, 1994; Straits-Troster et al., 2013) identified and utilised formal qualitative data analysis methods. Common themes in the mixed methods studies about the benefits of group rehabilitation included sharing experiences which reduced feelings of isolation (Charles et al., 2007; Fleming et al., 2009;

Fraas et al., 2007; Rodgers et al., 2007), provision of practical and emotional support (Charles et al., 2007; Fraas et al., 2007; Schulz, 1994), providing opportunities to help and receive help from others including receiving feedback, learning from other's and sharing information (Charles et al., 2007; Fleming et al., 2009; Fraas et al., 2007; Lundqvist et al., 2010; Rodgers et al., 2007; Schulz, 1994), as well as providing an avenue for socialisation (Charles et al., 2007; Fraas et al., 2007; Rodgers et al., 2007) and acceptance and understanding (Lundqvist et al., 2010; Thomas, 2004).

Many of these themes also emerged in the four qualitative studies of patient perspectives about group participation including; the positive aspects of sharing of information; being part of a group and the associated reduction in social isolation and opportunities for peer support through sharing struggles and learning coping skills; and developing strategies to assist with adjustment and adaptation to life post brain injury (Lexell et al., 2013; Nilsson et al., 2011; Schwartzberg, 1994; Straits-Troster et al., 2013). These themes were also consistent with findings from the studies that investigated group-based interventions from the perspective of clinicians (Knis-Matthews et al., 2006; Richard et al., 2008; Smalley et al., 2007).

#### 3.5.4.2 Clinician perceptions

Three articles specifically focussed on clinician perceptions of group therapy interventions. The first study was a qualitative study that utilised in-depth interviews with four rehabilitation clinicians, representing occupational therapy, physical therapy, recreational therapy and speech therapy (Knis-Matthews et al., 2006). Knis-Matthew and colleagues concluded that groups were an influential treatment modality and valuable according to the clinicians in TBI rehabilitation. Participants in this study identified positive aspects of group interventions such as provision of opportunities for social interaction and peer support, and preparation for the 'real world'. Potential barriers identified included lack of therapist experience leading groups or including patients who were not at the appropriate cognitive level (Knis-Matthews et al., 2006).

The second study by Smalley et al. (2007) summarised reflections of the facilitators of one group therapy intervention. No formal data analysis was conducted, however the authors highlighted positive outcomes in family relations and identified the group as providing opportunities for peer learning and support. Preparation and supervision were



identified by the authors as an essential step to ensure groups run smoothly (Smalley et al., 2007).

The third study of clinician perceptions utilised a written survey of multi-disciplinary rehabilitation therapists (Richard et al., 2008). Richard and colleagues found that 79% of multi-disciplinary respondents working in TBI rehabilitation reported using groups as a treatment modality. According to clinician respondents, groups were valuable when the group format was matched to the goals and needs of the participants, and when there were opportunities for social interaction, peer feedback, and stimulating real world interactions, which is consistent with the findings of Knis-Matthews and colleagues (2006). Respondents also identified similar barriers, specifically, the challenges associated with the variety of cognitive changes characteristic of this patient group and the impact on group processes. Both Knis-Matthews et al. (2006) and Richard et al. (2008) emphasised the need for further research to demonstrate evidence for practice in this area.

### 3.6 Discussion

This scoping review was conducted to address three main research questions. The first question was, 'what types of group-delivered interventions have been researched with patients following TBI?' This review found that the majority of included studies were quantitative studies with an outpatient participant population. The majority of interventions targeted a specific impairment or function (e.g., memory training groups, coping skills group, exercise groups) which is an interesting finding considering the myriad and complexity of impairments that present following severe TBI. For example, for a person with impaired self-awareness understanding why they are doing cognitive retraining may be more difficult than participation in meal preparation if their goal is to return to living alone. The International Classification of Functioning, Disability and Health (World Health Organisation, 2001) represents health across a continuum which includes activity and participation, and these levels are under-represented in the literature on group-delivered interventions in TBI rehabilitation. This suggests that greater emphasis on group-delivered interventions that target 'real world' activities, or participation, may also be beneficial with this population. The bulk of the research in this area has targeted rehabilitation outpatients, yet group-delivered interventions are traditionally also used in inpatient rehabilitation settings. Whilst it may be more difficult in an inpatient setting to focus on 'real life' activities, it is possible to conduct groups with a functional focus (e.g., meal

preparation, community outings) in inpatient rehabilitation. Given that the majority of group interventions targeted a specific impairment or function and only 16% reported using individualised goal setting, further research of group interventions that target participation and individual goals is warranted.

With regards to the second research question, 'What group delivered therapy interventions are effective following TBI?', it is of note that the majority of studies did not aim to establish the effectiveness of the group as a medium *per se*, rather aimed to determine the effectiveness of the specific intervention that was delivered in a group context. Three studies were an exception to this; an RCT with a PEDro rating scale of 5/10, which found that the group and combined interventions were associated with goal attainment gains in self-rated satisfaction, and that the group or individual setting interventions were more likely to result in improvements with behavioural competency and psychosocial well-being compared with the combined intervention (Ownsworth et al., 2008). Two non-RCT studies also directly compared interventions in group and individual settings. Marshall and Wallace (2009) reported statistically significant improvements in alternative communication, and a trend towards significant change in functional communication for participants following the experimental intervention which was a combined individual and group setting intervention, compared to those receiving the intervention in an individual format. Wheeler et al. (2003) reported the number of group music therapy sessions was significantly associated with improved mood (in the past 24 hours) as reported by patient's family members, and positively associated with social interaction.

Whilst high level evidence such as systematic reviews, RCTs and practice guidelines exist to support clinical decision making for the provision of best practice for the management of TBI (Bayley et al., 2014; De Silva et al., 2009; Royal College of Physicians and British Society of Rehabilitation Medicine, 2003; Turner-Stokes et al., 2005), with the exception of the recently published INCOG Guidelines for Cognitive Rehabilitation (Bayley et al., 2014), these do not specifically encompass the provision of group-delivered interventions. The INCOG Guidelines do provide recommendations for the use of group-delivered intervention as part of cognitive rehabilitation, the majority of the studies supporting these recommendations do not directly compare the effectiveness of an intervention in a group format with the same intervention delivered in an individual format. The current reviews and guidelines do not provide specific recommendations for the types

of groups and group processes that are most effective when conducting group-based rehabilitation with individuals with TBI.

Concerns regarding the long-term effectiveness of the interventions were commonly highlighted as a limitation of studies, with few studies conducting follow up of participants later than six months post intervention. Kennedy and Turkstra (2006), in their study of the challenges faced by researchers in the field of TBI, identified that patterns of recovery, stability of deficits, and time since injury are important considerations when conducting rigorous research to ensure that outcomes can be attributed to the intervention rather than spontaneous recovery. They also discussed challenges associated with choice of outcome measures and the use of self-rating scales with this population group, highlighting that there are a number of tools to best represent intervention outcomes, and reflect 'real world' performance. They recommended that researchers need to be cognisant of the outcome they are aiming to measure and utilise tools to directly measure this (Kennedy & Turkstra, 2006). The value of multiple perspectives when utilising self-report and working with people with impaired awareness also warrants consideration, as people with TBI may demonstrate difficulties with accurately estimating their abilities and difficulties (Fleming, Strong, & Ashton, 1996; Sandhaug, Andelic, Berntsen, Seiler, & Mygland, 2012; Sherer, Boake, et al., 1998). This scoping review identified few studies that included family or significant others as participants in the group intervention, or in evaluating the intervention, or assessing participant outcomes.

In addition to this, key rationales for conducting this review and for the use of groups were their supposed cost-benefits for rehabilitation services and therapeutic benefits for rehabilitation clients. Despite the scoping review demonstrating that groups are commonly used to address a wide range of impairments and functional skills, there is very little evidence to support either their cost-effectiveness or therapeutic benefits. The studies reviewed predominantly used pre-post designs that limit their conclusions that group-based delivery of interventions is effective in improving functional abilities. Furthermore, no studies included cost-benefit analyses as primary study aims or outcome measures.

This poses the question, why is research so limited in this area? Few studies were identified that directly compared interventions provided in individual and group settings. Such studies could enable investigation of cost-effectiveness and guide delivery of rehabilitation services. A possible barrier to this type of research specifically in TBI

rehabilitation could be that patients participate in a wide range of rehabilitation activities and establishing direct cause and effect relationships is challenging. Ethical considerations could also be a potential barrier for instance, if random allocation to group (experimental) intervention or individual intervention was to occur this would ideally mean withholding individualised treatment sessions during the experimental intervention. Furthermore, the complexity and variety of patient presentations following TBI can impact on participation in research, however this can be minimised by using evidence-based recommendations for engagement of people with brain injury in research such as awareness of the impact of communication impairments and fatigue on participation (Carlsson et al., 2007).

The third question guiding this review was 'what are patient and clinician perceptions of group-delivered interventions following TBI?' Overall, the review identified few studies which explored in-depth both patient and clinician perceptions of group therapy interventions in brain injury rehabilitation. The importance of involving persons with disabilities and their significant others in service and policy development is recognised internationally in The Convention of The Rights of Persons with Disabilities (United Nations, 2006) and the World Health Organisation, Declaration of Alma-Ata (1978). Furthermore, "consumers' individual and collective lived experiences provide important information about the efficiency and effectiveness of their particular health systems." (Health Consumers Queensland, 2009, p. 5). Findings from this review are consistent with other health research in Australia, namely, that consumer engagement is poorly understood, and inconsistently considered both in policy and practice (Gregory, 2008). Whilst of the 99 articles included in this review, 30 studies included consumers' feedback regarding group interventions, the depth and quality of these processes varied significantly. Just over half of these included studies ( $n=18$ , 60%) presented only basic quantitative data primarily from brief satisfaction questionnaires, or participant comments with no or limited rigorous or in-depth analysis. When drawing conclusions from these studies, it is important to acknowledge the limitations associated with the use of global satisfaction scales and administration modes (Diener, Inglehart, & Tay, 2012; Schwarz, Strack, Hippler, & Bishop, 1991), and the potential impact of cognitive and psychosocial changes following TBI on feedback responses (Goverover & Chiaravalloti, 2014; Paterson & Scott-Findlay, 2002). Additionally, the feedback presented in included studies more often reflected perceptions of aspects of the intervention content or facilitators, rather than perceptions of the group setting *per se*. However, the studies did generally report positive participant perceptions of the group-delivered interventions suggesting that on the whole

group-delivery is an acceptable format in TBI rehabilitation from the consumer's viewpoint. The findings of the qualitative studies exploring participants' experiences of group interventions reflected the group format provided opportunities for sharing and learning between peers who are experiencing the same challenges, and supported adjustment and adaptation to life following TBI. These participants reported therapeutic effects of receiving interventions in groups that reflect the benefits described more generally both in brain injury rehabilitation literature (Malec, 2014; Prigatano et al., 1984) and group work theory (Yalom & Leszcz, 2005).

Examination of clinician perceptions of group therapy interventions in TBI rehabilitation was also limited. One study provided perceptions of four clinicians in one centre, based on in-depth interviews (Knis-Matthews et al., 2006), another provided survey data feedback from clinicians at multiple TBI rehabilitation centres (Richard et al., 2008), and the third summarised reflections of facilitating a group therapy intervention, but no qualitative analysis of data (Smalley et al., 2007). Results of these studies were generally consistent with each other, and with findings of other quantitative and mixed-method studies. These concluded that group interventions provided opportunities for social interaction and support (Charles et al., 2007; Fleming et al., 2009; Fraas et al., 2007; Nilsson et al., 2011; Parente & Stapleton, 1999; Purk, 2004; Rodgers et al., 2007; Sargeant et al., 2000; Schulz, 1994; S. Schwartzberg, 1994; Straits-Troster et al., 2013; Vandiver & Christofero-Snider, 2000), and could provide opportunities to simulate real world interactions (Knis-Matthews et al., 2006; Lundqvist et al., 2010; Newman & Newstadt, 2009; Niemeier et al., 2010; Sargeant et al., 2000; Smalley et al., 2007; Vandiver & Christofero-Snider, 2000). Lack of experience of facilitating group therapy was highlighted as a concern by clinicians (Knis-Matthews et al., 2006; Richard et al., 2008). Clinicians also identified and discussed the challenges of facilitating groups with participants with cognitive, awareness and behavioural changes, which are common following TBI (Knis-Matthews et al., 2006; Richard et al., 2008; Smalley et al., 2007). Further exploration of the skills clinicians perceived to be important for facilitating group therapy in TBI rehabilitation, and the barriers and facilitators of effective group therapy interventions will serve to enhance service provision in this area. Of note is the absence of qualitative studies that use participant observation to explore group processes. Participant observation may be of value for determining ways therapists can facilitate group processes that encourage engagement, peer interaction and engagement in meaningful roles and activities within the group.

The three studies that directly compared interventions in group, individual and combined settings identified different benefits with each setting. For example, Ownsworth et al. (2008) concluded that gains in psychological well-being and behavioural competency were most likely to occur in a group setting whilst improvements in ratings of performance and satisfaction of progress on goals was associated with the individual and combined (group and individual) settings. In their study of music therapy, Wheeler et al. (2003) observed that group sessions had a positive impact on social interaction and individual sessions had a small positive effect on motivation for treatment. Whilst it is tempting to recommend more randomised controls comparing group and individual settings to shed more light on this issue, this may not be beneficial given that the two approaches appear to have different outcomes and benefits. Therefore, further research aiming to understand the key components of groups that impact positively on psychosocial outcomes may be more useful, in particular from the perspective of consumers, as well as clinicians. It is widely accepted that consumer engagement is essential in service development and improvement (Gregory, 2008; Sarrami Foroushani et al., 2012; US Department of Health and Human Services Centres for Disease Control and Prevention. Office of the Director of Strategy and Innovation, 2011). There are multiple benefits to be gained from exploration of both patient and clinician experiences, with regards to evaluation of interventions and programmes, and the limited existing research investigating these perspectives, suggest that further qualitative research on group-based interventions in TBI rehabilitation is needed. The review also highlighted that, consistent with The International Classification of Functioning, Disability and Health (World Health Organisation, 2001) framework, studies evaluating group outcomes at the activity and participation level, and individualized outcomes such as goal attainment are limited. Evaluation of cost-effectiveness of group interventions is also warranted in the current health and economic environment (McCarthy & Hart, 2011). Finally, given the variety of TBI presentations and reported complexity of tailoring group interventions to meet multiple complex needs, further exploratory studies exploring group processes would inform strategies for planning and managing group interventions.

Whilst this scoping review used a systematic method to search, chart and collate the literature, ratings of quantitative and mixed-methods studies have not been presented and this could be considered a limitation. It is also important to note that for pragmatic reasons, this review included studies where the 'group' comprised of more than two participants, so

some important studies using groups of two (Simpson, Tate, Whiting, & Cotter, 2011), or mentorship where there were two participants, and one participant received the support or mentorship (intervention) from the other participant (Fraas & Bellerose, 2010; Hibbard et al., 2002; Struchen et al., 2011) have been excluded. These studies generally evaluated outcomes related to the mentee receiving the intervention and did not focus on the outcomes related to the mentor. The potential impact of publication bias should also be noted, for example, selective publication of studies and selective inclusion in large systematic reviews can mean that conclusions based exclusively on published studies can be misleading and inaccurate (Dickersin, 2005; Sutton, 2005).

### 3.7 Conclusion

This scoping review identified that group delivered interventions are practised in TBI rehabilitation, primarily addressing impairments such as cognition. Limited high-quality evidence exists that demonstrates the effectiveness of interventions provided in a group setting compared with an individual setting. Whilst group delivered interventions have been demonstrated to lead to significant changes in target outcomes, the impact of the group setting or group participation has not been widely investigated. Given the potential therapeutic benefit of group processes, which include peer-to-peer interaction, support and guidance, the findings of this scoping review highlight the paucity of research that aims to establish the effectiveness of groups as a mode of intervention. Further research investigating group processes and effectiveness, and patient and clinician perceptions of group delivered interventions is warranted.

## Chapter 4

### Methodology

This chapter presents a detailed description of the methodology of the thesis. The series of studies outlined in this chapter aim to address thesis aims 2, 3, and 4. This is an unpublished chapter.



## 4.1 Aims

The aims of the series of studies described in this section of the thesis were related to thesis aims 2, 3, and 4:

2. To explore the perceptions and experiences of people with TBI about their participation in inpatient occupational therapy rehabilitation groups;
3. To explore the experiences and perspectives of clinicians about the benefits, challenges and processes of facilitating inpatient occupational therapy groups with patients following with TBI;
4. To describe and understand the nature of interactions within inpatient occupational therapy groups in TBI rehabilitation to inform recommendations for group facilitation.

Given the exploratory nature of the research, and the planned use of predominantly qualitative research methods, no specific hypotheses were generated. It was anticipated that the research findings would lead to greater understanding of patient preferences and experiences of inpatient occupational therapy group programmes conducted in brain injury rehabilitation and provide directions for refinement of group therapy processes and enhanced service provision to patients with TBI.

In addition to this, it was anticipated that the research would form the basis for development of recommendations for clinical practice regarding the use of group-based therapy interventions in TBI rehabilitation. This would include a clinical framework tool for planning and facilitation of occupational therapy group interventions. It was envisaged that the earlier stages (aims 2 and 3) inform the development of recommendations about how best to delivery rehabilitation groups, generated from the perspectives of service recipients and service providers of group therapy interventions. Aim 4 was intended to generate a snapshot of current practice occurring within occupational therapy groups for clients following TBI, which would be used to both extend upon these recommendations and compare actual performance with participant reports.

## 4.2 Ethical considerations

Ethical clearance and approval was granted from the Metro South Hospital and Health Service Human Research Ethics Committee (EC00167) (dated 26/07/2013) and Centres for Health Research, Metro South Health (dated 13/08/2013). Refer to Appendix A for ethical approval documents.

In addition to this, ethical clearance and approval was granted from The University of Queensland Human Research Ethics Committee (dated 21/08/2013 – expedited review on basis of approval from the Metro South Hospital and Health Service Human Research Ethics Committee dated 26/07/2013). Refer to Appendix B.

A University of Queensland and Metro South Hospital and Health District Agreement was obtained. Refer to Appendix C. Subsequent amendments were approved by the Metro South Hospital and Health Service Human Research Ethics Committee and The University of Queensland Human Research Ethics Committee.

Issues associated with informed consent and participants with cognitive impairment were taken into account (Carlsson et al., 2007). For example, shortened versions of Participant Information and Consent Form (PICF) with consideration of language and length were developed and approved by the relevant ethics committees. Refer to Appendix D for this shortened PICF version. Where possible processes for obtaining consent were conducted with significant others of potential participants present.

Processes to maintain confidentiality and anonymity were followed. This included de-identifying data, and maintaining separate participant lists and participant demographic data documents. Electronic data were stored securely on a password-protected computer, and hard copy/paper data were stored in a locked location off-site from recruitment. The data were only accessible by the research team.

## 4.3 Design

The study utilised a mixed methods design. Mixed methods research has been defined as “research in which the investigator collects and analyses data, integrates the

findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or programme of inquiry” (Tashakkori & Creswell, 2007, p. 4).

A mixed methods approach has also been identified as a process to investigate and explore multiple perspectives of the social world, a process “...that actively invites us to participate in a dialogue about ways of seeing and hearing, multiple ways of making sense of the social world, and multiple standpoints which is important and to be valued and cherished” (Greene, 2007, p. 20). The study met the core characteristics of mixed methods research as identified by Creswell and Plano Clark (2011);

- Collects and analyses persuasively and rigorously both qualitative and quantitative data (based on research questions);
- mixes (or integrates or links) the two forms of data concurrently by combining them (or merging them), sequentially by having one build on the other, or embedding one within the other;
- gives priority to one or to both forms of data (in terms of what the research emphasises);
- uses these procedures in a single study or in multiple phases of a programme of study;
- frames these procedures within philosophical worldviews and theoretical lenses; and;
- combines the procedures into specific research designs that direct the plan for conducting the study. (p. 5)

This study aimed to explore the perspectives and experiences of patients with TBI and clinicians (multiple standpoints) participating in group therapy interventions within an inpatient brain injury rehabilitation setting, using mixed methods. Quantitative and qualitative data were collected from patient questionnaires and interviews, focus groups with clinicians and videotaped recordings of therapy groups, and. A qualitative methodology was utilised to enable the researchers to obtain multiple perspectives and understanding of the experiences of clinicians working in this field, and patients participating in groups as part of their rehabilitation programmes. This approach enabled the researchers to “shed explanatory and predictive light on important phenomena” (Gale, Heath, Cameron, Rashid, & Redwood, 2013, p. 6), in this case, group therapy in TBI rehabilitation. The qualitative aspects of the study drew upon a phenomenological

approach as the research was investigating the experiences of different stakeholders participating in groups in TBI rehabilitation (Liamputtong, 2013).

Data were collated from all methods and the perspectives of patients and clinicians were analysed to develop recommendations for clinical practice regarding the use of group-based therapy interventions in TBI rehabilitation. Analysed data from the different aspects of the study were triangulated to enhance rigour and to confirm the findings from different perspectives. It was proposed that the results would inform a new clinical framework tool to guide the planning and facilitation of group therapy interventions.

## 4.4 Participants

### 4.4.1 Setting

The study was situated within the context of the Brain Injury Rehabilitation Unit (BIRU) at the Princess Alexandra Hospital. The BIRU is the only brain injury rehabilitation unit in Queensland providing specialist inpatient multidisciplinary rehabilitation services within the public sector for people of general working age following brain injury, including TBI. The BIRU multi-disciplinary team facilitates a broad range of group therapy interventions to complement individual therapy programmes including peer support groups, word finding groups, balance groups, and recreation groups, in addition to the occupational therapy groups programme. In occupational therapy the groups programme includes the following groups: meal preparation (breakfast and lunch), community access (including shopping), cognitive focused groups, upper limb groups and workshop/woodwork. The groups programme is described in detail in Chapter 5. In August 2011, the BIRU occupational therapy service expanded and consolidated the groups programme to increase the intensity and effectiveness of rehabilitation for inpatients with brain injury. This occupational therapy groups programme was the research context from which participants were recruited and the site where group participation and processes were explored.

#### 4.4.2 Participant recruitment

Patients who were participating in an inpatient rehabilitation programme in the Princess Alexandra Hospital BIRU and the groups programme within occupational therapy were eligible for inclusion in the study.

Inclusion criteria were:

1. Diagnosis of TBI
2. Aged 18-65 years (i.e. broad working age range)
3. Had emerged from Post Traumatic amnesia (PTA)
4. Had adequate cognitive and communication ability to provide informed consent and participate in an interview (as determined by the treating occupational therapist and speech pathologist).
5. Had attended at least two group occupational therapy sessions.

Patients were approached by their treating occupational therapist to briefly discuss the study. Where the patient indicated an interest in participating in the study, the principal researcher was informed. The principal researcher then explained the project and proceeded with obtaining informed consent. In instances where the principal researcher was the potential participant's treating occupational therapist, another member of the research team obtained consent. It was highlighted that participation was voluntary and would not impact on their current or future healthcare, or the patient's relationship with the Princess Alexandra Hospital.

Whilst the larger project focused on participants with TBI, patients participating in the group therapy programme in occupational therapy had both TBI and ABI. In instances where groups scheduled for video recording included participants with ABI they were recruited to the study and provided informed consent for video recording of the group.

Clinician participants were recruited from the Occupational Therapy Department at the Princess Alexandra Hospital. Clinician participants eligible for inclusion in the study included clinicians working in the BIRU Occupational Therapy Team at the time of recruitment and any staff who previously worked in the service since August 2011 when the groups programme commenced.

A second cohort of clinicians, working in the Spinal Injury Unit (SIU) and the Geriatric Assessment and Rehabilitation Unit (GARU) or having worked in these settings since August 2011, were also recruited. Inclusion of clinicians working in rehabilitation settings other than TBI (spinal injury and geriatric rehabilitation) enabled comparison of the findings about group processes, challenges and benefits of group rehabilitation for people with TBI, spinal injury and stroke to identify whether and how groups differed when there are participants with TBI in the groups.

Group therapy interventions were provided within the occupational therapy service by all three rehabilitation teams. In SIU and GARU, group programmes primarily included patients with spinal cord injury and stroke. However, in both of these settings patients attending groups may have had a concurrent diagnosis of TBI and SIU, or older patients with TBI may have been patients in the GARU setting.

Undergraduate and graduate-entry Master’s programme occupational therapy students completing clinical placements in these teams at the time of recruitment were also invited to participate.

Clinicians and students were invited to participate in the project via email and provided written informed consent prior to participation.

#### 4.5 Data collection

The methods of data collection varied according to the participant group. Refer to Table 4.1 for a summary of data collection and analysis processes for the mixed methods.

Table 4.1  
*Summary of data collection and analysis processes*

Participant group	Data collection	Data analysis	Aim
Patient participants	Group Participant Questionnaire – Patient version	Descriptive statistics	2

	Outcome measures and demographic information (patient medical records)	Descriptive statistics	2
	Audio-recording of in-depth semi-structured interviews	Content analysis of transcripts	2
	Video-recording of group participation	Qualitative analysis by two raters	4
Clinician participants	Audio recording of focus groups	Thematic framework analysis of transcripts	3
	Video-recording of group facilitation	Qualitative analysis by two raters	4

#### 4.5.1 Patient participants

Data were gathered from the following sources:

##### 4.5.1.1 Group Participant Questionnaire

All consenting participants with TBI were asked to complete The Group Participant Questionnaire – Patient version (Appendix F) following participation in a group. The questionnaire took approximately 10-15 minutes and asked about their level of satisfaction with the group, and aspects of the group that they liked and disliked.

The questionnaire was developed to explore patient perspectives of key areas of group participation that had been identified in groups, occupational therapy and brain injury literature. For example, the extent to which the group provided opportunities for peer interactions and support (Malec, 2014), whether the group addressed individual needs and goals (Doig et al., 2009; Law et al., 1996), and whether the group provided opportunities to practise skills and strategies (Bertisch et al., 2011). To enable differentiation between positive and negative perspectives of aspects of the groups, a 4-point Likert scale was used: strongly agree, agree, disagree, and strongly disagree (Boynton & Greenhalgh, 2004). Consideration was given to common cognitive and communication changes following TBI in the development of the questionnaire, including the complexity of questions and language used (Boynton & Greenhalgh, 2004; McColl et al., 2001). Initially the questionnaire contained 10 items with three items negatively worded to avoid a positive response bias. However, based on the responses observed during a pilot period,

it was evident that the negatively worded items were confusing for participants with TBI. For example, inconsistency was noted in responses to the negatively and positively worded questions which probed the same concepts. Subsequently, the seven positively worded items were retained for use in the study.

Questionnaires were administered by the principal researcher who was not directly involved in facilitating the group therapy sessions. Assistance was provided to participants as required. For example, where upper limb deficits impacted on handwriting, the researcher transcribed participant responses, or where visual deficits impacted on ability to read, the researcher read questions aloud to the participant and recorded responses.

A total of 83 completed questionnaires were collected noting that individual patients participating in different groups were invited to complete one questionnaire for each of the different groups (e.g., meal preparation, cognitive, upper limb and community access groups). Thirty-five participants (30 males and 5 females) completed questionnaires. These survey data were coded with a unique identifier to enable comparison of responses across individuals between different types of groups.

#### 4.5.1.2 Data retrieved from medical records and hospital database

Demographic and injury severity data were collected from medical records and included:

- Age;
- Sex;
- Mechanism of injury;
- Date of injury;
- Initial Glasgow Coma Scale;
- Severity of TBI as indicated by duration of PTA;
- Date of admission to BIRU;
- Admission Functional Independence Measure scores.

Patient data relating to goal achievement in the groups were retrieved from medical records. This included pre-group and post-group intervention ratings by patients and clinicians on a goal rating measure based on the Canadian Occupational Performance Measure (COPM) (Law et al., 2005). Patient ratings on the COPM are routinely used in occupational therapy at the BIRU to measure performance and satisfaction with



performance on individualised therapy goals and this tool has been adapted for use in the groups programme.

#### 4.5.1.3 Patient interviews

A subgroup of 15 patient participants were purposively selected from the broader sample to represent a stratified sample according to high/low satisfaction levels, severity of injury, age, gender and type of group. Participants were invited to participate in individual qualitative semi-structured interviews.

The semi-structured interviews aimed to explore the patient's experiences of group therapy interventions in occupational therapy, with open-ended questions used to enable divergence to topics freely raised by the interviewee. Consideration was given to common challenges of interviewing such as interrupting, not having a quiet space to conduct the interview that is free of interruptions, not allowing time for the interviewee to process and respond to questions, and the interviewer presenting their own views and biasing the interview (Britten, 1995). The interviewer used probing to further explore topics and perspectives brought up by the interviewee (Liamputtong, 2013).

Consideration was given to changes post TBI with the potential impact on participation in interviews taken into account to maximise participation and engagement in the research process (Carlsson et al., 2007; Paterson & Scott-Findlay, 2002). Evidence-based strategies were implemented including; preparing the interviewee with information about what will be covered in the interview, consideration of interview questions including the complexity of language, the length of the interview (allowing time for rest breaks and processing), and allowing time for debriefing following the interview (with the interviewer and with the participant's treating clinician who was aware of the research project and interview process) (Carlsson et al., 2007; Greenwood et al., 2015; Paterson & Scott-Findlay, 2002).

Interviews were conducted by the principal researcher or another member of the research team, neither of whom were directly involved with the delivery of the groups programme. Refer to Appendix G for the interview topic guide used. Questions were not related to individual therapy sessions, rather, they investigated perceptions of group therapy interventions as a whole and the processes that occurred within therapy groups. Where difficulties with recall were evident, the interviewer used prior knowledge of the

groups to provide generic prompts. For example, “in cognitive group you may have done activities about your memory”, or “in community access group, you may have gone to the local shops to purchase goods for a meal you were going to cook”. Interviews were audiotaped with the consent of the participant. The interviewer made field notes during and following the interviews, and these notes were used in data analysis.

Interviews were transcribed verbatim with consideration given to quality of transcription as described by Poland (1995), such as checking and consistent use of abbreviations and symbols, for example, to indicate pauses.

## 4.5.2 Clinician participants

### 4.5.2.1 Focus groups

Focus groups were used to collect data and gain an understanding of the experiences and perspectives of clinician participants (Hennink, 2007; Khan & Manderson, 1992; Liamputtong & Ezzy, 2005). Inclusion of clinicians working in rehabilitation settings other than TBI rehabilitation enabled comparison of the findings about group processes, challenges and benefits of group rehabilitation for people with TBI, spinal injury and stroke. It also enabled the researchers to identify whether and how groups differed when there were participants with TBI in the groups.

Eligible clinicians were invited to participate in a focus group via email. Prior to data collection commencing, all participants were sent information regarding the project, including the aims of the focus group, and planned topics for the focus group. All participants provided written consent for participation in the study including audio-recording of focus groups.

To minimise potential bias, focus groups were facilitated by a member of the research team (ED) who was not a clinical staff member at the hospital where recruitment and data collection occurred. A topic guide was used to ensure consistency of topics discussed across all focus groups. Refer to Appendix H for the Clinician Focus Group Topic Guide. The facilitator first explained the purpose of the focus groups and posed the question ‘tell me about your experiences of group therapy’, subsequently listening and reflecting to clarify the clinicians’ statements through-out. The facilitator avoided driving the discussion, rather used the topic guide and encouraged participants to raise issues

pertinent to their experiences and perceptions (Hennink, 2007; Kitzinger, 1995; Liamputtong & Ezzy, 2005). The focus group explored clinicians' experiences of groups, the processes, barriers and challenges to facilitation of groups, the use of goals, and peer aspects of group interventions with patients post TBI. The same approach was also used for the focus groups with SIU and GARU clinicians. However, clinicians in these groups were additionally asked to describe their experience of groups that included patients with a diagnosis of TBI.

Focus groups were audio-recorded and transcribed verbatim with consideration to the quality of transcription as outlined by Poland (1995). The facilitator wrote field notes during and immediately following the focus groups to further inform data analysis. Member checks were also conducted to enhance credibility of the study findings, with a summary of themes sent back to participants for checking and feedback.

#### 4.5.3 Video-recording of groups

Video-recordings were used for data collection of observation of occupational therapy group interventions. The use of film or video-recording for social science research was developed in anthropology with the focus of observation usually a form of social interaction (Rosenstein & Israel, 2002). Video-recordings are also used in the social sciences as a mechanism for giving feedback, and a medium for distance learning and consulting (Rosenstein & Israel, 2002). The use of video data enables researchers to view the data from a number of perspectives (Spiers, 2004).

Within occupational therapy research, video-recording has been used previously as a method of data collection. Examples have included exploring the complexity of peoples' engagement in occupations (and activities), documenting interactions with the social and physical environment, and to overcome the challenges of using qualitative interviews when cognitive and language impairments are present (Bailliard, 2014; Pierce, 2005). Pierce (2005) discussed the emergence of the use of visual or video data as a research method, and identified how social interactions and changing or complex temporal sequences such as interventions can be more effectively studied using this method. Barnard, Cruice and Playford (2010) used video-recorded data to analyse goal-setting meetings, particularly to identify who was talking and important actions, which would not necessarily have been evident or observable from audio-recordings alone.

In this study four occupational therapy groups were videotaped. The first author (FP) video recorded three of the groups and another researcher (ED) video recorded one group. No members of the research team were directly involved in the facilitation of the groups. The following groups were video-recorded: one meal preparation, one upper limb, and two cognitive groups. Written consent was provided by all patient and clinician participants for the video-recording of groups.

An iPad was used for video-recording and was positioned on a tripod to include a view of all group members and the group space. Participants were made aware of the presence of the iPad for video recording of the group at the commencement of the group and were encouraged to participate as usual and to ignore the presence of the recording device. Additionally, one or two audio-recorders were positioned in the group to enhance the quality of the audio-recording. An example of this was in the meal preparation group where participants typically moved around the kitchen and possibly out of sound reach of a single recording device. The additional audio-recorders also ensured more accurate data collection when the quality of the audio recording was compromised by background noise, which was a concern given the groups were facilitated in a shared therapy space.

#### 4.6 Data analysis

Aim 2 explored the perceptions and experiences of people with TBI about their participation in inpatient occupational therapy rehabilitation groups. Patient perceptions of the group interventions were generated from analysis of the questionnaire and interview data. De-identified questionnaire data were collated and presented descriptively using means, standard deviations, frequencies and percentages to provide quantitative data on patient satisfaction levels with different aspects of groups interventions. Any comments provided regarding group participation were collated and summarised. Data from the first 40 questionnaires were used to refine the semi-structured interview schedule for use in the qualitative interviews.

All patient interview data were transcribed verbatim. As the research was exploratory and inductive (i.e., exploring patient perceptions), a content analysis approach was utilised (Elo & Kyngas, 2008; Graneheim & Lundman, 2004). Key themes that represented the

patients' experience of participating in therapy groups were identified (Elo & Kyngas, 2008). The three phases of content analysis were followed, as outlined by Elo and Kyngas (2008): preparation, organizing, and reporting. During the preparation phase the researchers immersed themselves in the interview data and transcripts were read multiple times. Open coding onto the transcripts was completed during the organisation phase of data analysis, with 'meaning units' or sections of the transcripts condensed into 'condensed meaning units'. Independent coding of two transcripts by three researchers led to the development of an initial list of codes. Consensus about the initial list of codes was reached through discussion with the research team. The initial list of codes was then applied to two transcripts independently by three researchers. Further discussion and consensus led to a revised list of codes. This revised list of codes was then applied to the remaining 11 transcripts by the first author. Where queries with coding arose, discussion with the research team was conducted to reach consensus. Codes were grouped into categories and subcategories, and abstracted into emerging themes. The final phase of analysis involved writing up and reporting of the process and results.

The next aim was to explore the experiences and perspectives of clinicians about the benefits, challenges and processes of facilitating inpatient occupational therapy groups with people following TBI. Data were analysed using the framework analysis method which has been used widely in health research (Gale et al., 2013; Pope, Ziebland, & Mays, 2006; Ritchie & Spencer, 1994; Ritchie, Spencer, & O'Connor, 2003) and is consistent with the use of focus groups as a method of data collection (Pope, Ziebland, & Mays, 2000). The framework method enabled themes to be developed both inductively from the narratives (experiences and views) of research participants and deductively from existing literature (Gale et al., 2013; Pope et al., 2000). The five stages of the framework analysis method (Gale et al., 2013; Pope et al., 2006; Ritchie & Spencer, 1994; Ritchie et al., 2003) were followed and are outlined in Table 4.2. Categories and themes for the whole data set (the four focus groups) were generated, and the data across settings (e.g., TBI setting compared with SIU and GARU settings) were additionally compared to identify the themes that were most relevant to the TBI population.

Table 4.2  
*Stages of framework data analysis and actions<sup>b</sup>*

Stage	Actions completed
Familiarisation	<ul style="list-style-type: none"> <li>• Primary researcher (FP) completed verbatim transcription with checking.</li> <li>• All three researchers became familiar with the data by reading the transcripts.</li> </ul>
Identifying (developing) a thematic framework	<ul style="list-style-type: none"> <li>• A detailed index or framework was developed drawing on a priori issues and questions, and content of focus groups. The framework aimed to identify key concepts and definitions by which the data were examined.</li> <li>• All three researchers conducted independent coding of transcript 1.</li> <li>• Consensus discussions on key categories, codes and definitions.</li> <li>• Draft framework developed and applied to transcript 1 independently by two researchers</li> <li>• Further clarification and revision.</li> <li>• Additional codes added reflecting discussions as they arose.</li> <li>• Revised framework independently applied to transcript by third researcher.</li> <li>• Finalization of the framework.</li> </ul>
Indexing (applying the analytical framework)	<ul style="list-style-type: none"> <li>• Categories and codes assigned abbreviations.</li> <li>• Framework independently applied to all transcripts (2-4) by two researchers, coding written directly into transcripts.</li> <li>• Consensus discussions conducted about any divergent issues resulting from application of framework.</li> <li>• Further codes added to the framework after analysis of transcript 2-4 as appropriate.</li> </ul>

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## Charting

(charting the data into the framework matrix)

- Excel spreadsheets used to develop a chart for the data.
- Data re-arranged into categories and codes per the framework. This enabled the research team “*to build up a picture of the data as a whole by considering the range of attitudes and experiences for each issue or theme*”(Ritchie & Spencer, 1994, p. 182).
- Data summarised, not ‘cut and paste’ verbatim, retaining respondent language.
- Sufficient information included to understand the concept and reference to original text included to enable re-tracing if required.
- Significant quotations identified and included in the chart.
- Ongoing regular team meetings conducted to ensure consensus of charting and consistency of summarised data.

## Mapping and interpretation

- Mapping of relationships between different codes and categories to identify themes e.g. ‘fit’ and ‘good fit’ were mapped across the categories and codes.
- Diagrams developed to visualize relationships and associations between categories and codes, and to identify emerging key themes.
- Memos developed to expand and further explore codes in-depth.
- Continuing discussion between the research team, with frequent return to transcripts, charts, and memos.
- Key messages/themes emerging identified and further exploration conducted under these themes to identify relationships.
- Participant checks conducted to further confirm and clarify participant responses.

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<sup>b</sup>Data analysis method drawn from Gale et al. (2013), Pope et al. (2006), Ritchie & Spencer (1994), and Ritchie et al. (2003).

Throughout all stages of the study consideration was given to trustworthiness (or rigour) of the methods and processes. Lincoln and Guba's (1985) four criteria for trustworthiness; credibility, transferability, dependability and confirmability, guided the procedures used in this research. Actions completed by the research team are outlined in Table 4.3. The use of established research methods, frequent de-briefing with the research team and member checks enhanced the credibility of the study. To address transferability, provision of sufficient information about the setting, participants and research questions were provided. Furthermore, the primary investigator who was a member of the clinical team in BIRU was not directly involved in the recruitment or data collection processes for the clinician participants. In-depth description of the methodology and audit trail addressed dependability and confirmability. Further to this, acknowledgement of study limitations and triangulation of data between clinicians working with different patient population groups served to further enhance the confirmability of the study findings. There was also ongoing and regular review by the research team to verify coding and charting to validate the findings and synthesis of data, and to avoid potential biases (Creswell, 2013; Liamputtong, 2013).

Table 4.3:

*Quality criterion and actions guided by Lincoln and Guba (1985)*

Quality criterion	Actions completed by research team
(Including rigour equivalent)	
Credibility (Internal validity)	<ul style="list-style-type: none"> <li>• Adoption of established research methods (focus groups &amp; framework analysis)</li> </ul>
Confidence in the 'truth' of the findings	<ul style="list-style-type: none"> <li>• Tactics to ensure honesty (e.g., primary investigator working in teams, not involved in focus groups, participants had opportunity to refuse)</li> <li>• Frequent debriefing with research team</li> <li>• Peer scrutiny (conference presentations)</li> <li>• Reflective commentary</li> <li>• Member checks</li> </ul>



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<p>Transferability (External validity/generalizability) Showing findings have applicability in other contexts</p>	<ul style="list-style-type: none"> <li>• Provision of background data and information about context/phenomenon under study</li> </ul>
<p>Dependability (Reliability) Showing findings are consistent and could be repeated</p>	<ul style="list-style-type: none"> <li>• In-depth methodological description of methodology to enable repetition of study (e.g., inclusion of focus group guide as an appendix) (see Table 4.2: Stages of data analysis and actions)</li> </ul>
<p>Confirmability (Objectivity) The degree of neutrality or the extent to which the findings of a study are shaped by the respondents and not researcher bias, motivation, or interest</p>	<ul style="list-style-type: none"> <li>• In-depth methodological description and audit trail (see Table 4.2: Stages of data analysis and actions)</li> <li>• Acknowledgment of study limitations (e.g., single site)</li> <li>• Triangulation (between clinicians working with different patient population groups)</li> <li>• Reflexivity</li> </ul>

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The final aim was to describe and understand the nature of interactions within inpatient occupational therapy groups in TBI rehabilitation to inform recommendations for group facilitation. Qualitative description methods were used to examine the audio-visual data. Video-recordings can provide extremely large volumes of data and the use of a priori topics, or a scaffold can direct and define the parameters of target observations (Morse & Pooler, 2002). Despite using a scaffold or framework, researchers can use an inductive approach by “describing behaviours, questioning observations, verifying and confirming, and systematically creating or extending theory” (Morse & Pooler, 2002, p. 65). The framework used to guide data analysis was based on the earlier qualitative findings from the patient perspectives, clinician focus groups, and literature about peer and social interaction during groups (Ellemers & Haslam, 2012; Yalom & Leszcz, 2005a). The target observations identified in the framework were interactions during groups including peer to peer social interaction, peers teaching and guiding each other, peers working together, and the therapist talking and/or explaining. Additional interactions that did not fit with this framework were noted. Whether the interactions were peer-initiated, prompted by the clinician or shaped by the activity was also noted. An iMovie software programme was used to manage and store the data, and to conduct video analysis (Spiers, 2004).

Qualitative content analysis, commonly used in qualitative description (Milne & Oberle, 2005; Neergaard, Olesen, Andersen, & Sondergaard, 2009; Sandelowski, 2000), was utilised. The data drove the coding process following strategies described by Miles and Huberman (1994). These included coding observations, noting insights and reflections on a data spread sheet, and referencing times and duration of interactions. Similar phrases, themes, sequences and features were identified through repeated viewing (or sorting) of the data as well as differences in the data. Generalisations that ‘held true’ for the data set were further analysed in the context of existing knowledge. Using these strategies, the data were systematically reviewed to describe and code the interactions according to the framework scaffold. Data were viewed both from a whole of group perspective, and as smaller segments of interactions in more detail (Erickson, 1982). Rosenstein and Israel (2002) emphasised the value of being able to view video data multiple times, with new insights being able to emerge with repeated viewings. Thus, two independent researchers (FP and KM) reviewed the data multiple times and consensus

meetings were held between the researchers (FP, KM and ED) where coding was compared and discussed.

The research team listened to and considered the audio-recordings concurrently with the video-recordings to enhance their understanding of the interactions that were occurring. The team subsequently decided not to transcribe the audio-data and analyse the transcripts, reasoning that the data analysis processes provided sufficient imbursement in the data to describe and understand interactions occurring, and that the descriptions included time references so the team could return to the original data source easily (Bailliard, 2014).

Quality and rigour were considered at all stages of the study by addressing integrity and subjectivity through having a team of researchers with different perspectives (Neergaard et al., 2009). The first author (FP) was employed as a clinician in the BIRU. Her insider perspective provided insight into the usual processes occurring with facilitation of groups in this setting. The second and third authors (ED and JF) were researchers in brain injury rehabilitation. The fourth member of the research team (KM) brought a different clinical perspective, working in spinal injury rehabilitation. Reflection and reflexivity were supported throughout the study through regular research team meetings to reach consensus when queries arose, to enhance integrity and avoid bias (Milne & Oberle, 2005). Established data collection and analysis methods were used, with processes clearly documented to enhance credibility and dependability (Lincoln & Guba, 1985). A thorough description of the setting and participants enhanced transferability of findings (Lincoln & Guba, 1985). Triangulation using video and audio-recordings supported the reliability of the findings (Rosenstein & Israel, 2002).

This chapter has outlined the method for the mixed method study with data collection from patient interviews and questionnaires, focus groups with clinicians and video-recorded observations of occupational therapy groups. The results of these studies are reported in the next four chapters which are in the form of manuscripts that have either been published or submitted for publication.

## Chapter 5

### Participant evaluation of an inpatient occupational therapy groups programme in brain injury rehabilitation.

This chapter provides a context overview outlining the current model for service delivery of rehabilitation groups in occupational therapy in the BIRU in a large tertiary hospital in Australia. Patient perspectives regarding specific group therapy interventions, and a case study of group participation outcomes are also presented. It addresses aim 2 of the thesis. This chapter was published in *The Australian Occupational Therapy Journal* as:

Patterson, F., Fleming, J., Doig, E., & Griffin, J. (2017). Participant evaluation of an inpatient occupational therapy groups programme in brain injury rehabilitation. *Australian Occupational Therapy Journal*, 64(5), 408-18. doi:10.1111/1440-1630.12392

## 5.1 Abstract

**Background/aim:** Therapy groups are commonly used in brain injury rehabilitation yet patient perceptions of participation in groups are largely uninvestigated. This paper describes the occupational therapy groups programme at an inpatient brain injury rehabilitation unit and presents an evaluation from the patient's perspective. **Method:** Participants were inpatients with TBI who participated in the groups programme and completed a customised self-report questionnaire measuring perceptions about and satisfaction with four occupational therapy groups. Data were analysed descriptively and comparisons made between groups with a functional focus (meal preparation and community access) and an impairment focus (cognitive and upper limb) using Z scores. **Results:** 35 participants (30 males, 5 females) completed a total of 83 questionnaires. Over 90% of responses agreed or strongly agreed that working with others was enjoyable, that the groups provided feedback and individualised treatment, and were useful for them. There were no significant differences in perceptions about the functional and impairment-focused groups. An illustrative case example of participation in the groups programme is presented. **Conclusions and significance of the study:** Overall, consumer feedback on different aspects of the occupational therapy groups programme in brain injury rehabilitation was positive. Further in-depth investigation of patient perceptions of groups including processes that facilitate or challenge participation is warranted.

## 5.2 Introduction

The need to demonstrate cost-effectiveness and efficient resource management has led to the increasing use of group-based interventions in health care (Drum et al., 2011; McCarthy & Hart, 2011). The intensity of rehabilitation for patients can be maximised through the delivery of therapy in groups (Bertisch et al., 2011). However, there is also an expectation that these interventions, as for all forms of therapy, are evidence-based and client-centred. Consumer engagement is widely accepted as an important component of health service development, improvement and ongoing management (McCarthy & Hart, 2011). Therefore, interventions including group-based interventions should be informed by high quality research and consumer feedback (Drum et al., 2011; McCarthy & Hart, 2011). This paper examines the use of group-based occupational therapy interventions in brain injury rehabilitation.

Within the occupational therapy profession there is a long history of the therapeutic use of groups. First documented in the 1920s, Meyer (1922) described the facilitation of craft groups in which there was little emphasis on group interactions. Whilst group-based interventions have changed over time, groups remain a core component of occupational therapy practice (Higgins, Schwartzberg, Bedell, & Duncombe, 2014; Schwartzberg et al., 2008). Schwartzberg et al. (2008) described the history of occupational therapy group interventions across six key periods from the project era in the 1920s and 1930s, featuring project work with little focus on group dynamics; to the socialisation era of the late 1930s which was largely based in psychiatric settings; and the group dynamics era of the 1950s which emphasised therapeutic interactions between participants. Since then groups have continued to be used widely by occupational therapists across a broad range of clinical settings (Cole, 2012; Higgins et al., 2014; Scanlan et al., 2015) with shifts in health care approaches reflected in group facilitation.

Yalom (2005) identified even curative factors that occur within the context of group treatment including universality, the instillation of hope, development of socialising techniques, and self-understanding. Yalom's curative factors have underpinned approaches to groups in brain injury rehabilitation (Bertisch et al., 2011; McCarthy & Hart, 2011; Torkelson Lynch & Kosciulek, 1995). Despite these benefits, conducting rehabilitation groups with people who have TBI may be challenging due to the complexity and variety of cognitive and psychosocial changes following TBI (Bertisch et al., 2011; Pagan et al., 2015; Patterson, Fleming, & Doig, 2016). As well as difficulty meeting the diverse individual needs of group participants with TBI, behavioural and cognitive difficulties may impact on participation and group dynamics (Bertisch et al., 2011; Pagan et al., 2015). Even with these challenges, the potential benefits of group interventions in TBI rehabilitation include opportunities for peer support and reinforcement of progress, creation of a supportive therapy environment and therapeutic milieu, and facilitation of self-awareness and adjustment to injury (Malec, 2014; Patterson et al., 2016).

Group interventions are relatively common in brain injury rehabilitation. In a study of 2130 consecutive admissions in 10 inpatient rehabilitation sites in the United States, Hammond et al. (2015) found that 79.9% of patients participated in at least one group session during their admission, and that groups accounted for 13.7% of patients' therapy sessions and 15.8% of all therapy time. An Australian survey of multidisciplinary clinicians working in TBI rehabilitation, found that all disciplines used group-based interventions in

their practice, for example, 43.37% of occupational therapists (Pagan et al., 2015). A recent scoping review (Patterson et al., 2016) found that brain injury rehabilitation groups focus largely on improving specific impairments, such as upper limb function, memory, self-awareness, or other functions. Research about groups that has a focus on activities or participation (WHO, 2001), such as the type of groups commonly used in occupational therapy (e.g., meal preparation groups), is limited. Few studies address the specific impact of TBI on group participation and present strategies for facilitating such groups (Bertisch et al., 2011; Forssmann-Falck & Christian, 1989; Torkelson Lynch & Kosciulek, 1995). Thus, there is limited literature to guide therapists in planning and facilitating group interventions in TBI rehabilitation (Patterson et al., 2016).

Participation in groups is usually only one component of multidisciplinary and multifaceted rehabilitation programmes. Furthermore, group interventions often target multiple functional deficits utilising a variety of approaches and interventions. This results in challenges in the evaluation of outcomes from group participation (Hammond et al., 2015; Scanlan et al., 2015), and the development of measures of group participation is somewhat limited (Scanlan et al., 2015). As well as objective measures, the importance of consumer perspectives in service evaluation should not be overlooked (McCarthy & Hart, 2011).

Therefore the aims of this paper are to (i) describe the occupational therapy groups programme at an inpatient brain injury rehabilitation unit including principles and processes for the facilitation of groups, (ii) evaluate the groups in the programme using consumer feedback, including comparing consumer perceptions about impairment and activity/participation groups, and (iii) provide an illustrative case example of the process and outcomes of participation in the groups programme from referral to discharge.

### 5.3 Overview of the groups programme

The BIRU at the Princess Alexandra Hospital is a 26-bed inpatient specialist brain injury rehabilitation unit in Queensland, Australia. The BIRU provides multidisciplinary rehabilitation for adults of working age following brain injury. In occupational therapy, patients receive one-to-one rehabilitation and participate in the groups programme. Under the supervision of the occupational therapy team leader, four occupational therapists (clinical specialist, senior clinician, two base grade clinicians) along with therapy

assistants, a recreation officer, and students completing practice placements provide services to the inpatient unit including the groups programme.

There are four different groups offered in the groups programme and each is facilitated multiple times per week: meal preparation (breakfast group twice weekly, lunch group twice weekly), community access (twice weekly), upper limb group (three times per week) and cognitive rehabilitation group (six per week). The number of each type of group can be adjusted within the programme to reflect patient needs at the time.

Groups are planned with a maximum of four participants and usually include 3-4 participants. Staff to patient ratio is generally 1:4, except where students on practice placement facilitate the groups, the ratio is 2 students to 4 participants (with background clinician supervision). Resources utilised in the groups are those available within the department for individual therapy sessions, and reflect best practice in occupational therapy and brain injury rehabilitation.

Patients are referred to the groups programme by their treating occupational therapists using referral forms that document individual patient goals, impairments and other clinically relevant information. The therapist and patient collaborate to set individualised goals to be targeted during the groups. Allocation to groups, group participation, and progress are discussed during regular group planning meetings attended by the occupational therapy team. The patient and their treating therapist discuss and document goal achievement prior to discharge from the programme.

Principles and approaches derived from group and brain injury rehabilitation literature provide a framework for the groups programme. The four key principles underpinning the programme are outlined below:

- 1. Individualised occupational therapy goals are used to facilitate client-centred practice within the group setting.*

Being a client-centred profession, the primary goal of occupational therapy is to enable people to participate in occupational roles and activities of importance to them (Occupational Therapy Board of Australia, 2014; World Federation of Occupational Therapists, 2012). The groups programme is underpinned by a client-centred, occupation-



based approach to rehabilitation designed to provide opportunities for engagement in meaningful occupations (Law et al., 1996; Strong et al., 1999). Therapy groups can provide an opportunity for participation in real life social interactions, practise of skills and achievement of meaningful goals (Bertisch et al., 2011). Consistent with occupational therapy models of practice such as Person-Environment-Occupation model (Law et al., 1996; Strong et al., 1999), the environment is considered, and addressed within the constraints of an inpatient rehabilitation setting.

The groups are occupation-focused and address individually meaningful, patient-focused goals, ensuring that therapy interventions are client-centred (Doig, Fleming, Kuipers, & Cornwell, 2010). The use of goals that are patient-specific and meaningful can have a positive effect on participation and engagement of people with TBI in rehabilitation (Doig et al., 2009). Goals also provide a clear purpose and structure the rehabilitation (Doig et al., 2009), which is important when working with groups of patients following TBI.

## *2. Groups in TBI rehabilitation need to be adapted to accommodate cognitive and behavioural changes.*

A unique combination of cognitive and behavioural effects of TBI may include impaired self-awareness, personality changes, and cognitive processing changes (Centres for Disease Control and Prevention, 2014). These changes can affect participation in rehabilitation including groups, and impact significantly on group dynamics (Bertisch et al., 2011; Pagan et al., 2015; Torkelson Lynch & Kosciulek, 1995). Therefore, the programme is underpinned by evidence relating to goal-directed rehabilitation (Doig et al., 2009; Jenkinson, Ownsworth, & Shum, 2007), cognitive rehabilitation (Bayley et al., 2014; Tate et al., 2014), and group-based rehabilitation after brain injury (Bertisch et al., 2011; Torkelson Lynch & Kosciulek, 1995). Group content is tailored to meet individual needs and this includes the amount of information presented, strategies taught and practised, complexity of language used, and amount of repetition provided. Furthermore, the mix of group participants in terms of level of functioning and goals is considered so that group content is relevant, and the challenge level is optimal for all group members.

*3. Peer support and learning are an important component of effective group processes.*

Peer support and interaction between patients in the groups is facilitated and encouraged. The opportunities for learning from peers that groups provide are well recognised (Cole, 2012; Yalom & Leszcz, 2005). Bertisch et al. (2011) described the support between patients with shared experiences of brain injury as being more effective than individual therapy sessions. Furthermore, feedback and reinforcement received from peers can be more powerful, and more readily responded to than feedback from therapists (Malec, 2014). Mindful of this when planning groups, therapists carefully select participants for particular groups, taking into consideration shared patient experiences and backgrounds, previous relationships and interactions, and common goals. Where appropriate, group activities are designed to facilitate group members working together to achieve an outcome from a joint effort, for example, cooking one meal as a group or shopping for a list of items together.

*4. Structured processes for referral, planning, facilitation and staff training enhance group processes.*

The importance of planning and structure prior to and during groups is a central premise of the programme. Therapists and group facilitators undertake a number of structured planning processes including formal referral for all group participants, discussion about patient selection and group mix, consideration of patients' goals, and tailoring group activities within the framework of the four groups offered. The group facilitators provide structure during the groups, which is particularly important for patients with cognitive impairments following TBI (Torkelson Lynch & Kosciulek, 1995).

Group outline documents provide a guide for group facilitators to plan and structure groups. The group outline allows for flexibility in selection of group activities and formats to meet individualised goals. This ensures delivery of client-centred rehabilitation that is tailored to the mix of patients in each group. The group content is deliberately not manualised or comprised of scripted discussion topics or routine use of particular strategies. This approach was also used by Bertisch and colleagues (2011), who described group facilitators having common group activities relevant to all group participants whilst still addressing individual goals.

The occupational therapy team has a number of permanent staff who support new team members in developing skills and confidence in group facilitation. A wide variety of resources are available including; group outlines which provide an overview of the different groups and, sample referral forms and group plans with patient goals, group structures and activities explained. Furthermore, an education programme has been developed for staff which includes a tutorial series with topics such as orientation to the groups programme, group facilitation and behaviour management. Additional multi-disciplinary education opportunities are supported by the team.

A diagrammatic overview of the overall group process which follows three stages: i) referral and planning, ii) facilitation of groups, and iii) feedback and evaluation is provided in Figure 5.1.

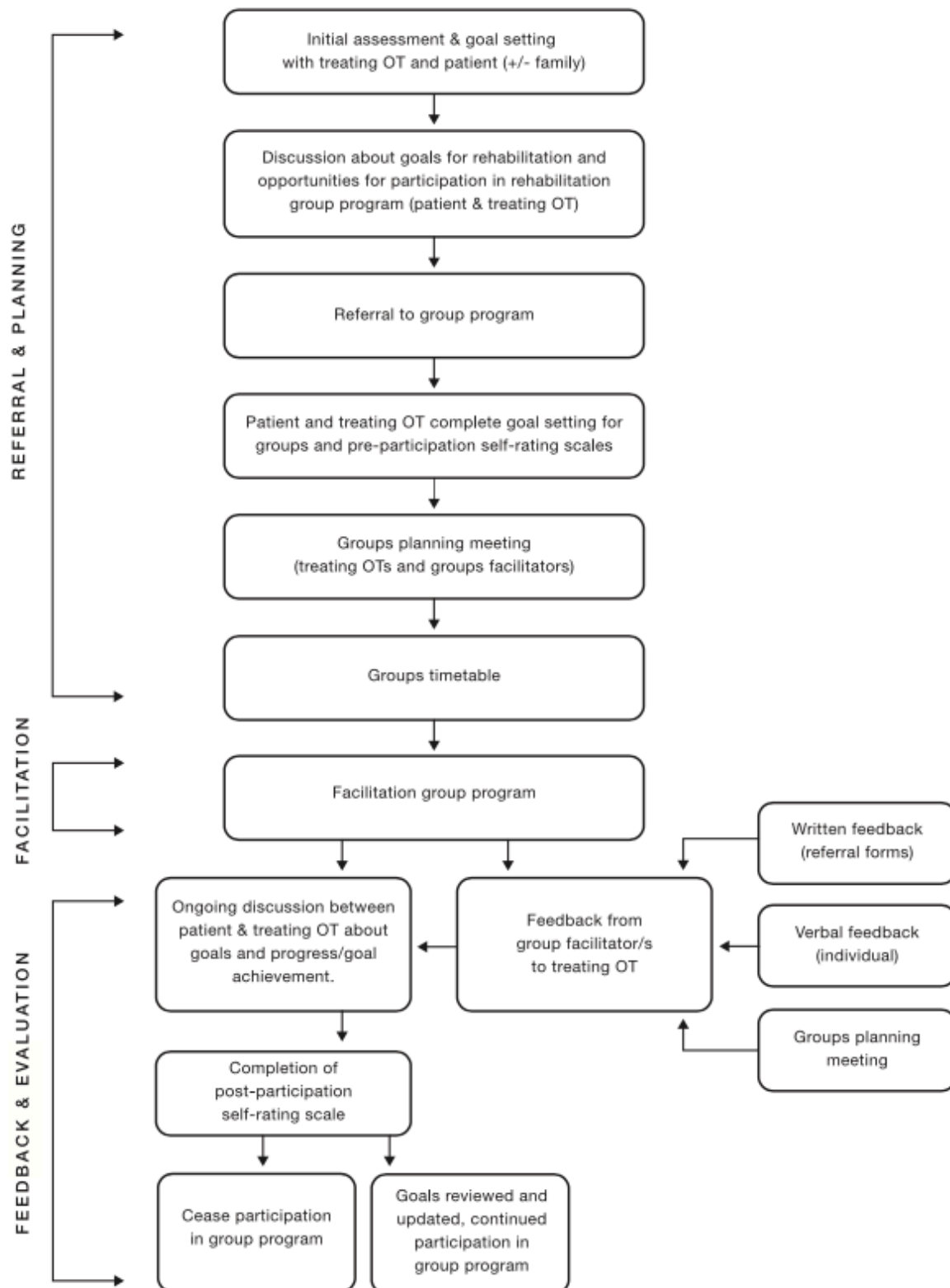


Figure 5.1  
*Group participation process*

As part of the referral process, the patient and treating therapist complete an evaluation of current performance on goals for group participation using a rating scale that

is based on the COPM (Law et al., 2005). The COPM has been widely used in occupational therapy practice including with patients following brain injury (Carswell et al., 2004; Doig et al., 2010; Jenkinson et al., 2007), and is effective for developing therapy goals, engaging clients in the therapy process, and monitoring patient progress (Carswell et al., 2004).

With regards to the facilitation of groups, all groups are one hour in duration. The meal preparation, upper limb and cognitive groups are conducted in the occupational therapy treatment area, which is an open plan, shared space. Community access groups are conducted within the hospital grounds and in the community where local amenities, such as supermarkets are visited. Regardless of the type of group there are several key processes that are facilitated during the group.

At the commencement of a group the facilitator provides an introduction to the group to facilitate a safe and accepting group climate (Schwartzberg et al., 2008). This includes introducing group facilitators and group members, outlining expectations such as expected behaviours, reinforcing individual patient goals and group purpose, and outlining the activities and timeframe for the group. This information is provided verbally as well as in written formats (i.e., external cue cards). To support the engagement and participation of new participants in the groups, facilitators may provide individual orientation and introduce group members to each other prior to commencement in the groups programme (Torkelson Lynch & Kosciulek, 1995)

During groups individual patient goals and the purpose of group activities are emphasised to assist with generalisation of strategies and skills. The relevance of strategies to the person's context is reinforced through discussion about use of the strategies at home and in the community. Family participation in groups is supported to assist with and carry over of strategy use to the ward, during weekend leave, and at discharge to the patient's home and community environment (Sohlberg & Raskin, 1996). Opportunities for active participation versus observation of groups are discussed by the treating therapist with family and significant others.

Throughout group sessions facilitators monitor patients' participation and group interactions, and respond by providing assistance and support as required. Examples of this include positioning or partnering group participants together to maximise socialisation

and peer learning, monitoring fatigue and frustration levels, and modifying the activities for the individual.

At the conclusion of the group the facilitator encourages discussion about goals, strategies and group purpose, as well as reflection on participation and feedback about achievements. When providing feedback, the group facilitator uses specific examples of behaviours or actions to reinforce and encourage performance.

The steps, resources and people involved in the three stages of the group process are outlined in Table 5.1.

Table 5.1

*Group processes*

Steps	Resources	People involved
1. Initial assessment & goal setting		Treating OT & patient (+/- family)
2. Discussion & education about groups programme	Groups timetable +/- Observation of groups prior to attendance	Treating OT & patient (+/- family)
3. Referral to group programme	Referral form including: <ul style="list-style-type: none"> <li>• Patient goals for group participation.</li> <li>• Relevant background information such as age, life roles, and impairments.</li> <li>• Impairments that may impact on group participation and goal achievement such as mobility status, communication and cognitive impairments.</li> </ul>	Treating OT
4. Goal setting & completion of pre-participation self-rating scale	Self-rating scale based on COPM.	Completed by both treating OT & patient

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5. Weekly groups planning meeting	Structured agenda including review & discussion of: <ul style="list-style-type: none"> <li>• Previous weeks' groups (such as participant clashes or positive group interactions).</li> <li>• New referrals.</li> <li>• Patient allocation for the proceeding week's groups including consideration of individual patient needs and abilities, and combinations of participants within groups.</li> </ul>	Treating OTs & groups facilitators
6. Preparation for individual groups	Groups programme timetable completed & distributed in the week prior to group commencement. Group outline, planning templates, relevant therapy resources & equipment.	Group facilitators, OTs, inpatient ward staff, & multi-disciplinary team
7. Facilitation groups programme	Group planning templates, relevant therapy resources & equipment.	Group facilitators & patients
8. Feedback & evaluation of participation & goal achievement	<ol style="list-style-type: none"> <li>1. Verbal - Any critical incidents are reported to the treating therapist during or immediately following the group.</li> <li>2. Written feedback template (including rating of observed goal performance on a purpose developed scale: independent, independent with</li> </ol>	Group facilitators to treating OTs  Group facilitators to treating OTs

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	additional time, verbal prompting or physical assistance).	
	3. Groups planning meeting.	Group facilitators to treating OTs
	4. Ongoing dialogue between patient and treating OT.	Treating OT & patient Completed by both treating OT & patient
	5. Self-rating scale (post-participation).	
9. Cease participation in group programme OR Goals reviewed and updated, continued participation in group programme	Referral form Self-rating scale.	Treating OT & patient

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## 5.4 Participant evaluation of the groups programme

A customised questionnaire was utilised to investigate patient perceptions about the group interventions. Ethical clearance was obtained from the Metro South Human Research Ethics Committee (HREC/13/QPAH/367) and the Medical Research Ethics Committee, The University of Queensland (Approval number: 2013001094).

## 5.5 Method

### 5.5.1 Participants

Inpatients of the BIRU who were participating in the occupational therapy groups programme and met the eligibility criteria were invited to participate in the study. Eligibility criteria included participants who had attended at least two group sessions, had a diagnosis of TBI, adults (aged 18-65 years), emerged from PTA, and had adequate cognitive and communication ability to provide informed consent (as determined by their treating occupational therapist and speech pathologist).

### 5.5.2 Measure

A questionnaire was developed to evaluate the extent to which the groups programme was providing the participants with experiences in key areas that were highlighted in the groups, occupational therapy and brain injury literature. These included opportunities for peer feedback and peer support (Malec, 2014), opportunities to practise skills (Bertisch et al., 2011), and addressing individual client needs and goals (Doig et al., 2009; Law et al., 1996). The questionnaire also probed usefulness of the groups, perceived satisfaction with aspects of the groups, as well as opportunities for feedback, peer interaction, and experiential learning. A 4-point Likert scale (strongly agree, agree, disagree and strongly disagree) was used to enable differentiation between positive and negative attitudes towards various aspects of the groups (Boynton & Greenhalgh, 2004). In developing the questionnaire consideration was given to the target population including complexity of questions and language, impact of cognitive impairment on completion, length of questionnaire, and font size (Boynton & Greenhalgh, 2004; McColl et al., 2001).

The questionnaire was piloted prior to commencing formal recruitment. Initially the questionnaire contained ten items with three items negatively worded to avoid a positive response bias. The pilot data were visually inspected and it was evident that negatively worded items were confusing to many participants with TBI. Inconsistencies in responses to negatively and positively worded questions probing the same concepts were observed for example, 'the group was specific to my needs', and 'the group was not specific to my needs'. Subsequently, only the seven positively worded items were retained.

### 5.5.3 Procedure

Patients were approached by their treating therapist about participation in the study and if they consented to be contacted, the principal researcher (FP) obtained written consent. Where FP was the potential participant's treating therapist, another member of the research team obtained consent.

The principal researcher, who was not directly involved in facilitating the groups, administered the questionnaires with the participants. Assistance was provided as required for example, where upper limb impairment impacted on handwriting, or where visual impairment impacted on ability to read.

### 5.5.4 Data analysis

De-identified data were collated and summarised for the four groups using descriptive statistics. A Z-score online calculator was used to compare responses for functional groups (meal preparation and community access groups) and impairment-based groups (cognitive and upper limb groups).

## 5.6 Results

Thirty-five participants (30 males, and 5 females) consented to participate in the study, completing a total of 83 questionnaires. The mean age of participants was 38 years (SD=14.1). The mean duration of PTA was 72.4 days (SD=39.8) and the majority of patients ( $n=18$ ) had a PTA duration of greater than four weeks, indicating an extremely

severe injury. PTA duration was not recorded in the medical record for ten participants. There were 29 questionnaires completed for meal preparation groups, 15 for community access groups, 28 for cognitive groups and 11 for upper limb groups.

Overall, across all groups, 92.8% of participants strongly agreed, or agreed that 'the group was useful', and 98.8% of participants strongly agreed or agreed with the statement 'I enjoyed the group'. Participants were positive in their responses regarding 'I enjoyed working with others in the group', with 95.2% strongly agreeing, or agreeing with this statement. With regards to the group being specific to 'my needs', 86.7% of participants strongly agreed, or agreed with this statement. The proportions of participants who disagreed or strongly disagreed with the group being specific to their needs, was higher for the cognitive groups (21.4%) and community access groups (20.0%), compared to the upper limb (9.1%) and meal preparation (3.4%) groups. The majority of participants responded positively, (agreeing or strongly agreeing) that 'The therapist talked about my goals' in the group (85.5%), and that they 'got good feedback in the group' (90.3%). With regards to the groups providing opportunities to practise 'things I had learnt with my therapist', 86.7% of participants agreed or strongly agreed with this statement. There were no significant differences in responses to any items between functional and impairment groups based on Z-score calculations. Responses to questionnaire items across the four groups are presented in Tables 5.2 and 5.3. An illustrative case study of group participation and outcomes is presented in Figure 5.1.

Table 5.2

*Summary of perceptions of functional groups*

Item	Meal preparation group (n=29 participants)					Community access group (n=15 participants)				
	SA	A	D	SD	N/A <sup>a</sup>	SA	A	D	SD	N/A <sup>a</sup>
The group was useful	41.4%	51.7%	3.4%	0	0	60.0%	40.0%	0	0	0
I enjoyed the group	48.3%	51.7%	0	0	0	73.3%	26.7%	0	0	0
The group gave me time to practise things I had learned with my therapist	17.2%	62.1%	13.8%	0	0	33.3%	53.3%	6.7%	6.7%	0
The group was specific to my needs	24.1%	72.4%	3.4%	0	0	33.3%	46.7%	20.0%	0	0
I got good feedback in the group	27.6%	65.5%	6.9%	0	6.7%	26.7%	60.0%	6.7%	0	6.7%
The therapist talked about my goals	24.1%	62.1%	13.8%	0	6.7%	26.7%	60.0%	6.7%	0	6.7%
I enjoyed working with others in my group	34.5%	65.5%	0	0	6.7%	33.3%	60.0%	0	0	6.7%

Note: <sup>a</sup> N/A indicates that no response was indicated or was illegible. A: agree; D: disagree; SA: strongly agree; SD: strongly disagree.

Table 5.3

*Summary of perceptions of impairment groups*

Item	Cognitive group (n=28 participants)					Upper limb group (n=11 participants)				
	SA	A	D	SD	N/A <sup>a</sup>	SA	A	D	SD	N/A <sup>a</sup>
The group was useful	42.9%	50.0%	7.1%	0	0	27.3%	54.5%	9.1%	0	9.1%
I enjoyed the group	35.7%	64.3%	0	0	0	27.3%	63.6%	9.1%	0	0
The group gave me time to practise things I had learned with my therapist	46.4%	42.9%	7.1%	3.6%	0	27.3%	72.7%	0	0	0
The group was specific to my needs	35.7%	42.9%	21.4%	0	0	27.3%	63.6%	9.1%	0	0
I got good feedback in the group	21.4%	67.9%	10.7%	0	0	0	90.9%	0	9.1%	0
The therapist talked about my goals	28.6%	57.1%	10.7%	3.6%	0	9.1%	72.7%	18.2%	0	0
I enjoyed working with others in my group	50.0%	46.4%	3.6%	0	0	18.2%	63.6%	18.2%	0	0

Note: <sup>a</sup> N/A indicates that no response was indicated or was illegible. A: agree; D: disagree; SA: strongly agree; SD: strongly disagree.

**Client:** 'Michael' (pseudonym), a 28-year-old male

**Background:** TBI following a fall; admitted to rehabilitation 36 days post injury; Functional Independence Measurement score of 90/126 (physical 69/91 and cognitive 21/35) on admission; PTA duration 45 days indicating an extremely severe TBI.

**Group participation:** Meal preparation and cognitive groups with participation in 16 groups in total during 53-day admission (i.e., at least one of each group per week).

**Group referral notes:** impaired self-awareness, difficulties with attention to detail and problem solving, and slowed speed of processing; inappropriate social interactions (e.g., verbosity and poor turn taking within conversations), distractible, difficulties with multi-tasking, requires prompting to return to task.

**Group goals and COPM ratings:**

	Pre	Post
<b>Meal preparation goal:</b> <i>To be able to independently plan and prepare a meal</i>		
Importance self-rating	10	10
Performance self-rating	8	9
Satisfaction self-rating	10	10
Performance therapist -rating	7	8
<b>Cognitive goal:</b> <i>To improve my speed of thinking and accuracy for return to work</i>		
Importance self-rating	10	10
Performance self-rating	7	9
Satisfaction self-rating	5	10
Performance therapist rating	5	8

Note: COPM scores range from 1 (lowest importance, performance or satisfaction) to 10 (highest importance, performance or satisfaction).  
performance scores from pre to post participation.

**Individualised treatment strategies in cognitive groups:** Encouraged to focus on skills such as attention to detail, prompted to use a metacognitive strategy such as, '*goal, plan, do, check*' to assist with attending to detail and to minimise errors in tasks such as reading emails, following instructions and recipes, and budgeting tasks; education about cognitive rehabilitation and strategies; group discussions encouraging participants to share their experiences of using the cognitive strategies and to reflect on their performance and progress; tasks related to Michael's long-term goal of returning to work (e.g., proof reading written documents to identify errors, responding to written instructions such as completing forms and paperwork); regularly self-checking his progress against task instructions, and reflecting on his performance at the end of tasks or groups; provision of feedback by group facilitator to both Michael and his treating therapist, with specific examples of positive strategy use, and areas to focus on.

**Individual treatment strategies in meal preparation groups:** Explicit linking of group skills such as negotiation, delegation of roles and tasks, and sharing of information related to Michael's goal of returning to work; assignation of 'group leader' role requiring task delegation, monitoring of group progress and performance to ensure accurate task completion in timely manner; encouraging self-reflection on the impact of attention impairments and verbosity on performance and group interactions; prompting to remain on task, and to monitor task accuracy and progress.

**Group interactions:** To facilitate peer learning and interaction opportunities, Michael was 'matched' with others who had similar goals, that he had established relationships with both on the ward and in previous groups, and with similar backgrounds, for example, work history. Consideration of other participants' social skills and frustration tolerances was also important given Michael's tendency to be verbose and dominating in conversation. The group facilitators monitored all group members to ensure that behavioural changes did not impact detrimentally on others' experiences and participation in the group sessions.



**Outcomes:** Michael and his treating therapist reported improvement on both goals after participation in the groups, with clinically significant improvement on the COPM (defined as a  $\geq 2$  point change pre-post intervention) in performance and satisfaction after completion of the cognitive group (See Table above). The 1/10-point improvement in performance and satisfaction after completion of meal preparation group was not clinically significant. For both goals the therapist and Michael were consistent in their ratings of change in performance scores from pre to post participation.

Figure 5.2

*Illustrative case study of group participation and outcomes*

## 5.7 Discussion

Groups are commonly practiced in brain injury rehabilitation, contributing to rehabilitation programmes and patient outcomes (Hammond et al., 2015). Currently there is limited information to guide therapists in the processes for facilitating groups and evaluating group participation. This paper presents an overview of an occupational therapy inpatient groups programme and evaluation of the programme based on consumer perspectives.

Overall, feedback from the vast majority of patients in this study about the different aspects of the groups was positive. Enjoyment from working with others in the group was identified by participants, which is consistent with general group theory literature (Yalom & Leszcz, 2005), and occupational therapy literature (Cole, 2012; Webster & Schwartzberg, 1993). For example, Webster and Schwartzberg's (1993) study of occupational therapy groups in an inpatient mental health setting found group cohesion was identified as the most valued therapeutic factor by participants. Positive consumer feedback about groups being specific to their needs and providing opportunities to practise skills is also consistent with previous findings regarding the use of individual's goals as facilitating engagement and participation in therapy, despite the presence of obstacles to participation such as

impaired awareness (Doig et al., 2009). While it can be more challenging in group-based therapy to ensure that activities are individualised according to specific goals of group members, these results demonstrate that a client-centred, individualised approach is possible when delivering evidence-based interventions in group TBI rehabilitation.

It is important to note that not all participants reported positive experiences of the groups programme. With regards to the group being 'specific to their needs', 21.4% of participants disagreed with this statement for the cognitive groups, 9.1% for the upper limb group, 20.0% for community access, and 3.4% for meal preparation groups. In some cases, participants may have indicated negative perceptions about aspects of one group but not another group. This could reflect that not all groups are appropriate for all patients, or that some patients perceived that their needs or goals were not met within a particular group setting. Furthermore, it could also be reflective of impaired self-awareness, which is common following TBI and impacts a patient's ability to understand changes resulting from their TBI, and subsequently the need for them to participate in rehabilitation (Sherer, Boake, et al., 1998; Tate et al., 2014). Of concern is the fact that a small proportion of participants 'strongly disagreed' with items such as 'I got good feedback in the group' and 'the group was useful' for the various groups. This type of patient feedback is valuable for therapists to engage in ongoing discussion with patients about their individual needs and highlights the value of using a formal approach such as a survey to elicit consumer feedback.

Interestingly, there were no significant differences in perceptions about the groups between the activity/participation groups (meal preparation and community access) and impairment groups (cognitive and upper limb groups). Given that impairments in self-awareness are common after TBI, especially in the early inpatient stage of recovery (Sherer, Boake, et al., 1998), it could be expected that participants may not be able to independently make links, or generalise between impairment-based tasks such as those in the cognitive groups, and real life activities and roles. The absence of significant differences in perceptions about the activity/participation groups and impairment groups could possibly be attributed to the emphasis group facilitators place on individual goals. The use of client-centred goals necessitates that the group facilitator makes explicit links between impairment-focused group activities and how these activities may contribute to improvements in goal performance.

The challenge of achieving generalisation of skills and strategies following brain injury is widely reported in the literature (Cicerone et al., 2011; Sohlberg & Raskin, 1996; Tate et al., 2014). Within this groups programme, attendance of family and significant others is encouraged to provide opportunities for education and modelling of skills and strategy use in different contexts, and to observe patient progress. The role of family and significant others varies, and if appropriate they are active participants in groups; however, the impact of observers and additional participants on group dynamics is considered in the groups planning meeting (Yalom & Leszcz, 2005). The experiences of family and significant others in the groups programme is an area that warrants further investigation, for example, the perceived benefits of participation compared with observation in the groups. Also given the challenges of generalisation, an important area for future research is how groups assist family and significant others to learn about strategy and skills use, and facilitate generalisation to home and community environments.

Measuring specific outcomes of group participation within comprehensive, multifaceted rehabilitation programmes presents a challenge to clinicians and researchers (Hammond et al., 2015). Impaired self-awareness is common following TBI, and impacts on a patient's ability to set realistic goals and ultimately participate in rehabilitation programmes (Cicerone et al., 2011; Tate et al., 2014). Given the importance of demonstrating effectiveness and efficiency, the need for objective measures of outcomes for group participation is highlighted, especially given the potential impact of impaired awareness on self-report post brain injury. Research by Doig et al. (2010) has demonstrated use of the COPM in brain injury rehabilitation, and with patients with impaired self-awareness but not specifically to the group context. Whilst in this study it would have been ideal to present pre-post COPM scores for the entire sample, on review of medical records it was apparent that the post-group scores had too much missing data and there was considerable variability in the completion time frame. This suggests that while the COPM is currently being used successfully in practice to provide feedback to patients on their progress and informally monitor individual outcomes, more rigorous approaches to data collection are required for this measure to be formally used for evaluation of the groups programme. Scales such as that developed by Scanlan et al. (2015) for measurement of participation in groups in the mental health setting could also provide a basis for development of tools specific to brain injury rehabilitation. Further research into outcomes achieved and attributable to group therapies, including profiling individual therapy goals and group goals, and goal achievement to demonstrate the

contribution groups make to rehabilitation programmes and patient outcomes is an area for further attention.

As a service evaluation and improvement process, the questionnaire results indicate that this cohort of participants were largely positive about key aspects of the groups programme. The results of this questionnaire have also guided more in-depth investigation into aspects of the programme that could warrant improvement, including ways to tailor group processes and content further to meet specific needs of individuals.

Historically occupational therapy groups focused on individual projects such as craft, with little consideration or facilitation of group dynamics and the therapeutic benefits of groups (Meyer, 1922; Schwartzberg et al., 2008). Reflective of changes in approaches to health and well-being (World Health Organisation, 2001), and occupational therapy practice more broadly (American Occupational Therapy Association, 2014), this groups programme focuses on activity and participation with consideration given to personal factors and environmental contexts. Furthermore, the groups reflect current evidence regarding the benefits of group interventions such as peer support and learning (Higgins et al., 2014; Malec, 2014; Yalom & Leszcz, 2005).

The authors acknowledge that this study was conducted at a single site and based on a short customised questionnaire. While this research has provided initial consumer feedback on an inpatient occupational therapy groups programme, further in-depth investigation of patient perspectives, clinician perspectives and group processes is warranted to shed light on how group principles and processes from the literature can be translated into clinical practice. Further exploration is also necessary to determine the applicability of the processes identified in this programme to other group programmes, for example aspects of this programme that may need to be adapted for different clinical settings and patient groups. In addition to this, investigation into the effectiveness of the structured group-based intervention processes on achieving patient outcomes would extend the evidence and inform clinical practice.

## 5.8 Conclusion

This paper has outlined the principles and processes of an inpatient occupational therapy brain injury group-rehabilitation practice model, for which initial consumer

evaluation in this setting has been positive. As group-based rehabilitation is reported to be a valuable clinical tool, further in-depth investigation of patient and clinician perspectives of processes that facilitate or challenge group participation is warranted especially given the importance of stakeholder perceptions in service development and evaluation.

## Chapter 6

### Patient perceptions of participation in group-based rehabilitation in an inpatient brain injury rehabilitation setting.

This chapter investigates the perceptions of patients about participation in occupational therapy groups in TBI rehabilitation. Aim 2 of the thesis, to explore the perceptions and experiences of people with TBI about their participation in inpatient occupational therapy groups is addressed in this chapter. This chapter has been published in *Patient Education and Counselling*.

Patterson, F., Fleming, J., Doig, E. (2018) Patient perceptions of participation in group-based rehabilitation in an inpatient brain injury rehabilitation setting. *Patient Education & Counseling*. doi.org/10.1016/j.pec.2018.08.001

## 6.1 Abstract

**Objectives:** The use of groups is common in healthcare. There is a paucity of research which captures patient experiences of group participation. The aims of this study were to explore the perceptions and experiences of people with TBI about their participation in inpatient occupational therapy rehabilitation groups. **Method:** A phenomenological approach guided the study. Patients with a TBI who were participating in an inpatient occupational therapy group programme were recruited. Data were collected through semi-structured interviews and analysed using content analysis. **Results:** Fifteen participants consented to the study. Three themes emerged from the data; 1) feeling normal, comfort and connected; 2) learning by doing, seeing and sharing and; 3) practicalities of groups. Participants highlighted that groups facilitated opportunities to practise skills and prepared them for the real world. Opportunities for interaction and support were also emphasised as positive by participants. **Conclusion:** Perceptions of patients about participation in groups were generally positive, and as such a consumer-focused approach to healthcare would support the use of occupational therapy groups in TBI rehabilitation. **Practice Implications:** Recommendations from the perspectives of patients include consideration of the selection of group participants, and meeting individual needs and goals within a group setting.

## 6.2 Introduction

Groups are commonly used in health care (Drum et al., 2011). The value of opportunities for peer support and learning, and adjustment following injury or illness are consistently identified in the rehabilitation literature (Bertisch et al., 2011; Falk-Kessler, Momich, & Perel, 1994; von Mensenkampff et al., 2015). Rehabilitation groups can be used for education, to practise skills and strategies, to maximize therapy intensity, and to provide opportunities for peer support (Bertisch et al., 2011; Drum et al., 2011). The focus of rehabilitation groups can vary, from discipline specific such as physical fitness and exercise groups (Hassett et al., 2012), to multidisciplinary such as coping skills groups (Appleton et al., 2011). The profession of occupational therapy has a long history of using groups as a core treatment modality, and groups continue to be commonly used across clinical settings (Higgins et al., 2014). Groups are frequently used in TBI rehabilitation programmes (Hammond et al., 2015; Malec, 2014).

TBI are those injuries caused by a blow, bump, blast, or jolt, such as those resulting from a road traffic accident, that disrupt normal brain function (Access Economics, 2009; Centres for Disease Control and Prevention, 2014). Approximately 10 million people worldwide sustain a TBI annually (Hyder et al., 2007). The severity of disability resulting from TBI can vary greatly, and has the potential to impact on physical, cognitive and psychosocial functioning, and participation in life roles (Colantonio et al., 2004; Pagan et al., 2015). Rehabilitation is recommended following a TBI to maximize recovery (Access Economics, 2009; Bayley et al., 2014; Brasure et al., 2013; Centres for Disease Control and Prevention, 2014). A recent study by Hammond *et al.* (2015) of 2130 consecutive rehabilitation admissions with TBI (in the United States and Canada) identified that on average groups accounted for 13.7% of patient therapy sessions, with patients spending 10.8 hours on average in groups. In rehabilitation, as in other health services, patient feedback about their perspectives and experiences is important.

Consumer engagement has been identified as integral to health service development, delivery and evaluation (Sarrami Froushani et al., 2012). The Declaration of Alma Ata of 1978 “requires and promotes maximum community and individual self-reliance and participation in the planning, organization, operation and control of primary health care” (WHO, 1978, p. 2). Implementation of this requires patient feedback regarding their experiences of health services and interventions (Gregory, 2008; Health Consumers Queensland, 2009).

A scoping review exploring the use of groups in TBI rehabilitation identified that despite the accepted need for consumer engagement in healthcare, only approximately one third of included studies incorporated patient feedback (Patterson et al., 2016). Most studies sought basic feedback about content, resources and facilitator style, rather than about group participation. Further, only four qualitative studies investigated patient perspectives. Themes common across these studies included that groups provided opportunities for peer support and learning, reduced social isolation, and assisted adjustment post TBI (Lexell et al., 2013; Nilsson et al., 2011; Schwartzberg, 1994; Straits-Troster et al., 2013). The scoping review concluded that while groups are widely used, there is limited specific literature to guide clinicians in the delivery of groups in TBI rehabilitation (Patterson et al., 2016). Given the lack of depth of knowledge, and the importance of patient feedback, further in-depth analysis of groups from the perspectives of patients with TBI is warranted.



The BIRU at the Princess Alexandra Hospital in Queensland, Australia provides specialist multidisciplinary rehabilitation following brain injury. Occupational therapy services are delivered through both individual and group therapy. The group programme is underpinned by theory and current evidence regarding groups, TBI rehabilitation, occupational therapy and client-centred practice (Patterson, Fleming, Doig, & Griffin, 2017). The programme utilises formal processes for referral, goal setting, participation and evaluation (Patterson, Fleming, et al., 2017). Four groups are facilitated multiple times per week: meal preparation (breakfast and lunch), community access, cognitive, and upper limb groups. This study was part of a larger project evaluating the group programme.

The study aim was to explore the perceptions and experiences of people with TBI about their participation in inpatient occupational therapy rehabilitation groups.

## 6.3 Method

### 6.3.1 Study design

This qualitative study was guided by phenomenological theory to investigate the lived experiences and perceptions of individual participants (Liamputtong & Ezzy, 2005) using face-to-face semi-structured interviews (DiCicco-Bloom & Crabtree, 2006).

Ethical clearance was obtained from the Metro South Human Research Ethics Committee (HREC/13/QPAH/367) and the Medical Research Ethics Committee, The University of Queensland (Approval number: 2013001094).

### 6.3.2 Participants and setting

Participants were eligible for inclusion if they were participating in the inpatient rehabilitation programme in the BIRU at the Princess Alexandra Hospital. Further eligibility criteria included: a diagnosis of TBI, aged 18-65 years (i.e., broad working age), emerged from PTA, participation in at least two occupational therapy groups, and adequate cognitive and communication ability to provide informed consent and participate in an interview. A purposive sampling strategy was utilised to include a sample with a range of

demographics (Palinkas et al., 2015; Patton, 2002). Sample size was based on reaching theoretical saturation, where subsequent interviews provided no new additional insights.

### 6.3.3 Data collection

Interviews were conducted in a quiet space, by the researchers (FP or ED), using an interview guide (see Table 6.1). The interview guide contained broad topics for discussion and questions to use for prompting.

Table 6.1

#### *Interview guide*

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Interview guide - questions

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*Note these questions will be used as a general guide for the interview to facilitate discussions.*

Tell me about the groups you have attended in occupational therapy?

What types of groups have you participated in, in Occupational Therapy during your admission?

- If not able to identify... provide prompts: meal preparation/cooking, community access (planning & shopping), upper limb, cognition, workshop.

What was good about the groups?

What didn't you like about the groups?

Guide for prompting/probing as necessary

- Tell me about the... group.
- Did you like that?
- Why did you like it?
- Did you enjoy doing... with other people in the group?
- What didn't you like about that group?
- Why didn't you like ...?

Do you feel the group met your goals?

What recommendations do you have for the therapists to improve groups in OT?

---

Consideration was given to the potential impact of TBI on participation in an interview. Strategies were employed to enhance participation including monitoring fatigue, and prompting to assist with cognitive difficulties (Carlsson et al., 2007; Greenwood et al., 2015; Paterson & Scott-Findlay, 2002). Interviews were audio-recorded and transcribed. Strategies to maximise transcription quality included a quiet interview space, testing sound quality at commencement of interviews, and checking transcribed data to ensure accuracy (DiCicco-Bloom & Crabtree, 2006; Poland, 1995).

#### 6.3.4 Data analysis

The data were analyzed using content analysis (Elo & Kyngas, 2008; Graneheim & Lundman, 2004). As prior knowledge about patient perceptions of occupational therapy groups in TBI rehabilitation was limited, an inductive approach was taken to the data (Elo & Kyngas, 2008).

The three phases of content analysis, as outlined by Elo and Kyngas (2008), were followed; preparation, organizing, and reporting. During the preparation phase the researchers read the transcripts several times. The organising phase involved open coding of transcripts with 'meaning units' or sections of the transcript condensed into 'condensed meaning units', and codes identified. An initial list of codes was developed from independent coding of two transcripts by three researchers, and discussion to reach consensus followed. The three researchers then independently applied the list of codes to two further transcripts. Further discussion and consensus followed, and the list of codes was revised. The revised list of codes was then applied to the remaining 11 transcripts by the first author. Queries with coding were discussed with the research team. Codes were grouped into categories and subcategories, and then abstracted into emerging themes. The final phase of analysis involved writing up and reporting the process and results.

The underlying motivation to conduct the study arose from a need to evaluate service provision. Reflexivity was encouraged during regular team meetings to identify the researchers' own perspectives, and the potential impact on findings.

Methodological quality was considered throughout the study, guided by Lincoln and Guba's four criteria for trustworthiness (1985). The use of established research methods, opportunities for regular debriefing and peer scrutiny enhanced the *credibility* of the study.

To establish *transferability*, detailed information about the study context and setting was documented throughout the study. *Reliability* was addressed through thorough documentation of the processes and identification of study limitations. Reference to field notes and documentation of data analysis including queries and consensus was used to assist identification of potential bias and address the *confirmability*, and objectivity of the results.

## 6.4 Results

Fifteen participants consented to participate. The mean age of participants was 37.9 years (SD = 13.6). Four participants were female and 11 were male. Participants predominantly had an extremely severe TBI, indicated by PTA duration of greater than four weeks.

Three themes emerged from the data, 1) feeling normal, comfortable and connected; 2) learning by doing, seeing and sharing and; 3) practicalities of groups and recommendations. Themes and codes are identified in Table 6.2.

Table 6.2

*Themes, codes and frequency*

Themes	Codes	Frequency
Feeling normal, comfortable and connected	Satisfaction	11
	Support	10
	Working together	9
	Roles	9
	Group participant mix	8
	Diversity	7
	Enjoyment	6
	Familiarity - Processes	6
	Interaction	6
	Reassurance – I am me	6
	Fun	5
	Familiarity - People	4
	Familiarity - Environment	3

	Socialising external to the group	3
	Atmosphere	3
Learning by doing, seeing and sharing	Goals	14
	Real world preparation	13
	Practise	12
	Individual needs	11
	Support	10
	Roles	9
	Perceived improvements	9
	Confidence in own skills	7
	Group activities - learning	7
	Reassurance – I am me	6
Practicalities of groups and recommendations	Group activities	15
	Perceived need for the group	11
	Facilitators	10
	Recommendations	10
	Impact of cognitive/communication changes	9
	Group activities – Challenge level	8
	Group participant mix	8
	Group activities - Challenges	6
	Group activities - Motivating	4
	Family participation	3
	Flexibility versus structure	3
	Resources and equipment	2
	Feedback	1
	Group activities – Enough time	1

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### 6.4.1 Feeling normal, comfortable and connected

The concepts of feeling normal, comfortable and connected were overlapping and interconnected. Participants described that groups provided opportunities for 'normal' interactions, and to do 'normal' things. Feeling normal was also described in the context of realising they could still do activities that were part of their everyday life prior to their TBI. One participant explained, "... I was questioning would I be who I used to be um, it started to remind me, you are who you used to be... it was helpful on getting back to normal" (P36). Figure 6.1 provides a diagrammatic overview of factors contributing to feeling normal, comfortable and connected.

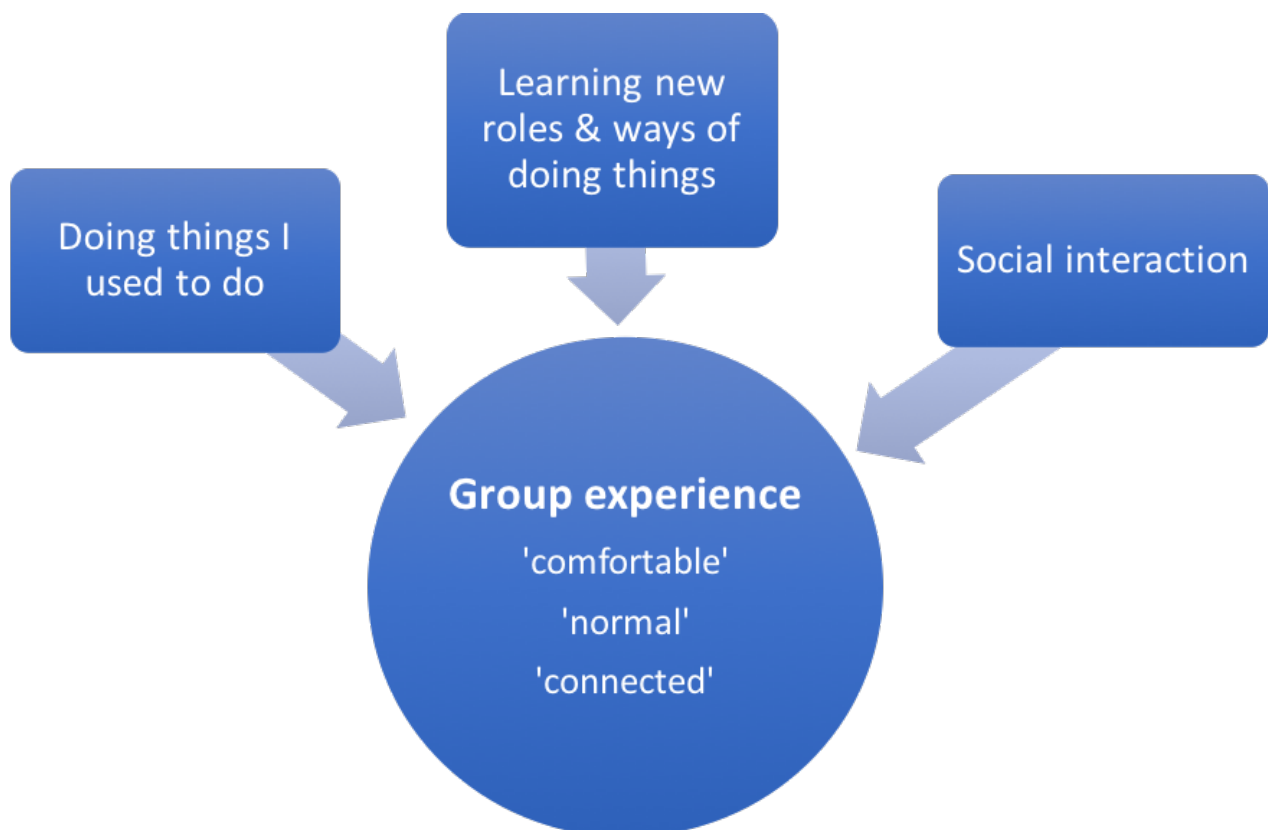


Figure 6.1

Factors contributing to feeling normal, comfortable and connected

Group activities were seen as an opportunity to work together, receive and provide support, and motivate others. Ten participants described the support that group participation facilitated. For example, "*it gives you... something to strive towards.... And like also help along people that are behind you as well. Thinking like yeah, you know, come on, this is what you're looking for mate, here you go...*" (P25). Working together was

discussed by nine participants, with one participant describing, *“in that group yesterday that was so supportive... we were working together so much as a team that it was really fantastic”* (P39).

Group composition in the context of feeling comfortable and connected was discussed by participants in terms of diversity of backgrounds and experiences ( $n=7$ ). Of the seven participants who discussed diversity, the majority ( $n=6$ ) described these experiences positively. An example included groups providing opportunities to interact with people from different ‘walks of life’. Eight participants highlighted the impact that differences or similarities in levels of function or impairment could have on experiences, reflected in the code ‘group participant mix’.

Connectedness was described positively and reflected in the codes of support ( $n=10$ ), working together ( $n=9$ ) and interaction ( $n=6$ ). Six participants described how group interactions assisted with feelings of isolation including, *“You don’t feel so alone. ...It just makes you feel a bit more comfortable.”* (P44). This was exemplified by how interactions in the groups “spilled over” into relationships on the ward. While only three participants explicitly described this, they spoke in detail about the impact of this experience. For example, one participant highlighted, *“... is also beneficial for just life in the unit... any of those situations where you are actually doing something with other in-mates... it’s easier to ah, sit down over a cup of tea at a later time and ah, um carry on a conversation, you’ve got, you’ve got something in common already... those sort of activities are good for the whole um atmosphere within the unit.”* (P30).

Feeling normal and comfortable was reflected in the codes of satisfaction ( $n=11$ ), roles ( $n=9$ ), reassurance – I am me ( $n=6$ ), and familiarity with aspects of the group including group processes ( $n=6$ ). Participants referred to roles both in the sense of groups providing opportunities to participate in activities relevant to their pre-injury life roles as well as roles they took on in the groups. Opportunities to observe and become familiar with processes were seen as positive and highlighted by six participants. For example, *“in my first group one but that was good because I got to see, and for the next one I just jumped in straight in to cooking and got everything”* (P25). Another participant said, *“I felt comfortable in the group.”* (P46).

Perceptions of satisfaction with group participation were reflected in the codes of satisfaction ( $n=11$ ), enjoyment ( $n=6$ ) and fun ( $n=5$ ). Comments such as, *“I very much enjoyed it, you know, so I thought it was very helpful.”* (P25) and, *“I think it’s [the groups] quite positive and I think it’s a good thing to do group things ...”* (P44) exemplified this.

#### 6.4.2 Learning by doing, seeing and sharing

Learning was described by participants as learning about themselves and their abilities following TBI which occurred in three key ways; by doing, by seeing and by sharing.

The importance of groups meeting individual needs and goals was highlighted by eleven participants. These perceptions were largely positive, and summarised by participant 21, *“...mostly they were done at a level to meet my needs or everybody’s needs, but yeah sometimes they could have been a little bit more specific maybe”*. Another participant described how facilitators knew their goals and individualised activities, *“most of it was tailored towards an individual person... so, each person that you had to talk to had your goals in their hand and set up activities to reflect your goals”* (P36). Of the 14 participants who discussed goals, 13 reported that the groups met their goals. The importance of knowing their goals was emphasised by participant 32, *“Just talking about what our goals are, what we want to do...it was very helpful”* (P32). Nine participants described opportunities that groups provided for them to see how they were improving, *“I am able to see where I am at”* (P44).

In the context of learning by doing, twelve participants described opportunities that groups provided to practise skills and activities, and nine participants discussed opportunities to participate in life roles. Thirteen participants highlighted that they felt more prepared for the real world following group participation. Participants linked the doing of activities with confidence in their own skills and preparation for the ‘real world’. For example, *“Just those tasks that you haven’t done for a while... a lot of them are routine um, its, it’s just good to have that situation where you are, its comes back, and you, it’s like riding a, you, you realise it’s like riding a bike”* (P30).

Opportunities to observe other patients completing activities was perceived as positive with seven participants describing how this assisted with their learning and



adjustment (reflected by the code group activities – learning). For example, “...after I had cog [cognitive] group the lady was talking to a bloke that got released a bit earlier than I did and writing diaries and everything you do. So, I started doing that and then I could tell my mum and dad about at the end of the day” (P25).

Sharing of information and experiences was highlighted in a number of codes including support ( $n=10$ ), and socialising external to the group ( $n=3$ ). This was described as different to sharing with staff, “everybody kind of shares their stories and, you know, helps each other. ...In a way that’s different to what you get from the doctors and nurses, and everyone else.” (P44). This socialising and support occurred both formally in group discussions and activities, and informally during conversations outside of groups. The importance of this informal support was highlighted by one participant, “don’t underestimate the weight-the value of that spilling back into your living environment in BIRU because that’s even greater...” (P39).

Participants discussed that groups reassured them, providing opportunities to develop confidence in their skills ( $n=7$ ), ‘see’ improvements ( $n=9$ ), and prepare them for discharge into the “real world” ( $n=13$ ). One participant explained, “because you have had a brain injury... You are kind of unsure all the time. So, when you do the group things, and you get things right, it gives you your confidence back. And I feel like that’s really important.” (P44). The importance of confidence was described as, “... I am feeling more confident... every day I am improving... that confidence and that, you know is really important....” (P39).

### 6.4.3 Practicalities of groups and recommendations

Participants highlighted a number of practicalities relating to group participation, and these were reflected in codes including group activities ( $n=15$ ), perceived need for the group ( $n=11$ ), and impact of cognitive communication changes ( $n=9$ ). Refer to Table 6.2 for a full list of relevant codes.

The activities completed in groups were discussed by all participants and reflected in codes including; group activities ( $n=15$ ), group activities – challenge level ( $n=8$ ), and group activities – challenges ( $n=6$ ). This generally comprised of descriptions of the activities and references to how they may have challenged individuals or groups, for

example, *“I mean, for some people it [reference to meal preparation tasks] might be a challenge.”* (P37). Three of the eleven participants who discussed the perceived need for group participation voiced concerns, for example, *“they were kind of challenging for me in the sense... I didn’t quite know why I was in the cooking group...Because A, I knew how to cook...”*, emphasising that *“... making sure that people know why they’re here and doing things”* (P43) was important for motivation and engagement in the group.

Attributes of facilitators were raised by ten participants. Overwhelmingly these descriptions were positive, for example, *“they are very patient, and personable...”* (P43). Other participants explained how the facilitators encouraged them, *“bit of encouragement... you know confirmation that you know that was probably the right thing, or you did do things in the right order ther.”* (P33). The importance of the facilitator’s role at the beginning of groups was emphasised, *“the first five minutes of those sessions is critical in that the facilitator, if they can um kind of, get involved to ensure that the group dynamics get off the ground in the best way possible...”* (P39).

Ten participants identified practical recommendations for groups, including the importance of introductions. One participant described arriving at a group, *“and there’s this random person kind of sitting on the side, and we’re like ‘ok’, and what are they doing? So, it’s about introducing that person the same as the rest of the group...”* (P19). Having appropriate equipment and set up to facilitate participation was raised, with wheelchair accessibility being an example. Other practical recommendations included: facilitators getting to know participants, increasing group frequency, and provision of information about group processes.

Participants ( $n=8$ ) described that the mix of group participants could impact significantly on experiences of group participation and feeling comfortable. Nine participants discussed the impact cognitive communication changes could have on group experiences. Participant 19 described, *“...just making sure that the people sitting in a group, at a table, are kind of at the same level... if you have someone that has, you know, quite a, um, intense disability compared to someone that’s almost ready...it kind of doesn’t work...”*. In these discussions, participants emphasised the importance of selection, and *“choosing the right people”* for groups (P21). Whilst the majority of participants emphasised the importance of group participants being at similar levels, two participants highlighted benefits of seeing others at different stages of recovery for facilitating hope and

providing opportunities to help others. For example, *“It’d be good say if there’s more um, people who are, do it easier than me, like, I can push myself to go as far as them... And say if there’s people who aren’t as good as me I can, like help them...”* (P46).

## 6.5 Discussion and conclusion

### 6.5.1 Discussion

This study explored the perceptions of people with TBI about their participation in inpatient occupational therapy rehabilitation groups. Three themes emerged: feeling normal, comfortable and connected; learning by doing, seeing and sharing and; practicalities of groups and recommendations. Participants described how groups facilitated a sense of normality and provided comfortable opportunities for social interaction and support. Learning in the group environment occurred by doing activities, observing peers, and sharing information and experiences. Practical issues such as the group activities themselves and facilitator skills, as well as recommendations for practice were described by participants.

Currently there is a paucity of research that provides in-depth evidence about patient perceptions of participation in TBI groups. Existing research is largely focused in the outpatient community setting (Patterson et al., 2016). The findings from this study shed light on perspectives of patients about the inpatient setting. Themes emerging from this study are largely consistent with existing research from patient perspectives. This includes that groups can provide opportunities for sharing of experiences which assists with adjustment and reduces feelings of isolation (Charles et al., 2007; Fleming et al., 2009; Fraas et al., 2007; Lundqvist et al., 2010; Rodgers et al., 2007; Thomas, 2004), that groups can provide opportunities for learning from peers and helping each other (Charles et al., 2007; Fleming, Kuipers, Foster, Smith, & Doig, 2009; Fraas et al., 2007; Lundqvist et al., 2010; Rodgers et al., 2007; Schulz, 1994; Thomas, 2004), and that groups facilitate socialisation (Charles et al., 2007; Fraas et al., 2007; Lundqvist et al., 2010). The three themes emerging from this study were also largely consistent with research investigating TBI rehabilitation groups from the perspective of clinicians (Knis-Matthews et al., 2006; Patterson, Fleming, & Doig, 2017; Richard et al., 2008; Smalley et al., 2007). This study’s findings about the value of opportunities for normalisation and adjustment post-injury, and

peer support are consistent with groups literature more broadly, and with other health conditions (Malec, 2014; von Mensenkampff et al., 2015; Yalom & Leszcz, 2005).

The perceived importance of the mix of participants in groups and patient selection is consistent with existing groups literature (Fuller, 2013; Yalom & Leszcz, 2005). Whilst the majority of participants in this study identified that similar levels of function between group members was important for positive group dynamics and experiences, two participants highlighted the benefit of seeing the hope and the road of recovery ahead, as well as opportunities to help others who were not functioning as well as themselves. Participants also described positive experiences with diversity within groups including, interacting with people from different vocational or cultural backgrounds. These findings highlight that there are both pros and cons to having groups with participants at mixed levels of functioning and has implications for the planning of TBI rehabilitation groups to maximise positive group experiences.

Consistent with principles of client centred practice (Law, Baptiste, & Mills, 1995; Wilkins, Pollock, Rochon, & Law, 2001), consideration of individuals' needs and goals, as well as their perceived need for participation in the group emerged strongly. This also has implications for clinical practice, in ensuring that group participants are aware of their goals and see the relevance of group activities in meeting their needs and goals, thereby reinforcing the need for participation in therapy groups. Implications for group facilitation also emerged in terms of balancing individual needs with the benefits of peer interactions, and balancing the benefits of diversity with patient concerns about the impact of differing functional levels between group participants. Also relevant to discussions of client-centred practice in this context would be the skill of group facilitators in managing individuals with different functional levels within a group setting. For example, achieving a "just right" challenge for participation in group activities to challenge participants whilst also facilitating engagement in the group activities.

Interestingly, this study revealed the impact that connections formed in groups can have on broader rehabilitation experiences. In particular, the importance of the 'shared experience' of group participation for the continuation of relationships developed within groups. Participants not only described the positive experiences of group interactions, but also the positive impact this had on development of relationships with peers outside of the groups, within the inpatient ward environment. Social isolation and adjustment are

significant issues following TBI (Charles et al., 2007; Fraas et al., 2007; Lundqvist et al., 2010; von Mensenkampff et al., 2015), and the finding that groups contribute to the development of relationships outside of the group provides support for the use of groups even in the early stages of inpatient rehabilitation.

This study was conducted at a single site with a small sample ( $N=15$ ), and within a single discipline. The groups were open groups and this may have impacted on group experiences (Schwartzberg et al., 2008), compared with closed groups. The participants were in an inpatient rehabilitation programme, whereas much of the previous research relating to groups has been conducted in outpatient and community settings (Patterson et al., 2016). The setting and stage of recovery may impact on the themes that emerged, and the findings of this study may not be able to be generalised to other settings and population groups.

The groups within this study were 'activity groups' where participants were doing daily activities and tasks based on individual goals (Patterson, Fleming, et al., 2017), as compared to support or education groups. The concept of 'real world' preparation emerged strongly within this study, and it would be interesting to investigate whether other types of groups that may not focus on doing and practising activities also facilitate real world preparation. Further investigation is warranted into what components are most important in groups for creating the sense of normality described by participants - the 'doing' of daily activities, the support provided by peers, or a combination of both.

## 6.5.2 Conclusion

From the perspectives of patients, groups can facilitate a sense of normalcy and can provide a comfortable environment for learning to occur. Key considerations for facilitation of groups from patient perspectives include the mix and diversity of group participants, and meeting individual needs within groups. The views of patients in this study about participation in groups were generally positive, and so a consumer-focused approach to health care would support the use of occupational therapy groups in TBI rehabilitation.

## 6.5.3 Practice implications

Whilst it can be challenging to engage people with TBI in qualitative research because of the resulting disability (Carlsson et al., 2007; Paterson & Scott-Findlay, 2002), it is essential researchers invest in this engagement given the importance of consumer feedback. This study has shown it is possible to get rich and insightful information, even in the early stages of recovery using evidence-based strategies (Carlsson et al., 2007; Paterson & Scott-Findlay, 2002).

Some groups are designed to provide education and this occurs in the form of presentations and discussions, including about health conditions and strategies for managing conditions (Drum et al., 2011). Education can also be delivered more informally while participants are participating in activities and such is the case with the groups in this study. Key recommendations for group facilitation from the perspectives of patient participants have been discussed.

#### 6.5.4 Highlights

- Participants perceived that groups were largely positive and can facilitate a sense of normalcy.
- Interactions with peers, and opportunities for learning and 'doing' emerged from participant perspectives.
- Key considerations for groups were identified including the mix of participants.
- A consumer-focused approach to health care would support the use of occupational therapy groups in TBI rehabilitation.

## Chapter 7

### Clinician perceptions about inpatient occupational therapy groups in traumatic brain injury rehabilitation

This chapter explores the experiences and perceptions of clinicians about the benefits, challenges and processes of facilitating inpatient occupational therapy groups in TBI rehabilitation including peer-to-peer interactions and use of goals. This chapter addresses aim 3 of the thesis, to explore the experiences and perspectives of clinicians about the benefits, challenges and processes of facilitating inpatient occupational therapy groups with patients following TBI. This paper was published in *Brain Injury* as:

Patterson, F., Fleming, J., & Doig, E. (2017). Clinician perceptions about inpatient occupational therapy groups in traumatic brain injury rehabilitation. *Brain Injury*, 31(8), 1077-1087. doi:10.1080/02699052.2017.1296974

## 7.1 Abstract

**Primary objective:** The aim of the study was to explore the experiences and perceptions of clinicians about the benefits, challenges and processes of facilitating inpatient occupational therapy groups in TBI rehabilitation including peer-to-peer interactions and use of goals. **Design and method:** A qualitative methodology, guided by a phenomenological approach was utilized with data collected from focus groups comprising 26 clinicians working in occupational therapy in three inpatient rehabilitation settings: brain injury, spinal injury and geriatric rehabilitation in order to identify aspects unique to brain injury rehabilitation. Data were analysed using the framework analysis method. **Findings:** Three overarching themes emerged; 'good fit', 'the things clinicians do', and 'patient-to-patient'. Clinicians indicated that structured group formats, careful planning and communication facilitated positive group dynamics and ensured groups met individual needs. Cognitive impairments following TBI and challenging behaviours were identified to impact on group processes, and clinician skills and confidence were important in managing these. Peer-to-peer support and learning was described as a key benefit of group rehabilitation. **Conclusions:** Groups in TBI rehabilitation create opportunities for peer-to-peer support and learning, and contribute positively to rehabilitation but group facilitator skills are critical. Practical strategies for facilitating groups in TBI rehabilitation are suggested.

## 7.2 Introduction

Groups are an integral part of participation in life, and the groups that we belong to can define us, from the family group we are born into, to the social and productive groups we join throughout the lifespan (Schwartzberg et al., 2008). The cognitive, behavioural and physical impairments resulting from TBI have the potential to severely impact on a person's ability to participate in social roles and groups (Bayley et al., 2014; Colantonio et al., 2004; Hyder et al., 2007; Zaloshnja et al., 2008). Given the impact of TBI on participation, an understanding of the processes and strategies which enable people with TBI to participate in rehabilitation groups is necessary. Groups are widely used in clinical practice across different areas of health care and rehabilitation (Drum et al., 2011; Hammond et al., 2015; Higgins, Schwartzberg, Bedell, & Duncombe, 2015) and most comprehensive brain injury rehabilitation programmes provide group interventions as an integral part of clinical care (Malec, 2014). Rehabilitation groups not only provide an



opportunity for 'real world' interactions (Bertisch et al., 2011), but can also maximise therapy intensity by increasing the number of patients that can be seen by therapists (Drum et al., 2011; Hammond et al., 2015). Group-based interventions also provide a cost-effective method of delivering health services (Drum et al., 2011; Hay et al., 2002; McCarthy & Hart, 2011). Participation in groups is a part of everyday life and following injury can provide opportunities for support and rehabilitation.

Groups are commonly used for the delivery of occupational therapy services (Higgins et al., 2015; Lloyd & Williams, 2010; Scanlan et al., 2015) and as far back as the 1920s, Meyer (1922) described groups of patients in a psychiatric setting working on various arts, crafts and other handwork. Since then, the focus and process of group work has changed with a developing emphasis on group dynamics and the wider impact of social and economic environments on group interventions (Howe & Schwartzberg, 2001). Although there are different types of occupational therapy groups (e.g., cooking groups, project groups), the use of activities to remediate or develop skills is usually a central component (Anderson, 1936; Cows & Hale, 2005; Fidler, 1969; Lloyd & Williams, 2010). It is also recognised that factors like participant demographics and diagnosis, the health care setting, and group leadership can impact on group dynamics, processes and outcomes (Cows & Hale, 2005; McCarthy & Hart, 2011; Yalom & Leszcz, 2005), and need to be considered when designing groups in TBI rehabilitation (Bertisch et al., 2011; Torkelson Lynch & Kosciulek, 1995). Whilst groups are often utilised in occupational therapy practice, there are few studies that have explored the delivery of group interventions to people with TBI and cost-effectiveness of group approaches.

A recent scoping review (Patterson et al., 2016), identified that whilst there are a large number of published studies on group-based interventions in TBI rehabilitation, few have investigated group processes or explored clinician or patient perceptions about what makes group-based interventions successful for this population. Two discussion papers suggested strategies for the adaption of groups to meet the unique needs of patients with TBI including repetition, checking participant comprehension, use of attendance contracts, pre-group orientation, and use of a 'here and now' approach (Bertisch et al., 2011; Torkelson Lynch & Kosciulek, 1995). Three studies have specifically investigated clinician perceptions of group interventions in TBI rehabilitation (Knis-Matthews et al., 2006; Richard et al., 2008; Smalley et al., 2007). Knis-Matthews et al. (2006) conducted a qualitative study utilising in-depth interviews with four clinicians at one rehabilitation centre.

Smalley et al. (2007) described their clinical experience of running a group with patients with TBI, however did not present any formal data analysis. Richard et al. (2008) surveyed 82 multi-disciplinary clinicians about their perceptions of groups as a therapeutic modality for people with TBI, 79% of clinicians indicated they used groups, and that groups were seen to complement individual therapy. Clinicians in this study perceived both benefits and barriers to facilitating groups with this population group, and viewed work experience as an avenue for preparation as a group leader (Richard et al., 2008). Therefore, considering the common use of group-based therapy in rehabilitation, there is limited research that provides an in-depth exploration of how clinicians facilitate engagement and meet the unique needs of people with TBI in group rehabilitation.

In investigating this topic, the comparison of group rehabilitation in TBI to other diagnostic groups could potentially highlight whether there are unique needs and challenges associated with conducting groups in TBI rehabilitation and whether tailored group processes are required to cater for patients with TBI. This qualitative study aimed to explore the experiences and perspectives of clinicians about the benefits, challenges and processes of facilitating inpatient occupational therapy groups with patients following TBI. The overall purpose of the study was not only to understand clinician perceptions but also to generate strategies to enhance the facilitation of groups with this population.

## 7.3 Method

### 7.3.1 Study design

A qualitative methodology was utilized to enable the researchers to gain an in-depth understanding of participant perspectives and experiences (Liamputtong, 2013), and to “draw descriptive and/or explanatory conclusions clustered around themes” (Gale et al., 2013, p. 2). As this research investigated the lived experiences of clinicians facilitating groups in rehabilitation settings it was guided by a phenomenological theory (Liamputtong, 2013).

Focus groups were used to collect data to optimise the exchange of ideas between participants and allow elaboration on perspectives in a time efficient way within the constraints of a clinical service setting (Hennink, 2007; Khan & Manderson, 1992; Liamputtong & Ezzy, 2005). The study included clinicians working in TBI rehabilitation and

other settings (spinal injury and geriatric rehabilitation). This enabled comparison, to identify whether and how groups differed for patients with TBI. Ethical approval was received from the relevant hospital and university human research ethics committees.

### 7.3.2 Participants

Clinician participants were recruited from the Occupational Therapy Department of a major tertiary hospital in Brisbane, Australia. Clinicians who were currently working, or had recently worked (since August 2011) in the brain injury, spinal injury and geriatric rehabilitation units were recruited. In Australia, occupational therapy study is a 4-year bachelor degree or a 2.5-year graduate entry master's qualification. In this department, new graduate and junior occupational therapists participate in a rotational programme, and they rotate across different teams and clinical areas on a six-monthly basis. More senior clinicians such as the team leaders and the clinical specialist clinicians do not rotate however, may have previously participated in the rotational programme. Subsequently, it is quite likely that clinicians participating in this study had worked across the different units such as the BIRU, Geriatric Assessment and Rehabilitation Unit (GARU), and the Spinal Injury Unit (SIU) teams. Occupational therapy students completing their clinical placements in these teams at the time were also invited to participate.

All three occupational therapy teams provide group therapy interventions. In GARU and SIU group programmes primarily include patients with stroke and spinal injury respectively. However, patients attending groups in the SIU may have a concurrent diagnosis of TBI and older patients with TBI may participate in groups in GARU. With regards to severity level of patients involved in the therapy groups, the majority of patients admitted to BIRU experience moderate to severe injuries necessitating a period of intensive inpatient rehabilitation. In the SIU, the diagnosis of TBI may often be a secondary diagnosis to spinal injury. Thus, the severity of brain injury for clients with dual diagnosis may often be less severe as the primary focus of their admission is the spinal injury necessitating an admission to the SIU rather than the BIRU. Clinicians were invited to participate in the project via email and provided written informed consent prior to participation.

### 7.3.3 Data collection

At least one focus group was conducted in each of the clinical areas, that is, brain injury, spinal injury and geriatric rehabilitation. Focus groups were scheduled for up to one hour in duration and all eligible staff working in each clinical area were invited to participate. To minimise potential bias, focus groups were facilitated by a researcher (ED) who was not a staff member at the hospital where recruitment and data collection occurred. A topic guide was developed to ensure consistency of topics discussed across all focus groups; however, this was used in a flexible way. The facilitator explained the purpose of the focus groups and posed the question 'tell me about your experiences of group therapy', subsequently listening and reflecting to clarify the clinician's statements through-out. The facilitator avoided driving the discussion, rather used the topic guide and encouraged participants to raise issues pertinent to their experiences and perceptions (Hennink, 2007; Kitzinger, 1995; Liamputtong & Ezzy, 2005). The focus group explored clinicians' experiences of groups, processes, barriers and challenges to facilitation of groups, the use of goals and peer aspects of group interventions with patients post TBI. This approach was also used for the focus groups with SIU and GARU clinicians, however in addition, clinicians were asked to describe their experiences of groups that included patients with a diagnosis of TBI.

Focus groups were audio recorded and transcribed verbatim with consideration to the quality of transcription as outlined by Poland (1995). The facilitator wrote field notes during and immediately following the focus groups to further inform data analysis. Member checks were also conducted to enhance credibility of the study findings, with a summary of themes sent back to participants for review and comment.

### 7.3.4 Data analysis

Data were analysed qualitatively using the framework analysis method which has been used widely in health research (Gale et al., 2013; Pope et al., 2006; Ritchie & Spencer, 1994; Ritchie et al., 2003) and is consistent with the use of focus groups as a method of data collection (Pope et al., 2000). The framework method enabled themes to be developed both inductively from the narratives (experiences and views) of the research participants and deductively from existing literature (Gale et al., 2013; Pope et al., 2000). The five stages of the framework analysis method (Gale et al., 2013; Pope et al., 2006;

Ritchie & Spencer, 1994; Ritchie et al., 2003) were followed and are outlined in Table 7.1.

Table 7.1

*Stages of framework analysis and actions completed*

Stages	Actions completed
Familiarisation	<ul style="list-style-type: none"> <li>• Primary researcher completed verbatim transcription with checking.</li> <li>• All three researchers familiarised with the data by reading the transcripts.</li> </ul>
Identifying (developing) a thematic framework	<ul style="list-style-type: none"> <li>• Index or framework developed by drawing on a priori concepts and questions used in focus groups. (See Table 7.2: The Framework category definitions).</li> <li>• Independent coding of transcript 1 by all researchers.</li> <li>• Consensus discussion on key categories, codes and definitions.</li> <li>• Draft framework developed and applied to transcript 1 independently by two researchers</li> <li>• Further clarification and revision and addition of a new code.</li> <li>• Revised framework independently applied to transcript by third researcher.</li> <li>• Finalisation of the framework.</li> </ul>
Indexing (applying the analytical framework)	<ul style="list-style-type: none"> <li>• Categories and codes assigned abbreviations.</li> <li>• Framework independently applied to transcripts 2-4 by two researchers, coding written directly onto transcripts.</li> <li>• Consensus discussion about divergent issues resulting from application of framework.</li> <li>• One further code added to the framework after analysis of transcript 3.</li> </ul>
Charting	<ul style="list-style-type: none"> <li>• Spread sheets used to chart the data.</li> </ul>

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(charting the data into the framework matrix)

- Data arranged into categories and codes per the framework “to build up a picture of the data as a whole by considering the range of attitudes and experiences for each issue or theme” (Ritchie & Spencer, 1994, p. 182).
- Data summarised, not ‘cut and paste’ verbatim, retaining respondent language.
- Sufficient information included to understand the concept and reference to original text included to enable re-tracing if required.
- Significant quotations identified and included in the chart.
- On-going regular team meetings to ensure consensus of charting and consistency of summarised data.

Mapping and interpretation

- Mapping of relationships between different codes and categories to identify themes e.g. ‘fit’ and ‘good fit’ were mapped across the categories and codes.
  - Diagrams developed to visualize relationships and associations between categories and codes, and identify emerging key themes (See Figure 7.1).
  - Memos developed to expand and further explore codes in-depth.
  - Continuing discussion between the research team, with frequent return to transcripts, charts, and memos.
  - Three key messages/themes emerged and further exploration conducted under these themes to identify relationships.
  - Participant checks conducted to further confirm and clarify participant responses.
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Categories and themes for the whole data set (the four focus groups) were generated; however, data across settings (e.g., TBI setting compared with SIU and GARU settings) were also compared to identify the themes that were most relevant to the TBI population. In relation to the overall purpose, the final stage of data analysis was to review the results for process-orientated strategies in relation to the key themes by further examining each of the key themes and categories for specific processes or strategies that clinicians identified.

Throughout all stages of the study consideration was given to trustworthiness (or rigour) of the methods and processes. Lincoln and Guba's (1985) four criteria for trustworthiness (credibility, transferability, dependability and confirmability) guided the procedures used in this research. The use of established research methods, frequent debriefing within the research team and member checks enhanced the credibility of the study. To address transferability, sufficient provision of information about the setting, participants and research questions has been provided. Furthermore, the primary investigator who was a member of the clinical team in BIRU was not directly involved in the recruitment or data collection processes. An in-depth description of the methodology (See Table 7.1) and audit trail addressed dependability. Triangulation of data across clinicians working in three different settings with different patient population groups served to further enhance the confirmability of the study findings. There was also on-going and regular review by the research team to verify coding and charting to validate the findings and synthesis of data, and to avoid potential biases (Creswell, 2013; Liamputtong, 2013).

## 7.4 Results

Twenty-two clinicians and four occupational therapy student clinicians participated in four focus groups. Each focus group was 40-50 minutes in duration. Two focus groups were conducted in the BIRU with 12 occupational therapists, one in the SIU with five occupational therapists and one leisure therapist, and one in the GARU with seven occupational therapists, two therapy assistants and one recreation officer attending. Two occupational therapists participated in both the BIRU and GARU focus groups, as they were rotational staff working in each of these teams at the time focus groups were conducted. The clinician participants had been qualified in their professions for 10.3 years on average, ranging from new graduates to 39 years since qualification.



Six primary categories were identified through the second stage of data analysis, 'identifying a thematic framework', including pre-group planning processes, patient centredness, family, challenges, peer-to-peer, and therapist skills. The framework definitions of the codes within each category, and the strength of codes for the facilitation of groups in TBI rehabilitation compared with other (non-TBI) rehabilitation settings are presented in Table 7.2.

Three overarching themes emerged in the final stage of data analysis, 'mapping and interpretation', and these were; patient-to-patient, good fit, and the things clinicians do. These themes overlapped and were reported to directly impact on each other. The three key themes were all seen to be particularly important in the facilitation of groups in TBI rehabilitation, but also relevant in other settings but often to a lesser extent. Figure 7.1 provides a diagrammatic overview of the relationships between the three key themes and framework categories. Overall, clinicians described that groups contributed positively to TBI rehabilitation, '*...they're rewarding... rewarding for patients but also really rewarding for clinicians... when a groups gone well, like its, it's a really good feeling.*'(P8).

Table 7.2

*The Framework category definitions, and strength of codes for facilitation of TBI and 'other' (non-TBI) groups.*

Code	Description/definition	Strength of code TBI groups	Strength of code 'other' (non-TBI) groups
<i>Category 1: Pre-group/planning processes (to structure the group)</i>			
Patient selection	Patients selected for best fit based on patient injury and characteristics including levels of experience, time and stage post injury, focus of the group, insight and presence of challenging behaviours, complexity of injury/presentation, ability and/or willingness to participate, and personality.	√√	√
Handover	Provision of handover or information (written or verbal) between therapists/clinicians and group facilitators	√	√
Referrals	Process for referring patients to the group therapy programme, and criteria for referral.	√	√
Communication	Communication between therapists and group facilitators including feedback.	√	√
Other planning practices	Non-patient related planning processes: clinician planning and development of group content, guides and resources; clinician meetings to plan group facilitators, structures and processes. General planning processes for TBI v non-TBI population groups.	√√	√

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*Category 2: Patient centredness*

Tailoring/individualising	How group therapy tasks and content are tailored to meet individual goals/needs.	√	√
Goals	Use of goals within the group therapy intervention to guide and measure progress.	√√	√
Functional context/'real world'	Examples of ways group participation in, and discussion around 'real world'/functional activities or application of strategies including generalisation.	√√	---
Group ownership	Descriptions of the extent of patient ownership of group processes (who is the facilitator or driver).	√	√√

*Category 3: Family*

Family - education/learning	Processes of information sharing between families of patients in the groups, or sharing of information/family education through involvement in the group therapy intervention (information exchange).	√	---
Family - support	Family to family support.	√	---
Family – positive experiences	Examples of how family involvement in group therapy interventions can be positive either to the family, patient or the group process. Hope.	√	---
Family – negative experiences	Examples of how family involvement in group therapy interventions can be negative either to the family, patient or the group process.	√	---

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*Category 4: Challenges*

Logistical/practical issues	Logistical/practical issues that challenge or facilitate the group therapy process (facility requirements or set up). Physical and organisational environmental factors. Task factors.	√√	√
Unpredictability of groups	The unpredictable nature of groups including and impact on facilitation of group therapy interventions, and group processes with this population group (TBI).	√√	---
MDT co-facilitation	Facilitation of groups with multi-disciplinary team involvement.	√	√
Patient factors	Factors related to the patient and their injury that pose challenges in a group setting or impact on group dynamics (i.e. challenging behaviour, range of disabilities, complexity of diagnosis and multiple impairments).	√√	√

*Category 5: Peer-to-peer*

Peer learning	Peer to peer learning where patients share information and advice, education, observations, talk, share experiences, and contribute to each other's outcomes.	√	√
Peer support	The groups provide opportunities for support between patients (peers): encouragement, adjustment, hope & motivation.	√	√
Peer interaction	Social or peer interaction.	√	√
Relationships	How groups foster/facilitate relationships/friendships and positive experiences between peers.	√	√

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*Category 6: Therapist Skills*

Group management skills	Therapist skills, frameworks, and strategies used in managing group dynamics, group processes, and behaviour management.	√√	√
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*Note.* Ticks (√ or √√) indicate strength of the topic in the focus group data; dashed lines (---) indicate where a topic was not explicitly raised

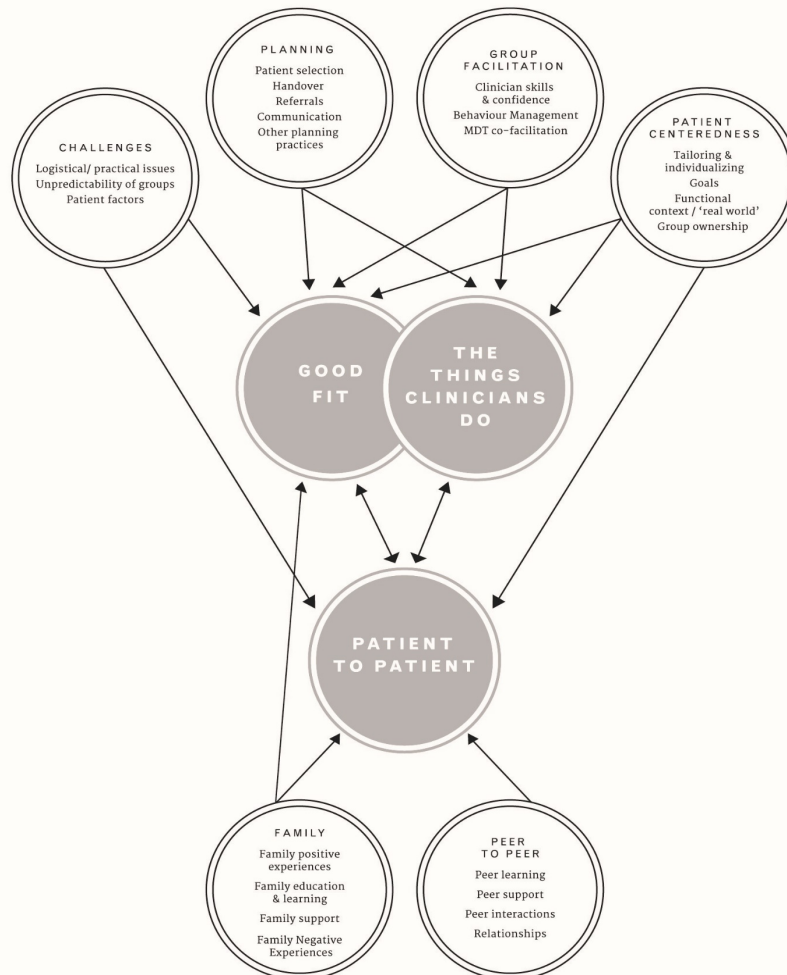


Figure 7.1

*Key processes, challenges and benefits of occupational therapy groups in TBI rehabilitation*

## 7.4.1 Patient-to-patient

The theme 'patient-to-patient' encompassed the benefits and challenges of the peer interactions found in therapy groups and included opportunities to develop relationships, power and balance in patient interactions, and peer education and learning in groups. Across all rehabilitation settings clinicians highlighted the value of peer aspects of groups. Clinicians described the opportunities for 'real world' social interaction that groups provided, *'I think very seldom in life do you do by... like by yourself...I just sometimes think in hospital we can forget that and eliminate that factor... I think groups provide an opportunity for... more of a sort of like real life interaction...'(P8)*. Meal preparation groups were described as a good way to facilitate peer interaction, *'the nature of the interaction with food, means socialisation and therefore that's a really strong group where there's a lot of camaraderie' (P4)*.

### 7.4.1.1 Opportunities to develop relationships

Clinicians in all rehabilitation settings discussed how group participation facilitated development of relationships, providing opportunities for social interaction and support. For example, *'doing groups in OT um... is like living at home in your neighbourhood where you pass by people in the ward and you see them all the time and say g'day, g'day, g'day, like you pass your neighbours all the time, then we come to OT and put 'em in a group and they just sit down and actually get to chat with their neighbour and they said it's everyone just works in his own little universe in the ward... but when they come down to groups they sit down and they catch up with where they are... gives them a little sense of security in the ward having a few buddies and peers to draw on that they know I know that his arm is as crook as mine ... a bit of kinship going on there so... so they like it...'(P5)*. Support and development of relationships between family members attending groups was also described, *'I've seen family members like comfort other families... I think there is that kind of comradeship that someone else, and empathy ... that someone else has been through it...'(P2)*.

Whilst overall perceptions of the peer aspects of groups were strongly positive, examples of how post-TBI changes had negatively impacted on peer interactions were explained, *'...sometimes, um maybe if they have some kind of cognitive impairment, or*

*personality factors, behavioural factors maybe what they are saying to the other person isn't actually beneficial...'(P14).*

#### 7.4.1.2 Power and balance

The power of patient-to-patient interactions was explained by clinicians as, *'...patients will go you know, I tried this and it really worked and another patient just might relate to that ah, if it worked for you it might work for me too so I'll give it a go whereas it didn't when it was coming from the therapist...'(P3).* Furthermore, clinicians described how the group setting could facilitate control and ownership for participants, *'...it takes the power imbalance out of it... within this environment patients are very powerless so putting them in a group setting where they get to learn off each other you kind of restore some of that balance and as when you are running groups you're just facilitating them, you're not standing over them dictating what they do'(P8).*

#### 7.4.1.3 Education and learning

Peer learning and sharing of experiences was a strong theme across all rehabilitation settings, with peer learning described as *'probably one of the uh, most valuable things I find in terms of having, you know running groups as opposed to running a one-on-one sort of treatment session... getting patients more engaged, interactive... learning from each other's um abilities or lack of abilities um, and I think that patients can offer so much to other patients...'(P15).* Furthermore, clinicians explained that peer learning assisted with adjustment to injury, an important part of rehabilitation, *'...it can help people normalize their experiences as well... I think that's really nice for them kind of to interact and hear what other people have been through...'(P11).*

#### 7.4.2 Good fit

This theme referred to the importance of patient selection and planning to achieve the right mix of patients and ensure group dynamics were positive. Clinicians described good fit as being centred around *'...how they (patients) might help each other within the group...'(P1)* and *'...who will go together, not just who gets on but also what their level of abilities are so that group will actually work...'(P11).* Four key factors were reported to impact on good fit; patient factors, unpredictability of groups, practical and logistical factors, and family participation.



#### 7.4.2.1 Patient factors

Clinicians in all focus groups highlighted a variety of patient factors that were barriers to, or facilitators of positive group dynamics. The challenge of the complexity and variety of impairments after TBI was raised in all focus groups, for example *'...you might want to work on cognition with someone they never just have a cognitive problem, they are either in the biggest wheelchair known to man ... or they have a mental health problem which you know, affects them in multiple ways...'* (P5).

The impact of cognitive impairment after TBI on participation in groups emerged strongly in all focus groups. One SIU clinician explained, *'I also sometimes find that patients with a TBI find our (SIU) groups over-stimulating... and difficult to follow...'*(P15). Clinicians in the SIU also emphasised the importance of knowing about the presence and impact of cognitive changes, to know when to *'...give more direction rather than being, sort of, being able to gauge their motivation and commitment by whether they are turning up or not...it could be that they have forgotten.'*(P17).

The potential effect of challenging behaviours on group participation was a consistent theme emerging in all focus groups, *'... challenging behaviours is quite a big thing and when you're in a group setting you know the rest of the group it can be quite disruptive.'*(P9). Clinicians reported they considered the amount of assistance patients required when planning groups as, *'patients who require extra support individually then that takes you away from what's happening with the rest of the group...'*(P12) and *'other people in the group could just feel like they're not getting as much out of it...'* (P11).

#### 7.4.2.2 Unpredictability of groups

Although clinicians explained that they planned groups in anticipation of good dynamics, *'brain injury groups definitely have a bit more of an air of unpredictability'* (P8). The experience of unpredictability when conducting groups with people with TBI was raised by clinicians, who described it as being like *'...you can never really be so sure of where you're going to go because of what they bring in terms of the spontaneity and the uncertainty of how they'll perform, what they will come out and say...'*(P5).

#### 7.4.2.3 Logistical and practical issues

Clinicians raised a number of logistical and practical issues that impacted on good fit and the smooth running of groups. Time management, scheduling and interruptions were raised in all settings. For example, *'because its time consuming ... um there's set up ... um making sure the patients arrive, there's clearing up afterwards ...'(P12)*, and, *'...getting everyone to be able to attend a group at the same time'(P18)*, *'...someone's running late, and someone needs to go to the toilet halfway through...'(P1)*. An example of the impact of these challenges included *'if you're planning an activity that really involves three people and someone leaves, it can really disrupt what you planned and then what the other people are getting out of the group...'(P4)*.

All focus groups highlighted that the environment can pose challenges for people with TBI, such as noise levels and overstimulation. Whilst clinicians identified challenges of shared therapy spaces, they also reported that the shared environment could facilitate interaction. The patient-clinician ratio was also reported to be important for good fit, minimising patient anxiety and avoiding groups with too many participants.

#### 7.4.2.4 Family participation

The positive aspects of family members participating alongside patients in therapy groups were described by clinicians in the BIRU focus groups and included opportunities for family support and education about rehabilitation processes. For example, *'...it's a matter of just assisting that person to stop helping and realize that it's a therapeutic process... in the initial stages of rehab sometimes it can be difficult for family there until they learn what rehab's all about...'(P6)*. Families were described as assisting with generalisation of skills beyond the therapy setting, *'It's also good to... for them, the family to see what you're doing and then can kind of carry that over ... into the ward environment'(P7)*. Conversely, clinicians also described situations where family participation challenged group dynamics, *'...the group doesn't function because the focus is kind of pulled from the patient and what you're trying to achieve with them and moves to, to the family...'(P2)*.

### 7.4.3 The things clinicians do

The third overarching theme related to the things clinicians do to facilitate groups in TBI rehabilitation and included; planning processes, selecting patients for groups, ensuring individual needs and goals are met, and key clinician skills. These were discussed in the context of 'knowing the patient' to anticipate or address potential challenges to group dynamics.

#### 7.4.3.1 Planning and patient selection processes

Multiple planning processes were identified in all rehabilitation settings, which informed patient selection for groups. Written referral forms were described, recording information '*...so anyone running the group has the information there about the people, their goals and any concerns...*'(P5). Group planning meetings were also seen as an opportunity '*...to discuss all the groups for the week... who should go into that and what will work and what won't work...*'(P18). Involvement from treating clinicians was also described as beneficial as, '*it's really helpful to have them on board too, and they like can give you (group facilitator) feedback and the heads up about certain things.*'(P8). Furthermore, the importance of feedback from the group facilitator to treating clinicians was raised.

In the SIU and GARU focus groups, clinicians identified that specific planning and attention was paid to participants with TBI due to their different presentations. They emphasised that they needed to '*provide a lot more of the structure*'(P17) when planning groups for patients with TBI.

Clinicians identified that patients were selected for groups based on their individual goals, whether they met the group criteria, which included their '*ability to participate... at the levels as per the group criteria...*'(P5).

#### 7.4.3.2 Making the group meet individual needs

The challenge of ensuring groups met individual needs and goals was raised in all focus groups, '*they've got these completely different ends and you're trying to combine and to find a task that will address everyone's goals...*'(P8). Clinicians described using a common group theme whilst giving a range of therapeutic activities designed to tailor

group content to meet individual's needs and goals. For example, '*...we tend to pick a theme now so even though two people might be doing completely different problem-solving activities, they're both doing a problem solving activity...*'(P10). Although addressing individual goals could be more difficult in groups than in one-on-one therapy, the clinicians appreciated the opportunities provided to maximise the intensity of rehabilitation using groups, '*where it's not possible to give a one to one session to every patient to be able to put them in a group and know they've worked hard in that group...patients continuously get seen*'(P5). Clinicians also agreed that the use of individual patient goals in groups was a '*...good outcome for the patients...*'(P25) and that '*...when you are linking people with similar goals and similar interests then, it's hard to go wrong...*' (P17).

Clinicians described how they individualised groups by making links between patient goals and group tasks for example, '*they want to go and live with housemates and they are having poor memory then you can relate ah, this task might help you when you are planning your meals for the week...*'(P6). Clinicians also emphasised that providing explicit links between therapy, patient goals and 'real life' was especially important following TBI as, '*...some people with a brain injury can't necessarily make the link between what the task they are doing and the functional implication of it...*'(P8). The positive outcomes of providing these links was described by clinicians, '*... the motivation increased exponentially when something becomes functional and you give someone a reason why they're doing it... and you can explain it to them in a way that relates to them like, not just generically...*'(P8).

#### 7.4.3.3 Skills for group facilitation

Clinicians described a range of skills for group facilitation including managing challenging behaviours and group dynamics to facilitate participation, providing structure, and confidence. One clinician summarised the complexities of group facilitation in TBI rehabilitation, '*it comes down to the OTs getting to know the patients and getting a rapport with them, so it comes down to the mastery at our level to be able to you know... facilitate the group and account for anything that could happen and might happen.*'(P5). Furthermore, SIU clinicians noted that the skills they used to facilitate groups with patients with TBI were different to the skills required to facilitate groups with patients with spinal injury.

Behaviour management skills were identified in all focus groups as essential in facilitating groups with participants following TBI, and described as *'another part of the groups that as the clinician can be really overwhelming to manage.'*(P8). One SIU clinician reflected *'managing difficult behaviours is probably the main one that comes to mind...'*(P14) when discussing clinician skills important for group facilitation in TBI rehabilitation.

Experience and 'knowing' the patients were discussed as being central to developing confidence, *'... getting that confidence is really important and I guess that does just come with practice...'*(P10). To build confidence one participant explained clinicians needed to *'know the patient's well... you need to know what they are going to do, know a bit more about them'* (P13), especially when facilitating groups with patients with TBI.

There was a strong message around the use of structure in TBI groups, *'...you've got to have structure actually to get things rolling'*(P23). Clinicians working in the SIU identified that their groups had a tendency towards group ownership where the patients directed the flow of the group. They explained a contrasting picture to groups comprising patients with TBI where *'... you can't be as fluid and flexible, and you need to more stick to your plan...'*(P17).

Within this theme, three or four categories related to processes, with clinicians identifying a number of practical strategies they implemented to facilitate the group process. These strategies are outlined in Table 7.3.

Table 7.3

*Strategies used by clinicians to plan and facilitate groups in TBI rehabilitation*

Aspect of group	Strategies and practical considerations
Planning	<ul style="list-style-type: none"> <li>• Planning meetings, attended by treating clinicians and group facilitators</li> <li>• Use of written referral forms containing relevant information about the patient (including goals, physical status, cognitive impairments, etc.)</li> <li>• Opportunities for handover and feedback (verbal and written) between the group facilitator and treating therapists</li> <li>• Use of group guides (which identify general group processes, outcomes and goals)</li> <li>• Matching participants with similar or compatible goals in groups that address those goals.</li> <li>• Matching and balancing of patients in the groups by considering patient factors of all group members including:               <ol style="list-style-type: none"> <li>1. Personalities, including the nature of previous interactions between patients and relationships.</li> <li>2. Cognitive or impaired insight for example, the potential impact on understanding and processing of information.</li> <li>3. Behavioural impairments for example, potential impact on peer-to-peer interactions and engagement.</li> </ol> </li> </ul>
Patient centredness	<ul style="list-style-type: none"> <li>• Referral forms containing detailed information about specific patient goals and relevant information.</li> <li>• Planning meetings (to enable opportunities for communication between group facilitators and treating clinicians).</li> </ul>

- 
- Feedback following group participation (both written and verbal).
  - Use of specific patient examples to assist with generalisation especially where patients demonstrate impaired insight.
  - Use a common theme in the group but grade tasks individually.

Group  
facilitation

- Monitor noise levels within the group and surrounding environment.
- Ensure space for large equipment such as wheelchairs and adaptive equipment.
- Information and group content, consider:
  1. The amount of information presented.
  2. The complexity of language and content.
  3. Sufficient time provided for processing.
  4. Consideration of stages of adjustment of group participants.
  5. Consideration of group facilitator skill level and confidence.
  6. Determine the need for additional support or supervision, for example, if more than one patient will require physical assistance with the tasks.

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## 7.5 Discussion

This study investigated clinician perceptions and experiences of group therapy interventions in TBI rehabilitation. Clinicians in the non-TBI rehabilitation settings were in a unique position to compare and contrast experiences and perceptions of groups with and without people with TBI participating in their groups. The key themes that emerged related to the patient-to-patient aspects of groups, achieving good fit within groups, and the things that clinicians do to plan and facilitate groups in TBI rehabilitation.

Consistent themes across previous studies of clinician perceptions of groups were confirmed by our study findings, namely the challenges of cognitive and behavioural changes following brain injury including their potential impact on group processes and dynamics (Knis-Matthews et al., 2006; Richard et al., 2008; Smalley et al., 2007). Findings about the importance of facilitators' skills in communication, confidence and managing group dynamic is consistent with the reports of Knis-Matthews et al. (2006) and Richard et al. (2008). The value of groups for peer-to-peer support to facilitate adjustment through shared experiences was also a key finding of our study consistent with previous results (Knis-Matthews et al., 2006; Richard et al., 2008; Smalley et al., 2007). For example, Malec (2014) highlighted how groups can create a positive therapy environment and that peer to peer feedback can be more powerful than therapist feedback, which was confirmed by clinicians in this study. Whilst Smalley et al. (2007) commented on the importance of planning and reflection, our findings expand on this by identifying specific considerations involved in planning groups in TBI rehabilitation, in particular the importance of using processes to achieve a 'good fit' of participants to enable groups to run well.

During the focus groups, clinicians described the processes of 'knowing the patient', specifically referring to individual patient factors or characteristics that could facilitate or challenge group participation. Clinicians discussed the things they do to select patients to participate in particular groups using this information. Key patient factors identified by clinicians as impacting on selection included cognitive and behavioural changes, particularly challenging behaviours and impaired insight or awareness, and these factors are consistently reported in the literature to impact on participation and outcomes in general (Fischer, Gauggel, & Trexler, 2004; Niemeier et al., 2005; Ownsworth et al., 2000; Pagan et al., 2015; Simpson, Sabaz, Daher, Gordon, & Strettles, 2014). The interplay of these factors on one's ability to participate and benefit from participation in group therapy is a consideration for clinicians in achieving a 'good fit' or match of patients within a group (Bertisch et al., 2011; Knis-Matthews et al., 2006; Richard et al., 2008; Smalley et al., 2007; Torkelson Lynch & Kosciulek, 1995).

Patient selection is central to group therapy, and can determine the benefits that participants experience (Covls & Hale, 2005; McCarthy & Hart, 2011; Yalom & Leszcz, 2005). Further to this, improper group assignment can have a negative impact on other



group members, and the group as a whole (Yalom & Leszcz, 2005). McCarthy and Hart (2011) also emphasized the importance of considering the needs of individual group members and the group as a whole in selection of participants. Patient selection was a key theme emerging in all focus groups with the majority of clinicians identifying specific strategies they implemented to assist with group planning and patient selection. Table 7.3 may provide a useful resource for clinicians when planning groups in TBI rehabilitation to ensure they maximise group processes.

Clinicians described good fit as not only being between members but also the ratio of clinicians (or facilitators) to patients and group size. When determining group size, literature identifies that consideration of participants' ability to engage in the group activities, and interact with other group participants is important (Cowls & Hale, 2005; Schwartzberg et al., 2008; Yalom & Leszcz, 2005). The typical size of groups in BIRU was a maximum of four participants, and in the SIU and GARU groups ranged from four to six participants.

With regards to individualising groups to meet patient needs and goals, existing research reports challenges associated with goal setting and integration of goals into groups where the patients demonstrate impaired awareness and insight (Doig et al., 2009; Fischer et al., 2004; Ylvisaker, McPherson, Kayes, & Pellett, 2008). Clinicians in this study highlighted that it was challenging to balance individual goals with the goals of the whole group. Similarly, Richard et al. (2008) identified that groups were valuable when the group format, content and processes were matched to the goals and needs of the participants. Clinicians emphasised the importance of planning and gathering specific and detailed information about patient goals to be able to meet their individual needs within a group setting.

Reduced social interaction and social isolation is common after TBI and has a significant impact on quality of life (Dahlberg et al., 2006; Hoofien, Gilboa, Vakil, & Donovan, 2001; McDonald et al., 2008; Struchen et al., 2011; Temkin, Corrigan, Dikmen, & Machamer, 2009). Consistent with previous research, this study reinforces the value of the social interactions and support that groups can provide (Charles et al., 2007; Fleming et al., 2009; Fraas et al., 2007; Nilsson et al., 2011; Parente & Stapleton, 1999; Purk, 2004; Rodgers et al., 2007; Sargeant et al., 2000; Schulz, 1994; S. Schwartzberg, 1994;

Straits-Troster et al., 2013; Vandiver & Christofero-Snider, 2000). Clinicians highlighted group facilitator skills, organisation of the environment, and consideration of both stages of adjustment and cognitive functioning as important for group interactions and dynamics.

Leadership is seen as key to effective group interventions, with leaders having a broad range of skills and attributes such as facilitating, evaluating, supporting and blocking (Schneider Corey et al., 2010). Consistent with previous clinician perspectives (Knis-Matthews et al., 2006; Richard et al., 2008), group management skills emerged as a strong theme amongst clinicians working in all rehabilitation settings in this study, but particularly for facilitating groups with participants following TBI. The ability to deal with difficult situations and difficult clients is a pre-requisite for effective group leadership (Andrews, 1995) and clinicians in this study emphasised the management of challenging behaviours as one of the most important skills for facilitators of groups in TBI rehabilitation. Clinicians also described utilising additional therapists in groups where patients may be challenging for the group facilitator. This could provide opportunities for observation of experienced clinicians by more junior therapists, which may be beneficial for skill development (Yalom & Leszcz, 2005).

Including clinicians working in other rehabilitation settings such as spinal injury rehabilitation and geriatric rehabilitation was a useful design feature of this study as clinicians working in the brain injury rehabilitation setting did not necessarily articulate details of processes which they routinely performed. Clinicians working in other settings noticed the difference when patients with a TBI attended their groups and the impact this had on the group and group facilitation processes, and were able to compare and contrast the skills required for facilitation of groups in TBI rehabilitation, with other rehabilitation settings. They highlighted that confidence was particularly important when facilitating groups with patients after TBI and the need to provide increased structure, and instruction to groups where participants had a TBI. Cole (2008) described a 'directive leadership style' as being the best choice for patients with cognitive impairments or lower motivation, when more direction is required for participation in groups. In the current study, groups with participants with spinal injury only who were functioning at a higher cognitive level and were typically highly motivated were described as more flexible with facilitators providing less direction. In contrast, participants with TBI were described as being less active in

driving discussions, initiating problem solving and discussing the potential impact of their injury and other's injuries.

The key message from the strategies identified by clinicians was that if thorough planning and good fit are taken into account then problems with group dynamics and group management are minimised. This emphasis on planning reflects a different approach to 'managing' groups dynamics in that the emphasis is on preparation for the group rather than the implementation of strategies such as behaviour management during groups.

### 7.5.1 Limitations and future research

This was a single site study at a hospital with a well-established occupational therapy groups programme. Processes for facilitating group interventions may differ between rehabilitation settings and further research in other settings and with other disciplines is needed to understand these differences. This study was conducted in an inpatient rehabilitation setting, and the perspectives of clinicians working in outpatient or community settings may vary. Further research across the continuum of care settings would further add to this research.

A potential limitation of the use of focus groups is the risk of consensus between group participants, led by the most vocal or dominant focus group participants. To counter this potential problem, the focus group facilitator (ED) was an established brain injury researcher experienced in conducting qualitative research using focus groups. Several strategies to avoid 'group think' were used during the focus groups including encouraging participants at the outset to provide their opinions, explaining to the group that we wanted to hear from everyone and were interested in as many varying experiences as possible, and use of moderating skills such as directing questions where necessary to participants who had spoken less and use of probing questions particularly where new and differing ideas were volunteered (Morgan, 1997).

Engagement of consumers and other stakeholders is an essential component of service development or programme evaluation (Drum et al., 2011; McCarthy & Hart, 2011; Sarrami Foroushani et al., 2012; Yalom & Leszcz, 2005). This study has focused on the

perspectives of clinicians and further investigation of patient and significant other perspectives is warranted. Additionally, further investigation of current education curricula, and clinician learning needs with regards to group facilitation or leadership in TBI rehabilitation is warranted to identify specific opportunities for skill development.

## 7.6 Conclusions

The perceptions of clinicians, as key stakeholders in the provision of rehabilitation post TBI, are essential in service evaluation and development. In this study, clinicians participated in focus groups discussing their experience of groups in TBI rehabilitation and compared these to providing group rehabilitation to other population groups. Whilst acknowledging challenges and barriers, the clinicians reported that groups were worthwhile and rewarding. Although it may not be an exhaustive list as the study was conducted in one hospital, the clinicians identified strategies and processes to facilitate good fit and positive peer aspects of group interventions for patients with TBI, emphasising the importance of planning and patient selection strategies. The results of this study go one step further towards fleshing out our understanding of effective processes for facilitating groups in TBI rehabilitation.

## Chapter 8

### Video analysis

This final research chapter of the thesis presents the findings of a qualitative analysis of video-recordings of occupational therapy brain injury rehabilitation groups. Description of the nature of interactions occurring within these groups is provided including strategies utilised by group facilitators to encourage peer interactions.

This study was part of the larger project evaluating the use of occupational therapy groups in brain injury rehabilitation. Whilst the larger project focused on participants with TBI, patients participating in the group therapy programme in occupational therapy had both TBI and other forms of ABI. In instances where groups scheduled for video recording included participants with ABI they were recruited and provided informed consent for video recording of the group.

This paper has been submitted for peer review as:

Patterson, F., Doig, E., Fleming, J., & Marshall, K. (Submitted). A descriptive video analysis of interactions during occupational therapy brain injury rehabilitation groups.

## 8.1 Abstract

**Objective:** An advantage of using groups in rehabilitation is the opportunity for peer learning and support. This study aimed to describe and understand the interactions occurring in occupational therapy brain injury rehabilitation groups to inform recommendations for group facilitation. **Method:** Video-recordings of four occupational therapy groups were taken. Twelve adults with brain injury who participated in the groups and four group facilitators consented to the study. The data were analysed using a qualitative descriptive approach. **Results:** Interactions were predominantly facilitated by group facilitators and shaped by the nature of the group activities. Group facilitators used a number of strategies to encourage interaction including; knowledge of group participants, activity choice and physical positioning of group members. **Conclusions:** Group facilitators utilise a number of strategies to encourage peer interactions. However, during structured activity-based rehabilitation groups, participants with TBI may focus predominantly on achieving the goal of the group activity rather than initiating peer interactions.

## 8.2 Introduction and background

Groups are part of everyday life. The benefits of group participation are widely reported and are mostly related to peer interaction and curative aspects of groups. Yalom's eleven curative factors of groups include imparting information, development of socialising techniques, imitative behaviour, group cohesiveness, and catharsis (Yalom & Leszcz, 2005). Another frequently cited group theory is Social Identity Theory which emphasises the interaction between social and personal identities, highlighting that "group memberships can help people instil meaning in social situations" (Ellemers & Haslam, 2012, p. 2) and assist people to develop self-identity (Ellemers & Haslam, 2012). Within TBI literature the value of peer interactions is widely cited (Lexell, Alkhed & Olsson, 2013; Malec, 2014; von Mensenkampff, et al., 2015). Two previous studies in an inpatient TBI practice setting from the perspectives of patients (Patterson, Fleming & Doig, 2018), and clinicians (Patterson, Fleming & Doig, 2017) highlighted themes of "peer-to-peer" aspects of groups and connectedness. Furthermore, a scoping review of the use of groups in TBI rehabilitation (Patterson, Fleming & Doig, 2016) identified the secondary benefits of groups in the opportunities for peer interactions.

Studies of the use of groups in brain injury rehabilitation settings have shown that they are commonly used and that the group format has benefits. Hammond and colleagues (2015) reported groups accounted for 13.7% of all therapy sessions and 15.8% of therapy hours in a study of over 2000 adults with TBI across 10 inpatient rehabilitation units. Participation in groups has been reported to assist with adjustment and normalisation post injury in outpatient community brain injury rehabilitation (Lexell et al., 2013; von Mensenkampff et al., 2015). Furthermore, patients are more likely to listen to and take advice from their peers than from therapists (Malec, 2014). Groups are a core component of occupational therapy and are practised widely across a variety of clinical settings (Higgins et al., 2014). Occupational therapy rehabilitation groups are typically occupation-based and structured to facilitate participation in activities and strategies related to the rehabilitation goals of group participants. Pagan et al. (2015) identified that 43.3% of occupational therapists working in TBI rehabilitation settings in Australia reported using group-based interventions. Whilst groups are widely used in health and rehabilitation, there is limited research about processes specific to brain injury rehabilitation groups to guide the facilitation of groups in this setting (Patterson et al., 2016).

In occupational therapy research, video recording has been used as a method of data collection, particularly for exploring the complexity of peoples' engagement in occupations (and activities), documenting interactions with the social and physical environment, and when cognitive and language impairments are present to overcome the challenges of using qualitative interviews (Bailliard, 2014; Pierce, 2005). Pierce (2005) discussed the emergence of the use of visual or video data as a research method, and identified how social interactions and changing or complex temporal sequences such as interventions can be more effectively studied using these methods.

The aim of this study was to describe and understand the nature of interactions within inpatient occupational therapy groups in brain injury rehabilitation to inform recommendations for group facilitation.

## 8.3 Method

### 8.3.1 Design

A qualitative descriptive approach (Milne & Oberle, 2005; Neergaard et al., 2009; Sandelowski, 2000) was used to analyse video recordings of inpatient occupational therapy groups. In this study, video recording of groups enabled naturalistic observation of interactions occurring during the groups (Butler, Rice, Wagstaff, & Knapp, 1963; Rosenstein & Israel, 2002).

Ethical approval was received from the Metro South Human Research Ethics Committee (Reference number: HREC/13/QPAH/367) and the Medical Research Ethics Committee, The University of Queensland (Approval number: 2013001094).

### 8.3.2 Setting and participants

The setting was an inpatient brain injury rehabilitation unit at a large tertiary hospital in Brisbane, Australia, which provides specialist multidisciplinary rehabilitation for patients of broad working age range following ABI such as resulting from trauma or stroke. Occupational therapy services include individual and group therapy, with current evidence and theory about brain injury rehabilitation, occupational therapy, and client-centred practice guiding delivery of the established group therapy programme (Patterson, Fleming, et al., 2017). Meal preparation (breakfast and lunch), community access, cognitive, and upper limb groups are offered on several days of each week. During the referral process individual goals for participation in the group programme are collaboratively identified with the patient and their treating clinician. Group content is not manualised; rather, activities and group focus are planned around individual participant's goals. Group facilitators are both clinicians and students completing practice placement as part of an established practice placement programme (Patterson, Fleming, Marshall, & Ninness, 2017). Groups are one hour in duration. The typical format is a group introduction followed by engagement in an activity or activities, and a conclusion including revisiting and reflecting on goals and performance.

Participants were eligible for inclusion if they: were participating in the occupational therapy groups programme in the BIRU; had a diagnosis of ABI; were aged 18-65 years; where applicable had emerged from PTA; and had adequate cognitive and communication ability to provide informed consent. Group facilitators at the time of video-recording consented to participate in the study. A purposive sampling strategy was utilised to select



different types of groups and to also include a sample with a range of participant demographics (Palinkas et al., 2015).

### 8.3.3 Data collection

Four occupational therapy groups were videotaped by the researchers (FP and ED), including one meal preparation, one upper limb, and two cognitive groups. An iPad positioned on a tripod was used for video-recording, which enabled full view of all group members and the group space. Audio-recorders were used to capture audio data when participants were out of range of the iPad or recording quality was compromised by background noise. Participants were told about the recording devices at group commencement and were encouraged to participate as usual and ignore their presence.

### 8.3.4 Data analysis

Qualitative description methods were used to examine the audio-visual data. Video-recordings can provide extremely large volumes of data and the use of a priori topics, or a scaffold can direct and define the parameters of target observations whilst still maintaining an inductive approach (Morse & Pooler, 2002). The scaffold used was based on qualitative findings from clinician focus groups at the same hospital (Patterson, Fleming, & Doig, 2017), patient perspectives (Patterson, Fleming, et al., 2017) and literature about interactions during groups (Ellemers & Haslam, 2012; Yalom & Leszcz, 2005). The target observations in the framework were interactions during groups including: peer to peer social interaction, peers teaching and guiding each other, peers working together, and the therapist talking and/or explaining. Additional interactions that did not fit with this framework were noted. Whether the interactions were peer-initiated, prompted by the clinician or shaped by the activity was also noted. An iMovie software programme was used to manage and store the data, and to conduct video analysis (Spiers, 2004).

Qualitative content analysis, commonly used in qualitative description (Milne & Oberle, 2005; Neergaard et al., 2009; Sandelowski, 2000), was utilised. The data drove the coding process following strategies described by Miles and Huberman (1994). These included coding observations, noting insights and reflections on a dataspread sheet, and referencing times and duration of interactions. Similar phrases, themes, sequences and

features were identified through repeated viewing (or sorting) of the data as well as differences in the data. Generalisations that 'held true' for the data set were further analysed in the context of existing knowledge. Using these strategies, the data were systematically reviewed to describe and code the interactions according to the framework scaffold. Data were viewed both from a whole of group perspective, and as smaller segments of interactions in more detail (Erickson, 1982). Consistent with the value of viewing the data multiple times for the emergence of new insights described by Rosenstein and Israel (2002), two independent researchers (FP and KM) reviewed the data multiple times and consensus meetings were held between the researchers (FP, KM and ED) where coding and description was discussed.

The team decided not to transcribe the video or audio-data, reasoning that listening to and considering the audio-recordings concurrently with the video-recordings facilitated understanding of the interactions that were occurring to enable accurate descriptions (Bailliard, 2014). The descriptions included time references for easy return to the original data source.

Quality and rigour were considered at all stages of the study. Integrity and subjectivity were addressed through having a team of researchers with different perspectives (Neergaard et al., 2009). Reflexivity was encouraged through regular research team meetings to reach consensus when queries arose and avoid bias (Milne & Oberle, 2005). Clear documentation of the established data collection and analysis methods used enhanced credibility and dependability (Lincoln & Guba, 1985). Thorough description of the setting and participants supported transferability of findings (Lincoln & Guba, 1985). Triangulation using video and audio-recordings supported the reliability of the findings (Rosenstein & Israel, 2002).

## 8.4 Results

Sixteen eligible participants consented to be involved, twelve being group participants and four group facilitators. The group participants were adults with brain injury; eight had a TBI and four had other causes of ABI including stroke, brain tumour. Eight group participants were male and four were female. The mean age of group participants was 35.3 years (standard deviation 13.8). The groups were open and most participants were familiar with each other prior to group participation. Open groups are those that

maintain a constant size, and group members are replaced as they leave the group, for example, in this case to discharge home from inpatient rehabilitation (Yalom & Leszcz, 2005). Group facilitators were one qualified occupational therapist, two final year undergraduate occupational therapy students and one occupational therapy assistant. The qualified occupational therapist had four years of clinical experience and the occupational therapy assistant had less than one year of clinical experience. Group participants and facilitators are outlined in Table 8.1.

Table 8.1

*Group participants and facilitators*

Group	Participant pseudonym	Group facilitator(s)	Activities	Group aims
Meal preparation group	Jack Susie Matt Andrew	OTS1 (lead) OTA	Preparation of hot meal and drinks	<ul style="list-style-type: none"> <li>• To address client-centred goals within a group setting (goals identified by treating therapist and client).</li> <li>• Provide opportunities for patients to engage in meaningful daily occupations – meal planning and preparation tasks.</li> <li>• Facilitate positive social interactions and reinforce/address cognitive and behavioural strategies.</li> <li>• Facilitate an environment of peer learning and support.</li> </ul>
Cognitive group (1)	Jack Matt Lisa	OTS1 (lead) OTA	Memory re-training activities (including pen and paper recall tasks), group games.	<ul style="list-style-type: none"> <li>• To address client-centred goals within a group setting (goals identified by treating therapist and client)</li> <li>• Facilitate positive social interactions and activities to address cognitive and behavioural difficulties/impairments.</li> <li>• Facilitate an environment of peer learning and support.</li> <li>• Facilitate opportunities to reinforce cognitive and memory strategies. Provide opportunities to practice/reinforce cognitive/memory</li> </ul>

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				strategies within functionally focused tasks.
Cognitive group (2)	Oliver Anna Tom	OT	Memory re-training activities, card games	<ul style="list-style-type: none"> <li>• To address client-centred goals within a group setting (goals identified by treating therapist and client)</li> <li>• Facilitate positive social interactions and activities to address cognitive and behavioural difficulties/impairments.</li> <li>• Facilitate an environment of peer learning and support.</li> <li>• Facilitate opportunities to reinforce cognitive and memory strategies. Provide opportunities to practice/reinforce cognitive/memory strategies within functionally focused tasks.</li> </ul>
Upper limb group	James Dave Wendy Bob	OTS1 (lead) OTS2	Individual upper limb activities (e.g., practicing tying shoe laces), group games including Jenga	<ul style="list-style-type: none"> <li>• To address client-centred goals within a group setting (goals identified by treating therapist and client)</li> <li>• Facilitate opportunities to engage in activities targeting upper limb deficits/difficulties that are impacting on functional activity participation.</li> <li>• Facilitate positive social interactions</li> <li>• Facilitate an environment of peer learning and support.</li> </ul>

*Note.* OT: Occupational Therapist, OTA: Occupational therapy assistant, OTS: Occupational therapy students (1 and 2): Lead, indicating lead facilitator in the group.

#### 8.4.1 General observations of groups and interactions

All groups had a clear structure and activities were planned prior to the group. Where there were two group facilitators in the group, one took on the leader role, providing the majority of the instructions. Groups were facilitated in a shared occupational therapy space with other individual therapy sessions running concurrently in the area, contributing to noise levels and potential distractions. Groups in the programme are goal-directed activity groups and the activities or tasks planned for the groups are varied depending on the goals of participants in the groups. The activities carried out during each of the four groups analysed are listed in table 8.1.

The meal preparation group occurred in the kitchen space with a table in the centre of the open plan kitchen (refer to Figure 8.1). At the commencement of the group participants and facilitators sat around the table. This is where they also ate their meal and brought the group to a close. Participants worked together to review the recipe and allocated tasks to group members to complete (i.e., one participant set the table and prepared hot drinks for all).

Cognitive groups (1 and 2) and the upper limb group were conducted with participants and facilitators sitting around a table and completing table-top activities. These groups involved a mix of activities completed individually or as a group. For example, the upper limb group had a 'group' warm up activity, followed by individual goal-based activities which were outlined on activity cue cards, and at the end of the group participants and facilitators came together for a game.



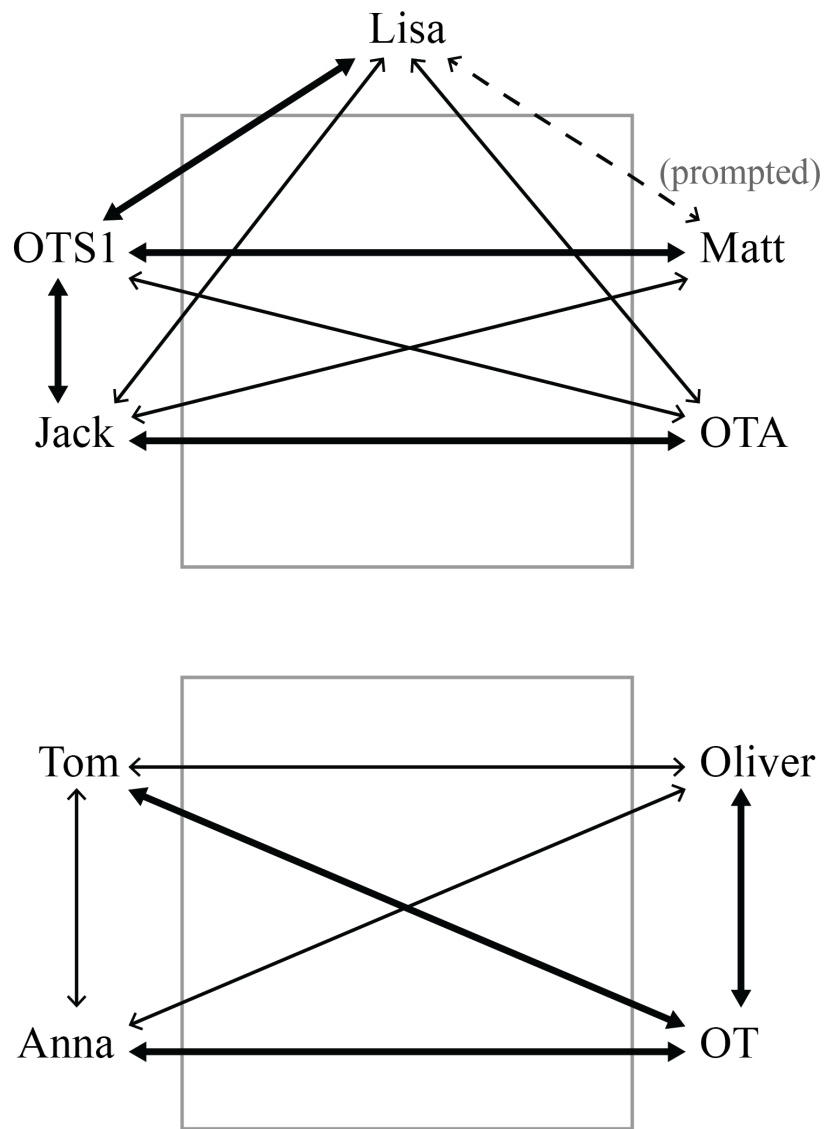
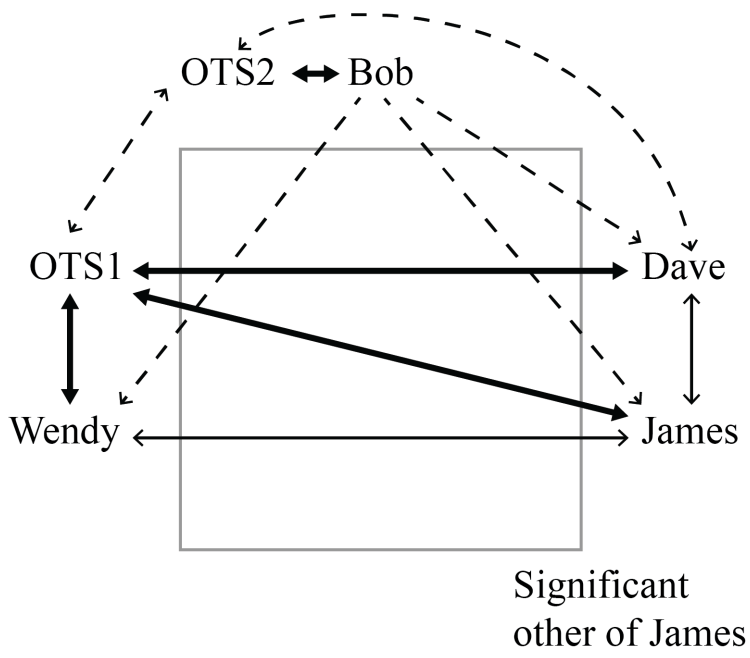


Figure 8.2

Cognitive groups 1 and 2 – Interactions observed during group participation





Bob leaves early after ~32 minutes. Positioning of participants and facilitators for final therapy activities.

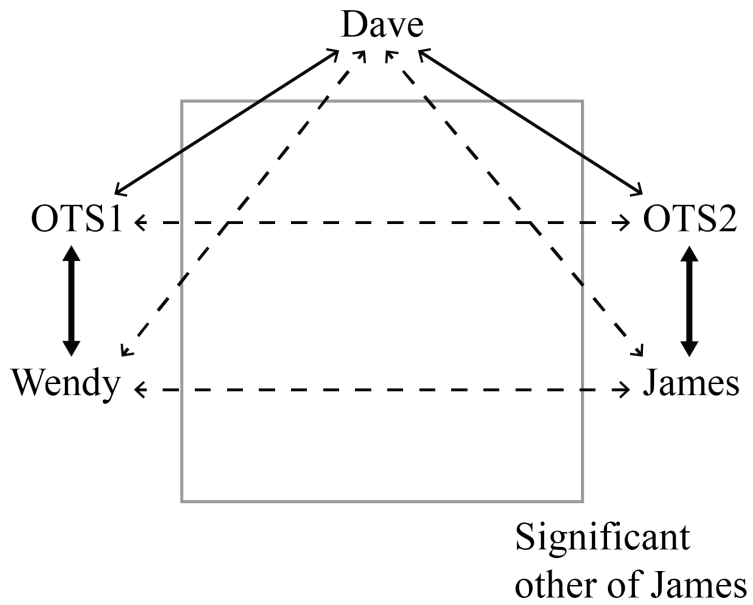


Figure 8.3

Upper limb group – Interactions observed during group participation

## 8.4.2 Peer interactions

Peer interactions were generally the same across groups and consisted of laughing, and short one directional interactions. Peer interactions were categorised in terms of social interactions occurring between peers, peer teaching and learning, and peers working together.

### 8.4.2.1 Peer social interaction

Social interactions occurring between peers were typically short and influenced by the nature of the activity, not extending beyond the activity-related content. Examples of peer-initiated interactions included group members saying “*hello*” to each other at the beginning of groups, and instances of laughter during activities. During cognitive groups participants responded to facilitator-guided discussions, with interactions usually occurring between the group facilitator and individual participants and this did not usually lead to peer-to-peer interactions. Games such as “Go Fish” card game and Jenga generated the most peer-initiated interactions such as jokes about the game, and encouragement such as “*Looks like Tom is going to win this one*” (Cognitive group 2). During meal preparation group, when participants were sitting together eating their meal, minimal peer-initiated interaction was observed.

The impact of cognitive and communication impairments was also observed, such as during cognitive group 1, where Lisa had a left-sided inattention and subsequently did not self-initiate interaction with Matt who was positioned on her left side (illustrated by the dotted line in Figure 8.2).

### 8.4.2.2 Peers teaching and guiding each other

Instances of peers teaching and guiding each other were limited and were exemplified by Jack explaining the group activity to Lisa who arrived after the activity commenced (Cognitive group 1), and Andrew demonstrating the use of the stove to Matt during meal preparation group. No observations of peers teaching and guiding each other were noted during cognitive group 2 or the upper limb group.

### 8.4.2.3 Peers working together

Working together was seen as instances where participants were observed to actively engage and work together towards a common goal. These were generally facilitated by group facilitators or by the nature of the activity. For instance, during the meal preparation group, Matt was designated the task of preparing hot drinks, and he subsequently asked each of the group members, "*How do you take your tea?*". During the upper limb group, James helped Dave pick up a piece of the Jenga game. These instances generated some short interactions which contributed to the group goal. More commonly, group facilitators prompted participants to work together, for example, "*Anna can you help Oliver out with how many languages are spoken in Australia?*" (cognitive group 2).

Instances of turn taking were commonly observed during group activities but the majority of these interactions occurred after group facilitator prompting, such as "*Anna it's your turn now*" (cognitive group 2). These interactions were also required due to the nature of the task, for example, a game of cards which rotated clockwise around the group.

### 8.4.3 Group facilitator interactions

Overall, interactions occurred mostly between the group facilitator and one participant, with the group facilitator using direct instruction, prompting or non-verbal actions to encourage interactions. Figures 8.1, 8.2 and 8.3 visually depict the strength of interactions between facilitators and group participants. Group facilitators used strategies to encourage interaction between peers including knowledge of group participants, activity choice, and physical positioning of group members.

#### 8.4.3.1 Knowledge of group participants

At the beginning of each group, the group facilitators explained the purpose and goals of the group, and also provided introductions of group members. Throughout the groups, the group facilitators explained each activity, with reference to individual participant goals. In cognitive group 2, the group facilitator explained verbal memory and the strategy of structured note-taking the group was going to practise. The group facilitator modelled use of the strategy and provided individualised links to daily life for each participant. For example, for Tom she explained "*...at work and you were in a meeting*

*and you had lots of information from the meeting, it might be handy to break that down into categories, and help you follow up and action what you had to do”* (cognitive group 2). The group facilitators also reinforced goals and performance at the end of the group.

Group facilitators also used their knowledge of the participants’ life experiences to engage them in the group such as asking a Dave where in the country his recent visitors had travelled from (upper limb group) and discussing the events of Anna’s recent birthday (Cognitive group 2).

#### 8.4.3.2 Activity choice

Opportunities for peer interactions during groups were both facilitated and hindered by the nature of the group activity. For example, during cognitive group 2, a verbal recall task required that the participants took turns providing responses. This turn-taking facilitated a degree of engagement between participants in that they observed each other and usually initiated verbal or non-verbal acknowledgement of each other. In contrast, in the upper limb group, participants completed individual activities that did not provide much opportunity for a shared experience. Similarly, during meal preparation group, whilst all participants were working towards a common goal, they were completing individual tasks which only in some instances generated short peer interactions. Games which were used to facilitate upper limb and cognitive focused goals generated the most peer interactions.

#### 8.4.3.3 Physical positioning of group members

The positioning of the group participants and facilitators was also seen to either facilitate or hinder interaction and participation. For example, Wendy had a left-sided neglect, and in upper limb group one group facilitator (OTS1) was positioned on her left side. In this instance, the positioning provided opportunities for prompting Wendy to attend to her left side and engage with the group facilitator. Conversely in cognitive group 1, due to her left-sided inattention, Lisa did not initiate interactions with Matt who was on her left side without prompting.

#### 8.4.3.4 Other observations

Clinicians also provided verbal and non-verbal encouragement to patients throughout the groups such as nodding, making eye contact and smiling, and directing specific questions to patients in the group. Across all groups, the clinicians consistently

used a graded approach when prompting. For example, the clinician in cognitive group 2 prompted, “*Anna can you visualise what your fact was?*”, rather than providing the answer.

Whilst overall, group facilitators ‘shared’ their time and attention between participants, in some instances participants required more one-on-one assistance and supervision. For example, in meal preparation group Andrew required constant supervision whilst completing tasks in the kitchen which resulted in one of the facilitators ‘trailing’ him and remaining close to him (refer to Figure 8.1). This was also evident in the upper limb group and illustrated with OTS2 interacting primarily only with Bob who required assistance to participate in the group.

## 8.5 Discussion and conclusions

The study provided an opportunity for naturalistic observation and description of interactions occurring in four occupational therapy brain injury rehabilitation groups. The majority of interactions observed were facilitated by group facilitators and shaped by the nature of the activity to some degree. Peer-initiated interactions were observed infrequently with most interactions initiated by the group facilitators and occurring between the group facilitators and participants despite facilitators using strategies to encourage interactions between peers.

The purpose of the groups in this setting were to provide rehabilitation aimed at achieving individual patient goals. Thus, the groups facilitated participation in activities to improve skills, practise the use of strategies, and to receive education from the clinicians in the context of these activities. The focus on individual goals may have led to a reduced number of peer interactions compared with groups with other purposes such as peer support or education groups. Furthermore, the impact of cognitive impairment which is common following brain injury (Hyder et al., 2007; Temkin et al., 2009) may mean that it is too difficult for participants to divide their attention between an activity (even a basic activity of daily living such as eating a meal) and a conversation with another person.

In this study, the rehabilitation groups were pre-planned and based on individual patients’ rehabilitation goals, , very few instances of interaction between peers were observed. In a separate study of patient perspectives of participation in the occupational therapy groups programme, patients rated the groups highly and found them beneficial

(Patterson, Fleming, et al., 2017; Patterson, Fleming & Doig, 2018). This suggests that groups may not need to contain a large amount of peer-to-peer interaction for patients to receive a benefit. Just working comfortably alongside others on a common goal may be a more realistic expectation for activity-focused groups during the inpatient stage of rehabilitation. Whilst potentially hindering opportunities for interactions, the use of structure within groups in brain injury rehabilitation has been described by occupational therapists to facilitate participation whilst accommodating for cognitive impairments (Patterson, Fleming, & Doig, 2017).

Facilitators used a number of strategies during groups to encourage peer interactions and participation. These included knowledge about group participants such as their interests and life experiences, activity choice and physical positioning of group members. These findings contrast with occupational therapists' previous reports that in TBI rehabilitation groups most of their efforts occur in the planning stages of groups, and when groups are well planned, less active involvement is required during the groups to manage group dynamics (Patterson, Fleming, & Doig, 2017). It appears from these four groups at least that therapists actually work quite hard throughout groups in both facilitating participation in activities and encouraging interactions to make the group a success.

Group leadership plays an important role in the experience of group participation and group dynamics (Yalom & Leszcz, 2005). Previous studies in the setting of groups in TBI rehabilitation from the perspectives of clinicians reinforced this finding particularly with regards to confidence and skills managing challenging behaviours (Knis-Matthews et al., 2006; Patterson, Fleming, & Doig, 2017; Richard et al., 2008). It is noted that the occupational therapists and occupational therapy assistants facilitating groups in this study were either students or had less than five years of clinical experience. Consequently, these facilitators may have been more comfortable adopting a task-focussed leadership style at the expense of focussing on fostering interpersonal relationships. The findings of the study of clinician experiences in conducting rehabilitation groups highlight how group facilitation in brain injury rehabilitation is often challenging and requires experienced clinicians for planning, tailoring group content to meet individual needs and management of complex behaviours (Patterson, Fleming & Doig, 2017). Therefore, supervision of less experienced clinicians or occupational therapy assistants by experienced group facilitators is recommended.

Even though the groups in this setting were open groups as opposed to closed groups which have no new members for the pre-determined duration of the group (Yalom & Leszcz, 2005), group members were generally familiar with each other due to contact during previous groups or in the hospital ward. The people with brain injury in this setting valued group participation for the development of relationships which come to fruition outside of the group setting (Patterson, Fleming & Doig, 2018). Despite observing that group facilitator-initiated interactions occurred more commonly than peer-initiated interactions during the rehabilitation groups, participation in the groups could still be of value in terms of relationship development, encouraging peers to informally work together, learn from and support each other. Even in the rehabilitation activity of preparing and eating a meal together minimal peer-initiated interaction was observed. In what may be viewed as an occasion where socialisation may be expected, this raises the question of why little peer interaction occurred. It may be the case that the shared experience of doing an activity together, rather than the amount or intensity of direct peer-to-peer interactions that assisted with development of relationships. The impact of cognitive and communication changes on socialisation and participation is widely reported (Hyder et al., 2007; Temkin et al., 2009), and may be a factor in the limited nature of the interactions in this study. The power differences between clinicians and patients may also impact on the nature of interactions in groups, and could explain the finding that the clinicians drove most of the interactions. Given that peer interaction is of value, we may need to consider that other types of groups that are less structured and more focused in interactions (i.e. recreation groups, peers mentoring each other, and social outings) during the early rehabilitation phase could also be important in addition to groups that target specific functional goals and activities.

### 8.5.1 Implications for occupational therapy practice

- Interactions were predominantly supported by group facilitators and occurred between group facilitators and individual participants, rather than between participant peers, which could be due to the impact of changes following brain injury.
- To encourage peer interaction during rehabilitation groups, group facilitators used strategies including: knowledge of group participants, activity choice, and physical positioning of group members.

- Group facilitators in brain injury rehabilitation face a challenge to balance enabling participation in activities and encouraging peer interactions.

### 8.5.2 Limitations of the study

The study was conducted at a single site, and only four groups were sampled to video. Future research is needed to look at larger samples, and in other clinical settings to enable comparisons of interactions between different populations (e.g., nature of interactions occurring within brain injury rehabilitation groups as compared with spinal cord injury rehabilitation groups). Given this study was conducted in an inpatient setting, in the earlier stages of patient recovery, it may not be representative of peer interaction in all rehabilitation groups, and more study is needed to explore this in different settings. Whilst the observations did not appear to differ greatly between groups, the skill level and experience of group facilitators may have impacted on group dynamics, such as when considering students versus qualified occupational therapists. Future research into participant perspectives of the value of participation in activities (i.e., goal-directed and activity practise) during rehabilitation groups versus the opportunity for peer interaction is warranted. Additionally, further research into group formats and conditions which facilitate peer support and interactions in the context of groups in rehabilitation may also provide valuable insights and implications for clinical practice. Furthermore, given the importance of the development of relationships resulting from participation in groups (Patterson, Fleming and Doig, 2018), future research could explore these relationships. For example, observation of patients outside the groups to compare interactions that occur with those who participate in groups to those who don't participate in groups.



### 8.5.3 Conclusions

Within the context of occupational therapy groups in brain injury rehabilitation interactions were predominantly initiated by group facilitators, and occurred between group facilitators and one group participant at a time. Group facilitators can support interactions between participants in groups by drawing on their knowledge of the interests and backgrounds of participants, by choosing activities such as games which encourage exchange between participants in the group, and by using optimal positioning in the environment. In rehabilitation groups facilitators lead and structure the content, and the purpose of the group is participation in activities. This formal structure may hinder peer interaction despite group facilitators using strategies to encourage such interactions. Given the value of peer interactions, further exploration is warranted to enable wider understanding of how to facilitate peer interaction successfully in the context of activity-based occupational therapy groups.

## Chapter 9

### Discussion and conclusions

Groups are commonly used across disciplines in TBI rehabilitation and form a key component of rehabilitation programmes. In the past, little has been formally researched about the experiences and perceptions of patients who participate in these groups, and the clinicians who facilitate them. Given the importance of stakeholder engagement in service planning, evaluation, and development, understanding these experiences could have significant implications for clinical practice.

This thesis has explored occupational therapy groups implemented in the context of a specialised inpatient brain injury rehabilitation unit from the perspective of the patient participants and clinician facilitators as well as observation of group implementation. The findings are described in the preceding chapters including key concepts and themes arising from the studies of this thesis.

This final chapter of the thesis provides a summary of the background and setting for the study, the findings in relation to each of the thesis aims, and broader discussion of the overall key findings. Implications for clinical practice are also described in this chapter including presentation of a clinical tool for planning, facilitating and evaluating groups that was developed based on the study findings. The limitations of the thesis and directions for future research are presented, followed by conclusions. This thesis contributes to our understanding of the perceptions of key stakeholders (patients and clinicians) about participation in occupational therapy groups in TBI rehabilitation, and to current practice in relation to interactions occurring in groups.

## 9.1 Summary of background and setting

Groups are part of life. In our everyday lives we participate in a wide range of groups including those we are born into such as cultural and family groups, belief-based groups such as religious groups, productive and social groups, and interest-driven groups such as sporting teams and recreation activities (Schwartzberg et al., 2008). The benefits of participation in rehabilitation groups are widely reported and include opportunities for peer support and learning, maximising therapy intensity, and provision of opportunities to participate in 'real world' activities and interactions (Bertisch et al., 2011; Drum et al., 2011; Hammond et al., 2015; Yalom & Leszcz, 2005).

There are a wide range of formal and organised therapy groups, each with differing purposes and formats. Examples include activity groups (Schwartzberg et al., 2008), support or self-help groups which can be professionally or peer-led (Johnson & Johnson, 2009; Unsworth, 1999), and open versus closed groups (Yalom & Leszcz, 2005). Chapter 2 provided a more detailed background and overview of relevant theories and approaches to group interventions.

Occupational therapy groups are guided by occupational therapy theory and frameworks of practice. Client-centred practice and participation in meaningful roles and activities are core values of occupational therapy practice (Occupational Therapy Board of Australia, 2014; World Federation of Occupational Therapists, 2012). As such, groups in occupational therapy typically use activity (or occupation) to engage participants and meet their goals of enhancing or enabling participation in life roles and activities across settings (American Occupational Therapy Association, 2014). Within the context of occupational therapy practice, it is important that individual participant needs are not neglected within a group setting, and that clinicians and facilitators have the skills to ensure groups provide opportunities to participate in activities that are meaningful to individuals (Doig, Fleming, Cornwell, & Kuipers, 2009). The overall purpose of this study was to investigate the processes and perspectives of participation in inpatient occupational therapy groups in TBI rehabilitation. The findings of the thesis will inform practice and guide the development of recommendations for the provision of group therapy interventions to people with TBI.

The setting for this mixed methods series of studies was a specialised inpatient brain injury rehabilitation unit in Australia. Patients admitted to the unit generally have

experienced a severe brain injury, either TBI or other ABI, necessitating an admission to inpatient rehabilitation as compared with discharge directly home from hospital with outpatient or community follow up. In the unit, duration of admission is determined through goal setting processes with the patient, significant others and the treating team. Patients participate in a multi-disciplinary rehabilitation programme during their admission. In occupational therapy, interventions are provided in individual therapy sessions as well as participation in the groups programme.

A variety of groups are facilitated multiple times per week as part of the established groups programme in occupational therapy. The groups routinely facilitated are: meal preparation, community access, cognitive and upper limb groups. The groups are open groups with a maximum of four participants. Groups are not manualised but are planned based on individual patient goals, with activities and content based on these goals. The groups programme is described in detail in chapter 5 including guiding principles and processes.

## 9.2 Summary of findings in relation to thesis aims

The four aims of this thesis were addressed through a series of studies. The aims were:

1. To map and review the existing literature regarding group therapy interventions in TBI rehabilitation.
2. To explore the perceptions and experiences of people with TBI about their participation in inpatient occupational therapy rehabilitation groups;
3. To explore the experiences and perspectives of clinicians about the benefits, challenges and processes of facilitating inpatient occupational therapy groups with patients following TBI;
4. To explore the nature of interactions and processes within inpatient occupational therapy groups in TBI rehabilitation.

To address the first aim of this thesis, which was to map and review the existing literature regarding group therapy interventions in TBI rehabilitation, a scoping review was conducted. The processes and findings of the scoping review are discussed in Chapter 3. Three main research questions were addressed in the scoping review:

1. What types of group-delivered interventions have been researched with patients following TBI?
2. What group-delivered therapy interventions are effective following TBI?
3. What are patient and clinician perceptions of group-delivered interventions following TBI?

The scoping review in Chapter 3 identified that the majority of studies were conducted in out-patient or community settings and the most common types of groups addressed cognitive impairments. Studies evaluating groups addressing participation-based goals and 'real world' functional activities were underrepresented. With regards to effectiveness of group therapy interventions, the scoping review highlighted that the majority of studies identified positive changes on at least some target outcome measures suggesting group interventions are effective. Very few studies directly compared the same intervention provided in an individual setting and a group setting.

Approximately one third of studies in the scoping review explored patient perspectives of group participation. There was significant variation in the quality of methodology utilised to explore patient perspectives. The majority of studies sought feedback about aspects such as the content of the group, facilitator style and resources, rather than about participation in the group *per se*. A number of common themes emerged from the mixed-methods studies ( $n=7$ ) and qualitative studies ( $n=4$ ) that utilised formal qualitative data analysis methods. Common themes included that patients perceived group interventions to be beneficial for sharing experiences and reducing isolation, receiving help and feedback, and assisting with adjustment to life after TBI. Three studies specifically addressed clinician perspectives of groups in TBI rehabilitation. The benefits of participation in groups identified by clinicians, such as those associated with peer support and learning, were consistent with the general groups literature. Challenges to groups in TBI rehabilitation were also identified by clinicians including the variety and complexity of clinical presentations following TBI and the potential impact of this on group processes.

Gaps in the current research identified in the scoping review included studies of groups addressing participation-based goals, groups facilitated in an inpatient setting, and exploration and understanding of key stakeholder experiences and perceptions of group therapy interventions.

To address the second aim of this thesis, which was to explore the perceptions and experiences of people with TBI about their participation in inpatient occupational therapy rehabilitation groups, patient experiences and opinions were sought using questionnaires and in-depth interviews described in Chapters 5 and 6. Overall, patient experiences of groups were generally positive. They described that participation in groups facilitated feeling normal, comfortable and connected, highlighting the importance of opportunities for interacting with others that groups provide. This finding is consistent with existing groups theory and literature (Tawadros, 1956; Yalom & Leszcz, 2005). Patients described groups as providing opportunities for learning through doing and practising activities, observing peers, and sharing between peers. Malec (2014) highlighted that patients are more likely to take on recommendations coming from peers than from therapists, and this was consistent with perceptions of patients in this study who highlighted that the information shared by other patients is different to that provided by therapists and professionals. Patients highlighted that participation in groups can facilitate opportunities for this sharing and support. Practical and logistical issues associated with groups were also raised by patients such as selection of group participants to support a good mix within the group and meeting individual needs and goals within a group setting.

Interestingly, in this study patients not only described the interactions that occurred during groups but also how group participation facilitated the development of relationships outside of the groups. Specifically, the way that relationships “spilled” over onto the inpatient ward. They explained that the shared experiences from group participation formed a basis for continuing interactions and development of relationships. This was described as beneficial and could have a positive impact on rehabilitation experiences more broadly. The value of group participation for peer support and opportunities for learning is widely reported in groups and rehabilitation literature (Falk-Kessler et al., 1994; Lexell et al., 2013; Yalom & Leszcz, 2005). The concept of relationships developed within groups extending beyond the group *per se*, such as onto the inpatient ward in this case, has not explicitly been described in the existing TBI literature. This is a new finding that the study has contributed about the use of groups in TBI rehabilitation.

In Chapter 7 focus groups with clinicians were conducted to investigate the third aim, which was to explore the experiences and perspectives of clinicians about the benefits, challenges and processes of facilitating inpatient occupational therapy groups with patients following TBI. The role of group facilitators was highlighted by one of the

three key themes, 'the things clinicians do'. Interestingly, the focus in this theme was largely on planning aspects of groups, rather than tasks completed during the facilitation of the groups. Clinicians described that if thorough planning was completed and the mix of participants was considered, challenges to group dynamics and experiences could be minimised. The value of the peer aspects of groups emerged through the theme of 'patient to patient'. Clinicians emphasised the importance of peer interactions for support, learning and development of relationships that continued outside of the group context. The importance of patient selection and group mix is widely accepted in the literature (Covls & Hale, 2005; McCarthy & Hart, 2011; Yalom & Leszcz, 2005), and this is consistent with the findings of this study. Planning aspects of groups including patient selection and referrals processes, clinician skills and confidence were seen to promote the 'good fit' of the group while challenges such as the unpredictability of groups and patient factors could be barriers.

Practical strategies reported by clinicians for facilitation of groups in TBI rehabilitation were identified across three primary aspects of groups: planning, patient-centredness and group facilitation. Examples of strategies to support client-centredness included the use of group referral forms containing information about the patient's life experiences, goals and other relevant information. The use of individualised examples to demonstrate the relevance of therapy tasks to patients' goals and life after rehabilitation was another strategy to enhance client-centredness that clinicians identified and was emphasised in instances where patients demonstrated impaired self-awareness. These strategies demonstrate that despite the challenges of a group setting, groups can be client-centred.

The inclusion of clinicians working in spinal injury and geriatric rehabilitation units enabled comparison between settings to identify aspects of groups unique to TBI rehabilitation from the perspectives of clinicians. The need for increased planning prior to the group and structure within groups were highlighted as key for groups where participants had a TBI. Clinicians described groups in spinal injury rehabilitation as being more self-directed and autonomous. Clinicians' skill and confidence with managing challenging behaviours in the TBI population was also emphasised. The key message emerging from the perspectives of clinicians was that if thorough planning was completed and the fit of participants in the groups was considered, challenges to group dynamics and experiences could be minimised.

To explore the nature of interactions in inpatient occupational therapy groups, the fourth aim of the thesis, an observational study of four 'usual practice' occupational therapy rehabilitation groups was conducted using video analysis. The findings of this study are described in detail in Chapter 8. Interactions were described, including the direction of interactions, whether the interactions were patient or clinician-initiated, and the content of interactions. Of note, the video analysis highlighted that the majority of interactions were initiated and supported by the clinician facilitating the group and occurred between the clinician and one patient. This was consistent across all of the four groups. This is particularly interesting, as when interviewed patients described opportunities to interact with other patients including sharing information, learning from each other and developing relationships as positive and valued in the setting. Games such as card games and board games appeared to encourage the most interactions. Clinicians were observed to employ a number of strategies to encourage interactions including their knowledge of group participants, activity choice and physical positioning of the group members. The study concluded that despite group facilitators' use of strategies to encourage peer interactions, during structured activity-based rehabilitation groups interactions occurred predominantly between group facilitators and individual participants.

### 9.3 Clinical implications

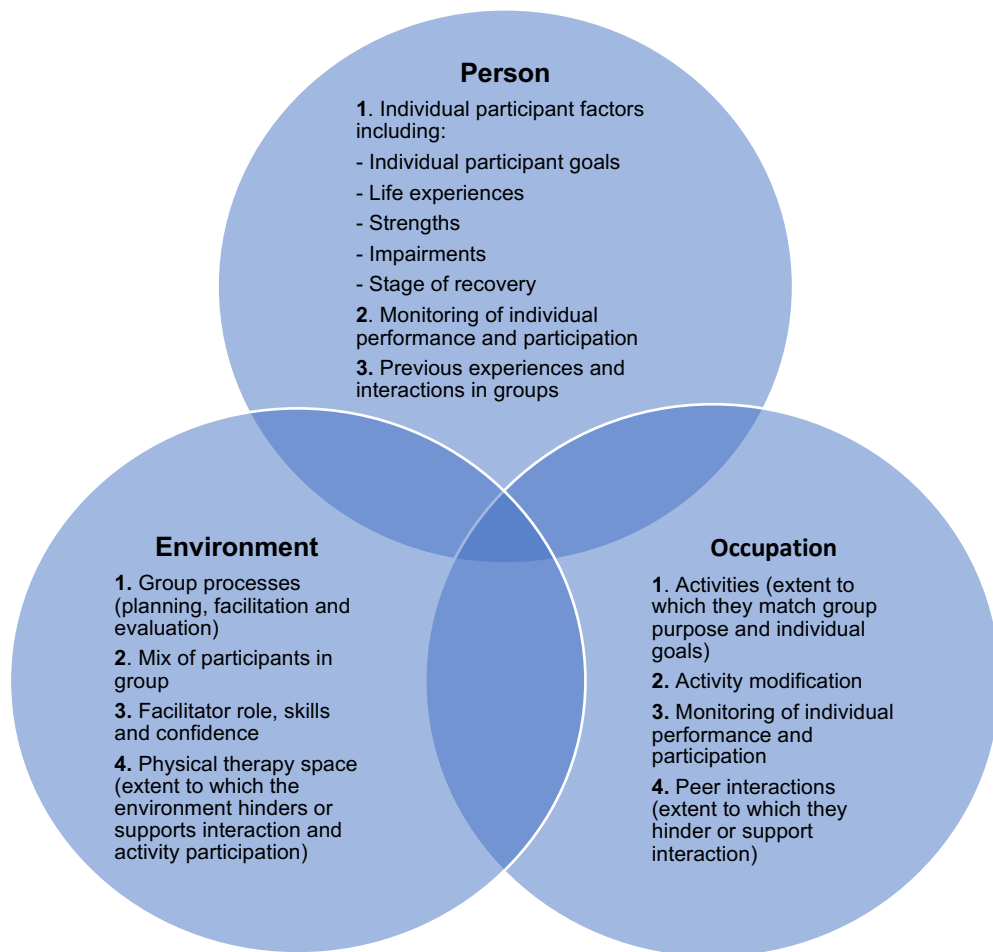
This thesis has explored group therapy interventions in a clinical setting. The findings describe current clinical practice, and present key stakeholder perceptions of participation in occupational therapy groups in TBI rehabilitation and have direct implications for clinical practice. According to the scoping review of literature on TBI rehabilitation this has not previously been investigated. A clinical tool for planning, facilitation and evaluation of TBI inpatient rehabilitation groups has been developed based on the thesis findings and is presented in this chapter. This tool is designed to be a guide for clinicians to prompt reflection about how to design group programmes which may embed the key concepts identified as important in TBI group rehabilitation.

Interestingly, during the initial stages of the development of clinical tool, it was noted that key concepts and themes that emerged from this thesis reflected occupational therapy theory, specifically the Person-Environment-Occupation (PEO) model (Law et al., 1996). This may have been reflective of the occupational therapy 'lens' through which these



studies were conducted, and the context within which the groups were planned and facilitated, that is, within an occupational therapy rehabilitation team. The groups in this setting were based on individual rehabilitation goals and used participation in activity as opportunities to practise skills and strategies, learn from others, and be provided with education from clinicians in the context of the activities.

Emerging from the findings of this thesis and relevant to 'person' aspects of the PEO model were that individual participant factors such as goals, life experiences and impairments could impact significantly on both an individual's experience of group participation as well as overall group dynamics and experience. This was consistent from the perspectives of patients and clinicians. Figure 9.1 visually depicts the PEO model and key concepts for consideration in TBI rehabilitation groups. The 'environment' of the group was both the physical therapy space and relevant considerations including whether the physical set up and positioning of group participants supported or hindered interaction and activity participation. The video analysis of groups (refer to Chapter 8) identified that physical positioning of participants was one of the strategies utilised by clinicians to encourage interaction. The group 'environment' also considered group processes such as activities undertaken by group facilitators to plan, facilitate and evaluate groups, the facilitators themselves (including their role, skills and confidence), and the mix of participants in groups. With regards to 'occupation', whether activities met individual needs and group purpose, as well as whether they encouraged or hindered interactions amongst peers emerged as relevant.



*Figure 9.1*

PEO model and key concepts for consideration in TBI rehabilitation groups

The findings of this thesis have been translated into recommendations in the form of a clinical tool for use by clinicians to guide the planning, facilitation and evaluation of groups in TBI rehabilitation. The tool was based on the key themes that emerged from the studies in this thesis and existing evidence. Key themes identified about TBI rehabilitation groups that are intrinsic to each stage are outlined in the tool. These include client-centred group practice, positive peer interactions, optimal group mix, clinician skill and experience in brain injury rehabilitation, and the importance of planning groups.

The clinical tool has been organised for practicality purposes around the planning, facilitation and evaluation stages of group processes, reflective of a goal, plan, do, check strategy. This strategy is widely used in occupational therapy and rehabilitation clinical practice, such as within a Cognitive Orientation to Occupational Performance approach in TBI rehabilitation for executive dysfunction (Dawson et al., 2013; Dawson et al., 2009).

This is similar to attention and problem-solving frameworks such as that described by Miotto, Evans, de Lucia and Scaff (2009). Whilst such approaches are designed for use with clients, they may be equally appropriate for clinicians to use when designing and implementing complex interventions such as occupational therapy groups. The tool supports a cyclical approach, with the evaluation stage guiding possible modifications to the following planning or facilitation cycles by the group facilitator. In this instance, the 'goal' refers to the facilitation of positive and effective occupational therapy groups in TBI rehabilitation.

The full version prototype of the Clinician Reflection Tool for Planning, Facilitating and Evaluating TBI Rehabilitation Groups (referred to as the clinical tool for the remainder of this discussion) is presented in Appendix I. The full version of the clinical tool is aimed to be used for training with students and less experienced group facilitators. A second, shortened checklist version, Clinician Checklist for Planning, Facilitating and Evaluating TBI Rehabilitation Groups has also been developed as a clinical practice tool, and does not contain the 'Examples and considerations' column, rather leaves space for clinicians to make notes. The checklist version of the clinical tool is presented in Table 9.1.

The tool is designed not to be prescriptive, rather a mechanism for clinicians to reflect about how core group processes may be achieved in their clinical organisational settings. For example, resources such as therapy space and equipment may differ between organisations, and the skills and experience of group facilitator may vary both within a setting and between settings. Furthermore, the tool is currently a 'prototype' with view to trial implementation and evaluation.

Key themes that emerged from the findings are aligned with reflection questions (in the centre column of the clinical tool, refer to Table 9.1) pertinent to different aspects of the groups across the planning, facilitation and evaluation stages of group process. Examples and further considerations are presented in the right-hand column of the tool. Reference to the PEO model is also contained within the right-hand column. Further description and discussion of each of the five key themes and relevant aspects of groups is presented below.

Table 9.1

*Clinician Checklist for Planning, Facilitating and Evaluating TBI Rehabilitation Groups*

Reflection questions	Notes
<b>Group Planning Stage</b>	
Are group planning processes in place? Do I know the relevant group processes?	
Do I know the aims of the group?	
Are the equipment and resources required available when the group is scheduled?	
Have I considered how I will position participants within the group space? Have I considered whether the group therapy space is adequate for my group?	
Are there any resources that I need to source or develop for the group?	
Do I know individual participants' goals?	
Do I know the functional level and impairments likely to impact on participation and group dynamics?	
What is the participant's stage of recovery?	
Do I know about strategies being used by treating occupational therapist, and treating team that would be relevant to the group and group activities?	
Has the participant attended any groups previously?  What were the previous group experiences (positive/negative)? How did the participant engage with the group and activities previously?	
What is the relevance of the planned activities to each individual participants' goals?	
Have I individualised the activities to meet each participants' functional level?	
Who knows who?	
What were the previous group interactions and experiences with these clients (positive/negative)?	

What are the range of functional levels and impairments amongst the group participants?	
What is the diversity amongst participants in the group?	
Do the planned activities facilitate opportunities for participants to work together?	
What is my skill level and confidence in facilitating groups (with the planned participants and activities)?	
What additional supports might I need?	
What additional preparation do I need to carry out before facilitating the group?	
<b>Group Facilitation Stage</b>	
Is the equipment and physical environment set up prior to participant arrival?	
Have I considered how I can grade up/down the activities for each individual? And for the group?	
Have I considered how I can modify the environment to facilitate or challenge each individual, or in the context of interaction?	
Have I introduced all group participants to each other?	
Have I included an introduction to, and/or reinforced all individual and group goals?	
Have I included an overview of group processes and expectations at the beginning of the group?	
Have I monitored participation in activity of group members?	
Have I provided constructive feedback to participants during the group?	
Did I facilitate opportunities for interactions between participants?	
Did I monitor fatigue?	
<b>Group Evaluation Stage</b>	

Did I provide clear and specific feedback to participants about their performance during the group?	
Did participants interact with each other?	
Who interacted with who (positive or negative)? Why do you think this was the case?	
Did the group encourage opportunities to teach and learn from each other?	
What activities encouraged interaction and what activities hindered/challenged interaction?	
Did I allow opportunities for the group to self-direct?	
Did I model use of strategies and interactions?	
Did I facilitate opportunities for interactions between participants? How did I do this?	
Did I feel confident facilitating the group? Can I identify any learning opportunities or areas of my clinical practice to improve?	
Did I provide enough structure to facilitate engagement in the group?	
Did I introduce all group members?	
Did I introduce/reinforce group processes and expectations?	
Did I introduce/reinforce individual participant goals? Did I introduce/reinforce group goals?	
Did I provide closure to the group? Did I summarise activities and plans for any future groups?	
Have I provided feedback to the treating OT about participation? Including performance on activities, progress, recommendations for future participation.	
Have I provided feedback to the treating OT about interaction?	
Do I have a process for obtaining group participant feedback?	

### 9.3.1 The importance of planning groups

'The things clinicians do' emerged as one of the three key themes from the perspectives of clinicians, and within this theme clinicians highlighted planning tasks. These tasks included patient selection, the use of handover documents and referral forms, communication and other planning practices such as the development of resources to support groups. The clinicians in this study emphasised a focus on planning tasks, rather than on the clinician's role during group facilitation and management within the group *per se*. This is also evident in the clinical tool where a significant proportion is focused on planning aspects of the groups. Clinicians particularly highlighted the importance of patient selection planning processes and non-patient related planning processes such as development of group content and structures for TBI rehabilitation groups, as compared with groups facilitated in SIU or GARU.

In the planning stages of group processes, the tool specifically prompts clinicians to consider the therapy space, set up (environment) and resources required for the groups, and optimal group mix. At this stage, clinicians are also encouraged to consider their knowledge of the group processes. Examples presented in the tool prompt clinicians to consider departmental and ward processes that may be relevant, such as processes for timetabling patients to attend therapy groups. In addition, group-specific processes may be important and have safety implications such as confirming diet and swallowing status of patients prior to meal preparation groups. Knowledge of the aims of the group is also supported in the tool, and this may include reference to relevant procedures or manuals for groups. For example, in the setting of this thesis, the guidelines for cognitive groups that identified the aims for the group were to:

- Address client-centred goals within a group setting (goals identified by treating therapist and client)
- Facilitate positive social interactions and activities to address cognitive and behavioural difficulties/impairments.
- Facilitate an environment of peer learning and support.
- Facilitate opportunities to reinforce cognitive and memory strategies.
- Provide opportunities to practise/reinforce cognitive/memory strategies within functionally focused tasks.

Where such guidelines do not exist, development of written guidelines and processes may be a useful service development activity to support clinicians in the facilitation of groups.

### 9.3.2 Client-centred group practice

Client-centredness is one of the core values of occupational therapy, which aims to enable participation in meaningful occupational roles and activities (Occupational Therapy Board of Australia, 2014; World Federation of Occupational Therapists, 2012). The use of patient-specific and meaningful goals has been associated positively with engagement and participation of people with TBI in rehabilitation, and this approach is utilised in the groups programme which is the subject of this thesis (Doig et al., 2009). An individualised or client-centred approach to rehabilitation is supported for patients following TBI. (Barnes, 2003; Turner-Stokes, 2003; Turner-Stokes et al., 2005). Seel, Barrett, et al. (2015) highlighted the challenges of client, or patient-centred practice in TBI rehabilitation due to the heterogeneous nature of clinical presentations. These included impairments of cognition, which can limit a client's ability to understand the impact of his or her injury and be able to communicate his or her needs (Seel, Barrett, et al., 2015).

The groups in this series of studies were planned and facilitated based on individual patient goals, as compared with manualised groups, in which set content and activities are facilitated in a pre-specified order over a pre-determined number of sessions. A key finding of this thesis was that it is important to incorporate patient goals into groups. The results also highlight the importance of 'real world' functional activities and discussions about these activities in TBI groups. Due to the nature of cognitive impairments following TBI, participants often demonstrated impaired awareness of the impact of their brain injury (Fleming et al., 1996) and are not able to generalise therapy activities to other activities and roles (Sohlberg & Raskin, 1996). Clinicians in the focus groups described this to be particularly evident in the impairment-focused groups (upper limb and cognitive groups), where participants were not able to relate therapy tasks to their 'real world' goals and life outside of rehabilitation. Knowing the patient's goals and background, and providing explicit examples of how therapy tasks related to their real-world activities facilitated engagement and participation in TBI groups.

This theme of facilitators 'knowing' group participants also emerged from the analysis of patient experiences, and the video analysis exploring the nature of interactions



of groups. The concept of knowing group participants was valued by patients and described as being achieved through asking questions about group participants. Knowledge about patients included where they are from and previous significant life experiences, and clinicians described using this information to individualise activities to meet patient needs and goals. The use of goals in therapy practice plays an important role in client-centred practice. This surfaced from the perspectives of clinicians and patients and was further observed in the video analysis. Bordin (1979) described the working (or therapeutic) alliance as being determined by three concepts: shared or agreed goals, shared or agreed tasks and activities, and the interpersonal bond or attachment between the clinician and patient. Therapeutic alliance has been reported to enhance rehabilitation engagement and outcomes (Sherer et al., 2007; Stagg, Douglas, & Iacono, 2017). These concepts emerged through the studies within this thesis. While the facilitators of the groups in these studies were not the patients' treating therapists, the therapeutic alliance established with the facilitators may have enhanced the experiences and outcomes of group participation.

This thesis finding indicate that patient and clinician participants value client-centred practice within group therapy interventions in occupational therapy. It further shows that despite challenges, client-centred practice is possible within a group therapy context, as validated through video analysis of interactions occurring within groups. Clinicians identified strategies they utilised to facilitate client centred-practice, including the use of referral forms which contained detailed information about specific patient goals, provision of feedback to treating therapists following group participation, the use of patient-specific examples to assist with generalisation, and the use of a common theme in the group with activities graded individually. These strategies have been integrated into the clinical tool.

In the clinical tool the concept of client-centredness is represented across the planning, facilitation and evaluation stages of groups. In the planning stage, the group factors of 'Participant' and 'Activities' reflect how clinicians can tailor the group to meet individual needs and provide client-centred groups. Clinicians are prompted to 'know' individual participants' goals, functional levels and specific impairments, as well as the stage of recovery, therapy approaches and strategies being used in individual therapy, and previous group experiences. Knowing the patients and being able to provide specific examples of goals and 'real life activities' that are relevant to the individual can highlight the meaningfulness of therapy tasks and assist with generalisation of therapy tasks.

Explicitly emphasising the relevance of therapy activities to individuals' goals and the tailoring of activities to participants' needs and performance are also included in the tool.

Clinicians are encouraged to 'Modify activity', and 'Modify environment' during group facilitation. For example, they are prompted to consider how they may modify the activity or the environment to increase or decrease the challenge level and better meet the individual needs of the patient at that time, such as in response to the impact of fatigue on participation. Further examples of how a group facilitator may address these to increase client-centredness are identified in the clinical tool.

In the evaluation stage of groups, clinicians are prompted to reflect on feedback provided to patients during the groups. Clinicians are encouraged to consider how they provided feedback, and whether the feedback met the needs of the individual participants. For example, "Did I provide clear and specific feedback to participants about their performance during the group?".

### 9.3.3 Optimal group mix

The heterogeneous nature of patient presentation following TBI can present significant challenges to client-centred practice and the provision of appropriate and effective rehabilitation interventions (Seel, Barrett, et al., 2015; Turner-Stokes, 2003). Patient factors such as motivation and insight can impact directly on engagement in, and subsequently the outcomes of, TBI rehabilitation (Seel, Corrigan, et al., 2015). Appropriate selection of patients has significant implications for therapy provided in groups, as emphasised by Yalom and Leszcz, "Good group therapy begins with good client selection" (2005, p. 231).

The findings of this thesis highlight the challenge of balancing similarities and differences in functional levels and diversity within groups. While the majority of patients described the importance of having patients with similar levels of functioning within groups, opportunities to help others who were not functioning as well, and to see the road to recovery ahead with patients further in their rehabilitation journey were described positively (Patterson et al., Submitted ). These concepts are consistent with Yalom's curative factors of groups, namely the instillation of hope and altruism (Yalom & Leszcz, 2005). However, the level of assistance that patients with differing impairments require can present a

challenge within groups. For example, in the video analysis study, individual patients in two groups required constant 1:1 assistance or supervision. Based on the descriptive analysis of the video data, it is not possible to interpret the impact that group members requiring different levels of assistance had on group dynamics and individual patient experiences. However, it could be considered within reason that this resulted in less 'clinician time' or 'attention' available for other group members. Thus, there would have likely been fewer opportunities for these group members to receive feedback and support from the clinicians. This may have subsequently affected the experiences of these patients of group participation and the overall dynamics of the group. With regards to diversity, in this study patients were generally positive about the opportunities that groups provided to interact with peers from different cultural and socio-economic backgrounds.

Consideration of patient factors and selection for groups has implications for group dynamics and participant experiences of groups. There is a certain level of overlap with regards to optimal group mix and client-centred practice. For example, for 'optimal group mix', clinicians are prompted by the tool to consider the range of functional levels and impairments, and diversity within the group. To be able to consider this, clinicians must also be aware of participant specific information which is generally covered in client-centred practice, and then be able to consider the impact of the mix of participant impairments, function and diversity on group dynamics. The theme of facilitators knowing the group participants emerged across the studies within this thesis. Knowledge of the patient's stage of recovery can provide valuable insight into whether they are likely to want to assist others in their recovery, or whether they may benefit from seeing other patients further ahead in their rehabilitation to develop hope. Patient's prior experiences of groups are also considered, including whether they have attended groups before, and their prior group participation that might be relevant for selection to particular groups and facilitation of groups. Clinicians are also encouraged to consider recommendations for future groups in the Evaluation section of the tool. This could include patients who worked well together in the group providing peer support and learning to each other, and conversely, patients who did not engage well with the group and affected group dynamics.

### 9.3.4 Positive peer interactions

From the perspectives of patients and clinicians in this study, the benefits of participation in groups included developing relationships, building confidence in skills following their TBI, gaining opportunities to learn from and to help others, and assisting in adjusting to life post TBI. These are consistent with benefits of group participation described in the groups and brain injury literature (Lexell et al., 2013; Malec, 2014; von Mensenkampff et al., 2015; Yalom & Leszcz, 2005). The patients' emphasis on the "spilling over" of relationships developed in the groups onto the inpatient ward also presents implications for clinical practice. These benefits support the use of occupational therapy groups, even in early stages of inpatient rehabilitation, when groups may have the potential to influence self-esteem and confidence post-injury, assist with adjustment to injury and facilitate the development of relationships that support patients throughout their entire rehabilitation journey.

Opportunities for positive peer interaction are highlighted in the clinical tool. The tool encourages clinicians to consider opportunities for interaction in the planning stages of groups through the mix of participants selected for the group. For example, when selecting patients for a group, it should be considered who knows who, and previous group experiences, both positive and negative. Consideration should also be given to the range of functional impairments amongst patients, particularly impairments likely to impact on communication and interaction between group members and subsequently influence group dynamics. Reflecting patient perspectives in this study, consideration of the diversity amongst the group participants in terms of work history, life experience, and cultural background is also highlighted in the tool.

Choice of activities was raised as important to patients in terms of things that they used to do, learning new ways of doing things, and linking therapy activities to their 'normal' life prior to their injury. Patients reflected that these things, in addition to social interaction, facilitated a group experience of feeling 'comfortable, normal and connected', which was one of the major themes that emerged from the study of patient perspectives. Interestingly, in the video analysis the majority of interactions were observed to be going via the facilitator or facilitated by the group facilitator. This was consistent across all four groups that were analysed. The activities that appeared to encourage the most interactions were card and board games. The clinical tool encourages clinicians to

consider the activities in the context of group and peer interactions, such as how the activity may facilitate or hinder peer interactions.

This raises an interesting challenge to clinicians facilitating occupational therapy groups when they are activity-based rehabilitation groups, and when the purpose of the group is participation in activities to address therapy goals. What is the balance of focus on participation in activities compared with interaction? More specifically, how much time and clinician focus should be on facilitation of interaction amongst group participants compared with focus on activity participation (and rehabilitation goals)?

During the facilitation stage of groups, the tool prompts clinicians to focus on introducing all group participants at the beginning of the group, reflecting the importance of the beginning of groups for 'setting the scene' for the group and between participants. Modification of the activity or environment during the facilitation of the group can also provide opportunities to maximise interaction between participants. This could include moving one participant closer to another around the table so that they can discuss an aspect of the activity they are completing.

In terms of the evaluation stage of groups, clinicians using the tool are encouraged to reflect on the interactions that occurred during the group. Specifically, consideration should be given to patients who engaged with each other, and why this may have been the case. Further, clinicians are urged to reflect on opportunities that occurred within the group for patients to teach and learn from each other. As mentioned above, the choice of activities in the context of facilitating or challenging peer interactions should also be taken into account. For example, using a game to encourage interaction between patients at the beginning of the group could then assist them in 'getting to know' one another before moving to a more structured therapy task which requires group members working together.

### 9.3.5 Clinician skill and experience in brain injury rehabilitation

Previous studies have identified that clinician confidence and skills are important factors in the provision of TBI rehabilitation interventions. In a study of multidisciplinary clinicians in TBI rehabilitation, Pagan et al. (2015) noted that whilst being one of the least frequently reported barriers to practice, 47.87% of respondents still identified lack of skill to implement evidence-based approaches as a barrier to practice. Knis-Matthews et al.

(2006) reported that lack of therapist experience leading groups was a barrier to group process from the perspective of clinicians. Clinician confidence and skill, particularly with regards to managing complex and challenging cognitive behavioural changes following TBI, emerged strongly from the perspectives of clinicians in this study as discussed in detail in Chapter 7.

Group facilitators can play a significant role in the outcomes of groups and group participants' experiences (Cracknell, 1979; Schneider Corey et al., 2010; Yalom & Leszcz, 2005). Experienced clinicians in this study emphasised that where thorough planning was completed and the mix of participants was considered, challenges during group facilitation with group dynamics and management were minimised. The importance of the role of clinician skill and experience is reflected in the clinical tool particularly in the planning and evaluation stages of groups.

The clinical tool encourages clinicians to reflect on their own skill levels and confidence for the group that they are planning. In doing so, they are prompted to consider additional supports they may require to facilitate the groups and additional learning they might need to complete prior to the group. This may include liaising with a treating therapist about a particular behaviour management strategy, organising a co-facilitator or undertaking further reading about a cognitive approach or strategy.

During the facilitation stage of groups, the clinical tool prompts clinicians to consider their provision of group introductions and monitoring of patients. Given the importance of opportunities that groups provide for peer interactions, the tool reminds clinicians to ensure they have introduced all group members to each other, introduced or reinforced individual goals and group purposes, and highlighted specific group processes and expectations. Depending on the skill level and experience of the clinician, he or she may want to include notes regarding these points on a prompt sheet to use during the group.

The evaluation stage of the groups section of the clinical tool encourages clinicians to reflect on various aspects of the group they have facilitated. This includes their role in the group and how they felt facilitating the group. This may include asking "Did I feel confident facilitating the group?" and identifying learning opportunities. This section of the tool also prompts clinicians to reflect on the feedback they provided to individual participants, supporting a client-centred approach within the groups. Clinicians are also

prompted to provide feedback to treating therapists about participation in the group activities and interaction, and to consider recommendations for future groups.

## 9.4 Limitations and future research directions

Specific limitations of each study have been described in detail in the relevant chapters (Chapters 3, 5, 6, 7, 8). This section will present the overall limitations of the thesis and directions for future research.

To the authors' knowledge this is the first study of this kind investigating occupational therapy groups in TBI rehabilitation from the perspectives of clinicians and patients. The nature of the thesis was largely exploratory due to the infancy of research in this area. It therefore encompassed a scoping review of the current state of evidence, followed by an exploration of stakeholder perspectives as well as observation of current practice. A limitation of the thesis may be that it does not address effectiveness of the groups. One of the major challenges of evaluating inpatient rehabilitation groups lies in the fact that participation in groups is usually only one component of multidisciplinary, multi-faceted rehabilitation programmes. In addition, groups often utilise a number of approaches and strategies to address functional deficits. This can lead to challenges in evaluation of outcomes, and effectiveness of participation in groups. This thesis has demonstrated that from the perspectives of patients and clinicians, groups have benefits. These include opportunities to develop relationships and facilitate peer support and learning, and opportunities to practise activities and prepare for 'real world' participation following rehabilitation. Further studies are needed to explore whether groups in this setting are beneficial in terms of outcomes for individual patients. Given the challenges highlighted with measuring outcomes of groups, single-case experimental design studies may provide feasible opportunities to compare outcomes of participation in individual therapy with that of group therapy, or a combination of both group and individual therapy, in occupational therapy within an inpatient rehabilitation setting.

This study was conducted at a single site within a single discipline and therefore, findings may not be representative of group participation across the continuum of care following TBI or other clinical settings or rehabilitation disciplines. Whilst the study did include clinicians from three different clinical settings which enabled comparison between settings, patient participants were not included from different clinical settings. Further

research could replicate these studies in different contexts to understand the applicability of findings for occupational therapy groups more widely. Further studies of this nature could also evaluate the clinical utility and refinement of the Clinical Reflection Tool, such as an implementation study.

The sample size of only four groups included in the video-analysis was small for determining the nature of interactions occurring in occupational therapy groups in TBI rehabilitation. Again, the descriptions and understanding of interactions gleaned may not represent the nature of interactions more broadly in rehabilitation groups. Peer interactions were reported as beneficial according to patients and clinicians. However, there were limited occurrences of these interactions in the groups. This raises the question, why did we not see more peer interactions? While the groups were open groups, patients were usually familiar with each other either from previous group participation or their admission to the inpatient ward. Coming from an occupational therapy framework of practice, the groups were activity-based, and rehabilitation-focused, and as such the emphasis was on participation in meaningful activities, practise of skills and strategies. It appears that these groups do not involve a lot of talking and peer interaction. The groups were also highly structured due to the general nature of the TBI population needs. The structured nature of the groups may also have impacted on opportunities for peer interaction. For example, for clients with compromised cognition following their TBI, the cognitive demands of participating in activities and interacting with peers simultaneously may have been too great. In this instance, activity may be seen as a barrier to interaction.

This raises a further question of the balance of group focus. In this context, where the purpose of the group is achievement of rehabilitation goals through participation in activities, should effort be focused on the activity participation aspect of the groups, or interactions, or a combination? Given the value of opportunities for peer interaction that groups provide (Malec, 2014; Yalom & Leszcz, 2005), occupational therapists may need to consider that other types of groups that are less structured and more focused on peer interaction (such as recreation groups, peer mentoring or support groups, and social outings) may also be important during early rehabilitation. Further investigation of other types of groups and the nature of interactions in those groups would provide wider understanding of what strategies in the context of activity-based occupational therapy rehabilitation groups facilitate peer interaction successfully with the TBI population.



Another potential direction for future research is the exploration of clinician skills for group facilitation. Given the frequency of group facilitation reported within the profession of occupational therapy (Higgins et al., 2014), investigation of the skills required by clinicians (from the perspectives of occupational therapy clinicians, and specialists in groups therapy) for effective facilitation of groups could identify gaps in current skill base and opportunities for professional development. Additionally, review of current teaching curriculums with regards to group therapy could serve to enhance this aspect of the professions' practice. Also given the challenges of generalisation commonly experienced following TBI, an important area for future research is how groups can assist family and significant others to also learn about strategy and skills use, and encourage generalisation to home and community environments.

The training tool and checklists developed in this study are yet to be trialled in a clinical setting. Translation into other less well-established group-based programmes may provide opportunities to further evaluate the effectiveness of the strategies both in TBI rehabilitation settings but also in other clinical settings. This could also provide an opportunity to develop resources and processes to support knowledge translation alongside the group-based programme strategies. Furthermore, with regards to processes that clinicians and group facilitators use during rehabilitation groups, further investigation into the effectiveness of the structured group-based intervention processes (outlined in Chapter 5) on achieving patient outcomes would extend the evidence and inform clinical practice.

Whilst the findings of this study have been translated into a training tool (Clinician Reflection Tool for Planning, Facilitating and Evaluating TBI Rehabilitation Groups) and a checklist (Clinician Checklist for Planning, Facilitating and Evaluating TBI Rehabilitation Groups) for clinical use in occupational therapy TBI rehabilitation groups, there is still further understanding to be gleaned about the processes and experiences of participation in occupational therapy TBI rehabilitation groups in order to enhance clinical practice.

## 9.5 Conclusions

This thesis has shed light on the importance of groups for meeting the needs of individuals and providing opportunities for participation, interaction and support in inpatient brain injury rehabilitation groups. Despite clinicians utilising a number of strategies during

groups to encourage interactions, these predominantly occurred between facilitators and individual participants. The focus on participation in activities inherent in occupational therapy rehabilitation groups may challenge opportunities for peer interaction in the TBI population. Group planning and facilitators' skills and confidence were crucial to minimising challenges, such as those arising from cognitive changes following TBI, to group experiences. Thesis findings have been translated into a clinical tool to provide guidance to clinicians planning, facilitating and evaluating occupational therapy groups in TBI rehabilitation. The findings of this thesis have contributed to our understanding of participation in inpatient occupational therapy groups in TBI rehabilitation from the perspectives of patients and clinicians, and to current practice in relation to interactions occurring in groups. Implementation and evaluation of the clinical tool, as well as investigation of the strategies that encourage interaction within the context of activity-focused rehabilitation groups will further enhance clinical practice in this setting.

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## Appendices

Appendix A: Metro South Hospital and Health Service Human Research Ethics Committee (dated 26/07/2013) and Centres for Health Research Metro South Health Ethical Clearance Notification (dated 13/08/2013)

### Metro South Health

Enquiries to: Metro South  
Human Research Ethics Committee  
Phone: 07 3443 8049  
Fax: 07 3443 8003  
HREC Ref: HREC/13/QPAH/367  
E-mail: [PAH\\_Ethics\\_Research@health.qld.gov.au](mailto:PAH_Ethics_Research@health.qld.gov.au)

Ms Freyr Patterson  
Occupational Therapy Department  
Princess Alexandra Hospital  
199 Ipswich Road  
Woolloongabba QLD 4102

Dear Ms Patterson

**HREC Reference number:** HREC/13/QPAH/367  
**Project Title:** Group therapy interventions in traumatic brain injury rehabilitation: processes, perceptions and effectiveness

Thank you for submitting the above research protocol to the Metro South Human Research Ethics Committee for ethical and scientific review. This protocol was first considered by the Human Research Ethics Committee (HREC) at the meeting held on 02 July 2013.

*You are reminded that this letter constitutes ethical approval only. You must not commence this research protocol at a site until separate authorisation from the Metro South Chief Executive or Delegate of that site has been obtained.*

*A copy of this approval must be submitted to the Research Governance Office(r)/Delegate of the relevant institution with a completed Site Specific Assessment (SSA) Form for authorisation from the Chief Executive or Delegate to conduct this research at the Princess Alexandra Hospital.*

I am pleased to advise that the HREC has granted approval of this research protocol. The documents reviewed and approved include:

Document	Version	Date
Cover letter		12 <sup>th</sup> June 2013
NEAF		12 <sup>th</sup> June 2013
Protocol	1	10 <sup>th</sup> June 2013
Participant Information and Informed Consent form for Patients (short format)	3	15 <sup>th</sup> July 2013
Participant Information and Informed Consent form for patients	2	15 <sup>th</sup> July 2013
Participant Information and Informed Consent form for Significant Others	2	15 <sup>th</sup> July 2013
Participant Information and Informed Consent form for Clinicians	2	15 <sup>th</sup> July 2013
The group participant questionnaire – patient version	1	10 <sup>th</sup> May 2013
The group participant questionnaire – significant other	1	10 <sup>th</sup> May 2013
Individual Interview guide – Patient	1	30 <sup>th</sup> May 2013
Individual Interview guide – Significant Other	1	15 <sup>th</sup> May 2013
Client focus Group Guide	1	25 <sup>th</sup> May 2013
Letter of response	1	22 <sup>nd</sup> July 2013



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Please note the following conditions of approval:

1. The Principal Investigator will immediately report anything which might warrant review of ethical approval of the protocol in the specified format, including unforeseen events that might affect continued ethical acceptability of the protocol. Serious Adverse Events must be notified to the HREC as soon as possible. In addition the Investigator must provide a summary of the adverse events, in the specified format, including a comment as to suspected causality and whether changes are required to the Patient Information and Consent Form. In the case of Serious Adverse Events occurring at the local site, a full report is required from the Principal Investigator, including duration of treatment and outcome of the event.
2. Amendments to the research protocol which may affect the ongoing ethical acceptability of a protocol must be submitted to the HREC for review. Amendments should be accompanied by all relevant updated documentation and a cover letter from the principal investigator, providing a brief description of the changes, the rationale for the changes, and their implications for the ongoing conduct of the study. Hard copies of the cover letter and all relevant updated documents, with *tracked changes*, must also be submitted to the HREC office as per standard HREC SOP. (Further advice on submitting amendments is available at [http://www.health.qld.gov.au/ohmr/documents/researcher\\_userguide.pdf](http://www.health.qld.gov.au/ohmr/documents/researcher_userguide.pdf) <http://www.health.qld.gov.au/pahospital/research/amendments.asp>)
3. Amendments to the research protocol which only affect the ongoing site acceptability of the protocol are not required to be submitted to the HREC for review. These amendment requests should be submitted directly to the Research Governance Office/r.
4. Proposed amendments to the research protocol which may affect both the ethical acceptability and site suitability of the protocol must be submitted firstly to the HREC for review and, once HREC approval has been granted, then submitted to the Research Governance Office/r.
5. Amendments which do not affect either the ethical acceptability or site acceptability of the protocol (e.g. typographical errors) should be submitted electronically (track changes) and in hard copy (final clean copy) to the HREC Coordinator. These should include a cover letter from the Principal Investigator providing a brief description of the changes and the rationale for the changes, and accompanied by all relevant updated documents with tracked changes.
6. The HREC will be notified, giving reasons, if the protocol is discontinued at a site before the expected date of completion.
7. The Principal Investigator will provide at least, an annual report to the HREC on the anniversary of the approval and at completion of the study in the specified format.
8. If you require an extension for your study, please submit a request for an extension in writing outlining the reasons. Note: One of the criteria for granting an extension is the compliance with the approval's conditions including submission of progress reports.
9. Any research study that prospectively assigns human participants or groups of humans to one or more health-related interventions to evaluate the effects on health outcomes ([WHO / ICMJE 2008 definition](#)) should be registered, including early phase and late phase clinical trials (phases I-III) in patients or healthy volunteers ([WHO Recommendation / ICMJE policy](#)). If in doubt, registration is recommended. All studies must be registered prior to the study's inception, i.e. prospectively. <http://www.anzctr.org.au/>

This HREC approval is valid for 3 years from the date of this letter.

Should you have any queries about the HREC's consideration of your protocol please contact the Metro South HREC Office on 07 3443 8049.

Please note that the Metro South HREC is constituted and operates in accordance with the National Health and Medical Research Council's (NHMRC) *National Statement on Ethical Conduct in Human Research (2007)*, *NHMRC and Universities Australia Australian Code for the Responsible Conduct of Research (2007)* and the *CPMP/ICH Note for Guidance on Good Clinical Practice*. Attached is the HREC Composition (Attachment I).

The HREC Terms of Reference, Standard Operating Procedures, membership and standard forms are available from the following websites:



**Queensland  
Government**



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<http://www.health.qld.gov.au/pahospital/research/ethics.asp>  
[http://www.health.qld.gov.au/ohmr/html/regu/regu\\_home.asp](http://www.health.qld.gov.au/ohmr/html/regu/regu_home.asp)

*Once authorisation to conduct the research has been granted, please complete (Attached) and return to the Metro South Human Research Ethics Committee.*

The Metro South HREC wishes you every success in your research.

Yours sincerely,



Professor Maher Gandhi  
Chair  
Metro South Hospital and Health Service  
Human Research Ethics Committee (EC00167)  
Centres for Health Research  
Princess Alexandra Hospital

26/7/13



**Queensland  
Government**



THE UNIVERSITY OF QUEENSLAND  
**Institutional Human Research Ethics Approval**

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**Project Title:** Group Therapy Interventions In Traumatic Brain Injury Rehabilitation: Processes, Perceptions And Effectiveness

**Chief Investigator:** Ms Freyr Patterson

**Supervisor:** A/Prof Jennifer Fleming, Dr Emmah Doig

**Co-Investigator(s):** A/Prof Jennifer Fleming, Dr Emmah Doig, Mrs Ann Maree Collier

**School(s):** School of Health and Rehabilitation Sciences

**Approval Number:** 2013001094

**Granting Agency/Degree:** Australian Centre for Health Services Innovation (AusHSI)

**Duration:** 31st December 2016

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**Comments:**

Expedited review on the basis of approval from the Metro South HHS HREC dated 26/07/2013

Note: if this approval is for amendments to an already approved protocol for which a UQ Clinical Trials Protection/Insurance Form was originally submitted, then the researchers must directly notify the UQ Insurance Office of any changes to that Form and Participant Information Sheets & Consent Forms as a result of the amendments, before action.

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**Name of responsible Committee:**

**Medical Research Ethics Committee**

This project complies with the provisions contained in the *National Statement on Ethical Conduct in Human Research* and complies with the regulations governing experimentation on humans.

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**Name of Ethics Committee representative:**

**Professor Bill Vicenzino**

**Chairperson**

**Medical Research Ethics Committee**

Signature \_\_\_\_\_

Date \_\_\_\_\_

21/8/2013



## AGREEMENT

BETWEEN

*The University of Queensland ("UQ")*

AND

*Metro South Hospital & Health Service ("MSHHS")*



**HREC/13/QPAH/367 Patterson: Group therapy interventions in  
traumatic brain injury rehabilitation: processes, perceptions and  
effectiveness**

**UQ Employee or UQ Student Only**

Appendix D: Search strategy (PsycINFO and PsycARTICLES)

<b>Field</b>	<b>Search terms</b>
Any field	treatment OR intervention OR rehabilitation AND
Any field	group OR groups AND
Any field	brain injury OR brain injuries OR acquired brain injury OR acquired brain injuries OR traumatic brain injury OR traumatic brain injuries OR head injury OR head injuries OR stroke OR cerebrovascular accident

## Participant Information and informed consent form for Patients

### Princess Alexandra Hospital

<b>Title:</b>	Group therapy interventions in traumatic brain injury rehabilitation: processes, perceptions and effectiveness.
<b>Protocol number:</b>	HREC/13/QPAH/367
<b>Principal Investigator:</b>	Freyr Patterson (Advanced Occupational Therapist, Princess Alexandra Hospital).
<b>Associate Investigators:</b>	Associate Professor Jennifer Fleming (Conjoint Research Fellow, Princess Alexandra Hospital/The University of Queensland). Dr Emmah Doig (NHMRC Post Doctoral Research Fellow, The University of Queensland). Ann Maree Collier (Senior Occupational Therapist, Princess Alexandra Hospital).
<b>Location:</b>	Brain Injury Rehabilitation Unit, Princess Alexandra Hospital.

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### 1. Introduction and purpose of this research.

You are invited to take part in this research project, which is called *Group therapy interventions in traumatic brain injury rehabilitation: processes, perceptions and effectiveness*.

The study aims to understand what you think about occupational therapy rehabilitation groups, and to look at what happens in these groups.

This Participant Information Sheet/Consent Form tells you about the research project.

### 2. What does participation in this research involve?

- If you decide to take part in this study you will be asked to complete questionnaires about the different group therapy sessions you are participating in.
- A number of group therapy sessions you participate in may be video-recorded.
- You may also be asked to participate in an interview where you will be asked questions about your participation in occupational therapy groups. This would involve approximately 1 hour of your time and would be audio-recorded.

As part of the research project, researchers may access basic information from your medical file/data (for example, your age, sex, date of admission).

Participant Information Sheet/Consent Form – Patient, Version #3 (short format) 15/07/20/13  
Protocol No: HREC/13/QPAH/367

There are no costs associated with participating in this research project, nor will you be paid.

**3. Do I have to take part in this research project?**

No, you do not have to be in the study. It is voluntary. If you do not wish to participate your regular occupational therapy sessions will continue, your current care in BIRU and at hospital will continue as normal, and your care in the future will be the same. You can change your mind, and withdraw from the research project at anytime.

**4. What are the possible benefits of taking part?**

There will be no clear benefit to you from your participation in this research. The information gathered from this project will help us gain good evidence about your perceptions of group therapy, and of what happens in group therapy session, and to improve our services.

**5. What are the possible risks and disadvantages of taking part?**

You may feel that some of the questions we ask are stressful or upsetting. If you do not wish to answer a question, you may skip it and go to the next question, or you may stop immediately.

If you become upset or distressed as a result of your participation the research team will be able to arrange appropriate support for you.

**6. What will happen to information about me?**

Any information obtained in connection with this research project will remain confidential.

**7. Who has reviewed the research project?**

The Human Research Ethics Committee of Metro South Hospital and Health Service District and The University of Queensland have reviewed and approved this project.

**8. Further information and who to contact**

If you have any questions about your involvement in the project, you can contact:

**Principal Investigator**

Name	Freyr Patterson
Position	Occupational Therapist - Advanced
Telephone	07 3176 5008
Email	freyr_patterson@health.qld.gov.au

If you have any concerns or about other matters relating to research you can contact the following:

**Complaints contact person**

Position	Patient Liaison Officer
Telephone	07 3176 5598
Email	PAH_PLO@health.qld.gov.au

**Reviewing HREC approving this research and HREC Executive Officer details**

Reviewing HREC name	Metro South Hospital and Health Service
HREC Executive Officer	Human Research Ethics Coordinator
Telephone	07 3443 8047
Email	PAH_Ethics_Research@health.qld.gov.au

**Consent Form - Adult providing own consent**

**Title** Group therapy interventions in traumatic brain injury rehabilitation: processes, perceptions and effectiveness.

**Protocol Number** HREC/13/QPAH/367

**Principal Investigator** Freyr Patterson (Advanced Occupational Therapist, Princess Alexandra Hospital)

**Associate Investigator(s)** Jennifer Fleming (Conjoint Research Fellow Princess Alexandra Hospital/University of Queensland)  
Dr Emmah Doig (NHMRC Post Doctoral Research Fellow, The University of Queensland)  
Ann Maree Collier (Senior Occupational Therapist Princess Alexandra Hospital)

**Location** Brain Injury Rehabilitation Unit, Princess Alexandra Hospital

**Declaration by Participant**

I have read the Participant Information Sheet and/or someone has read it to me in a language that I understand and I understand the purposes, procedures and risks of the research described in the project.

I have had an opportunity to ask questions and I am satisfied with the answers I have received.

I freely agree to participate in this research project as described and understand that I am free to withdraw at any time during the project without affecting my future care. In relation to my participation in this research I consent to (tick all that are consented to):

- Survey
- Video
- Interview
- Data

I understand that I will be given a signed copy of this document to keep.

Name of Participant _____
Signature _____ Date _____

**Declaration by Researcher<sup>†</sup>**

I have given a verbal explanation of the research project, its procedures and risks and I believe that the participant has understood that explanation.

Name of Researcher <sup>†</sup> _____
Signature _____ Date _____



† An appropriately qualified member of the research team must provide the explanation of, and information concerning, the research project.

Note: All parties signing the consent section must date their own signature.

**Form for Withdrawal of Participation - Adult providing own consent**

**Title** Group therapy interventions in traumatic brain injury rehabilitation: processes, perceptions and effectiveness.

**Protocol Number** HREC/13/QPAH/367

**Principal Investigator** Freyr Patterson (Advanced Occupational Therapist, Princess Alexandra Hospital)

**Associate Investigator(s)** Associate Professor Jennifer Fleming (Conjoint Research Fellow Princess Alexandra Hospital/University of Queensland)  
Dr Emmah Doig (NHMRC Post Doctoral Research Fellow, The University of Queensland)  
Ann Maree Collier (Senior Occupational Therapist, Princess Alexandra Hospital)

**Location** Brain Injury Rehabilitation Unit, Princess Alexandra Hospital

**Declaration by Participant**

I wish to withdraw from participation in the above research project and understand that such withdrawal will not affect my routine care, or my relationships with the researchers or The Brain Injury Rehabilitation Unit/Princess Alexandra Hospital.

Name of Participant _____
Signature _____ Date _____

In the event that the participant's decision to withdraw is communicated verbally, the Senior Researcher must provide a description of the circumstances below.

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**Declaration by Researcher<sup>†</sup>**

I have given a verbal explanation of the implications of withdrawal from the research project and I believe that the participant has understood that explanation.

Name of Researcher _____
Signature _____ Date _____

<sup>†</sup> An appropriately qualified member of the research team must provide information concerning withdrawal from the research project.

Note: All parties signing the consent section must date their own signature.

Appendix F: Group Participant Questionnaire

**The Group Participant Questionnaire – Patient version**

**Therapist to complete demographic information**

Participant number:

Sex: male / female

Age:

Mechanism of TBI:

Date of Injury:

Initial GCS:

Emerg from PTA: Yes / No                      Duration:    days

Date of admission to BIRU:

Date of questionnaire completion:

Admission FIM score

Physical:

Cognitive:

Number of people in the group attended:

Type of group:

- Meal preparation
- Community access (planning & shopping)
- Cognition (high / medium / low)
- Upper Limb
- Workshop

Copy of groups referral form attached?

## The Group Participant Questionnaire – Patient version

What was the focus of the group you participated in?

- Meal preparation
- Community access (planning & shopping)
- Cognition
- Upper Limb
- Workshop

***Circle the option that best applies to each statement:***

**1. The group was useful.**

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

**2. The group was not specific to my needs**

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

**3. I enjoyed the group**

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

**4. The group gave me time to practice things I had learned with my therapist**

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

**5. The group was specific to my needs**

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

**6. I got good feedback in the group**

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

**7. It didn't help me to have other people in the group**

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

**8. The group did not meet my individual goals?**

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

**9. The therapist talked about my goals**

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

**10. I enjoyed working with others in my group**

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

**Do you have any comments about the group?**

**Thank you and we appreciate your feedback.**

## Appendix G: Individual interview guide

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### Interview guide - questions

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*Note these questions will be used as a general guide for the interview to facilitate discussions.*

Tell me about the groups you have attended in occupational therapy?

What types of groups have you participated in, in Occupational Therapy during your admission?

- If not able to identify... provide prompts: meal preparation/cooking, community access (planning & shopping), upper limb, cognition, workshop.

What was good about the groups?

What didn't you like about the groups?

Guide for prompting/probing as necessary

- Tell me about the ..... group.
- Did you like that?
- Why did you like it?
- Did you enjoy doing..... with other people in the group?
- What didn't you like about that group?
- Why didn't you like .....?

Do you feel the group met your goals?

What recommendations do you have for the therapists to improve groups in OT?

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## Appendix H: Clinician focus group topic guide

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### Focus group topic guide - questions

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*Note these questions will be used as a general guide for the focus group to facilitate discussions.*

Introduction of focus group participants

(role in team, years of experience)

Tell me about your experiences of group therapy interventions.

What are some of the processes that have worked well in your experiences?

What is different about running groups with the TBI population?

Tell me about the barriers/challenges to facilitating group therapy interventions...

Prompt to explore: meeting the individual goals/needs of participants?

Tell me about the use of goals in therapy groups?

Prompt to explore: what are processes you have used to use goals?

Can you tell me about the peer aspect of groups?

Prompt questions: when does that work or not work? How does that work?

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Appendix I: Clinician Reflection Tool for Planning, Facilitating and Evaluating TBI Rehabilitation Groups (full version)

Key themes in TBI rehabilitation groups	Reflection questions	Examples and considerations (with Person-Environment-Occupation model reference)
<b>Group Planning Stage</b>		
The importance of planning groups	<p>Are group planning processes in place?</p> <p>Do I know the relevant group processes?</p>	<p>Environment:</p> <ul style="list-style-type: none"> <li>• Departmental processes for example, ordering food prior to a meal preparation group.</li> <li>• Ward processes such as timetabling or scheduling patients for group attendance.</li> <li>• Clinical processes such as checking swallowing status and diet with speech pathologist prior to a meal preparation group.</li> </ul>
	<p>Do I know the aims of the group?</p>	<p>Environment:</p> <ul style="list-style-type: none"> <li>• Therapist familiar with overall aims of group e.g. cognitive or upper limb rehabilitation.</li> </ul>
	<p>Are the equipment and resources required available when the group is scheduled?</p>	<p>Environment:</p> <ul style="list-style-type: none"> <li>• Ensure required food is purchased and available for meal preparation group.</li> <li>• Ensure equipment that requires booking is pre-booked.</li> </ul>
	<p>Have I considered how I will position participants within the group space?</p> <p>Have I considered whether the group therapy space is adequate for my group?</p>	<p>Environment:</p> <ul style="list-style-type: none"> <li>• Consider positioning to create opportunities for support and learning between peers, familiarity, foster positive relationships, physical factors which may impact on interactions and engagement such as unilateral neglect.</li> <li>• Consider whether there is sufficient space for the number of participants and wheelchairs/aids to access.</li> </ul>



	Are there any resources that I need to source or develop for the group?	<p>Environment:</p> <ul style="list-style-type: none"> <li>• Ensure existing materials are modified if required to meet group and individual needs.</li> <li>• Consider the time it may take to prepare or develop materials to ensure that they are prepared prior to the group.</li> </ul>
Client-centred group practice	Do I know individual participants' goals?	<p>Person:</p> <ul style="list-style-type: none"> <li>• Knowing the patient's goals and aspirations creates opportunities to tailor and link group content to what is important for the individual.</li> <li>• Refer to any relevant written referral forms or group participant information.</li> </ul>
	Do I know the functional level and impairments likely to impact on participation and group dynamics?	<p>Person:</p> <ul style="list-style-type: none"> <li>• Some participants with physical impairments may need 1:1 help in a meal preparation or upper limb group.</li> <li>• Some participants may have challenging behaviours that may impact on group dynamics.</li> <li>• Refer to any relevant written referral forms or group participant information.</li> </ul>
	What is the participant's stage of recovery?	<p>Person:</p> <ul style="list-style-type: none"> <li>• Consider stage of adjustment to injury and whether the person is likely to want to help others understand their injury and the rehabilitation process.</li> <li>• You may need to liaise with the patient's treating occupational therapist to discuss this.</li> </ul>
	Do I know about strategies being used by treating occupational therapist, and treating team that would be	<p>Person:</p> <ul style="list-style-type: none"> <li>• Know patient-specific behaviour management strategies (exact wording for providing feedback or managing the behaviour).</li> </ul>

	<p>relevant to the group and group activities?</p>	<ul style="list-style-type: none"> <li>• Review of behaviour management plans where appropriate.</li> <li>• Liaise with Speech Pathologist to find out Prompts to facilitate/support safe swallowing.</li> <li>• Liaise with OT/Physiotherapist re transfer status and techniques.</li> <li>• You may need to liaise with the patient's treating occupational therapist to discuss this.</li> </ul>
	<p>Has the participant attended any groups previously?</p> <p>What were the previous group experiences (positive /negative)?</p> <p>How did the participant engage with the group and activities previously?</p>	<p>Person:</p> <ul style="list-style-type: none"> <li>• Consider if the participant has attended the group before and familiarity with group processes and other participants in the group.</li> <li>• Use your knowledge about previous group participation to tailor content and help planning of the group.</li> <li>• Find out activities that were of particular interest to a patient or themes for discussion that engaged a patient.</li> </ul>
	<p>What is the relevance of the planned activities to each individual participants' goals</p>	<p>Occupation:</p> <ul style="list-style-type: none"> <li>• Activities should have relevance to each individual participants' goals.</li> <li>• Be able to provide individual examples of the relevance of group activities to 'real life' for each participant (particularly to assist with generalisation of strategies in impairment-focused groups).</li> </ul>
	<p>Have I individualised the activities to meet each participants' functional level?</p>	<p>Occupation and Person:</p> <ul style="list-style-type: none"> <li>• Activities may need to be modified for individual participants to accommodation for differing functional levels and impairments. For example, in meal preparation group consider allocation of tasks appropriate to patient's functionals levels. Other modifications may include increasing the size of text for patients with visual deficits.</li> </ul>

		<ul style="list-style-type: none"> <li>• Ensure a sufficient level of challenge in activities for each of the participants.</li> </ul>
Optimal group mix	Who knows who?	<p>Person:</p> <ul style="list-style-type: none"> <li>• Consider which participants know each other from previous groups.</li> <li>• Consider if I have observed, or whether I know about any particularly positive or negative relationships between participants.</li> </ul>
	What were the previous group interactions and experiences (positive/negative)?	<p>Person:</p> <ul style="list-style-type: none"> <li>• Which participants worked well with each other or didn't work well together. For example, Participant A clashed with B in previous group.</li> </ul>
	What is the range of functional levels and impairments amongst the group participants?	<p>Person:</p> <ul style="list-style-type: none"> <li>• Consider what the impact might be on the group of differing or similar functional levels and impairments. For example, when one or two participants require significant levels of assistance to participate in the group and activities this may impact on the time available for the facilitator to provide feedback or support other group members.</li> <li>• Review if participants require assistance to get to the group including verbal reminders about group start times and locations or physical assistance for mobility. Factor this into planning and facilitation.</li> </ul>
	What is the diversity amongst participants in the group?	<p>Person:</p> <ul style="list-style-type: none"> <li>• Consider group participants cultural and working backgrounds, age, life experiences – consider both similarities and differences.</li> </ul>
Positive peer interactions	Do the planned activities facilitate opportunities	Occupation:

	for participants to work together?	<ul style="list-style-type: none"> <li>• Activities can encourage or hinder opportunities for interactions between participants and opportunities to assist/teach each other and learn from each other – consider having a balance of activities.</li> <li>• For example, reading the recipe in meal preparation group and participants working together to allocate tasks, and monitor the tasks to ensure the meal is ready at an appropriate time.</li> </ul>
Clinician skill and experience in brain injury rehabilitation	What is my skill level and confidence in facilitating groups (with the planned participants and activities)?	<p>Environment:</p> <ul style="list-style-type: none"> <li>• Clinicians should feel confidence in working with the group participants and facilitating the planned activities. Consider whether this is the case.</li> </ul>
	What additional supports might I need?	<p>Environment:</p> <ul style="list-style-type: none"> <li>• Consider if additional support is required and what type of support.</li> <li>• For example, for behaviour management, or for participants who require 1:1 support for the group/activities.</li> </ul>
	What additional preparation do I need to carry out before facilitating the group?	<p>Environment:</p> <ul style="list-style-type: none"> <li>• Additional preparation may include reviewing medical/case notes or textbooks/resources about a particular strategy or approach prior to the group?</li> </ul>
<b>Group Facilitation Stage</b>		
The importance of planning groups	Is the equipment and physical environment set up prior to participant arrival?	<p>Environment:</p> <ul style="list-style-type: none"> <li>• Allocate sufficient time to set up the therapy space and equipment prior to the group.</li> </ul>
Client-centred group practice	Have I considered how I can grade up/down the activities for each individual?	<p>Person and occupation:</p> <ul style="list-style-type: none"> <li>• Ensure there is opportunity to increase or decrease the challenge</li> </ul>

	And for the group?	<p>level of activities for both individual participants and the group.</p> <ul style="list-style-type: none"> <li>• For example, provide additional tasks to patients in meal preparation group if they complete their allocated tasks quickly, or increasing the intensity of the upper limb exercises by increasing the weight or speed of tasks.</li> </ul>
	Have I considered how I can modify the environment to facilitate or challenge each individual, or in the context of interaction?	<p>Environment:</p> <ul style="list-style-type: none"> <li>• The environment may be modified to facilitate activity participation for individual participants, or to encourage interaction.</li> <li>• For example, move participants closer together if noise levels in the room are impacting on communication.</li> </ul>
Positive peer interactions	Have I introduced all group participants to each other?	<p>Environment:</p> <ul style="list-style-type: none"> <li>• Know the preferred names of patients attending the group?</li> <li>• Check names of any family members who may attend the group and include in the introductions.</li> </ul>
	Have I included an introduction to, and/or reinforced all individual and group goals?	<p>Environment:</p> <ul style="list-style-type: none"> <li>• Engage patients individually to reinforce their goals, and then overall goals for the group.</li> <li>• For example, “We all have individual goals that we are working on with our memory. John you are....Mary... And the group is focusing on practicing strategies to assist with recalling information.”</li> </ul>
	Have I included an overview of group processes and expectations at the beginning of the group?	<p>Environment:</p> <ul style="list-style-type: none"> <li>• This may include an outline to the group process (i.e. introductions, group activity, individual activities and then come together at the end of the group) and expectations of behaviour and participation during the group.</li> </ul>

		<ul style="list-style-type: none"> <li>• For example, “The group runs for 1 hour and in that time, we need to work together to plan, cook and eat breakfast”.</li> <li>• This may also include: group members demonstrating respect for other group members for example, not interrupting when others are speaking.</li> <li>• This can assist group members to feel familiar and comfortable, knowing what to expect in the group.</li> </ul>
Clinician skill and experience in brain injury rehabilitation	Have I monitored participation in activity of group members?	<p>Person:</p> <ul style="list-style-type: none"> <li>• Throughout the group monitor if participants able to complete the activities.</li> <li>• Monitor interest levels and engagement in the activities and discussions during the group.</li> </ul>
	Have I provided constructive feedback to participants during the group	<p>Person and occupation:</p> <ul style="list-style-type: none"> <li>• Consider <u>specific</u> feedback that addresses a behaviour, action or participation in an activity.</li> <li>• For example, “Bob it was really great when you checked all the information prior to commencing the task which I know is a strategy you are working on in therapy, and is important for your goal of returning to your work as an accountant” rather than “Great work John”</li> </ul>
	Did I facilitate opportunities for interactions between participants?	<p>Person and environment:</p> <ul style="list-style-type: none"> <li>• Throughout the groups observe whether the participants interact with each other, and whether this was occurring during particular activities?</li> <li>• Provide encouragement to participants who attempt to interact with others (regardless of whether this was successful).</li> </ul>
	Did I monitor fatigue?	<p>Person:</p>

		<ul style="list-style-type: none"> <li>• Indications of fatigue can include: increased distractibility, reduced performance, change in posture, etc.</li> <li>•</li> </ul>
<b>Group Evaluation Stage</b>		
Client-centred group practice	Did I provide clear and specific feedback to participants about their performance during the group?	<p>Person:</p> <ul style="list-style-type: none"> <li>• Feedback should be provided to each participant at some point during the group.</li> <li>• Feedback should be specific and constructive. Reflect on how participants responded to the feedback.</li> <li>• For example, feedback should be directed at a behaviour or action, or participation in an activity rather than generic comments such as “well done Julie”.</li> </ul>
Positive peer interactions	Did participants interact with each other?	<p>Environment and person:</p> <ul style="list-style-type: none"> <li>• Review participants who interacted with each other and what the context was for that interaction.</li> <li>• For example, “Carol started chatting with Sarah at the beginning of the group after introductions about their common goal of returning to cake making.”</li> </ul>
	<p>Who interacted with who (positive or negative)?</p> <p>Why do I think this was the case?</p>	<p>Environment and person:</p> <ul style="list-style-type: none"> <li>• Consider the nature of the interactions observed between participants i.e. positive or negative.</li> <li>• For example, “Sue appeared reluctant to interact or chat with participant Vera who was verbose, dominated group discussions and demonstrated impaired awareness.”</li> <li>• Reflect on anything that could have been done to provide more positive interaction opportunities.</li> <li>• For example, sitting Sue next to a different participant who was not so verbose.</li> </ul>

	Did the group encourage opportunities to teach and learn from each other?	<p>Environment and person:</p> <ul style="list-style-type: none"> <li>• Consider if particular activities, or participants engaged in opportunities to teach and learn from others in the group.</li> <li>• For example, “John is new to the meal preparation group and knows where things are in the kitchen. I encouraged him to show Betty where items were before they each started their cooking tasks”.</li> </ul>
	What activities encouraged interaction and what activities hindered/challenged interaction?	<p>Occupation and environment:</p> <ul style="list-style-type: none"> <li>• Consider why particular activities may have encouraged or facilitated interactions, and whether these interactions occurred between the group as a whole, or between particular group members.</li> </ul>
Clinician skill and experience in brain injury rehabilitation	Did I allow opportunities for the group to self-direct?	<p>Environment:</p> <ul style="list-style-type: none"> <li>• Allow opportunities for group to self-direct.</li> <li>• This may include: allowing pauses and time for patients to respond after asking questions to the group. For example, to accommodate for slowed speed of information processing.</li> <li>• Consider the amount of information presented in any specific group activity and across the group as a whole, including instructions.</li> </ul>
	Did I model use of strategies and interactions?	<p>Environment:</p> <ul style="list-style-type: none"> <li>• Provide opportunities for participants to observe you model the specific actions or steps of a strategy patients are using, as they would use in everyday life.</li> <li>• For example, scanning the information on the page, highlighting important information, answering the questions, and double checking my responses (in</li> </ul>



		an attention to detail cognitive task).
	<p>Did I facilitate opportunities for interactions between participants?</p> <p>How did I do this?</p>	<p>Environment:</p> <ul style="list-style-type: none"> <li>• Allow sufficient pauses and time for participants to respond after asking questions to the group.</li> <li>• Direct questions between group participants and/or ask one participant to assist another with an aspect of the task.</li> <li>• Reflect on the strategies used to do this. For example, “it was really effective when I asked John to help Bruce carry the items Bruce had found in the pantry to the bench as Bruce was on crutches and had difficulty carrying things.”</li> </ul>
	<p>Did I feel confident facilitating the group?</p> <p>Have I identified any learning opportunities or areas of my clinical practice I can improve?</p>	<p>Environment:</p> <ul style="list-style-type: none"> <li>• Reflect and consider what I did well in the group, and what would I do differently next time.</li> <li>• For example, “It was hard to explain XX strategy to Bob and relate it to his goals. I might chat with his treating therapist about how she/he explains the strategy”.</li> </ul>
	<p>Did I provide enough structure to facilitate engagement in the group?</p>	<p>Environment:</p> <ul style="list-style-type: none"> <li>• Did the structure provided ensure that the group ran smoothly and within anticipated timeframes?</li> <li>• For example, the group started on time, activities were completed as planned, and the group finished within expected timeframes.</li> </ul>
	<p>Did I introduce all group members?</p>	<p>Environment:</p> <ul style="list-style-type: none"> <li>• Know the preferred names of patients attending the group?</li> <li>• Check names of any family members who may attend the group and include in the introductions.</li> </ul>

	<p>Did I introduce/reinforce group processes and expectations</p>	<p>Environment:</p> <ul style="list-style-type: none"> <li>• This may include an outline to the group process (i.e. introductions, group activity, individual activities and then come together at the end of the group) and expectations of behaviour and participation during the group.</li> <li>• For example, “During this cognitive group we will be completing some individual activities and some activities as a group. The groups last for one hour”.</li> <li>• This may also include: group members demonstrating respect for other group members for example, not interrupting when others are speaking.</li> <li>• This can assist group members to feel familiar and comfortable, knowing what to expect in the group.</li> </ul>
	<p>Did I introduce/reinforce individual participant goals and group goals?</p>	<p>Environment:</p> <ul style="list-style-type: none"> <li>• Engage patients individually to reinforce their goals, and then overall goals for the group.</li> <li>• For example, “We all have individual goals that we are working on with our memory. John you are....Mary... And the group is focusing on practising strategies to assist with recalling information.”</li> </ul>
	<p>Did I provide closure to the group?</p> <p>Did I summarise activities and plans for any future groups?</p>	<p>Environment:</p> <ul style="list-style-type: none"> <li>• This may include a review of the activities completed as a group, and achievement of group goals as well as reflection on individual goals and performance.</li> <li>• For example, “In the group today we focused on strategies to assist with memory, specifically recall of verbal information. This is important in everyday life for example, Barry, when you are at work taking orders over the phone and need to remember them, and Jan, you might use a strategy like this when you are summarising</li> </ul>

		what was discussed in a meeting at work and you need to recall actions you need to follow up”.
	Have I provided feedback to the treating OT about participation? Including performance on activities, progress, recommendations for future participation.	Environment: <ul style="list-style-type: none"> <li>• The use of written handover documents may support processes to provide feedback to the treating OT. This may be particularly useful on a busy inpatient ward where finding time to meet (face-to-face) with the treating therapist might be challenging.</li> </ul>
	Have I provided feedback to the treating OT about interaction?	Environment: <ul style="list-style-type: none"> <li>• The use of written handover documents may support processes to provide feedback to the treating OT. This may be particularly useful on a busy inpatient ward where finding time to meet (face-to-face) with the treating therapist might be challenging.</li> </ul>
	Do I have a process for obtaining group participant feedback?	Environment: <ul style="list-style-type: none"> <li>• Consider appropriate feedback processes and mechanisms.</li> <li>• For example, informally by verbally asking patients how they found the group, or a more formal evaluation such as questionnaire or interview after participation.</li> </ul>