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INVESTIGATIONS OF FRIENDSHIP FOLLOWING TRAUMATIC BRAIN INJURY

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A thesis submitted in fulfillment of requirements for the degree of Masters of Applied Science (Research)

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Author’s Contribution

Investigations of friendship following traumatic brain injury (TBI)

I Tennille Thomasz, was primarily responsible for the following: development of the research proposal, submission for ethical approval, data collection and analysis, as well as presentations of the findings.

I acknowledge the assistance provided by my supervisors, who provided feedback and critique throughout all stages of the research process including the development of research questions, methods, data analysis and interpretation and reviewed initial drafts of this thesis.

Signed

Tennille Thomasz, Ba App Science (Speech Pathology), University of Sydney

Date: 15/12/2015
Declaration of Originality

Investigations of friendship following traumatic brain injury (TBI)

I certify that this thesis and the research reported in it are original. It contains no material which has been submitted for the award of any other degree in any other university, and that to the best of my knowledge and belief, this thesis contains no copy or paraphrase of material previously published or written by another person, with the exception of where references are made within the text.

Signed

Tennille Thomasz, Ba App Science (Speech Pathology), University of Sydney

Date: 15/12/2015
Abstract

This research is comprised of two studies, both conducted with the overarching aim of investigating friendships following traumatic brain injury (TBI). The first investigation was a survey study. Sixty-eight speech pathologists who work with clients who have sustained a TBI were surveyed. The survey aimed to answer specific queries surrounding the current perspective of speech pathologists when working with friends, the reason that speech pathologists work with friends, barriers to working with friends and why speech pathologists perceive that some friendships succeed post TBI. Responses were analysed using a combination of descriptive statistics and content analysis of the open-ended responses. Results showed that 39.71% of speech pathologists work with friends. In comparison 60.29% speech pathologists do not work with friends. Indirect work is the main type of work that is conducted surrounding friendship. Education is provided to friends more so than training. Speech pathologists worked on friendships for a variety of reasons. These reasons fell into two broad categories, including providing therapeutic benefits which positively affected the work conducted by the clinician and it benefiting the person with TBI directly in some way. Numerous barriers were identified to working with friends, however the major barriers included time constraints, difficulty accessing friends, the suitability of pre-injury friends for the person with TBI to be interacting with post TBI and the person with TBI choosing not to engage with friends. The reasons that speech pathologists attributed to success in the area of friendship post TBI could be considered within the framework provided in the International Classification of Functioning (ICF) (WHO, 2001). The responses that speech pathologists provided in this question mapped on to
the ICF, providing a framework to report on these. Body structures and functions, activities and participation and environmental and personal factors were all considered to be important in the maintenance of friendship post TBI.

The second study was a qualitative study. This study addressed the question, why do some friendships succeed post TBI? Nine individuals, who were identified as friends by four adults with TBI, were interviewed. Data collected via semi-structured interviews were analysed using a grounded theory approach. Open coding, focused coding, followed by theoretical coding was conducted to develop the proposed theory: Actively placing the self in the friendship. The model proposes that two processes exist simultaneously. These two processes are: making sense of the TBI and its consequences and maintaining normality in the friendship. It appears that friends engage in both of these processes, which allows them to actively find where they fit in the friendship once their friend with a TBI has sustained their injury. The proposed theory provides details of the types of consequences that friends find out about and how they engage in learning about these consequences. It also illustrates how normality is maintained in the friendship post TBI.

Together, these studies provide a thorough and rich description of friendship post TBI from the perspective of both speech pathologists and friends of those who have sustained a TBI. The results provide building blocks to enable a more systematic approach to the current work that is conducted surrounding friendships post TBI. Importantly, the firsthand ideas and experiences of friends
who have maintained their friendships with people with TBI are considered and can now be used when developing approaches to working with friends.
I embarked on this research project as a speech pathologist curious about how to provide communication partner training in cases where the person with TBI was already socially isolated. Little did I realise that I would learn so much more. There are many people who have enabled me in this learning process.

I would like to thank my supervisors Professor Leanne Togher, Doctor Emma Power and Professor Jacinta Douglas. Not only did you assist me in completing this research but also you have willingly shared your knowledge and skills and in doing so enhanced my ability to think deeply and critically. The knowledge and skills that you have imparted, I will be able to continually use and develop. My appreciation for this extends beyond what I can write here.

While completing this degree I worked with teams at the Mid Western Brain Injury Rehabilitation Program, Royal Rehab and Westmead Brain Injury Unit. Sincere thanks for your support, encouragement, sharing your clinical expertise and your readiness to listen when I needed input or advice.

Without my family, in particular my parents, Barbara and Chris, and partner David, achieving this goal would not have been possible. You truly understood how important this was to me and were gracious in allowing me to prioritise the work that went along with the completion of this degree. Further to this, you went above and beyond to pick up the extras while I busied myself with reading, data collection and analysis or writing. You listened to my long-winded stories.
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1. Introduction

1.1 Traumatic Brain Injury

Traumatic brain injury (TBI) is a major cause of disability for young people, both in Australia and throughout the world. In Australia and New Zealand a study has examined the demographics of people admitted to intensive care units who have sustained a TBI. 56/635 (8.8%) were younger than 20 years of age, 289/635 (45.5%) were between 20 and 39 years of age, 205/635 (32.3%) were between 40 and 69 and 82/635 (12.9%) were over the age of 70 (Myburgh, Cooper et al., 2008). The World Health Organization (WHO) predicts TBI will surpass many diseases as the major cause of disability and death in the future (Hyder, Wunderlich et al., 2007). Already, it affects over 10 million people annually and leads to either mortality or hospitalisation (Andelic, 2013; Hyder, Wunderlich et al., 2007; Langlois, Jean A., Rutland-Brown, Wesley et al., 2006). The loss of life and potential for lifelong morbidity makes TBI a pressing public health issue (Andelic, 2013; Hyder, Wunderlich et al., 2007; Langlois, Jean A., Rutland-Brown, Wesley et al., 2006).

TBI can result in long term or lifelong physical, cognitive, emotional and behavioural consequences that differ in severity (Langlois, Jean A., Rutland-Brown, Wesley et al., 2006). Given the heterogeneous nature of this clinical population their individual rehabilitation needs vary considerably. Without rehabilitative input individuals with TBI may have difficulty returning to pre-morbid social roles (Tate, McDonald et al., 1998). At present, access is limited to these essential services (Jourdan, Bayen et al., 2013; Ta'eed, Skilbeck et al., 2013).
Therefore, indirect implications such as the effect of TBI on friends, family, carers and the community are often overlooked (Langlois, Jean, Rutland-Brown, Wesley et al., 2006).

1.2 Friendship in the context of TBI

There is limited research in areas surrounding friendship or socialisation post TBI, however studies do show that social networks often diminish and decline post TBI. Finset, Dyrnes et al. (1995) interviewed 77 participants with TBI. Overall, 57% of participants reported that social networks declined post TBI, 28% did not report any change and 13% reported that their networks had increased since their injury. While these participants reported a significant amount of contact with family, there was less with friends and even less from neighbours. Only 25.9% of participants reported a corresponding amount of support from friends as they received from their family. They also received less instrumental and emotional support from friends. Instrumental support refers to physical assistance, whereas emotional support refers to the reassurance and encouragement that is provided to support a person through a difficult time. 61% of participants received both instrumental and emotional support from family in comparison to only 24% who received this support from friends. 20% received mostly emotional support and 14% received mainly instrumental support from friends. In terms of how participants viewed the amount of interaction, 50% did not feel like they had enough interaction.
Changes to friendships are a shared experience amongst people who have sustained a TBI (Nichols & Kosciulek, 2014; Rowlands, 2000). Di, Godfrey et al. (2014) conducted semi-structured interviews with 16 adolescents, ranging from 10 to 25 years of age. Using an interpretive phenomenological analysis approach they discovered that people with TBI noticed social discrepancies between their pre and post injury lives. Furthermore, Shorland & Douglas (2010) also found that social experiences changed post TBI. In this study, two participants with TBI were interviewed and grounded theory was used to interpret the findings. It appears that friendship experiences can differ between individuals. However, the experience of support from friends was diminished during the recovery process. Similar to the study conducted by Di, Godfrey et al. (2014), Shorland & Douglas (2010) found social discrepancies between what their friends were able to do and what the person with TBI was able to do which affected the friendship. More specifically, it was perceived that friends were able to continue to participate in activities that the person with TBI was no longer able to do, for example, attending university or going out independently.

The frequency of contact between friends can also diminish following a TBI. People with TBI have reported that they do not see their friends as often as they would like to and this contributed to feelings of loneliness (Shorland & Douglas, 2010). Using a constructivist paradigm, Nichols & Kosciulek (2014) conducted intensive semi-structured interviews surrounding social interactions and used an interview guide with seven participants with TBI. Data was analysed using thematic analysis. The theme of friends emerged in this research. Participants indicated that one factor that impacted on the frequency of contact with their
friends was balancing rehabilitative activities with their friendships. The reduction in contact with friends had a flow on effect surrounding their sense of closeness with their friend. That is, since they did not see their friends as frequently they perceived this as a reduction in closeness (Elsass & Kinsella, 1987; Finset, Dyrnes et al., 1995; Kinsella, Ford et al., 1989; Shorland & Douglas, 2010).

The ability to form new friendships post TBI is also negatively affected. People with TBI found the experience of forming new friendships to be difficult and worrisome (Shorland & Douglas, 2010). Another qualitative study involving nine people with TBI revealed that changes secondary to the TBI hampered the person’s ability to make new friends. Hence, it was perceived as important to maintain friendships from the early stages of recovery, before friendships began to diminish (Rowlands, 2000).

The types of friendships that are maintained are also impacted following a TBI. Relationships with family and close friends appear to be maintained, whereas relationships with more distant friends are not discussed in the research. Lefebvre, Cloutier et al. (2008) went as far to say that other than close friends and family, people with TBI were completely socially isolated. Further to this, people with TBI relied more on their family than controls (Elsass & Kinsella, 1987; Finset, Dyrnes et al., 1995).

Before now, studies regarding friendship following TBI have focused on the perceptions of the person with TBI and/or their family members. This study
adds to the existing evidence, by considering the perspective of friends who continue to be involved post injury as well as speech pathologists, who may work with friends and people with TBI in regards to friendship.

While the studies discussed provide an overview of the effects that TBI may have on friendships, it is difficult to draw specific conclusions about the effects of TBI on friendship. Comparison between the studies may be difficult because studies used a variety of methods, including both quantitative and qualitative approaches and the participants that were recruited in these studies also differed in regards to age range and time post injury. Therefore, we currently only have a preliminary picture of friendship and TBI.

Older people with aphasia also experience changes to their friendships. This is relevant in the context of this study, given that the research surrounding TBI frequently relates to a younger demographic, however the participants included in this study happened to be older. In a study conducted by Davidson, Howe et al. (2008) asked 15 people with chronic aphasia to keep communication diaries. These were compared with 30 matched older Australians. Results showed that people with aphasia communicate with a fewer of number of friends than compared to a control group. They communicated with a fewer number of acquaintances and strangers.
1.3 Why does social isolation exist post TBI?

1.3.1 Using the International Classification of Functioning (ICF) to examine reasons for social isolation

The ICF provides a framework that enables explanation of the possible contributing factors that disrupt the ability to maintain social contact post TBI (WHO, 2001). The ICF is a framework for measuring health and disability in individuals as well as populations. It includes the domains of body structure and functions, activities and participation. It conceptualises functioning as a dynamic interaction between a person’s health condition, environmental factors and personal factors (WHO, 2001). Changes to body functions and structures occur following a TBI. The ICF provides examples of such functions. Some of these include consciousness functions, energy and drive functions, memory functions, sensation of pain functions and control of voluntary movement functions, as well as a number of other functions (Laxe, Zasler et al., 2013; WHO, 2001). These changes to body structures and functions then contribute to the person’s ability to engage in activities. As a result people with TBI can have difficulty participating in friendships.

There is conflicting evidence surrounding the impact of physical and emotional impairments on friendship. Groups of people with a TBI have been compared, depending on whether they had a physical disability and/or emotional disturbances. In both instances the presence of personality and physical impairments did not impact significantly on a measure of social contact (Oddy & Humphrey, 1980). In contrast, Lefebvre, Cloutier et al. (2008) found that
physical impairments and emotional sequelae did impact on a person's ability to participate in activities. This, in turn, led to reduced opportunities for friendships to prosper or develop (Lefebvre, Cloutier et al., 2008). Impaired affective or behavioural functioning have been defined by negative results on the assessment of interpersonal functioning skills. Those who experience affective or behavioural impairments also experienced poorer social outcomes (Struchen, Pappadis et al., 2011).

The severity of the TBI is correlated with changes to friendships (Oddy & Humphrey, 1980; Oddy, Humphrey et al., 1978). There is evidence to suggest that more severe injuries have negative implications for friendships (Oddy & Humphrey, 1980; Oddy, Humphrey et al., 1978). People with post-traumatic amnesia (PTA) that exceeds seven days have less social encounters at six and 12 months post injury in comparison to a matched control group of people with traumatic limb fractures (Oddy, Humphrey et al., 1978). 54 patients with a severe closed brain injury between the ages of 16 and 39 had less contact with close friends. While they continued to have a similar number of close friends, they were visited less often than a control group. They received less visits from friends at 12 months post injury, but the number of times that they visited friends was not significantly different when compared to a control group. At two years post injury there was no longer a significant difference in the number of friends between the group with TBI and the control group (Oddy & Humphrey, 1980).
The finding that the more severe a person’s TBI and hence the impairments was reiterated by Finset, Dyrnes et al. (1995). Using the Norwegian Interdisciplinary Rating Scale (NIRS) and the Social Network Index (SNI) at two years post injury they showed that increased severity of functional sequelae was consistently related to poorer outcomes on the SNI. As functional impairments become more severe social networks were negatively affected. Specifically, ratings in emotional functioning, activities of daily living (ADL) and social functioning were most closely correlated with poorer outcomes on the SNI.

The impairments to body functions and structures can lead to changes in the ability to perform activities and participate in life roles, known as activities and participation in the ICF. Particular activities and participation in life roles have been identified as contributing to deleterious changes in friendship post TBI, from the perspective of TBI survivors (Nichols & Kosciulek, 2014; Shorland & Douglas, 2010). Examples such as returning to university, drinking and drug consumption and sporting activities were provided as activities that people with TBI could not return to, which their friends continued to participate in (Nichols & Kosciulek, 2014). Hence, this provided a barrier to maintaining contact with friends. In addition, this inability to participate in activities also affected the person’s chances of meeting new people and therefore potentially forming new friendships (Shorland & Douglas, 2010). It was acknowledged that physical changes post TBI were not the only difficulty affecting the person’s ability to participate in such activities. Emotional changes were also identified as a barrier (Nichols & Kosciulek, 2014).
An activity that people with TBI have identified as affecting friendship is the ability to communicate. Communication is an essential skill required to maintain relationships with family and friends. In research conducted by Shorland & Douglas (2010) the two participants with TBI did not identify that changes to communication directly affected friendship, but rather negatively affected family interactions. It was suggested that this might have been because they saw less of their friends and more of their family. It was however, clear that changes in communication abilities affected socialising and therefore logically would have impacted negatively on friendship. The specific communication skills that were affected and deemed to negatively impact upon friendships spanned both verbal and non-verbal skills. These skills that were affected included, processing and organising verbal information, sensitivity to non-verbal communication and other pragmatic skills such as maintaining and closing a conversation. Secondary to the direct changes to communication abilities, self-confidence in communicative situations and drive to communicate also impacted upon communication abilities and therefore the capability to interact with friends.

The finding that communication impairments affect friendships following TBI, is also seen in older people with aphasia. In a second phase of the study completed by Davidson, Howe et al. (2008) conversations between three participants with aphasia and their friends were recorded and analysed. Similarly to those with TBI, it revealed that communication change occurs, which impacts on interactions with friends. Greetings occupied a significantly greater proportion of everyday interactions for people with aphasia. In particular people with
aphasia experience more communication breakdown when communicating with friends. This is contributed to by the additional time required to respond. There are also more occasions when communication is incomplete. Humorous story telling was reduced by people with aphasia. Shared interests were important for facilitating conversation opportunities as well as topics of joint interest. Overall people with aphasia took a more passive, listening role when compared to controls, demonstrating reduced social communication.

People with TBI also felt different from their friends. Another key theme that emerged in work conducted by Shorland & Douglas (2010) was the challenge of opening up to others (friends), because people with TBI felt different from their friends and believed that it was challenging for their friends to understand the changes that were as a result of the TBI. This study did not consider the perspective of friends, as only people with TBI were interviewed. Therefore, it is unknown whether friends have difficulty managing changes or react poorly to people with TBI raising changes post TBI. Friendship is important for all individuals (Moore, 1988), particularly during times of hardship. With this said, friendship is also imperative for people who have sustained a TBI.

The environmental factors also influence friendships. From a sociological perspective friendship can be considered to be patterned based on social and economic milieus in which the individuals are located (Allan, 1998). Four broad levels may influence a friendship including the personal environment level, the network level, the community level and the societal level. The personal environment level includes economic circumstances, domestic duties and
employment responsibilities (Allan, 1998). Following a TBI it is likely that the personal environment level will be altered, this sociological perspective provides reinforcement for environmental factors contributing to changes in friendship post TBI.

1.3.2 Factors related to the friend

Allan (1989) discusses friendships in light of a crisis or change in a person’s life. Individuals within the friendship will respond to crisis and change differently. People possess a variety of skills, some of which may be more helpful during a particular crisis than others. The extent to which a friend can contribute during a crisis will also be related to the length of time that the help is required. In general, friendships are better suited to providing short-term assistance, rather than long-term assistance. Given that recovery from TBI can take many months, this may provide another reason as to why friendships often decline post TBI. In addition, people do not expect friends to provide this level of support. That is, people with TBI would be unlikely to expect their friends to prioritise assistance that they may need, if it was going to lead to excessive cost to their friend, for example time off work or away from their own family.

1.4 Why is friendship important?

Friends have been shown to play a crucial role in the lives of young people, which is the demographic that is more often affected by TBI (Pulakos, 1989). Questionnaire data, which asked about demographics, sibling relationships and close friendships from 115 undergraduate students showed that young people
described their friends as significantly closer and more important than their siblings (Pulakos, 1989).

Relationships with friends were characterised by more reciprocity, positive affect and activities. Most conversational topics were discussed more frequently with friends than a sibling (Pulakos, 1989). This highlights the considerable impact that a loss of friendships could have on the life of a young person who has sustained a TBI. It is evident that friends retain a specific role that cannot necessarily be assumed by family or paid carers.

Communication interactions between a friend and a person with TBI can be a positive experience for the person with TBI. Research has revealed the existence of communicative incompetency between people with TBI and their communication partners, including clinicians, mothers and service providers (Togher, Hand et al., 1996; Togher, Hand et al., 1997). Bogart, Togher et al. (2012) have demonstrated that communicative competency can be enhanced when communicating with a friend. Nine participants with severe TBI and a selected friend were asked to have a casual conversation, as well as matched controls and their friends. Participants were asked to hold a conversation about a topic of interest to them. Conversations were transcribed and analysed using exchange structure analysis (Montgomery & Coulthard, 1981). When compared to controls people with TBI were able to engage in typical and essential information giving (K1 moves) and requesting roles (K2 moves). That is, the frequency of K1 and K2 moves did not differ significantly between controls and
participants with TBI. Therefore, friendship may be important after TBI, to provide the person with TBI with more positive communication opportunities.

1.5 Current work conducted within the area of friendships & TBI

Prior to providing intervention to assist with the maintenance and development of friendship, assessment should be conducted. This assessment should consider the individual’s social context, which may include questioning about the person’s social network and shared interests pre-injury, level of satisfaction with friendships prior to the injury and personal beliefs about future friendship requirements. Usual assessments of cognitive functioning that are conducted following TBI will also provide information regarding sequelae that may impact on the person’s ability to interact with friends and participate in shared activities (Callaway, Sloan et al., 2005).

Communication can be negatively affected post TBI. A decline in pragmatic functioning is a significant contributing factor to negative changes to communication abilities post TBI. Douglas (2010) demonstrated that there is a significant association between executive impairments and pragmatic communication impairments. Therefore it is likely that cognitive impairments contribute to challenges with communication, which may negatively affect friendship. The INCOG guidelines (Tate, Kennedy et al., 2014) indicate that cognitive assessment and intervention should be tailored according to the neuropsychological impairments that the person presents with, as well as their activity and participation goals. The importance of friendship in many people’s lives has already been discussed. Therefore targeting pragmatic functions and
cognitive impairments is likely to be imperative to assisting the person to maintain and develop friendships, an important facet of their lives pre-injury.

1.5.1 Education and Training

Given the importance of friendship to people with TBI, and social functioning after the injury, it has been recommended that maintaining friendships is a desirable goal of rehabilitation. Recommendations arising from the qualitative work conducted by Shorland & Douglas (2010) included addressing communication difficulties in social contexts and situations specific to the person with TBI. This is also in line with the recommendations from the INCOG guidelines (Tate, Kennedy et al., 2014). More specifically, it is recommended that if friends were a part of the individual with TBI’s life prior, then they should be considered and included in the rehabilitation process. This may be particularly relevant in the early stages of rehabilitation when friends are likely to be lost (Shorland & Douglas, 2010). It may also be useful to work with the person with TBI to teach communication strategies to assist them with opening up to friends (Shorland & Douglas, 2010).

There is evidence to suggest that training communication partners, and perhaps in this instance friends, to utilise strategies to overcome consequences of the TBI will enhance communication interactions (Togher, McDonald et al., 2013). In a non-randomised control trial, where 44 participants with TBI were allocated to one of three groups where they received either treatment alongside a communication partner, treatment on their own or were placed in a control group, findings showed that training a person with TBI alongside a
communication partner was more efficacious than training the person on their own. The treatment involving both the person with TBI and a communication partner targeted common problems in interactions between people with TBI and their communication partners. Some of these problems included infantilising the individual, providing insufficient opportunities for the person with TBI to communicate, not providing natural consequences for communication success and asking the person questions that they already knew the answer to (Togher, McDonald et al., 2013). The Adapted Measure of Participation in Conversation was used as the primary outcome measure in this study (Rietdijk, McDonald et al., 2010). A qualitative study examined the participants’ (13 individuals with TBI and 13 of their communication partners) experience of participating in this intervention. Results from interviews showed that participants noticed an improvement in their communication skills, including the communication partner. Improvements in the relationship were also identified, as well as broader social life and independence (Togher, Power et al., 2012). This study provides preliminary evidence that involving friends in such training may in turn assist with improving the interactions between friends. Given that communication challenges is a contributing reason for why some friendships diminish post TBI, education and training of friends and people with TBI in this area may lead to beneficial outcomes in relation to maintenance of friendship.

Friends should be included in the rehabilitation process (Tate, Kennedy et al., 2014), including education to enhance awareness of the more subtle affects of TBI (Callaway, Sloan et al., 2005; Shorland & Douglas, 2010). Callaway, Sloan et
al. (2005) have provided some guidance regarding ways that occupational therapists can specifically consider friendships in their interventions. While this study provides expert opinion in the absence of reliable and valid research methods, this paper provides a valuable contribution, given the limited research base related to the area of friendships. In terms of education, they acknowledge that it is often focused toward family members rather than friends. In addition to the provision of information surrounding the changes that can occur following TBI, they also suggest that friends be trained in skills to manage such changes.

Friends need to be present or accessible to receive education. Assisting the person with TBI and their friends to maintain communication channels may be one way to manage issues with accessing friends. Callaway, Sloan et al. (2005) recommended that providing explicit communication channels could be useful while the person with TBI is recovering in the acute hospital setting. For example, they suggest establishing a visitors book to collect contact details, which can be used for a variety of reasons, such as maintaining social contact (Callaway, Sloan et al., 2005).

### 1.5.2 Intentional friendship building

There are numerous intervention programs that have examined the effectiveness of intentional friendship building (Hibbard, Cantor et al., 2002; Struchen, Davis et al., 2011). That is, intervention that involves external input from a clinician to expose the person to planned opportunities to potentially build new friendships. It is not possible to compare these different programs
directly as they have been evaluated using a variety of different outcome measures, however it appears that the evidence for the effectiveness of such programs is variable. Positive outcomes have been shown, however it is questionable whether these outcomes indicate improvements within the specific area of friendship. There are numerous examples of TBI participants partaking in peer mentoring groups (Hanks, Rapport et al., 2012; Hibbard, Cantor et al., 2002; Struchen, Davis et al., 2011).

A review of the literature surrounding social support, friendship and loneliness provides a summary of interventions in relation to relationship building that could be relevant to those with acquired brain injury (ABI) (Rowlands, 2000). In this paper, circles of support is discussed. This intervention encourages participants with ABI to establish dreams. A circle of support incorporating intimates, friends, associates and contacts is built surrounding the person with TBI to enable them to move toward achieving these dreams. This treatment was evaluated using a qualitative approach. It sought perspectives from a range of people involved including, but not exclusive to, the person with TBI. A range of themes surrounding friendship emerged. These included the acknowledgement that friendships deteriorated post TBI and that new friendships were developed within the context of the rehabilitation program with which they were engaged. Facilitating factors to establishing new friendships within the framework of this intervention program was also discussed. For example, financial backing required to ‘buy’ friends through volunteer or care agencies. Participants with TBI were not satisfied with this and the formal structure provided by the meetings that were a component of the circles of support intervention was
beneficial in maintaining contact with newly formed friends (Willer, Allen et al., 1993).

Hibbard, Cantor et al. (2002) discuss a community integration program for individuals with TBI and their family, known as the TBI mentoring partnerships program. 20 individuals with TBI and nine family members participated. The program has five main components, including recruitment and training of individuals to provide peer support, recruitment of individuals and family members who are in need of support, creation of mentoring partnerships, technical assistance and program evaluation. Two consumer advisory groups were developed to assist with planning. Individuals with TBI and their families were recruited as mentors based on a criteria central to personal readiness, which was ascertained through a willingness to volunteer time, a motivation to help others, successful personal adjustment, adequate insight into their limitations, the absence of psychiatric disturbances, an ability to listen and empathise and an ability to inhibit personal responses. This was determined via a phone interview. Mentors then participated in a series of eight day training workshops. Training focused on increasing knowledge of TBI and communication skills. Extensive outreach was conducted to recruit people with TBI and their family members who were in need of support. The people in need of support were excluded if they had suicidal ideation or psychiatric disturbances, violent behaviour, could not articulate a reason for wanting to participate, was referred to the program by someone else, presented with severe cognitive problems that would prevent them from benefitting from support, had no insight or was only interested in talking to someone, without
wanting to change their lifestyle. Partners were matched to mentors on the basis of similarities in demographic background, marital status, injury history, interests and the mentor’s ability to meet the mentee’s needs. Once the mentor and mentee were matched, the intensity and duration was a mutual decision between them. Approximately 25% of partnerships continued after one year. A project coordinator provided ongoing telephone support to the mentor.

Quantitative interviews were used to evaluate the participant’s experiences, as well as qualitative interviews. The program had the strongest impact on improving knowledge of TBI, but also had positive effects on coping with their TBI, enhancing quality of life and mood. When qualitative interviews were conducted, content analysis revealed that participants liked having someone to share their experiences with.

Another study examined development and implementation of a social peer-mentoring group for participants with TBI. In the pilot randomised control study conducted by Struchen, Davis et al. (2011) 12 participants with TBI were matched with peer mentors and 18 participants were randomised to a wait list. Mentors were screened using the Craig Handicap Assessment and Reporting Technique Short Form (CHART-SF), as well as completing an interview. Mentors underwent two, two-hour group training sessions and were also provided with a manual. Training focused on safety and documentation, as well as the role of a mentor, understanding TBI, reviewing skills that may enhance social functioning and handling difficult communication situations. Matching of mentors and mentees occurred on the basis of proximity, age, gender and interests. The active mentoring period was for three months. Mentors initiated
contact and were responsible for ensuring at least two outings per month. After the initial meeting, mentees could also initiate contact. The goal of the outings was to increase social networking through introductions to people, activities and resources within the community. An on-call therapist spoke to mentors at least once a week. A series of outcome measures including the Craig Handicap Evaluation and Reporting technique-Short Form, Social Activity Interview, Centre for Epidemiological Studies Depression Scale, University of California, Los Angeles (UCLA) Loneliness Scale, the 6 item Interpersonal Support Evaluation List, the Satisfaction with Life Scale, the Weekly Social Activity Survey, Peer Partner Satisfaction Survey and the Mentor Satisfaction Survey were used pre and post intervention. No significant difference between the wait list group and peer mentoring group was observed in relation to social integration, social network size or activity level and a decline in emotional functioning was observed in the peer mentoring group post intervention.

Another treatment to facilitate friendships is the Skills to Enable People and Communities (STEPS) program (Kennedy, Turner et al., 2011). The program is a six week structured program that involves one, two-hour session for six weeks. It is lead by a trained leader or facilitator who has either sustained an ABI or is a family member of a person who has an ABI. The focus of the program is on how the people with ABI look after themself, living in the community and working with services. The first five meetings provide information and opportunities to complete structured activities. The final session is a group outing. Similar to previous studies, leaders are screened and trained. In this study, three participants (two with ABI and one family member) participated in qualitative
interviews to evaluate the experience of being a leader. There were indications that when people with an ABI or their family members participated in leading the program, there were positive outcomes within the area of friendships. They identified themselves as leaders and friends for people who have an ABI. Interviews and observations from familiar staff also demonstrated that they put greater effort into improving relationships with pre-injury friends and people that they had met post injury.

Similar principles have been applied when individuals with TBI are paired with people without a TBI who have volunteered to partake in leisure activities (Johnson & Davis, 1998). Participants with TBI were excluded if they were younger than 18 years of age, could not reliably report information after 24 hours, were unable to independently access the community, did not have a working phone at home or did not agree to participate. Participants with TBI were matched with volunteers that were the same gender and performed similarly on social interest surveys. Volunteers completed training, which covered the need for social support, relevant policies and procedures, the completion of social contact surveys and counseling skills. Sessions with participants with TBI and the volunteer occurred in the participant’s (TBI) home or the community. During the intervention phases participants were asked to meet once per week. Upon interview, the three participants with TBI referred to the volunteers as friends. While there was an increase in the number of independent social contacts and the variety of social contacts, these gains were not maintained for all participants on follow up. For the two participants who did not maintain increased social contact post intervention, this may have
been contributed to by the commencement of a new relationship in one case and in the second case social contact was only provided by his volunteer post intervention, rather than the intervention leading to an increase in the variety of social contacts (Johnson & Davis, 1998).

These studies (Hibbard, Cantor et al., 2002; Johnson & Davis, 1998; Struchen, Davis et al., 2011) cannot be directly compared, as they did not recruit from the same sample, nor did they use the same outcome measures. However, it is evident that there are variable outcomes from studies regarding intentional friendship building.

There are undeniable challenges to conducting work surrounding friendship. Intervention in this area has been described as confronting and challenging, as it may highlight areas of grief and loss for both the person with TBI and their friends (Callaway, Sloan et al., 2005). Often a conservative approach is required when working on maintaining friendships, particularly under circumstances where family members hold resentment toward friends for not visiting sooner. It is important to ensure the intervention leads to benefits for the person with TBI, rather than putting relationships with family or friends at risk. (Callaway, Sloan et al., 2005). Clear goals and expectations should be established prior to commencing intervention (Callaway, Sloan et al., 2005).

In summary, friendships appear to change significantly following a TBI. Numerous characteristics of friendships are affected, including the amount of contact with friends, the quality of the friendships and the ability to establish
new friendships, as well as maintain pre-existing ones. The contributors to these changes are multifactorial, spanning all elements of the ICF and are linked to both the person with TBI and their friend. The complexity and uniqueness of friendships may provide some indication as to why there is limited evidence surrounding how to support people with TBI navigate difficulties with friendship. This study provides a baseline for current speech pathology practices in the area of friendship and establishes the experiences of friends who have experienced the TBI recovery journey.

At present the evidence suggests that clinicians can contribute to maintaining and developing friendships by engaging friends in education and training and assisting to develop new friendships by intentionally pairing people with TBI with others, with the ultimate outcome of increasing social contact or assisting in the development of a new friendship. At this stage, there is limited evidence to suggest what friends may find beneficial to be trained and educated in, nor the education or training that is currently being provided by speech pathologists. This study aims to address this gap. Furthermore, there is variable outcomes in relation to the establishment of intentional friendships driven by clinicians. Therefore it is possible that this may not be the most effective or efficient approach to targeting the area of friendship post TBI.

1.6 Aim and research questions

Two studies are presented in this thesis including the findings of an online survey of speech pathologists, and a qualitative study investigating the experiences of friends of people with TBI. The aim of the survey study was to
investigate the role of speech pathologists in addressing friendship post TBI.

Four research questions were asked in this study:

1. What do current speech pathology work practices with friendships following TBI involve?

2. Why do speech pathologists work on developing and maintaining friendships?

3. What are the barriers to working on friendships and what could assist work with friends?

4. From the perspective of speech pathologists what factors contribute to successful friendships post TBI?

It was hypothesised from clinical experience that fewer speech pathologists would work with friends than those that do. Given that time constraints were a generic barrier that makes integrating a variety of tasks into current work load challenging (Ay, Gençtürk et al., 2014), it was thought that this would also be a barrier to working with friends.

The qualitative study was undertaken to seek information about friendships that had been maintained after a person had sustained a TBI. The specific aim of the inquiry was to explore the experience of friendship from the perspective of the friend who did not sustain the TBI.

1.7 Overview

The following provides an overview of the content provided in the proceeding chapters. Chapter two deals with the methodology for the survey and
qualitative studies, as well as the research design. Chapter three provides the results from both the studies. The results for the survey study are organised with respect to each research question. The results from the qualitative study provide details about the preliminary theory, which comprises actively placing self within the friendship. Chapter 4 discusses the results in relation to the current state of research in the area of friendships post TBI, building on what speech pathologists are already doing, the notion that some friendships can be maintained or developed post TBI, looking into the future in relation to work practices surrounding friendship post TBI and finally the limitations of the study. Chapter five provides concluding remarks.
2. Methodology

2.1 Research design

The overarching aim of the study was to investigate friendships following TBI, to provide complimentary information to what is already known about friendship following TBI, from the perspective of people with TBI. The perspective of two key groups has been considered in this research. These were speech pathologists who work with people who have sustained a TBI, as well friends of those who have sustained a TBI. These two perspectives were considered in two separate studies. The first study was a survey study, which investigated friendship from the perspective of speech pathologists. The second study was a qualitative study, which investigated the perspective of friends of those who had sustained a TBI.

2.2 Method – Survey study

2.2.1 Participants

68 speech pathologists were recruited and completed an online survey using Survey Monkey ("Survey Monkey Inc." 2015). Participants included speech pathologists working with a caseload that comprised of people who had sustained a TBI. To be included in the study participants were not required to specialise in TBI, but to have experience working with people with TBI. Participants were asked whether they worked predominately with people who had sustained a TBI. Of those respondents included in the final analysis, 32/68
(47.06%) indicated that they did work predominately with people who had sustained a TBI.

78 participants commenced the survey and 68 responses (87.2%) were included in the final analysis. Eight participants (10.2%) did not complete all of the demographic information. A further two participants (2.3%) discontinued the survey. Eight of these ten participants indicated that they did not work predominately with a TBI caseload. It is possible that they did not consider this survey relevant to their skills and experiences. These 10 participants were excluded from the data set. Three participants (3.8%) completed the demographic information, as well as other questions related to their work with friends, but did not complete the entire survey. All of these participants discontinued at the same point in the survey, which was following question nine. These participants are included in the data set, for the questions to which they responded. Therefore, responses from question 10 onwards or responses provided by participants that did not complete any questions other than those pertaining to demographics were not included in the data set. A flow diagram describing the participants in this study is shown in figure 2.1.
Figure 2.1 Flow diagram depicting participant flow from commencement of the survey to final sample

Exact response rate is difficult to calculate, as it is challenging to determine the exact number of speech pathologists in Australia that met the selection criteria because speech pathologists are not registered and are dispersed across a variety of service contexts. The total number of participants, as well as characteristics of the sample, are similar to other surveys of its kind including surveys conducted by Frith, Togher et al. (2014) (n=81, from Australia and New Zealand) and Short, McCormack et al. (2014) (n=74).
The demographic profile of speech pathologists who completed this survey is outlined in table 2.1. 32 participants (47.06%) indicated that they worked predominately with people who had sustained a TBI and 36/68 (52.94%) did not work predominately in the area of TBI, but had some contact with people who had sustained a TBI. The average number of years experience working with people with TBI was 6.31 years (SD=22.45; Median=3.38 years; Range=1-22 years).

Participants were predominately Australian speech pathologists, however 6/68 (8.82%) indicated that they had spent most of their time working with a TBI caseload somewhere other than Australia.
Table 2.1 Demographic characteristics of speech pathologists

<table>
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<tr>
<td>Charity</td>
<td>2</td>
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</table>

*Participants could choose more than one option if they worked across multiple settings.
2.2.2 Survey instrument

An online, self-administered survey was developed, using Survey Monkey ("Survey Monkey Inc." 2015). The survey questions were developed based on a review of literature regarding TBI, as well as generic barriers that have been found to affect service delivery (Bennett, Khangura et al., 2010). Expert clinical opinion was also included in the design of questions due to the limited evidence base surrounding clinical work in relation to friendships in any population. To enhance content validity, literature and clinical experiences were considered when compiling questions (Lee, 2004). The team of researchers included speech pathologists who have worked clinically with a TBI population. Their clinical knowledge and substantial experience was used when compiling questions. In addition, other professionals such as social workers, occupational therapists and a clinical psychologist who had also had many years of experience working in the area of TBI were engaged when determining questions to include in the survey.

The survey contained 37 questions. 10 open questions and 27 closed items. The survey took 15 to 20 minutes to complete. It covered four domains (a) demographics (Q1-7), (b) current work practices surrounding friendship (Q8-33), (c) barriers to working with friends (Q34-36) and (d) speech pathologists’ perceptions surrounding the success of friendships (Q37). The survey instrument is provided in appendix A.

The survey was piloted with a group of five clinicians who had specialist knowledge in TBI and some knowledge of speech pathology (Kelley, Clark et al.,
2003). The population of speech pathologists working with TBI is small and the survey was piloted with the three speech pathologists on the research team as well as other clinicians that worked with TBI (e.g. social workers, occupational therapists and a clinical psychologist). The clinicians involved in piloting provided information surrounding the question order, structure of the questions, length of time taken to complete the survey and design of the survey. Modification was made to the survey based on feedback from all eight clinicians (Krosnick, 1999).

2.2.3 Data Collection

The survey was open from June 2014 until November 2014. Invitations to participate were distributed via the Speech Pathology Brain Injury Interest Group (SPBIIG) and the Adult Neurological Communication Impairments Interest Group (ANCIIG). These are Australian groups of speech pathologists who identify as working predominately with a TBI caseload or with adults with communication difficulties secondary to a neurological condition. Additionally, information was sent via speech pathology email chats (SPECS), consisting of an international group of speech pathologists who work with an adult caseload. Finally, the survey was advertised in the national professional association’s Speech Pathology Australia National e-news. An email regarding the survey, including the link was sent on behalf of the researchers by a facilitator of the targeted group, with the exception of SPBIIG, where the researcher sent the email. Follow up emails were sent three months after initial distribution of the survey (Kelley, Clark et al., 2003). A snowball sampling methodology was also used (Gideon, 2012). As a result of the relatively small sample of speech
Pathologists that work with a TBI caseload, requests were sent to recipients to disseminate the survey to colleagues that they deemed the survey to be relevant to.

The information that was provided to recipients included a link to the online survey and participant information sheets were attached to emails (see appendix F). Recipients chose to participate by clicking the link and commencing the survey, however data was not collected until participants had submitted their responses. Completion and submission of the survey was considered as providing consent to participate.

2.2.4 **Data analysis**

The data was downloaded from Survey Monkey ("Survey Monkey Inc." 2015) into an excel spreadsheet. Data was initially screened to determine whether there were incomplete or duplicate responses.

A mixed methods approach was used when analysing the data (Creswell, 2014). Descriptive statistics such as frequency counts, percentages distributions, means, medians, ranges and standard deviations were used to describe quantitative data (Portney & Watkins, 2000). Inductive content analysis was used to analyse data collected from open questions (Elo & Kyngäs, 2008). For the qualitative component, data was analysed at the level of sentences to avoid fragmenting the data, as the amount of information that each participant provided was minimal. Sentences were coded into categories. At this point similar categories were re-grouped under headings. Each category was named
using content-characteristic words (Elo & Kyngäs, 2008). Given the level of analysis required for the small amount of qualitative data obtained in this study, consensus ratings were completed between the student researcher and one other researcher. This ensured consistency of coding.

The final research question in the survey study, asked what factors contribute to successful friendships post TBI, from the perspective of speech pathologists. One way of framing responses in relation this to this question was through utilising the ICF. Therefore a post hoc application of the ICF was used to report on results in relation to this question.

2.3 Method – Qualitative study

2.3.1 Rationale for a qualitative research methodology

Qualitative methodology is well suited to exploring the understanding that individuals attribute to an experience (Creswell, 2014). It is also considered to be an excellent approach when the topic for inquiry is complex and dynamic and where there is minimal existing knowledge (Creswell, 2007; Liamputtong & Ezzy, 1999). Given that the personal experience of friendship is both complex and dynamic and in the context of TBI has been minimally investigated, a qualitative approach was considered a good fit for the study. Further, a constructivist stance (Bruner, 2005; Hughes, 2012) was taken thereby acknowledging the researcher’s view that the relationship between the researcher and the participant is central to the research process.
2.3.2 Grounded theory

To answer the research question and achieve the aim of this research, the researcher adopted a grounded theory approach. Grounded theory can be used to investigate areas that have not been previously researched. It enables the discovery of concepts grounded in the data and is relevant to the specific research area, rather than attempting to test a specific hypothesis or verify an existing theory (Glaser & Strauss, 1968).

The intent of grounded theory is to move beyond simple description of the experience for a group of individuals to generation of a proposed theory that is representative of processes captured in the experience of the group of individuals (Creswell, 2007). The research question in this study sought to gain an understanding of the process whereby some friendships succeed post TBI. Through the use of grounded theory a process could be developed from the bottom up. That is, the process would be grounded in the social experiences that friends shared with the researcher. Grounding insights firmly within the experiential data of friends was particularly important, given the limited existing understanding of friendships post TBI.

Developed in the 1960s by Barney G. Glaser and Anslem L. Strauss grounded theory was not initially well received amongst academics. At this time qualitative research was considered to lack rigor. It was described as unsystematic and biased (Charmaz, 2014). In time grounded theory became appreciated, secondary to the growing number of books, journals and papers that were using this methodology (Kenny & Fourie, 2014). It is now utilised by
academics from a range of disciplines including health specific disciplines. (Emami & Ghezeljeh, 2009; Skeat & Perry, 2008).

In the 1990s a schism had formed between Glaser and Strauss. Strauss had formed an alliance with Juliet Corbin. They refined the original grounded theory, by indicating that a theory is discovered by the researcher, rather than naturally emerging from the data (Corbin & Strauss, 2015). This perspective led Corbin and Strauss to develop an analytical framework, enabling researchers to deduce theory from the data in a systematic way (Corbin & Strauss, 2015). Glaser criticised the work conducted by Corbin and Strauss leading to two distinct strands of grounded theory, known as classic grounded theory and Straussian grounded theory (Kenny & Fourie, 2014).

Later, constructivist grounded theory emerged when Kathy Charmaz (a student of both Glaser and Strauss) proposed an alternative to Glaser's underlying philosophy that theory was discovered and the strict coding processes of Corbin and Strauss. Constructivist grounded theory as conceptualised by Charmaz assumes the position that theories are constructed by the researcher through their involvement with people, perspectives and research practices (Charmaz, 2014).

This research is underpinned by a constructivist grounded theory approach. In this study, the researcher has a background in speech pathology and rehabilitation with experience working with clients with TBI. Use of a constructivist approach to grounded theory enabled the researcher to
acknowledge her background knowledge and experience within the research process.

2.3.2.1 The constructivist paradigm

The researcher has taken a constructivist epistemological stance when considering how the knowledge for this research was generated (Hughes, 2012). Hence the researcher believes that the knowledge from this study was co-constructed between the participants and the researcher rather than discovered (Denzin & Lincoln, 2000). The knowledge that was constructed in this study is just one reality, the reality of these particular participants, within their own contexts. This one reality was also influenced by the researcher’s position, perspective and interactions with these participants. In this case, a clinical perspective developed via the researcher’s experiences of working with clients with a TBI, their families and in some cases their friends contributed to the researcher’s perspective. With this said, from a constructivist viewpoint the findings that were co-created in this study may have been different if constructed with other participants, in other contexts or by another researcher.

As previously mentioned the researcher’s prior experiences and knowledge can be considered in a constructivist framework. Constructivism assumes that social reality is multiple. Within this stance the researcher is a “neutral observer and value-free expert” (Charmaz, 2014). Therefore the researcher considers and examines their own values, prior knowledge of the area and applicable experiences, rather than attempting to erase them. Memos were used to disclose and provide clarity about how the researcher’s experiences and prior
knowledge of the subject area might influence the findings. The use of memos is discussed further in the section on trustworthiness and rigor in section 2.3.7.

Given that constructivism assumes the position that knowledge is co-constructed between researcher and participants, the researcher needs to consider deeper meanings provided by participants rather than just facts and needs to act to achieve this. Thus a relationship needs to be established with participants. This working relationship was achieved by providing participants with time to tell their story at the beginning of the interview without being interrupted by probing questions. The researcher also approached these interviews with openness and without judgment about the way that participants maintained or developed their friendships. In addition, member checking was conducted, allowing participants another opportunity to further discuss their thoughts and ideas. Member checking is discussed further in the section 2.3.7 that deals with trustworthiness.

2.3.2.2 Symbolic interactionism

While grounded theory was the chosen methodological framework for the inquiry, symbolic interactionism provided the lens through which to inform the meanings that were acquired through data analysis (Blumer, 1969). Symbolic interactionism is a theoretical perspective that views the individual and the context in which the individual exists as inseparable and mutually constructed in the course of social interactions (Blumer, 1969). That is, people impose subjective meanings on objects, events and behaviours based on what they
believe, rather than what is objectively true. Further to this, they act based on these meanings.

In the context of the present study, symbolic interactionism suggests that participants have constructed meaning about maintaining and developing friendships through their social interactions with their friend with TBI and the surrounding contexts including their families and environments that they have been exposed to, while the person with TBI recovered. They shared these thoughts with the researcher via a semi-structured interview. This interaction between participant and researcher enables the construction of symbolic meaning surrounding the area of successful friendships post TBI.

2.3.3 Semi-structured interviews

Semi-structured interviews were used to collect the data. The student researcher conducted the interviews. Initially a broad interview protocol was constructed which is seen in appendix B. It was developed based on existing literature discussing friendships of people who had sustained an ABI (Callaway, Sloan et al., 2005; Rowlands, 2000; Shorland & Douglas, 2010) as well as experiences that the research team had through their work with this population. The opening segment of the interview protocol provided participants with broad questions that created openings for them to freely discuss their experiences (Galletta, 2013). When participants responded to this opening segment the researcher considered the unfolding story and paid attention to the information that was provided, so that relevant follow up questions could be asked (Galletta, 2013).
The middle segment provided probes for other areas that were important to exploring the research question (Galletta, 2013). This protocol emerged and changed throughout the course of the interviews. Constant comparison occurred between each transcript. Hence, supplementary ideas were added to the protocol that was grounded in the data provided by previously interviewed participants.

The interviews in this study lasted between 50 and 90 minutes. All interviews were audio and video recorded. Video recordings allowed the researcher to re-examine the interviews and consider and interpret non-verbal communication (Corbin & Strauss, 2015). Eight interviews were conducted face-to-face with the participant, at a convenient location for the participant. One participant lived interstate to the researcher. This interview was conducted over the phone and audio recorded. All interviews were transcribed in full and uploaded to NVivo software (Castleberry, 2014). Transcription was conducted according to the guidelines used by Hines (2009).

2.3.4 Participants

Four participants with TBI were recruited to participate in the study. These participants were past or current clients with the Mid Western Brain Injury Rehabilitation Program (MWBIRP), located in Bathurst, NSW, Australia. Inclusion criteria for participants with TBI were:

1. Have a moderate to severe TBI as defined by a period of PTA of at least one to 24 hours or more and/or a Glasgow Coma Scale (GCS) of 12 or less;
2. Have sustained the TBI at least six months prior to recruitment;
3. Have been discharged from hospital;
4. Have documented social communication impairments as identified in an initial discourse sample analysed using the Prutting Pragmatic Protocol (Prutting & Kirchner, 1987);
5. Be able to identify friends (non-family) to participate; and
6. Have sufficient English proficiency to engage in conversation in English.

The exclusion criteria for participants with TBI were:

1. Aphasia which impacts on their ability to participate equally in conversation;
2. Dysarthria of a severity which would impact on an unfamiliar listener’s ability to understand output;
3. Current drug or alcohol addiction or active psychosis; and
### Table 2.2 Demographics of participants with TBI

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<th>Participant 1</th>
<th>Participant 2</th>
<th>Participant 3</th>
<th>Participant 4</th>
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<td>35 days</td>
<td>57 days</td>
</tr>
<tr>
<td><strong>GCS</strong></td>
<td>9</td>
<td>9</td>
<td>14</td>
<td>7</td>
</tr>
<tr>
<td><strong>Length of stay in hospital (months)</strong></td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Nature of accident</strong></td>
<td>MVA passenger</td>
<td>MVA driver</td>
<td>Fall</td>
<td>MVA passenger</td>
</tr>
<tr>
<td><strong>Level of education completed</strong></td>
<td>Technical &amp; further education (educated in Philippines)</td>
<td>High school</td>
<td>High school</td>
<td>High school</td>
</tr>
<tr>
<td><strong>Occupation prior to TBI</strong></td>
<td>Casual fruit picking and carer for husband</td>
<td>Concreter</td>
<td>Farmer</td>
<td>Botany assistant</td>
</tr>
<tr>
<td><strong>Occupation at time of interview</strong></td>
<td>Unemployed/retired</td>
<td>Supported employment</td>
<td>Employed part-time</td>
<td>Botany assistant</td>
</tr>
</tbody>
</table>

TBI participants ranged in age from 23 to 63 years, with a mean age of 45.5 years. At the time of the interview three of the four participants had returned to employment in some capacity. None of the participants were currently engaged in rehabilitation programs, but all continued to have contact with case managers. Mean time post injury was 3.5 years. All participants had sustained a
severe TBI, with a PTA duration > 24 hours. Further details regarding CT scan results can be found in appendix C.

Three rating measures were used to outline the outcome of the participants with TBI in three domains: 1) communication, 2) psychosocial reintegration, and 3) disability.

A 15-minute discourse sample between the participants with TBI and the researcher was conducted. The Prutting Pragmatic Protocol (Prutting & Kirchner, 1987) was applied to this discourse sample, to provide a rating of the current communication function of all participants with TBI. The Prutting protocol was chosen as it has been used in previous studies to identify people with cognitive communication disorders (Rietdijk, McDonald et al., 2010). The protocol was applied to a 15-minute video-taped conversational sample between the researcher and participant with TBI. The results are outlined in table 2.3 which provides a record of impaired communicative acts for each participant. One participant presented with mild dysarthria which predominately affected voice volume. None of the remaining participants presented with communication impairments other than those identified on the Prutting Pragmatic Protocol (Prutting & Kirchner, 1987).

The Sydney Psychosocial Reintegration Scale (SPRS) (Tate, Simpson et al., 2011) was used to describe the current level of social function for each of the participants with TBI. Table 2.4 shows how each participant scored in each of the assessable domains. All participants had reduced performance in current
work, work skills, communication and social skills domains. The Glasgow Outcome Scale - Extended (GOS-E) (Tate, Simpson et al., 2011; Wilson, Pettigrew et al., 1998) was also completed for each of the participants with TBI. The GOS-E enables allocation of TBI survivors to broad disability outcome categories. According to the GOS-E, participant 1 experienced lower moderate disability, participant 2 experienced lower severe disability and participants 3 and 4 experienced upper moderate disability.
Table 2.3 Individual participants with TBI performance on Prutting Pragmatic Protocol (Prutting & Kirchner, 1987)

<table>
<thead>
<tr>
<th>Communicative acts</th>
<th>Participant 1</th>
<th>Participant 2</th>
<th>Participant 3</th>
<th>Participant 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speech act pair analysis</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Variety of speech acts</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Topic selection</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Topic introduction</td>
<td>×</td>
<td>×</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Topic maintenance</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Topic change</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Initiation of turns</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Response</td>
<td>×</td>
<td>×</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repair and revision</td>
<td>×</td>
<td>×</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pause time</td>
<td>×</td>
<td>×</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interruption</td>
<td>×</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feedback to speakers</td>
<td></td>
<td>×</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjacency</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contingency</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quantity/conciseness</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Specificity of lexical selection</td>
<td>×</td>
<td></td>
<td></td>
<td>×</td>
</tr>
<tr>
<td>Cohesion</td>
<td>×</td>
<td>×</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varying communicative style</td>
<td>×</td>
<td>×</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intelligibility</td>
<td>×</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vocal intensity</td>
<td>×</td>
<td>×</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vocal quality</td>
<td>×</td>
<td>×</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prosody</td>
<td>×</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluency</td>
<td>×</td>
<td>×</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical proximity</td>
<td>×</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical contacts</td>
<td>×</td>
<td>×</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body posture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body movement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gestures</td>
<td>×</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facial expression</td>
<td>×</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eye gaze</td>
<td>×</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2.4 Individual participants with TBI performance on the SPRS (Tate, Simpson et al., 2011)

<table>
<thead>
<tr>
<th>Current work</th>
<th>Participant 1</th>
<th>Participant 2</th>
<th>Participant 3</th>
<th>Participant 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work skills</td>
<td>Extremely poor</td>
<td>A lot of difficulty</td>
<td>A lot of difficulty</td>
<td>Definite difficulty</td>
</tr>
<tr>
<td>Leisure</td>
<td>Very good</td>
<td>A lot of difficulty</td>
<td>A lot of difficulty</td>
<td>A little difficulty</td>
</tr>
<tr>
<td>Organising activities</td>
<td>A little difficulty</td>
<td>Extremely poor</td>
<td>A lot of difficulty</td>
<td>Very good</td>
</tr>
<tr>
<td>Spouse or partner</td>
<td>A lot of difficulty</td>
<td>A lot of difficulty</td>
<td>A lot of difficulty</td>
<td>Very good</td>
</tr>
<tr>
<td>Family</td>
<td>Very good</td>
<td>A lot of difficulty</td>
<td>Definite difficulty</td>
<td>Very good</td>
</tr>
<tr>
<td>Friends</td>
<td>Very good</td>
<td>A lot of difficulty</td>
<td>A lot of difficulty</td>
<td>Very good</td>
</tr>
<tr>
<td>Communication</td>
<td>Definite difficulty</td>
<td>A lot of difficulty</td>
<td>A little difficulty</td>
<td>A little difficulty</td>
</tr>
<tr>
<td>Social skills</td>
<td>Definite difficulty</td>
<td>Extremely poor</td>
<td>A lot of difficulty</td>
<td>A little difficulty</td>
</tr>
<tr>
<td>Personal habits</td>
<td>Very good</td>
<td>Definite difficulty</td>
<td>Very good</td>
<td>Very good</td>
</tr>
<tr>
<td>Community travel</td>
<td>A little difficulty</td>
<td>Extremely poor</td>
<td>Very good</td>
<td>A little difficulty</td>
</tr>
<tr>
<td>Accommodation</td>
<td>Very good</td>
<td>Extremely poor</td>
<td>Very good</td>
<td>Very good</td>
</tr>
</tbody>
</table>

The friendship dyads are described in table 2.5. A total of nine friends participated in interviews with the researcher. The majority (6/9) were over the age of 50 with remaining friends between 20 and 35 years of age. Four
friends were female and five were male. Friendships ranged in length from three years to more than 20 years. Two thirds of the friends could be described as either family friends (3/9) or school friends (3/9).

The inclusion or exclusion criteria for friends were for them to

- Be selected by the person with TBI;
- Not be a family member of the person with TBI; and
- Be able to participate in an interview.
Table 2.5 Demographics of participants with TBI and their friends, plus friendship characteristics

<table>
<thead>
<tr>
<th>Participant with TBI</th>
<th>Age (TBI)</th>
<th>Gender (TBI)</th>
<th>Occupation (TBI)</th>
<th>Ethnicity (TBI)</th>
<th>Friend</th>
<th>Age</th>
<th>Gender</th>
<th>Occupation</th>
<th>Ethnicity</th>
<th>Length of friendship</th>
<th>Context of friendship</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>57</td>
<td>Female</td>
<td>Unemployed</td>
<td>Filipino</td>
<td>F1a</td>
<td>50-60*</td>
<td>Female</td>
<td>Customer service</td>
<td>Filipino</td>
<td>20+ years</td>
<td>Family friends</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>F1b</td>
<td>63</td>
<td>Female</td>
<td>Retired</td>
<td>Filipino</td>
<td>20+ years</td>
<td>Community</td>
</tr>
<tr>
<td>P2</td>
<td>37</td>
<td>Male</td>
<td>Supported employment</td>
<td>Australia</td>
<td>F2a</td>
<td>51</td>
<td>Male</td>
<td>Pastor</td>
<td>Australian</td>
<td>3 years</td>
<td>Church</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>F2b</td>
<td>90</td>
<td>Female</td>
<td>Retired</td>
<td>Australian</td>
<td>5-10 years</td>
<td>Neighbour</td>
</tr>
<tr>
<td>P3</td>
<td>63</td>
<td>Male</td>
<td>Retail</td>
<td>Australia</td>
<td>F3a</td>
<td>49</td>
<td>Female</td>
<td>Hospitality Farmer</td>
<td>German</td>
<td>10 years</td>
<td>Family friend</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>F3b</td>
<td>32</td>
<td>Male</td>
<td>Labourer</td>
<td>Australian</td>
<td>10 years</td>
<td>Family friend</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>F3c</td>
<td>63</td>
<td>Male</td>
<td>Retired</td>
<td>Australian</td>
<td>20+ years</td>
<td>School friends</td>
</tr>
<tr>
<td>P4</td>
<td>23</td>
<td>Male</td>
<td>Botany assistant</td>
<td>Australia</td>
<td>F4a</td>
<td>22</td>
<td>Male</td>
<td>Farmer</td>
<td>Australian</td>
<td>6 years</td>
<td>School friends</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>F4b</td>
<td>23</td>
<td>Male</td>
<td>Student</td>
<td>Australian</td>
<td>10 years</td>
<td>School friends</td>
</tr>
</tbody>
</table>

* Age range only provided
2.3.5 Recruitment and sampling

The recruitment process is outlined in figure 2.2. Rehabilitation coordinators provided potential participants with information about the study and sought their consent to be contacted by the researcher. The researcher contacted and visited those who had indicated a willingness to participate and completed the informed consent procedures. Nominated friends were then contacted by the researcher and interviews were completed with those who agreed to participate. Once one friend had been interviewed, a second or third friend was contacted and the process was repeated from the stage of ‘friend of participant with TBI was contacted’. There were two occasions in the recruitment process when a discourse sample was collected from a possible participant with TBI, however they were unable to identify any friends to participate. Under this circumstance they were then excluded from the study. There was one occasion when the person with TBI provided the contact details of two friends and both friends chose not to participate. This participant with TBI was also excluded from the study.

Theoretical sampling was used to recruit participants. The researcher commenced by recruiting from a group of participants who were considered to have expertise or experience surrounding the subject matter. In this study, this broad group comprised friends of participants who had sustained a TBI. Later in the research process sampling was guided by theoretical sampling. Through the constant comparison of the data, characteristics that might play a role in shaping the friendship became apparent. These characteristics included the duration of the friendship, the age of friends and whether friendships
commenced prior to the injury being sustained or after the injury was sustained. Theoretical sampling was used to guide further recruitment of participants that allowed each of the characteristics to be represented in the study. This procedure provided the researcher with opportunities to explore whether codes developed from the data were specifically related to particular friendships characteristics (Coyne, 1997).
Figure 2.2 Process of recruitment of participants with TBI and friends
To assist with determining when to cease recruitment, saturation in relation to grounded theory was considered. Theoretical saturation is not necessarily reached when repetition is evident in the data (Charmaz, 2014). While repetition did become evident within much of the data analysis, true theoretical saturation could not be reached due to the limitations imposed by the time constraints of postgraduate study. True theoretical saturation occurs when continual comparison with new data reveals no additional properties or dimensions to an established category (Birks & Mills, 2015). While some categories in this research may have saturated, it should be noted that a systematic approach to continued data collection including negative case sampling was not used to confirm that all categories reached saturation.

2.3.6 Constructing a grounded theory

All the interviews were transcribed and read independently by the student researcher and one of the supervisors. The initial interview transcript was read multiple times to become familiar with the data before commencing any coding. Initial coding was conducted on the data provided by the first participant. This initial coding was conducted at the level of segments. On most occasions each sentence or utterance was coded individually, however there were occasions when participants produced narratives. To code these narratives at sentence level would have fragmented the data and therefore altered the intended meaning of the participant. Therefore these narratives were often coded in their entirety. The participant’s language was used when developing codes. Preconceived codes were not used to analyse the data at this initial stage. These codes were provisional (Charmaz, 2014). The labels changed and emerged as
other participants were interviewed and discussed similar ideas using different language.

Constant comparison is a process of making comparisons between data, codes and later in the research process, findings with scholarly literature. This process raises the level of abstraction in the analysis (Charmaz, 2014). Constant comparison was used to examine data provided by the same participant. That is, sentences and narratives were compared to find similarities and differences. In addition comparison was made between participants. When conducting initial coding the researcher noted ideas and topics that were raised by the participants and these were added to the interview protocol demonstrating the use of a constant comparison. In this way, the second participant was asked about these ideas or topics raised by the first participant. This process continued throughout the course of all nine interviews. Therefore, the previous interview was coded using initial coding procedures before the next interview was conducted. The data collected from later interviews provided fewer new ideas and topics because the ideas that subsequent participants raised had often already been raised by previous participants.

Following this, focused coding was completed. Focused coding involves using codes that occur more frequently among initial codes or have greater significance. At this stage the researcher considered what the initial codes implied as well as what they initially revealed (Charmaz, 2014). That is, some participants may have been explicit about the same idea that other participants implicitly acknowledged. Again the development of a focused code led to further
comparison of the data, to discover ideas that some participants implicitly raised.

Finally, theoretical coding was completed. The purpose of this level of coding is to help theorise the data and the focused codes. Hence theoretical coding allows form and coherence to develop between the focused codes, demonstrating the way that focused codes are related (Charmaz, 2014). This procedure also allows the researcher to bring fractured data back together again (Glaser, 1978). Social network theory (Kadushin, 2012), dual exchange theory (Uehara, 1990) and symbolic interactionism (Charon, 2007) were used when engaging in constant comparison to enhance the proposed theory in this study. These theories are examined more closely later in the thesis. It is important to note that these theories did not provide a framework for examining all the codes, but rather some elements of the proposed theory. Using theoretical codes to enhance components of the proposed theory is supported in constructivist grounded theory. Charmaz (2014) states that theoretical codes can be used when analysis indicates their use, however the researcher should avoid imposing a framework on the data.

Theoretical codes were used to develop overall processes. For example individual strategies were identified by participants and then grouped with other strategies to establish overarching processes that described how friends placed themselves in the friendship. These processes could then be verified against the data. Section 4.3 provides the description of a participant’s case that highlights elements of the proposed model. The development of this case
description emulated the comparison between the proposed processes and the examples of strategies that participants discussed. This process enabled the verification between specific ideas discussed by individual participants and the broader processes developed by the researchers.

2.3.7 Establishing trustworthiness and rigor

2.3.7.1 Member checking

Member checking provides participants with an opportunity to approve particular aspects of the data that they provided. It is one way of confirming that the researcher had interpreted information provided by participants as it was intended.

The researcher endeavored for each participant to have the opportunity to review a written summary of the information that was provided, after it had been initially coded and summarised by the researcher. After initial coding, the researcher produced a written summary of the information that the participant had provided, including any interpretation that had been made to achieve the initial coding. This summary was sent to participants. Participants were then contacted, providing an opportunity to further discuss the summary and for participants to highlight any areas where they felt the information they had provided had been misinterpreted. There were no occasions of participants highlighting information that had been misconstrued. This outcome may have been due to the researcher’s use of strategies to check meaning during the interviews. For example, the researcher asked clarifying questions and
summarised information that participants had provided and then sought discussion and confirmation about this summary during the interviews. One participant did not respond to contact made after sending the summary. A phone discussion or email exchange was conducted with all other participants.

2.3.7.2 Reflexivity

Reflexivity is indicated by accounting for biases and informed assumptions that the researcher brings to the research, through previous experiences and acquired knowledge (Carlson, 2010). In this case, the researcher had a clinical background of working with patients who had sustained TBI. Further to this, motivation for embarking in the research and therefore the research questions had stemmed from the experiences of the researcher attempting to conduct communication partner training with people who had sustained TBI, at times in the absence of communication partners to work with. Through these experiences the researcher engaged with thought processes and made assumptions about areas such as contributing factors to social isolation, the impact of family members on friendships, ways that clinicians could engage with friends and possible ways to assist with the development and maintenance of friendships.

Memo writing was used to establish reflexivity in this study. Memos incorporated information surrounding the aforementioned knowledge, experiences and assumptions.
2.3.7.3 Memo writing

As previously mentioned memo writing was used throughout the research process. It is a pivotal element of grounded theory, as it encourages the researcher to engage with the data throughout data collection and analysis. Memos also provide a chronological trace of the researcher’s thoughts and ideas throughout the course of the research (Charmaz, 2014). Memos were recorded in NVivo 10 (Castleberry, 2014) and were referred to throughout the research process.

A methodological journal was also kept. This journal captured topics such as previous experiences, assumptions and hypotheses that the researcher held, identifying gaps in the data, which assisted with theoretical sampling, defining preliminary codes, highlighting subtle differences between initial codes and thoughts and perceptions surrounding the experience of conducting semi-structured interviews. This journal record assisted with engaging in reflexivity.

2.3.7.4 Ethical considerations

Ethical approval to conduct this study, as well as the survey study, was obtained from the Greater Western Human Research Ethics Committee (appendices D and E).

While the researcher may have worked clinically with the participants with TBI at some stage, she was not working with any of the participants at the time of the interviews. Their rehabilitation coordinator initially contacted participants. They were provided with reassurance that a decision not to participate would
not affect their rehabilitation program or ongoing connection with the MWBIRP.
Once they had provided verbal consent, the researcher contacted the
participant to arrange a time to provide more information about the study both
verbally and via a written participant information statement (appendix G). If
these potential participants chose to participate, the written consent form
(appendix I) was signed at the end of this meeting. If they requested more time
for consideration this was provided. Friends were not contacted until the
written consent form from the person with TBI had been received. With the
exception of one participant, they were able to provide consent independently.
The participant, who was unable to do so, had a public guardian appointed.
Consent was received from the guardian.

Verbal information was provided about the study to friends when they were
contacted about the interview. This information was reviewed and a written
participant information statement (appendix H) was provided at the time of the
interview. After this information was reviewed, participants signed a consent
form (appendix J) if they decided to continue with participation.

Steps were taken to ensure confidentiality. Audio and video recordings were
stored on password protected computers and hard copies in a locked filing
cabinet. When data was transcribed, pseudonyms were used instead of
personally identifying information. Transcripts were coded to ensure
confidentiality and a separate master sheet linking codes to the individual
participants was stored separately.
3. Results

3.1 Survey study

Results are presented under the relevant research question. Individual survey questions have been grouped under the relevant research question. That is, survey questions are not reported on individually.

3.1.1 What do current work practices with friendships following TBI involve?

27/68 (39.71%) participants have conducted work surrounding friendship, whereas 41/68 (60.29%) of participants have not. Participants who indicated that friendship was raised more frequently in initial interviews were more likely to conduct work surrounding friendships.

When asked about how often friendship issues were discussed in initial interviews over half of the participants (38/65, 58.46%) raised friendship in initial interviews with people with TBI less than 25% of the time. See figure 3.1 for the number of participants who spoke with people with TBI about friendship more than 25% of the time. With regards to who raised the issue, 31/65 (47.96%) participants indicated that friendship was raised by a combination of people including the client, their family, friends or clinicians, while a smaller number of participants indicated that friendship was raised by clinicians (18/65, 27.96%), people with TBI (7/65 10.77%) or their family (6/65 9.23%). No participants indicated that friends raised this information.
Figure 3.1 Percentage of time that friendship is raised with people who have sustained a TBI

Note the discrepancy between 27 versus 24 participants that worked with friends, which is secondary to participants that did not complete the entire survey.

In reference to this research question, from this point onwards the data subset of 27 participants who did conduct work surrounding friendship is used. When asked whether participants have spoken to friends about changes to the friendship post TBI, 17/27 (62.96%) participants have spoken to friends, while 10/27 (37.04%) have not. Those participants that had spoken with friends were asked to describe these experiences and 14 participants responded. The responses indicated that talking to friends about changes to the friendship was easy, effective and positive, although it was acknowledged that it might be challenging for both the speech pathologist and the friend. For example one participant stated that it is “difficult, but beneficial”. From the perspective of participants the response from friends when discussing change post TBI could
be variable. Younger friends were perceived as more difficult to have this conversation with, predominately due to access. For example; “I found many friends particularly younger friends didn't want to engage with anything that sounded like therapy”. Discussing changes within a friendship, including the friend and other members of the multidisciplinary team was a practice used by speech pathologists. This is seen through the following quote, “it’s usually done in a joint session with a case manager, social worker, psychologist or recreational therapist. If I was doing it on my own I usually focus just on communication changes”.

In terms of how participants interacted with the multidisciplinary team when involving friends, 14/24, (58.33%) participants involved multidisciplinary team members and 10/24 (41.67%) did not. In relation to which multidisciplinary team members that speech pathologists worked with, the most common team member involved was occupational therapists (OT) (11/14, 78.57%). 40% to 60% of participants indicated that they involved all other team members. The exception was physiotherapists, where only 28.57% of participants worked alongside physiotherapists when working with friends. On most occasions participants worked with a collaboration of multiple team members.

When asked about the work that they conducted with other multidisciplinary team members, eight participants worked with other team members for two main purposes, to educate friends, for example, “education about TBI and how to assist clients”, and for clinical problem solving when working in the area of friendships, for example, “problem solving behind the scenes with tricky cases”.

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In relation to their experience, participants raised particular barriers to talking with friends about the changes to the friendship. These included, friends not wanting to engage, friends not being aware of the effects of TBI, as well as access to friends. For example, “usually the friend was interested in finding out about the effects of the TBI on their friendship - if they were not interested then they were not usually engaged in the discussion”.

Participants were asked whether they worked both directly or indirectly surrounding the area of friendship. Work was considered direct if it involved the friend, whereas work that was specifically related to the area of friendship but did not utilise the friend directly was considered indirect. For example, assessment incorporating friends was considered to be direct work surrounding friendships, whereas educating families about how to facilitate friendships was considered to be indirect. Working on impairments with the person with TBI that may lead to improvements in friendship, such as social skills or pragmatics, was not considered to be either direct or indirect work surrounding friendship. 26/27 (96.30%) completed direct work with friends and 24/24 (100%) completed indirect work. 18/24 (75%) of participants selected 3/6 (50%) or more of the options available to select in regards to indirect work. 11/27 (40.74%) selected 5/10 (50%) of the options relevant to direct work. Table 3.1 shows both direct and indirect work tasks that participants could select, as well as the number and percentage that selected each option.

Table 3.1 Direct and indirect work conducted with friends

<table>
<thead>
<tr>
<th>Work tasks</th>
<th>N=27</th>
<th>%</th>
</tr>
</thead>
</table>

62
The survey contained four questions asking participants about whether they provided education and/or training to friends. Education was considered to be providing friends with information. Training involved providing friends with training and practice in a skill to assist the person with TBI to communicate and participate more effectively. More participants provided friends with education in comparison to training, 23/27, 85.19% and 17/27, 62.96% respectively.
In relation to education, participants were asked to select from options in terms of what information participants provided to friends. Information that was provided to friends covered communication impairments (23/23, 100%), general information about TBI (18/23, 78.26%), tasks that the person with TBI may find difficult (16/23, 69.57%) and cognitive impairments (15/23, 65.22%). In addition, four participants indicated that they provided other information to friends including: activities that could be completed while a person was minimally conscious and specific communication strategies that could be used. One participant highlighted that the information provided was dependent on what the person with TBI was willing to share.

Similarly, participants were provided with options to select from to determine what topics their training covered. Training covered compensation for impairments (16/17, 94.12%), teaching friends to use strategies themselves (13/17, 76.74%), assisting the person with TBI to return to the community (12/17, 70.59%) and assisting with therapy practice (10/17, 58.82%).

Following on from this, participants were asked to indicate in two separate questions whether education and training was conducted during planned or unplanned sessions and whether it occurred during a one-off session or across a series of sessions. Education and training were both provided in similar contexts. Most participants used a combination of planned and unplanned sessions. Similarly participants used a combination of both one off sessions, as well as a series of sessions to provide training and education.
Participants answered an open-ended question to indicate what resources they use when conducting work surrounding friendship. It appears that participants tend to use a variety of questionnaires, resource manuals, resources that they have personally developed and audio and video recordings. Most participants used a combination of published resources or those that can be purchased as well as personally developed resources. Participants also tended to discuss therapy approaches within this question, for example the use of role-playing, utilising functional opportunities with people with TBI and their friends or hypothesis testing. This is captured in the following, “mostly ecologically driven tasks, e.g. community access visits”.

When questioned about whether participants focused on maintaining pre-injury friendships or developing new friendships, 14/24 (58.33%) worked on tasks that assist with both the maintenance of pre-injury friendships and the development of new friendships.

Participants were asked what percentage of their time they spent targeting friendships. There were no participants that spent more than 75% of their time targeting friendships. 15/24 (62.5%) spent less than 25% of their time targeting friendships, 3/24 (12.5%) spent between 25-50% of their time targeting friendships, 6/24 (25.0%) spent between 50-75% of their time targeting friendships.

### 3.1.2 Why do speech pathologists work on developing and maintaining friendships?
Participants who did work on friendships were asked what their rationale was for this intervention. Two main reasons were highlighted. The first reason was to prevent negative psychosocial outcomes in the persons with TBI. Participants discussed issues that can arise secondary to sequelae of TBI. These included social isolation, problems with mental health, reduced motivation and reduced quality of life. This is highlighted when participants stated, “to improve quality of life through encouraging meaningful interactions with their peers” and “friends are important for anyone’s life and mental health”. Participants indicated that work with friends might assist with these issues, as friends provide ongoing support, as demonstrated by this quote, “therapy is not a long term replacement for friendship. Friendships must be maintained to provide that long term support and engagement”. Two participants suggested that the sooner friends are involved; the less likely people with TBI are to experience social isolation.

The second rationale highlighted the benefit that working on friendships may have on therapy, whereby involving friends contributed to therapy. Working with friends provides functional contexts to target goals surrounding social skills and may assist with generalisation of these skills. Evidence of this is found in this particular quote, “rehab is everyday life... so we need everyday people involved supporting and facilitating in everyday context; they provide real world opportunities for experience, practice and feedback”. Participants also highlighted that the rationale for conducting work surrounding social skills is often related to maintenance or development of friendships. For example, “A lot of clients find that they have difficulties with social skills after TBI and this leads
to isolation from friends and other social networks”. Friends are also acknowledged as communication partners. Some participants added to this by highlighting that discourse between friends is different when compared to discourse between clients and therapists. Working on friendships often facilitates client centred practice.

When asked about the advantages of working with friends, participants identified advantages that fell into two broad categories:

1. Advantages for clinicians – participants mostly discussed the advantages of working with friends from the perspective of the clinician. All of the themes that were discussed were benefits that clients are likely not to be aware of. For example, friends provide natural communication partners and offer a different perspective to help determine goals. Working with friends was also identified to assist with engaging clients, by increasing motivation and developing rapport. Friends provided an opportunity for long-term use of strategies learnt in therapy, as they provide an ongoing support network. Some quotes supporting this are, “I am able to obtain different perspectives on the client’s pre-injury traits and recovery progress” and it “enables me to remember to see the person as a whole person”.

2. Advantages for clients – less frequently participants discussed the advantages of working with friends for the client. These advantages included reducing frustration and increasing quality of life.

Participants were asked to identify what goals they target when working on friendships. Participants indicated that they conduct work surrounding
friendship to target social communication or pragmatics, cognition, participation goals, speech and language and education and training. When asked what speech pathology specific goals were achieved by working with friends, the goals fell under these broad areas. Some examples included, “For (the) person with TBI to initiate making three comments on Facebook, for (the) person with TBI to write a comment that is a full sentence with correct grammar” or “to be able to talk to his friend more on the phone and the conversation be more two sided”.

When asked about whether participants thought it was within a speech pathologist’s scope of practice to directly work on friendships, 55/65 (84.62%) thought it was. Participants were asked why they believed it was within scope. They reported that friends are important communication partners; they therefore provide an opportunity to practice in a functional context and provide communication opportunities. This also assists with the transition back to the community. These ideas are demonstrated through the following quotes, “as goals focusing on social-communication involve the client’s developing/maintaining relationships with friends and family” and “communication and friendships are inter-related... As a speech pathologist, we look at patients holistically and how communication can impact their quality of life. Social interactions are a major component of many peoples’ quality of life, and is dependent on successful communication”. Those participants who reported that working on friendship was not within a speech pathologists’ scope of practice believed that working on communication may assist with building and maintaining friendships, but working on other areas that may
influence friendship or working on friendship in totality was not within scope. For example, “I would feel under qualified in terms of my ability to counsel friends and people with TBI. I would be happy to give tips that would help with communication in a friendship but I feel friendship is more than just communication. I would feel better targeting friendship using a team approach”.

In addition, participants indicated that a quality friendship relies on communication and cognition. Therefore, targeting communication leads to the functional outcome of improving, maintaining or developing friendships. For example, “as goals focusing on social-communication involve the client's developing/maintaining relationships with friends and family”.

Finally, participants highlighted that this population is at risk of social isolation. When friends remain involved it provides opportunities for them to assist with therapy and provide additional communication opportunities. “What is the point of improving someone’s communication if they don’t have anyone to practice with!!!”

### 3.1.3 What are the barriers to working on friendships and what could assist work with friends?

All participants were asked whether they have faced barriers that have affected or prevented their work with friends. Participants were provided with 13 options to select from. Table 3.2 shows which barriers participants commonly identified. Participants were able to select multiple options. Therefore the total percentage will not amount to 100%. Participants were also able to comment on
other barriers that have affected or prevented work with friendship. 11/65 participants provided other comments. 6/17 participants who work in an acute setting indicated that working in an acute setting was a barrier. Participants also highlighted occasions when working on friendship may not be one of the client’s goals. Two participants indicated that the length of time since the person with TBI had seen their friends was a barrier. That is, the longer that the person with TBI had not had contact with their friends, the more unlikely it was to be able to work with this friend. Clients’ reduced insight and difficulties with adjustment are also barriers to working with friends. One participant raised safety as an issue, for example safety concerns when planning home visits, which may be the only context to see friends.

When participants were asked whether they deemed there to be sufficient research to support their practice in the area of friendship, 24/65 (36.92%) felt that there is insufficient research and 33/65 (50.77%) did not know whether there is sufficient research.

The subset of participants who indicated that they did conduct work surrounding friendship were asked an open question surrounding the disadvantages of working with friends. Similarly to the question surrounding advantages participants raised:

1. Disadvantages for clinicians – working with friends can be challenging and time consuming logistically and involving friends can be disruptive during sessions, in that sessions may not go according to plan. For example, “complex to organise meeting times and catching friends who
are often working during my working hours, confidentiality concerns
and embarrassment of the person with ABI about other people knowing
that they have a brain injury”.

2. Disadvantages for clients – working with friends can be an emotional
experience for both the client and the friends. Some friends can be a
negative influence on the client. For example, “For some people, their
friends are not so supportive and mainly want access to their cigarettes
or disability support pension, or continue to expose them to risks that
the person may be trying to reduce e.g. drugs and alcohol- so some of
those friendships have not been so helpful in rehab”.

Four participants indicated that there were no disadvantages to working with
friends.

<table>
<thead>
<tr>
<th>Barrier</th>
<th>No. of participants who</th>
<th>Percentage</th>
</tr>
</thead>
</table>

Table 3.2 Barriers that have affected or prevented work with friends in
descending order
Participants were asked to choose from eight options relating to what would have helped them to work with friends. Greater access to friends, resources such as training manuals, more time and more knowledge via resources were selected by 60% or more participants as the main factors that would have assisted work with friends.

Less than 35% of participants selected each of the remaining options. Four participants provided further information in the other category. There were no repetitions in themes provided in this information, however the following ideas were raised as being helpful: increased knowledge of how to support friends to attend sessions, recognition from funding bodies, clients setting goals.
surrounding friendships and support to work out of hours to improve access to friends.

3.1.4 From the perspective of speech pathologists what factors contribute to successful friendships post TBI?

All participants were asked to provide an open response to a question surrounding the factors that are associated with maintaining successful friendships in the absence of intervention. Factors associated with successful maintenance of friendship can be classified using the ICF (WHO, 2001). The ICF was considered to be an appropriate framework to categorise and organise responses provided by participants. A post hoc application of the ICF was therefore used to analyse the responses.

3.1.4.1 Body functions and structures

Body functions and structures are considered to be the physiological aspects of the body system and anatomical support (WHO, 2001). Participants indicated that the presence and severity of changes to the body functions and structures would affect the success of a friendship. More specifically, the less severe the changes following a TBI, the more likely that the friendship will be successfully maintained.

3.1.4.2 Activities and participation

Activities and participation are defined as actions or tasks executed by individuals and their involvement in life situations (WHO, 2001). The only
activity that participants highlighted as being crucial for successful maintenance of friendships is the ability to communicate successfully and participate in meaningful interactions. Participants identified broader life situations that may be beneficial to maintaining friendships. Some of these included the person with TBI being able to return to meaningful activities that they participated in with their friend pre-injury. Participants highlighted the importance of both the person with TBI and their friend getting enjoyment from the activities that they participate in together. This can be highlighted through the following excerpts from participants, “both the person with TBI and friend enjoying contact with each other and can achieve successful and positive communication with one another” and “The ability to return to physical activities (E.g. cricket club, school, university, bridge)”.  

3.1.4.3 Environmental and personal factors

Environmental facilitators encompasses the physical, social and attitudinal environment that can affect a person’s functioning (WHO, 2001). Participants considered modifying the environment to provide support for the person with TBI to be important. The environment could be modified by providing education to friends to manage changes to the person’s body functions and structures, for example “I think people need to know they are invited in from the outset - easier to maintain connections that way...” and having family involved to be able to support the friendship, for example “family recognition of the importance of friendships”.
Participants identified two environmental barriers to the successful maintenance of friendships. These included financial hardship and a long length of stay in hospital. These ideas are demonstrated through the following quotes. “Time spent on rehab - when clients are in rehab units for a long time, especially when the units are not in their own town, this makes it hard for friends to visit regularly and maintain bonds and shared experiences”.

Personal factors that were identified by participants included particular qualities or personality traits of the friends, demonstrated in these quotes: “true loyalty from friends” and “supportive friends”. Older friends, longer friendships and female friends were perceived to be more likely to maintain a friendship. Participants also discussed the importance of the person with TBI and the friend being close pre-injury, for example, “very close relationship prior to injury, resulting in frequent contact post injury”.

3.2 Qualitative study

3.2.1 The proposed model
The overall conceptualisation that emerged from the data described the process of friends *actively placing themselves within the friendship* with the person with TBI (see figure 3.2), to enable them to be a friend to a person who had sustained a TBI. Two major processes were evident within the model: *making sense of the TBI and the consequences* and *maintaining normality* in the friendship. By friends engaging in these processes, they were able to actively place themselves in the friendship. The overall conceptualisation and the major themes are characterised in the following sections.
Figure 3.2 Actively placing self within the friendship
3.2.1.1 Actively placing self within the friendship

Friends were authentically engaged and committed to the friendship, despite the presence of a TBI in the life of their friend. From the moment that the friends in this study became aware that their friend had sustained a TBI, they did not consider there was a decision to be made about continuing, commencing the friendship or simply being a friend. The friend actively found a place in the friendship so that it could continue or grow. This active process facilitated a genuine friendship rather than one that was contrived or continued out of sympathy. The genuineness of these friendships was evident through the inclusion of the person with TBI. That is, friends did not disempower the person with TBI by becoming the leader or dominating the friendship, but rather established ways of ensuring that the person with TBI continued to have as much purpose in the friendship as they had themselves.

The simplicity and automaticity of placing themselves in the friendship is highlighted by their perception of their involvement. Even though friends did provide help and do things that would not have been needed if their friend had not sustained a TBI, this help and effort was simply accepted and not considered to be of any extra significance in their lives. For example participant F3c indicated, “[I] used to just run him in a couple of days a week to have his physio and doctors appointments...I only just went with him to the front door and then I just sat out the front or went for a walk and they just took him in the room. I didn’t know what they were doing” (F3c). There was a sense that the way friends placed themselves in the friendship did not lead to any inconvenience
for them and being involved was not a significant decision, but rather happened with little thought.

The experience of placing themselves in the friendship occurred throughout the recovery journey. The perspective of friends was influenced by their own observations or information that they had been told throughout the journey, from the accident through to going home from hospital. Participants described what they saw or heard during these phases. Table 3.3 provides examples of the events and experiences described by participants.

Table 3.3 Events and experiences observed by participants

<table>
<thead>
<tr>
<th>Phase</th>
<th>Example quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accident</td>
<td>“I mean God they were on the side of the road for about half an hour apparently before the ambulance got there because they had to…wait 45 [minutes] or something ridiculous like that, with [person with TBI] like bleeding out on the side of the road” (F4b)</td>
</tr>
<tr>
<td></td>
<td>“He told me that he was on the silo and fell” (F3c)</td>
</tr>
<tr>
<td>Acute hospital admission</td>
<td>“The time when he was in hospital and when I couldn’t talk to him on the phone because he don’t recognise me” (F3a)</td>
</tr>
<tr>
<td></td>
<td>“The nurses just used to come everyday and just move his legs and arms and putting the big dash (meaning brace) on him because he couldn’t put weight on”</td>
</tr>
<tr>
<td>Category</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>“Saw him get out the chair...Saw him work his way out of the bed...slowly work his way out of the chair...slowly start standing up with the frame...then with the stick” (F4a)</td>
</tr>
<tr>
<td></td>
<td>“well they just let him, they used to help him out of bed and he’d have this big square walker thing and they’d put the frame on him and he’d sort of shuffle out to the meal room where the TV was and down to where they’d done the exercises and things with him” (F3c)</td>
</tr>
<tr>
<td>Going home</td>
<td>“...apparently when they sent him home, I said to him have you got to do any treatment or anything? He said no” (F3c)</td>
</tr>
<tr>
<td></td>
<td>“But to get out of the hospital he had to do the exercises. You know satisfy all the rest. And get better. And then he could get let out you know” (F4a)</td>
</tr>
</tbody>
</table>

Two major processes emerged which captured how friends were able to actively place the self in the friendship, with such an altruistic outlook. These processes are:

- Making sense of the TBI and the consequences, and
- Maintaining normality.
By making sense of the TBI and its consequences and maintaining normality in the friendship, the friend was able to find a place in the friendship, therefore enabling it to continue. It should be highlighted that the friend and the friendship was always at the forefront, while the aforementioned processes co-occurred within the friendship. That is, it appears that friends actively placed themselves in the friendship while the processes of making sense of the TBI and the consequences and maintaining normality occurred. Friends did not need to make sense of the TBI and the consequences before continuing actively in the friendship.

The arrow between the two themes in figure 3.2 is bidirectional. There was no indication in the data that friends engaged with one area before moving on to the next. Therefore, it is possible that these two processes occur in an iterative fashion. In making sense about the consequences of the TBI the friend is able to maintain normality within the friendship, and by maintaining normality and being with the person with TBI and participating in activities with them they are also discovering and making sense about other consequences of the TBI or building on knowledge about consequences that they had already identified.

Each of the friendships in this study were dynamic and unique, in relation to the following characteristics.

Closeness. How close the participant perceived that they were to the person with TBI varied across participants. Some participants identified that they were
close with the person with TBI. Others were not “overly close” or the person with TBI was not in their “inner, personal” friendship circle.

Context. These friendships existed within a range of contexts. That is, they were initially established and continued to develop because of certain circumstances. For example, participant F1a knew her friend through family connections; participant F2a through the church and participant F2b was neighbours with her friend with TBI. These contexts may have changed throughout the course of the friendship. For example, participant F2b’s friend moved, so they were no longer neighbours, but remained friends.

Connectedness. Participants were connected in a number of different ways to their friend with TBI. On some occasions these connections were related to the context the friendship existed within, but this connectedness tended to capture those ties that could not be physically removed from the friendship. For example, participants made comments that these friends were like family – “We're like family” (F3a) or as in the case of Participant F1b commented on the cultural connection shared with her friend.

Friendship group. All of the individual friendships discussed by participants existed within a broader social network. In the terms of social network theory, all of these friendships could be described as friendship dyads placed within a broader social network (Kadushin, 2012). For example, while participant F3a identified herself as a friend of the person with TBI, the friendship was a family friendship that existed within the broader social network of the participant, her
husband, the person with TBI and his wife. Further to this, the family friendship existed within the community and participant F3a could identify other people that their smaller friendship group also shared as friends.

Commonalities. All participants identified features of their lives that they had in common with their friend. These commonalities included beliefs, attitudes, interests or contexts that the participant and their friend shared. Participant F4a shared the common interests of music and riding bikes with his friend. He also shared the commonality of “not fitting the mould” with his friend.

Duration. The length of the friendship varied across participants from the shortest of between three and four years to the longest of more than 20 years.

These characteristics underpinned the variety in the nature of the friendships of the participants in this study and showed that diverse circumstances could support such friendships. That is, since there were variations in the duration and closeness of friendships and diversity in the range of contexts and commonalities that the two friends shared, there is evidence to suggest that any friendship has the potential to succeed post TBI, regardless of specific friendship characteristics. In reference to the proposed model, ‘actively placing self within the friendship’, as long as friends are able to make sense of the TBI and its consequences and maintain normality within the friendship, it appears that the friendship can be maintained or developed post TBI.
3.2.1.2 Making sense of the TBI and its consequences

To be able to actively place themselves in the friendship, friends in this study engaged with a variety of pathways to assist with making sense of the TBI and its consequences. Figure 3.3 outlines how friends made sense of the TBI by:

- Being there,
- Thinking about the TBI and its consequences,
- Connecting with others, and
- Finding out about changes.

Each of these pathways is discussed further in the following sections.

Figure 3.3 Making sense of the TBI and its consequences
3.2.1.2.1 Being there

Friends found their place in the friendship, enabling it to continue by establishing ways that they could be with the person with TBI. Friendships exist on more than just acknowledging that two people are friends. Friends also engage in activities together. Barriers to engaging in activities were more obvious to friends while the person with TBI was in hospital. At that time, the changes following the TBI were more severe with the person being unable to walk, talk and eat. Friends found a place by determining ways that they could continue to be there, alongside the person with TBI, despite not being able to do the usual activities they did, such as exercise together, chat, have a coffee or share a meal together. During this stage friends identified two ways to continue to be there and therefore be a part of the friendship, which these friends believed to be important and something that they could contribute to. These tasks were to:

1. Update others and keep updated themselves
2. Visit and provide company

Updates were both provided to and received from family and other friends. The information provided in these updates involved circumstances surrounding the accident, progress made and fluctuations in the person's condition. Table 3.4 provides examples. These updates were provided and received in a variety formats, including phone calls, texts, face-to-face and via social media sites.

Participants viewed visiting and providing company as another crucial friendship task that occurred throughout all stages of recovery. Visiting
occurred with a variety of purposes in mind, including providing help, participating in activities, providing support and company. Participants described the experience of visiting while the person was in hospital as difficult. Once the person with TBI returned home, participants did not identify any significant difficulties.

As time progressed and the person with TBI improved, they were able to engage in activities that friends would usually do together. As their ability to do these activities progressed, friends were able to engage in other activities with the person with TBI. Over time, the need for friends to simply visit and provide company evolved into visiting to do something with the person with TBI and there was also less to keep and be updated about. The friendship tasks of visiting and providing and receiving updates did not however completely stop. They remained tasks that enabled the friend to be there alongside the person with TBI.
<table>
<thead>
<tr>
<th>Topic</th>
<th>People involved</th>
<th>Example quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accident</td>
<td>Family → Friend</td>
<td>“I don't know about the accident until [his wife] called me” (F3a)</td>
</tr>
<tr>
<td>Progress</td>
<td>Friend → Friend</td>
<td>“I just asked them how is she doing or she’s coping alright” (F1b)</td>
</tr>
<tr>
<td>Fluctuations</td>
<td>Friend → Family</td>
<td>“When I went to the Philippines last December I went to visit and see [person with TBI’s family] so that they will know how [she] is going here and tell them how she is” (F1a)</td>
</tr>
<tr>
<td></td>
<td>Family → Friend</td>
<td>“Like [person with TBI’s wife would] text me and say ’he’s no good today’ ‘he’s really down in the dumps’ and stuff like that that [he] probably didn’t know about” (F3b)</td>
</tr>
</tbody>
</table>
As with the new life events that were experienced by the person with TBI, friends experienced emotional responses as a result of being there throughout the recovery journey. These emotional responses appeared to vary with the stages of recovery. Participants described a more direct emotional response to the TBI at the time that the injury was sustained, in comparison to the emotional responses associated with the changes that followed. Participants directly and specifically addressed the ‘early days’ in the interviews, while their emotional responses to the longer term consequences of the injury were discussed more indirectly.

Participants’ emotional response to their friend sustaining a TBI was most frequently negative. For example, “was really very very worried about that time when they got an accident” (F1a). They also described physiological responses as a result of the emotion, such as, “Oh I can’t sleep” (F1a). Some participants were able to respond with hope and positivity, reflecting that the situation could have been worse. For example, “But could be worse we always say, it’s pretty good” (F3a) or “But yeah you kind of know at the back of your mind he’ll be right kind of thing” (F4a).

As the recovery journey continued friends continued to be there as the person with TBI navigated new milestones. It was evident that by friends being there alongside the person with TBI to experience these milestones, the friends continued to have emotional responses throughout the recovery journey. Friends showed uncertainty and hesitations about how the person with TBI would manage new life events post TBI. This uncertainty and hesitation was
often displayed as concern about the significant life event. Friends felt uneasy and were concerned about life events such as returning to work and entering into a new relationship. To exemplify this, F3c was concerned about his friend returning to work, stating “That’s the first time I’ve been down there since he’s been working and when he came home, the poor bugger I felt sorry for him”. Participants F2a, F2b and F4b were concerned about their friends who had recently entered into new relationships. They showed concern, stating, “I just hope and pray that the relationship with [his girlfriend] settles to just a good close friendship” (F2a) and “She [girlfriend] is a dictator and of course he [friend with TBI] hasn’t got sense enough to know” (F2b).

With the exception of family and other friends, participants didn’t appear to seek support from anybody else to deal with these emotional responses. Participants responded to the consequences or changes secondary to the TBI differently to the way that they responded in the initial stage of finding out that their friend had sustained an injury. Despite these emotional responses, they did not identify that the emotion resulting from being there alongside the person with TBI had significant ramifications for the friendship. The following quotes illustrate various strategies and responses that these participants used to cope with or manage their emotional responses to the situation and continue to be there alongside the person with TBI:

- Accepting the situation: “I can’t do anything about it” (F3c). Participants accepted that the changes were out of their control and believed there was nothing they could do about those changes.
• Minimising the situation: “It’s never like a big deal” (F4b). Participants found ways to minimise the changes. They demonstrated that they could make light of the changes, believe that ‘he’ll be right’ and find evidence that the changes were not as severe as others may have perceived them, for example, “If he was a complete lunatic he wouldn’t remember any of that” (F2b).

• Feeling sympathy: “I’m exceedingly sorry, nothing else, just sorry” (F2b). Participants expressed sympathy for the person with TBI and either directly reported that they felt sorry for the person or used language that demonstrated the sympathy that they felt for the person, for example, referring to the person with TBI as a ‘poor bugger’.

• Acknowledging effort: “I’m thinking that she’s trying at that time she is trying” (F1b). Participants acknowledged that their friends with TBI were making an effort to the best of their ability. They identified when their friend may not be able to do things, but persisted with trying anyway, for example, “he...attempt[s] to do stuff himself still and...he still thinks he’s physically right to do stuff when he isn’t suppose to” (F3b). In being able to identify that their friend with TBI was doing their best, participants were able to respond positively and continue to be there with their friend with TBI.

3.2.1.2.2 Thinking about the TBI and the consequences

Participants appeared to utilise a variety of thought processes to guide their thinking about the TBI and its consequences. They did not explicitly report that they consciously used these ways of thinking; rather they did so in an
unintentional way. After constant comparison of the data, it was evident that multiple participants utilised similar ways of thinking about the TBI and its consequences. The experiences that they were exposed to while being there with the person with TBI were then processed using these ways of thinking but were also mapped on to already existing schemas, beliefs and values.

Making assumptions. The data shows that participants made assumptions about what the person with TBI was thinking and feeling. Participant F3b stated, “I think what worried him was that he didn’t know what the outcome was going to be”, demonstrating that he thought that his friend with TBI was feeling worried. In terms of assumptions made about thoughts that the person with TBI may have been having, participant F1b said, “she is thinking maybe why it happened to her”.

Comparing the present with the past. Participants made comparisons of their friend pre and post injury. By making comparisons they identified both similarities and differences about their friend post injury. For example, participant F3b identified the following difference, “he’s always a bright looking person. He’s always just talking or laughing and stuff. And the day I went and seen him in [hospital] he’s was just real down, real sad” and participant F3c identified the following similarity, “There’s no crap with him...He’s always been like it”.

Using personal experience as a guide. While none of the participants divulged that they had sustained any similar injuries themselves, they were able to
pinpoint experiences in their lives that they could draw on to help them make sense of this situation. This is demonstrative of the way that participants mapped this experience on to pre-existing schemas, rather than needing time and laborious thought processes to adapt. Two participants considered injuries that they had sustained or times that they had been in hospital. Other participants used scenarios to relate to how the person with TBI may have been feeling or what they may have been thinking. For example, participant F4b used the experience of completing a group assignment, when one knows that someone else will carry the work, and compared this to how his friend with TBI may have been feeling to explain why he may not have assisted with fixing a racing car that they shared as much as the participant hoped. Further to this, other participants drew on similarities between the person with TBI and others in their lives. For example, participant F2b likened the person with TBI to her grandchildren, discussing how she would like people to treat her grandchildren if they were in a similar situation to her friend with TBI.

Creating justifications. On some occasions, participants created justifications to explain the changes they observed. This typically involved justifying that changes were to be expected, for example, “it was just natural that he was going to change a little bit when he was so down and depressed and that sort of thing” (F3b). On other occasions participants attributed the changes to other reasons, for example, “You're constantly just being ordered round. You know why are you doing this. Have you done this? Have you done that? Yeah I could see why he would've got like that [agitated]” (F4a).
Forming opinions. Participants provided opinions about the TBI and the changes that they had observed. When participants shared their opinions it was evident that they felt strongly about them, using strong language and providing clear non-verbal cues such as facial expressions and increasing their volume. The following quotes demonstrate this, “Nah that [the way that the person with TBI presented early in his recovery] be no life for me...the way I see it” (F3a) and “He isn’t a lunatic. I won’t have that he is...certainly he’s got brain damage. But he is not a lunatic” (F2b).

Contemplating the future. To deal with uncertainty participants projected about the future. This thinking about the future occurred from the early stages, when the injury was first sustained, through to dealing with observable changes and the consequences of these changes later on: “trying to see what was going to happen” (F4a) and “the fact that he’d even want to get back into it [car racing] after the crash has happened” (F4b).

Reflecting on the situation. Finally, participants reflected on the event and its consequences to assist with making sense of it: “Like you know because when you say things like, I won’t live like that, I want to be dead and then you can recover like that... Then you say oh maybe you have to think better next time” (F3a) and “Sort of like scruffing his hair the other night...but it was good to still have him here” (F4b).
3.2.1.2.3 Connecting with others

Participants discussed connections that they shared with family members, as well as carers to enable them to make sense of the TBI and its consequences. The connection between friends and family and friends and carers was different. Therefore, the influence that family members and carers had on the friend making sense of the TBI and its consequences was also different. These friends did not actively seek family or carers to assist them to make sense of the TBI and its consequences. Rather the involvement of family and carers simply happened without conscious involvement on the participants’ behalf.

In regards to the involvement of family members, all participants and their friends had a relationship with one another’s families. Figure 3.4 assists with describing the uniqueness of these relationships, as demonstrated by the variety of arrows connecting the two families. The arrows are also indicative of the support provided by the nodes in these relationships. The direction of the arrows demonstrates that the connection and support can be bidirectional and unidirectional for both parties. The width of the arrows is demonstrative of the strength of the connection and amount of support. Some participants had strong connections between their families. Others only knew of each other’s families and had not necessarily met them. The length of the arrows shows the duration of these connections. For example, some participants had established family connections prior to the injury, whereas others established new connections. In making sense of the TBI and its consequences, participants realised that they were in a similar situation to what their friend’s family was in. Participant F4b
highlighted this when he stated, “We were all in this...tiny little room...sitting there...sharing stories”.

The downward arrows connecting the friend and the person with TBI with their respective families also acknowledges the roles that their respective families played. There were instances when friends acknowledged the presence of the family of the person with TBI in the situation, as well as the role that their own family played. For example, “One day his sister comes down...and brings her boys to the pool here...[person with TBI] could go to the pool to be with his sister” (F2b) and “I keep on talking to [my daughter], you know how's your Tita [person with TBI]. She said she's ok now mum, don't worry” (F1a).

This section acknowledges that the presence of family assisted with making sense of the TBI and its consequences. Support was provided in a variety of ways. Friends and families provided both emotional and physical support and
this is explored further in the section 3.2.1.3 that relates to maintaining normality.

In relation to carers, there was one person with TBI in this sample who had carers involved in providing support and the two participating friends of this person focussed strongly on the influence that carers had on making sense of the TBI and its consequences. Both positive and negative perceptions of carers were discussed by participants, “it’s not a kindness with them...they’re just there for the money”, “it was the first time that I’d met this carer, but he was quite pleasant” (F2b). By developing their own perceptions and thinking about carers, friends may have developed an understanding of the possible reasons that their friend with TBI may have needed carers, providing further clarity in regards to the changes that they identified following TBI.

Carers influenced participants’ making sense of the TBI by providing different perceptions about the person with TBI and sharing their knowledge with the participants. Participants identified discrepancies between their perceptions of the person with TBI and the carers’ perceptions, for example: “they say sometimes he can...socially struggle...we haven’t seen too much of that” (F2a) and “Well what does it matter if he drinks coffee. Oh [the carers] reckon he gets real hypo or something if he drinks coffee. Well I’ve never seen it” (F2b). Neither participant demonstrated that they did not believe the carers. Rather they indicated that perhaps the person with TBI was different in different circumstances and contexts. For example, participant F2a saw that perhaps the context of church might affect how his friend with TBI behaved: “That respect
there probably comes with seeing me as the equivalent of a priest at church...I haven’t seen anything from him...I suspect that he could be different though” (F2a).

Friends also received knowledge about the consequences of the TBI from carers. This information was shared both on request from participants and volunteered by carers. Information was provided about a variety of topics, including sustaining a TBI, sequelae, strategies used to assist the person with TBI or deal with a specific concern and verifying information provided by the person with TBI.

3.2.1.2.4 Finding out about changes

Participants observed numerous changes in their friend as a result of the TBI. Participants specifically indicated that they observed these changes or the person with TBI or their family shared information about these changes. These included changes that were perceived as both positive and negative. Table 3.5 shows the domains that participants viewed as changing in a negative sense and supporting quotations. Multiple quotes have been selected to demonstrate the breadth of change that participants identified, for example, in the domain of communication participants identified changes associated with dysarthria, social communication or pragmatics, cognitive communication impairments, receptive and expressive language and fluency. Participants demonstrated they were aware of the functional consequences of these changes and shared examples of activities that these changes affected. In addition, a consequence that was specifically highlighted by participants was susceptibility to isolation.
For example, “he may have felt isolated when he couldn’t drive or...when he sort of wasn’t able to go away from home unless it was to physio or to an appointment or something” (F3b). Finally participants recognised that changes were not stable, but rather fluctuating across days. For example F2b said, “I will not have that [he] is a complete idiot because he can remind me of things that happened months ago and he’s spot on. But then another day he’ll be all fibs and I just take all of that with a grain of salt” (F2b).

Table 3.5 Domains that changed post TBI

<table>
<thead>
<tr>
<th>Domain</th>
<th>Quote in relation to domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behaviour</td>
<td>“He got cranky with the grandkids one day...but he wasn’t like that. He was pretty patient with them before and showing them, trying to teach them things” (F3c)</td>
</tr>
<tr>
<td>Cognition</td>
<td>“I’m not sure how much he really remembers from the past” (F2a)</td>
</tr>
<tr>
<td></td>
<td>“I thought at first she could not recognise me at that time, I know that you’re my friend but this time I don’t know everyone because of what happened to me that’s what she said...” (F1b)</td>
</tr>
<tr>
<td>Communication</td>
<td>“When I first met him it was hard [to understand him]” (F2a)</td>
</tr>
<tr>
<td></td>
<td>“He will come up to you a few times to say goodbye” (F2a)</td>
</tr>
<tr>
<td>So he sometimes maybe not understand me, but before he understand me” (F3a)</td>
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<td>---</td>
<td></td>
</tr>
<tr>
<td>“I think yeah that she talk more now it’s a change I think that” (F1b)</td>
<td></td>
</tr>
<tr>
<td>“He stutters a lot” (F3c)</td>
<td></td>
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<tr>
<td>“When he goes on with a lot of the rot I often say to him I don’t want to hear that” (F2b)</td>
<td></td>
</tr>
<tr>
<td>“When we first sort of saw him he was having trouble remembering words” (F4b)</td>
<td></td>
</tr>
<tr>
<td><strong>Health</strong></td>
<td>“I mean at that stage like every organ was just like machine controlled” (F4b)</td>
</tr>
<tr>
<td>“He just tells me his aches and pains and we just talk about that and he talks about his back” (F3c)</td>
<td></td>
</tr>
<tr>
<td>“Sometimes he has trouble sleeping” (F2b)</td>
<td></td>
</tr>
<tr>
<td>“And he'd sort of lost a lot of weight” (F4a)</td>
<td></td>
</tr>
<tr>
<td><strong>Mood</strong></td>
<td>“He just was that down that he didn't really care” (F3b)</td>
</tr>
</tbody>
</table>

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There were also occasions when participants could identify positive changes that may have resulted from the TBI. For example, F3a discussed her friend being more social, “Sometimes when I come visit her and we have a cup of coffee so he come out and then he was sometimes five minutes there and then went to the paddock which now when I come he want to sit there for however long and have conversation”.

Changes were not always discussed in relation to the specific domain that had changed. Participants also discussed the totality of such changes, highlighting the severity of the injury. For example, “I wouldn’t say he’s 100%” (F3b) and “It was that touch and go for awhile I think we were all sort of like breathing in” (F4b).
While the changes post injury are presented here as being clearly defined, it appears that these changes may not have been as clearly defined for participants. Although participants did identify specific changes, there were also occasions when they did not identify any changes. For example, “she’s still the same” (F1a) and “he’s gone back to what he was now completely” (F4b). While these comments may appear to contradict remarks that participants made about specific functional domains that changed, they can also be interpreted as the friends’ reflections on the essence of the person being or remaining the same.

Despite identifying changes associated with the TBI in their friends, participants did not specify changes to their friendships. When participant F3c was asked whether these changes had altered their friendship in any way, he responded with “no no no that’s not his fault the way he is” and “No we have been mates too many years for that to change”. Participants indicated that the changes and consequences of these changes were “no bother”. For example, “He doesn’t bother me. If he walked in now...straight away he’d make me a cup of tea, whether I wanted it or not” (F2b) and “Which is fine. I mean it’s not a problem. I don't mind [fixing the car] myself” (F4b). Perhaps the way that these friends were able to identify changes but not view them as impacting on the friendship is a contributing factor as to why their friendships did not change.

3.2.1.3 Maintaining normality

Grayling (2013) describes friendship as being entered into voluntarily, premised on either subliminal cues, as well as anything that parties could
identify as a reason for engaging in it. For example, shared interests, attitudes, views, tastes, style or similarities in sense of humour. In addition, Allan (1989) highlights the importance of socialising to the development and maintenance of friendship. He indicates that anyone who one chooses to be sociable with is likely to be identified as a friend. Hence, socialising is a usual element of friendship. The participants in this study also indicated that their friendships continued beyond the TBI exhibiting the following usual elements of friendship, including:

- Participating in activities;
- Sharing;
- Providing advice;
- Socialising;
- Helping one another; and
- Using strategies to manage change.

Figure 3.5 shows the pathways that participants used to maintain normality, despite the TBI and the changes that occurred following the TBI.
Participants identified facilitators and barriers to being able to engage in these ways of maintaining normality. Table 3.6 outlines these barriers and facilitators:

Table 3.6 Barriers and facilitators to engaging with friends

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Quotes</th>
<th>Facilitators</th>
<th>Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment</td>
<td>“If I’m not working then we can play [mah-jong]” (F1a)</td>
<td>Carers</td>
<td>“Probably six to twelve months and his had different carers and... they’ve brought him when he feels like coming along” (F2a)</td>
</tr>
<tr>
<td>Fluctuations with person with TBI</td>
<td>“So we don’t see him when he’s”</td>
<td>Enjoyment</td>
<td>“You can just hang out or just kick a ball or”</td>
</tr>
<tr>
<td>Lack of common interests</td>
<td>“because they’re talking about farming things and parts and whatever. I can’t [talk] about that” (F3a)</td>
<td>Events</td>
<td>“If one of us has like a party or something. Everyone’s sort of invited” (F4a)</td>
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</tr>
<tr>
<td>Proximity</td>
<td>“But yeah as I’ve moved away from O [town], you meet more people down here and just take up your weekend” (F4b)</td>
<td>Task completion</td>
<td>“She was on holiday and he has to pick up the chicken food so he came, so have a coffee with me but very quick when he’s here” (F3a)</td>
</tr>
<tr>
<td>Driving</td>
<td>“He’d come and visit, but he can’t drive that far”</td>
<td></td>
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</tr>
</tbody>
</table>
now and that’s why I go down there” (F3c)

“Of course he hasn’t been coming down so often since the girlfriend... see she doesn’t like it” (F2b)

3.2.1.3.1 Participating in activities

Participants identified a range of activities that they participated in with their friend including catching up for a coffee or drink, going shopping, specific recreation activities such as playing mah-jong or car racing, watching the football together, attending events together such as church activities and sharing a meal.

Some participants did not highlight any post injury changes that had occurred to the activities they shared with their friends, while others did. For example, Participant F3c: “before his accident, yeah we used to always go out and have a beer together and yeah”.

Interviewer: “and have those things that you enjoyed doing together changed since he had the accident?”
Participant F3c: “yeah because [person with TBI] can’t do it”.

Participants tended to accommodate these changes. On some occasions the activities that could no longer be participated in were replaced with activities that the person with TBI was able to do, such as, “we just wander around the farm and have a look and see what’s gotta be done and we just go and do it” (F3c). Prior to the TBI, these friends went out on a boat together, went on holidays and drank at the pub. Other participants seemed to hold off on participating in activities, waiting to see whether the person with TBI would be able to return to the pre-injury activities, for example, “…it was sort of a good little group that used to go riding. And when the accident happened the whole thing just completely died. [Person with TBI] had the ute. So he’d sort of take us back up the hill so we could ride back down. So you’d take a turn driving back up. But yeah when he had the accident it just sort of fell apart. And we didn’t ride for…a good month or 2” (F4a).

3.2.1.3.2 Sharing

Problems, concerns, as well physical items were shared. For example, participant F1a provided examples of sharing concerns after their husbands passing – “…if there’s someone who’s going to marry you are you still going to marry and then she said I don’t know. I’m scared. You know I’m scared that we might not find…a person that’s…like our husbands…” Participant F1a also provided an example of her friend who had sustained a TBI physically sharing items with her – “And if she goes somewhere she is not going to forget to get something for you and give it to you”.
Sharing was reciprocated between the person with TBI and the participants. There were examples of both the person with TBI sharing, as seen by participant F1a’s friend buying things for her, the participant sharing with the person with TBI, as well as simultaneous sharing of concerns, as seen in the above excerpt from participant F1a, where they both shared their concerns about re-marrying.

**3.2.1.3.3 Providing advice**

Participants tended to provide advice to the person with TBI on most occasions, rather than the person with TBI providing advice to their friend. The content of this advice was highly variable between participants. Some examples of advice provided include:

“I told her sometimes because you have to be very very careful with your money...because you know we’re alone here and you know if we run out of money it will be a problem” (F1a).

“I say you have to think positive, one day it’s going to be all fine” (F3a).

“You’ve got to put up with him because you’ve got to have carers” (F2b).

**3.2.1.3.4 Socialising**

In addition to participating in activities, participants and their friends made contact with one another to socialise. Participant F1b commented that, “we keep
on talking we just trying to mingle and socialise with each other that's what we're doing”.

When socialising, participants and their friends spoke about a variety of topics. Again topics were normal everyday topics. There was minimal focus on the TBI and the subsequent changes. Participants reminisced – “We can remember sometimes what we have been doing in the Philippines and we start talking about it” (F1a), dreamed about what could have been or what may happen in the future – “she always had said it’s better when they sell the farm, because he can not handle the farm anymore, because it’s too hard you know” (F3a), shared interests – “Usually most weeks he’s there I’ll have a chat to him about the footy” (F2a), shared experiences – “he’s sitting there one day and just out of the blue he said you know I’ve got the two children” (F2b) and discussed plans and engaged in general chat – “more or less I just ask him what he's been up to” (F3b).

Talking about the TBI and the subsequent changes was not a featured topic, however it was not necessarily avoided either. Participant F4b stated that, “It’s [the TBI] not like some unspoken thing that we just pretend never [happened]. We always talk about it”. There were occasions when participants indicated that they did not feel comfortable raising the topic of TBI. For example, “I don't sort of ask 'is he not going to improve anymore?’ or 'what's he got ahead for the next 12 months' or anything like that” (F3b) and “I don't know I haven't really gone into all the medical side of it” (F3c). Perhaps this data indicates that these
participants had some reservations asking about the TBI, which may indicatthath
they may have found it difficult to know how to react if the person with TBI
raised this subject.

3.2.1.3.5 Helping one another

In addition to these reasons for engaging in the friendship, friends also
maintained normality by helping one another. Participants and their friend with
TBI were both the providers and receivers of help. Different types of help was
provided and received, including emotional help or support, physical support
and a combination of both.

In the section discussing how friends made sense of the TBI and its
consequences, the importance of connecting with others was raised. The
presence of both the participant's family and their friend's family assisted with
this learning. Families also provided and received help. Table 3.7 provides
examples of the help that was discussed by participants.
<table>
<thead>
<tr>
<th>Direction of help</th>
<th>Emotional help</th>
<th>Physical help</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBI → friend</td>
<td>“I saw him a week later or a couple of weeks later he would ask how is your dad” (F2a)</td>
<td>“He’ll put the bin out, or he’ll put the bin in, whichever day it is” (F2b)</td>
</tr>
<tr>
<td>Friend → TBI</td>
<td>“Just see if I could cheer him up a bit. I’d go out there and just try and stir him up a bit” (F3b)</td>
<td>“Used to just run him in a couple of days a week to have his physio and doctors appointments and everything while [his wife] was working” (F3c)</td>
</tr>
<tr>
<td>TBI family → Friend family</td>
<td>“I had problems with calving, when we have to pull calves, that was even after the fall, he come with [his wife], he could not do much but he could hold the tail and he was pulling” (F3a)</td>
<td></td>
</tr>
<tr>
<td>Friend family → TBI family</td>
<td>“I’m in Sydney Mum, I’m in the city. You go back, you go back to [the hospital]…I said no you go back because your Tita had an accident and” (F3a)</td>
<td>“When he was sick we renovate his kitchen and we put tiles on” (F3a)</td>
</tr>
<tr>
<td>TBI → friend family</td>
<td>“My father passed away about six weeks ago and in that couple of months leading up to that he was quite caring in his concern about that” (F2a)</td>
<td>“he came and check on the farm when we say go away” (F3a)</td>
</tr>
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<td>-------------------------------------------------------------</td>
</tr>
<tr>
<td>Friend → TBI family</td>
<td>“Like I think it was especially good, for [person with TBI's] Mum having like [her] there...she was obviously really upset” (F4b)</td>
<td>“so it's my obligation to help her to drive her to see her husband all the time” (F1a)</td>
</tr>
<tr>
<td>Friend family → TBI</td>
<td>“but if something that needs to be done like for contacting families and whoever is wants to, like police, my husband is doing all those”</td>
<td></td>
</tr>
<tr>
<td>Source</td>
<td>Help Provided</td>
<td>Notes</td>
</tr>
<tr>
<td>--------</td>
<td>--------------</td>
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</tr>
<tr>
<td>Friend family → Friend</td>
<td>“I keep on talking to [my daughter], you know how’s your Tita. She said she’s ok now mum, don’t worry” (F1a)</td>
<td>“My wife come down while he was in hospital, she was down there helping me look after the farm down there while his wife was in Sydney” (F3c)</td>
</tr>
<tr>
<td>TBI family → TBI</td>
<td>[Person with TBI's] step daughter,...they helped them too” (F1a)</td>
<td></td>
</tr>
<tr>
<td>One another</td>
<td>“But if we, something happened that we really need to talk to each other like you, get some, ask for some advice and stuff like that, yea, we both do it” (F1a)</td>
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</tr>
</tbody>
</table>

Table 3.7: Help provided to one another
Similar support about the way that friends help one another is provided by dual exchange theory, where it is understood that for social interaction to be successful an exchange between the two parties is important. That is, the giving of material or intangible resources is expected in return, or that the gesture is reciprocated (Uehara, 1990). Some participants in this study provided evidence of this, for example, “you don’t know it might happen to you too and you need some friends” (F1a). Conversely, the person with TBI and their family made “out of the ordinary” effort to compensate the friend for their help. This was particularly so, when they may not have been able to provide help to the same extent. For example, “I [F3b] do little things and they try and tell me to go fill me ute up at the servo and put it on their account and stuff like that but I say to them I don’t want anything. Don’t worry about it”. Further to this, structurally orientated exchange theorists have differentiated “restricted exchange” and “generalised exchange” (Uehara, 1990). Restricted exchange is where mutual reciprocity exists. That is, one person gives to the receiver and the receiver in turn gives back. This restricted exchange can lead to instability within a relationship (Ekeh, 1974). Generalised exchange, on the other hand is based on what is known as the indirect reciprocity principle. In that, the reciprocity does not need to be received by the giver from the receivers themselves, but trust is placed in the broader social network. A member of the broader social network will reciprocate toward the giver. This may provide some insight into the reason that participants in this study did not feel the need to be repaid for the help that they provided, when the relationship became imbalanced after their friend had sustained a TBI.
Participants identified a variety of reasons for helping their friend with TBI and their family. Participant F1a described the help that she provided as an “obligation”, as well as the idea that she “understood” the circumstances. Participant F3c identified practical reasons for providing help, for example, “because his wife had to go to work. They have to have money coming in or to take the pressure off [his wife] and [it] gives her a bit of time away”. Multiple participants indicated that they provided help for their friend with TBI because the help was requested or simply because “if your mate needs help you go and give to him” (F3c).

3.2.1.3.6 Strategies to manage change

To be able to continue to maintain normality in the friendship, participants had developed particular strategies to manage changes that occurred as a result of the TBI. The strategies tended to be contextual and dependent on particular behaviours that the person with TBI presented with.

Participants provided their friend with TBI with boundaries. Some examples include, “[If] she ask me to drive…her and I can’t really drive her I have to tell her no I can’t” (F1a) and “Although I don’t get cranky at him…I often say to him, ‘Now do you want me to be real angry?’ ‘No [friend’s name]’. I say, ‘well don’t you do that’” (F2b).

They prompted their friend with TBI when necessary. For example, “Sometimes he not talk, but I push him to talk” (F3a), “He got the hydraulics on the tractor the other day, he had trouble with that. He just gives me a ring and we just talk
about it on the phone” (F3c) and “You know when I was...only [a] boy and I had this black woman and I got her pregnant you know. He said actually I'm now a grandfather. I said oh...don't tell me” (F2b).

Participants provided feedback to their friend. When participant F2b's friend was difficult to understand secondary to dysarthria she said, “well I don’t understand what you're telling me”. On other occasions participants ignored behaviour that they didn't approve of or agree with. For example when participant F2b's friend said that she gave him her house, she responded by, “[taking] no notice of all that because he just says it”.

Participants also provided reassurance to their friends with TBI. For example, “and then he’ll come back and I’ll just say ‘you had the shits old fella’ and we’ll have a bit of a laugh oh yeah yeah and things are alright” (F3c).

Participants also spoke about strategies that they used to modify their own behaviour in response to the changes. The aforementioned strategies were used by participants with the outcome of helping the person with TBI to change their behaviour. Participant F4a also highlighted the need to change his own behaviour. That is, “you had to learn to talk to him again, instead of just talking to whoever else was in the room about him” in reference to when the person with TBI was in hospital and emerging from a coma.
3.2.1.4 Recap

Thus far it has been established that friends actively place themselves in the friendship from the moment that they are informed that their friend has sustained a TBI. In this sample, some participants were informed as soon as their friend sustained the TBI and others were informed years later, as they established their friendship after the person had sustained the TBI. Either way, friends became a part of this experience from this moment onwards. Hence, they may be a part of experiences to do with the accident, acute hospital admissions, rehabilitation and reintegration into the community. Most participants identified with the early stages of the trauma and acute hospital admissions as a time when they were actively involved, however the data shows that they are actively placed in the friendship long after this, continuing to be committed to the friendship. They found a place in the friendship initially by engaging in two main tasks that they deemed to be important, which were to keep updated and update others, as well visit and provide company. However there is evidence that they continue to be there alongside the person with TBI throughout the recovery journey, for example as the person with TBI experiences new milestones post injury.

Given that participants found a place in the friendship, they had to make sense of the TBI and its consequences and maintain normality in the friendship to enable the friendship to continue. Participants used a variety of pathways to make sense of the TBI and its consequences, including being there alongside the person with TBI, thinking about the TBI and its consequences, connecting with others including family and carers and finding out about changes.
They maintained normality within the friendship by participating in activities with the person with TBI, sharing, in both a physical and emotional sense, providing advice to the person with TBI and socialising together. Participants also helped the person with TBI and their friend often reciprocated this. Participants used strategies to be able to take these actions. These strategies helped the participant manage changes that had occurred as a result of the TBI.
4. Discussion

4.1 Overview of studies

It is well known that people with a TBI are more susceptible to social isolation (Hpay, 1971). The impairments that they present with can have negative implications on their ability to socialise and therefore develop and maintain friendships (Finset, Dyrnes et al., 1995; Shorland & Douglas, 2010; Struchen, Pappadis et al., 2011).

This research involved two studies to gain different perspectives on the area of friendship following TBI. The first study considered practices surrounding friendship, from the perspective of speech pathologists who work in the area of TBI. The aims of this study were to investigate:

1. The current work practices surrounding friendship following TBI
2. The reasons that speech pathologists work on the development and maintenance of friendships
3. The barriers to working on friendships and factors that may assist further work in the area of friendships
4. The factors that may contribute to successful friendships post TBI.

The second study considered the perspective of friends who have been involved with a person who has sustained a TBI. The aim of this study was to examine successful friendships post TBI and determine a possible explanation as to why some friendships succeed post TBI. The proposed model provides valuable insight into why some friendships are maintained successfully post TBI.
It should be highlighted that in the context of this study a ‘successful friendship’ was considered to be a friendship that has been maintained. Given that, the evidence highlights the notion that friendships are frequently not maintained following TBI, it was deemed appropriate that the friendships, which were maintained post-injury were considered to be, to some extent successful.

It is well established that social isolation is an issue post TBI, however, there is little guidance surrounding what can be done to address this issue. While this study may not directly address this gap, it provides preceding knowledge and insight into why some friendships succeed post TBI. These findings may be relevant in providing guidance into what clinicians could focus on to assist the development and maintenance of friendships. That is, the preliminary model indicates that if clinicians can assist friends to make sense of the TBI and its consequences in regards to the individual’s circumstances and encourage the friend to maintain normality, the friendship may be more likely to succeed.

It should be noted that the notion of maintaining normality was constructed using symbolic interactionism. The participants in this study constructed the meaning of normality. They insinuated that their friendship remained ‘normal’. The TBI didn't change the friendship, but it did change the way the friend needed to behave and the activities that they could do with their friend following TBI.

Additionally the survey study establishes current practices in the discipline of speech pathology surrounding the area of friendship. This information provides
a foundation to build upon in the future, pinpointing current practices and consequently highlighting practice gaps. Understanding the key barriers and facilitators to working with friends can help us understand how to reduce issues with translation of evidence to practice or provide expert opinion of speech pathologists on what helps and hinders clinical practice in the area of friendship. Nonetheless, merely identifying current practices does not necessarily assure that these practices are what are required and beneficial in addressing social isolation secondary to the reduction and changes that occur in friendships post TBI. This research has also sought the perspective of another group of key stakeholders in this issue, friends of those who have sustained a TBI. The knowledge gained from these two key groups may assist with directing future research in the area of friendship post TBI.

4.2 The current state in the area of friendships post TBI
The survey shows that fewer speech pathologists work on the area of friendship than those that do not. Most speech pathologists who do work on friendships spend less than 25% of their time doing so. Furthermore, the work that is currently conducted by speech pathologists involves indirect work with friendships, as opposed to direct work. That is, more work is done where the outcome of that work may lead to the improvement in friendship without directly involving a friend, rather than work that directly addresses friendship by including a friend. This finding suggests that there is more that may be done by speech pathologists to address friendships post TBI.
The qualitative component of this study provides insight into what some friends are capable of doing intuitively to maintain or develop a friendship post TBI, without input from health professionals. While it has been established that there is more that speech pathologists could do to assist in the area of friendship, the proposed model provides a possible direction for this work. It demonstrates that friends are able to find a place in the friendship, by developing an understanding of the consequences of TBI and maintaining normality in the friendship. This finding shows that speech pathologists are likely to be working with friends who may already bring a skill set and knowledge base with them to this experience. This likelihood should be considered before commencing work with friends. This raises the question of whether involving a speech pathologist to assist with friends actively placing themselves within a friendship is compatible with the notion of maintaining normality. That is, if a clinician is involved in assisting the development of maintenance of the friendship perhaps this could disrupt normality, rather than enhance it. One possible way of addressing this is to consider whether there could be a tool to assist with identifying whether some friends may bring a skillset with them in absence of education and training from a professional. Hence clinicians should acknowledge that each friend brings with them the skills and knowledge to be able to independently make sense of the TBI and its consequences or maintain normality. This research could provide guidance into the possible development of a tool to be able to identify whether a friend is already using pathways to make sense of the TBI and its consequences and maintain normality. If they are not or their skills and knowledge could be enhanced, perhaps clinicians could then have a role in the development of skills
and knowledge to encourage the use of pathways to achieve the processes of making sense of the TBI and its consequences and maintaining normality. If they already have skills to actively place themselves in the friendship, a clinician becoming involved could in fact disrupt the natural processes that are occurring. However, another way of looking at this, could be that education and training may not be disruptive in this subset of friends who do bring skills with them post-injury, but perhaps education and training needs to differ between these two subsets of friends.

Further to this the results of the survey study show that speech pathologists who work with friends demonstrated knowledge surrounding some pathways that friends recognised as effective to maintain normality within the friendship, but not all pathways. For example speech pathology participants spoke about training friends in specific strategies to assist with managing change and they recognised the importance of socialising and participating in activities, however they did not necessarily identify with the pathways of sharing, providing advice or helping one another. Therefore it may be beneficial that speech pathologists become more aware of these other strategies.

Currently, more education is provided to friends in comparison to training. Education covered areas such as communication impairments, general information about TBI, tasks that the person with TBI may find difficult and cognitive impairments. One phase in the proposed model demonstrates that friends have established ways of making sense of the TBI and its consequences. From the perspective of friends, again this appeared to occur in the absence of
external input from health professionals. Rather, friends made sense by being there alongside the person with TBI, thinking about the TBI and its consequences, connecting with others and finding out about the changes post injury.

It may be that there are areas of education and training that speech pathologists are currently providing that is aligned with the processes that friends engage in to maintain or develop the friendship. However there also appears to be gaps in practice, where speech pathologists could further develop the knowledge and skills that they cover. Education may cover the changes that friends are contemplating or experiencing, however there appears to be limited education and/or training provided about how friends can cope with and manage these changes. Yet the survey shows that speech pathologists do not currently provide education or training in regards to all possible pathways that friends use to maintain normality post injury, such as, sharing with one another, helping one another and providing advice to one another. Given that speech pathologists who did provide training focused on compensatory strategies, teaching friends to use strategies themselves and assisting the person with TBI to return to the community, perhaps some speech pathologists do currently assist friends to maintain normality by developing communication skills to enable socialisation and teaching and training friends to use strategies to manage change.

The education that is currently provided features information on relatively broad areas that speech pathologists perceive as likely to be relevant for all persons who have sustained a TBI and their friends, such as communication and
cognitive impairments, as well as general information on TBI. It would be beneficial if this information was tailored to meet the individual needs of each friendship. This tailored input may assist the friend to make sense of the TBI and its consequences in relation to their specific friendship context and characteristics.

While the options in regards to what education and training participants may provide did not allow for the same amount of specificity and detail that friends spoke about, it is thought that training surrounding compensation for impairments and teaching friends to use strategies themselves would be likely to cover some of the specific strategies that friends discussed. Given that friends who play a part in successful friendships post TBI are using these strategies perhaps this finding reinforces the importance of training friends to use such strategies. It also highlights the possibility that some friends are simply more likely to grasp such strategies. That is, in friendships that are already successful it may be that these strategies are in use, in the absence of or with minimal support from external health professionals. It would be valuable to determine whether these strategies are utilised in friendships that are perhaps less successful or diminishing.

As previously mentioned in the results section, the speech pathologists who indicated that they believed that work surrounding friendships was not within their scope of practice, also reported that they believed that working on communication and social skills was within scope and gains in these areas could lead to improvements in the area of friendship. This highlights a reasonable
question as to whether the broad area of friendship falls into the realm of one specific discipline or should be shared amongst the allied health and medical disciplines. In response to the question surrounding the involvement of other team members most participants indicated that they did involve other team members. With this in mind, it is likely that positive outcomes surrounding friendship are the responsibility of the entire multidisciplinary team, rather than speech pathologists on their own.

The proposed model demonstrates that friends also developed some skills, simply by continuing to be a part of the friendship, in the absence of any training. Through pathways that enabled friends to maintain normality, specific strategies were used to manage changes. These included treating the person with TBI in a positive way, particularly in the way that the friend communicated with the person with TBI. For example, demonstrating tolerance, rather than exasperation. Other strategies included providing the person with TBI with boundaries, prompting the person with TBI when necessary, providing feedback and reassurance, as well as modifying their own behaviour to compensate for the changes that the person with TBI demonstrated. The use of some of these strategies is supported by Togher, Power et al. (2012). The training that was provided to communication partners in the study by Togher, Power et al. (2012) encouraged the use of strategies to put the person with TBI on a level playing field during communicative interactions, through the use of strategies to empower the person with TBI to participate in the conversation. The proposed model supports that friends are capable of learning such strategies, as these friends supported the idea that the person with a TBI was as
key to the success of the friendship as they were. Bogart, Togher et al. (2012) also showed that friends are able to do this naturally in conversation. That is, conversations between people with TBI and their friends resembled the conversations that occurred between matched controls and their friends. This demonstrates that there is further work that speech pathologists can do with friends to assist with the development and maintenance of friendships.

The proposed model provides evidence of influencing factors that may assist friends to find out about these consequences. Being part of the experience of their friend sustaining a TBI and therefore responding to this experience allowed friends to make sense of the TBI and its consequences. In addition, friends thought about the TBI and its consequences to assist with making sense of the TBI. The thought processes that they used to think about the TBI and its consequences included making assumptions, comparing their friend with TBI to their pre and post injury self, drawing on experiences in their own lives, making justifications for the changes that they were observing, having opinions about the TBI, changes and recovery, projecting about the future and reflecting on the situation. It is unknown whether the use of these thought processes could be affected if friends were provided with more external education to assist with making sense of the TBI and its consequences. The only external input friends did use to assist with this was from family, both their own family and the family of their friend who had sustained the TBI, as well as carers.

It may be that the findings provide preliminary evidence that not all friendships require work post TBI. It appears that some friendships can be maintained or
developed in the absence of input from health professionals. Speech pathologists who participated in the survey identified that one of the significant barriers to working with friends was access, in that they were not present to be able to work with. This shows that there may be other friends who actively disengage in the same way that these friends actively found a place to continue the friendship. This possibility raises the question about whether health professionals need to be able to determine whether all friends require external support, or whether some, like the friends involved in this study manage quite well without support.

Another barrier that was raised by speech pathologists in relation to working with friends was the suitability of pre-injury friends. Since this was only an option that could be selected in response to the question about barriers to working with friends, there was no further opportunity to understand exactly how speech pathologists judged whether or not a friend was suitable. However in the question relating to why some friendships were successful post TBI, in the absence of intervention, some participants discussed particular friendship characteristics such as the duration of the friendship or the closeness of two friends as influencing the success of a friendship. In the qualitative study diverse friendships, in regards to friendship characteristics, were maintained or developed. This finding indicates that health professionals may need to exercise caution when making decisions about whether or not to engage with individual friends based on particular friendship characteristics.
Speech pathologists who worked on friendship focused on the outcome of maintaining pre-injury friendships as well as developing new friendships post injury. The sample of friends that participated in the qualitative study incorporated friends that were developed both pre and post injury. Hence, it is possible for people with TBI to develop new friends post TBI and the time spent on both the development and maintenance of friendships is worthwhile.

Certain barriers are identified as affecting the work that can be conducted surrounding friendship. Most participants in the survey study indicated that accessing friends, time constraints, the person with TBI choosing not to involve friends and the suitability of pre-injury friends as the major barriers. Those generic barriers such as time and access are similar with other barriers to implementation of research findings in health (Ay, Gençtürk et al., 2014). For example, Ay, Gençtürk et al. (2014) identified time as a barrier to implementing research. Future research would be beneficial in determining how to support health professionals to overcome these barriers.

4.3 Building on what speech pathologists are already doing to enhance friendships

It appears that there is scope to enhance the current practices surrounding the development and maintenance of friendship post TBI. Both groups of speech pathologists, those who did identify that they worked on friendship as well as those who did not, considered it within their scope of practice. They provided numerous reasons for this belief, including, the value of friends as important communication partners, the necessity of appropriate communication and
cognitive abilities to be able to participate in a friendship and the high risk of social isolation in this clinical population. These ideas were further reinforced by the rationales for working on friendships, such as the involvement of friends may prevent psychosocial issues and involving friends will provide therapeutic benefits, for example, increased practice opportunities in functional contexts. These rationales were provided by speech pathologists who identified that they did work with friends. Given that conducting friendship work is viewed positively by speech pathologists, perhaps there is further scope to enhance clinical practices. This research could assist with supporting speech pathologists to enhance their work with friends, however further work needs to be conducted to build upon these findings. One practical way of providing this support could be to use the option responses provided in the survey to develop a checklist, which could provide practical ways that clinicians could work with friends following TBI. Particularly the questions pertaining to direct and indirect work, as well as education and training.

The proposed model may provide an explanation as to why some friendships succeed post TBI and may also be useful in providing direction as to how friendships can be further enhanced through the input of health professionals. Silverstein, Auerbach et al. (2006) make reference to the use of qualitative research to enhance clinical practice, indicating that the rich description used in this method of research can be useful to improve clinical practice. There are examples of studies that have used grounded theory to inform clinical practice. For example, a grounded theory methodology has been used to develop a theory to assist with clinical decision making when working with patients with multi-
contextual trauma (Auerbach, Salick et al., 2006). Conversely the limitations of this study, which are acknowledged in section 4.6 mean that the findings from this research are preliminary and therefore should be utilised with caution. They may provide guidance for further research.

In this research the study that involved interviewing friends of those who had sustained a TBI may provide insight into why some friendships succeed post TBI. This knowledge could be used to assist with identifying factors that suggest that a friendship could be successful. Conversely, it may increase transparency of when these factors are not present and therefore potentially highlight a friendship as one that could be at risk of diminishing. The ability to gain an insight into this may be useful to health professionals, by allowing them to get a sense of friendships that may require direct support or involvement by a health professional, as opposed to those friendships that may benefit from reinforcement of skills and strategies that are already being used by the people in that friendship. Given that time constraints was identified as a barrier to working with friends, being able to determine which friendships a clinician should spend their time working with could assist with addressing this barrier.

These findings highlight that the inclusion of specific assessment tasks may enhance a clinician's understanding of how the person with TBI is able to maintain their friendships. In the first instance it is encouraging that those clinicians who indicated that they asked about friendship in the survey, often went on to work with friends. By asking about friendships in initial interviews it may be that this encourages ongoing work with friends.
Further to this, perhaps a tool could be developed that would assist clinicians to determine whether the person with TBI and their friend are engaging in processes to actively place themselves in the friendship.

Research could also focus on possible interventions that could assist the person with TBI and their friend to develop skills to enable them to engage in the processes of actively placing themselves in the friendship may assist with friendship maintenance.

Examining the case of a participant that was involved in the interview study can further highlight how the proposed theory can be mapped to a case. Participant F3c is used as the exemplar. Participant F3c is referred to as Phillip and his friend who sustained the TBI as Daniel. In regards to the friendship characteristics relevant to Daniel and Phillip’s friendship they had a very close friendship, they had a history as friends from school, however the friendship continued into a workplace friendship, as they worked together and then a family friendship as they each got married and had children. This shows that they had been friends for many years. They also had interests in common. For example, they had both grown up and had an interest in working a property.

The overarching concept that is raised in the proposed model is that friends actively place themselves in the friendship after they become aware of the TBI. Phillip and Daniel lived in different states. Daniel’s wife informed Phillip that he had sustained a TBI while at work. From this moment onwards it was obvious that Phillip and his wife actively assumed a place in the friendship for it to
continue. The following shows the way that Phillip was involved very early post injury and continued to be involved. He was being there alongside Daniel from the moment that he was aware of the TBI. Phillip indicated that “Daniel’s wife rang me and just told me that he had an accident at work”. He was aware that “Daniel was flown to Sydney and he was unconscious”. He did not know anymore about the injuries that were sustained in the accident at this stage. Phillip experienced emotional responses to being there alongside Daniel. These negative feelings are seen in the following quotations, “I don’t know I thought it was bloody terrible I suppose” and “it [seeing Daniel in hospital] wasn’t something that I look forward to be doing again” Phillip also discussed Daniel’s acute admission to hospital and how he was involved in this. His response was to travel from his hometown, to Daniel’s hometown. He reported that he “just rang and said look I’ll be down there so you come on back home. The wife and I will go down and we’ll look after the chooks and sheep and stuff l do, stuff around the farm save her [Daniel’s wife] running back every second or third day”. He also discussed Daniel’s transfer back to a regional hospital and then his ongoing recovery at home. He made the following statement, ”I said to him have you got to do any treatment or anything? He said no. And my wife couldn’t believe that they sent him home and he never had to have any treatment or anything and he was just laying around home until his wife got on to the specialist in Sydney and he said no no he’s got to have treatment and they started doing treatment with his physio. I used to run him in a couple of days a week coz he lives out of town”. More recently Daniel has returned to work. Phillip has also been a part of this stage of the recovery, indicating that, “That’s the first time I’ve been down there since he’s been working and when he came
home, the poor bugger I felt sorry for him. He couldn't walk, his leg was all swollen up and everything”. Phillip was concerned about Daniel returning to work. The negative consequences of Daniel working concerned Phillip. For example, the pain he experienced when he got home and the deterioration that he noticed in his communication abilities secondary to fatigue from working.

One pathway to making sense of the TBI and its consequences is to be there alongside the person with TBI. Phillip was able to do this in the early stages of Daniel’s recovery journey by updating others and keeping updated as well as visiting and providing company. Phillip kept up to date with Daniel’s progress via Daniel’s wife in the early stages of the recovery journey. For example “she [Daniel’s wife] used to text me of a morning and afternoon with the Doctors’ reports and things like that everyday. And then every second day or something like that I'd give her a ring around lunch time coz I knew she was out having lunch and find out how he was”. More recently, Phillip speaks with Daniel directly about how he is recovering. Phillip also visited Daniel both while he was in hospital and then when he returned home. Even though Phillip reported that he was not comfortable visiting Daniel in the city, he still did it, demonstrating the importance he placed on this. “It wasn’t long after he’d had the coma when I went down there he was very confused I was only down there about three or four days and then I couldn’t handle it in the city and I came back”.

Phillip also demonstrated that he maintained balance in the friendship. He achieved this through his attitudes and beliefs. He genuinely believed that there wasn’t an imbalance in the friendship, despite acknowledging that Daniel could
not contribute to the same extent he could. The following quote shows Phillip’s perspective on this.

Interviewer: “so what do you feel like Daniel helps with?”
Phillip: “helps me with?”
Interviewer: “Yeah, does he give anything back to the friendship?”
Phillip: “yeah, he’s Daniel (laughing). You know that’s him. He invites me into his house when I go down there. We’re just like brothers, you know”.

The proposed model exhibits two processes: making sense of the TBI and its consequences and maintaining normality. Friends that had experiences in these two processes appeared to maintain or develop a friendship, despite the consequences of the TBI. In making sense of the consequences of the TBI, there were two relevant consequences of the TBI that Phillip thought about and experienced. These were in relation to Daniel’s physical and cognitive abilities, his behaviour as well as the implications that these changes had on Daniel’s ability to participate in activities. Phillip’s thinking and experiences are demonstrated through the following comments:

“He gets cranky with everyone”.

“I think it’s the confusion part where he can’t sort of work out how to do the things”.
“He'll sit there with his eyes closed sort of going um um until then he'll work out what he wants to tell you. He never used to do that before”.

“Physically he can't bend, can't walk without hopping”.

“He was acting inspector on the railway and I don't think he even do any of the courses now”.

Phillip engaged in the thought processes of comparing Daniel's post injury self to his pre-injury self, “There’s no crap with him...He's always been like it’. He also had opinions about particular goals and activities that Daniel was aiming to return to post TBI, “He said the other day that he had to clean all the lowest shelves in the shop and he’s laying on the floor. That's ridiculous”. He also provided justifications for the changes that he observed in Phillip, “But he couldn't move real good or anything which is fair enough”.

Phillip connected with both his own family, as well as Daniel's wife. This assisted with making sense of the TBI and its consequences. Earlier, the contact that Phillip had with Daniel’s wife while Daniel was in hospital was highlighted. Additionally, it was noted that Phillip’s wife also travelled with Phillip to Daniel’s hometown to assist.

The other process of the model illustrates that friends maintain normality in the friendship, by helping one another intuitively with limited to no input from health professionals. Phillip maintained normality in his friendship with Daniel
by continuing to participate in activities. He disclosed that these activities had changed post TBI.

Phillip: “oh we used to go fishing together and played sport together, we went horse riding together. We’ve been on holidays up at Surfer’s Paradise. On the grog together, trash everything together”.

Interviewer: “and how long ago did you do some of those things? Was that fairly recently or was that a long time ago?”

Phillip: “oh before his accident, yeah we used to always go out and have a beer together and yeah”.

Interviewer: “and have those things that you enjoyed doing together changed since he had the accident?”

Phillip: “yeah because Daniel can’t do it”.

Phillip continued to provide Daniel with advice, as he would have done prior to Daniel’s accident. The following are some examples of the advice that Phillip provided to Daniel. “And I said well mate just go for a walk, go down to the sheering shed, get away” and “I just said he’s bloody silly for doing it and he said oh I’ve gotta do it”. Finally Daniel and Phillip continued to socialise and interact with one another, “always ringing up to find out how he is and then he’ll ring me up and ask me questions and things”.

Phillip provided Daniel and his family with help in a number of ways. He physically helped around the farm while Daniel was in hospital. He also continued to help Daniel with physical labouring around the farm when he got
home and had more difficulty because of his injuries. He provided Daniel and his wife with emotional support such as respite, “She can go and visit and not have to worry because someone is there with him”.

Strategies were used to manage changes. In this case, Phillip provided prompts to assist Daniel, as well provided him with reassurance, including, “He got the hydraulics on the tractor the other day, he had trouble with that. He just gives me a ring and we just talk about it on the phone” and “and then he’ll come back and I’ll just say ‘you had the shits old fella’ and we’ll have a bit of a laugh oh yeah yeah and things are alright”.

Use of this case as an example shows how the proposed model can be used to gain greater insight into how a friend is navigating the experience of maintaining a friendship with a person who has sustained a TBI. It may assist with understanding whether friends are navigating this experience in the same way that this group of participants did. As previously mentioned a grounded theory study does not provide inflexible and rigid evidence to suggest that this is the only way or the correct way for a friend to navigate this situation. Rather it provides one way of viewing how these particular friends navigated the experience, which could be adaptably mapped to other friends.

It provides a level of insight into what friends have done in this situation. Perhaps this insight could be used as a foundation to build upon. That is, with some understanding of the processes that some friends have utilised, perhaps this knowledge, these processes and the responses that these friends
experienced could be a starting point to direct other friendships that may not be ‘succeeding’ in the same way as these friendships.

4.4 Some friendships can still be maintained and developed post TBI

The method section related to the qualitative study examined symbolic interactionism as a lens through which to consider the data that was collected in this research project. That is, it provided a lens through which to view the data, allowing the researcher to construct meaning from the experience of engaging with participants. In this section symbolic interactionism will be used to show that the participants (friends) in this study constructed meaning about the consequences of TBI and how to manage a TBI through their experiences of continuing in a friendship after their friend sustained a TBI or through the experience of befriending a person post TBI.

Symbolic interactionism suggests that people construct meaning based on individual perceptions (Benzies & Allen, 2001). Given that this research is about people and the experiences of people in friendship, which is extremely variable and dynamic, symbolic interactionism is a well-suited perspective to use when examining the data collected in this study. This research seeks to determine why some friendships are successful post TBI, yet it is known that more often friendships are not maintained and social isolation exists following TBI. Symbolic interactionism may explain this disparity. It is thought that individuals construct meaning based on their own individual perceptions and these perceptions then influence behaviour (Benzies & Allen, 2001). That is, people perceive and interpret circumstances differently and therefore behave in
a variety of ways. It may be that the same phenomenon occurs within a friendship post TBI. At a minimum two individuals form a friendship. It is possible that following a TBI, friends can perceive and interpret this experience differently and then act based on these perceptions and interpretations. These actions are likely to influence the possible success of a friendship. For example, if a friends’ perceptions and interpretations following the TBI cause them to act in a way where they withdraw from their friend who has sustained the TBI, then it may be that this friendship is not maintained and therefore is not successful post TBI.

The proposed model provides a possible outline of the processes used by this particular group of individuals. In totality the proposed model describes the friend as actively placing themselves in the friendship. There is evidence that friends are immersed in the friendship, despite the TBI and consequences of the TBI, from the moment that the TBI is sustained or when they meet the person who has sustained the TBI. The central tenant of symbolic interactionism is that the individual and context are inseparable (Benzies & Allen, 2001). This is acknowledged in the proposed model, as the situation of their friend sustaining a TBI is thrust upon them without choice, hence providing a context.

One process discussed in the proposed model acknowledges the way that friends make sense of the TBI and its consequences. This process provides an example of one of the assumptions of symbolic interactionism. People do not respond directly to things, but rather attach meaning to them. The meaning that they attach then influences their behaviour. This meaning is constructed by
symbols. The proposed model identifies possible influencing factors that may have assisted the person to construct meaning about the consequences of the TBI. In symbolic interactionism, language is considered to be the symbolic element. That is, language is symbolic in nature and therefore people can derive different meanings from it. The influencing factors that are considered to have assisted friends to find out about the consequences are also symbolic in nature. Communicative exchanges with family members and carers and the internal dialogue that occurred when thinking about the TBI and its consequences are language based tasks. In this theory, friends then act on the symbolic meaning created about the consequences of the TBI. They act to maintain normality in the friendship.

Another assumption of symbolic interactionism is that meanings are assigned and modified and therefore ever changing. In relation to this study it is important to acknowledge this for two reasons. First, it shows that simply because friendships are currently deemed successful does not mean that they will continue this way. If symbolic meaning surrounding the friendship can change, then so to can individuals’ behaviours, which may in turn change the friendship. In addition, it highlights that external factors can alter symbolic meaning and therefore behaviour. This study has also considered the opportunities that health professionals, in this case speech pathologists, may have in influencing friendships. Since people have the capacity to engage in reflective thinking which enables the symbolic use of language to learn without encountering, this raises the possibility that input from health professionals could alter symbolic meaning that friends have constructed surrounding TBI
and the changes that their friend with TBI exhibits. Friends may therefore be able to change their behaviour as a result of these interactions which may enable friendships to be maintained or developed. Conversely, it also demonstrates that health professionals need to make considered decisions about how they are going to engage with friends, as their interaction can also influence the way the friend responds to the friendship.

The pathways that enable the maintenance of normality in the friendship recognise the friends’ behaviour that has developed from the symbolic meaning that friends have constructed. While it may be that these behaviours have the greatest influence in maintaining or developing a friendship, the model demonstrates that much occurs prior to enacting these behaviours. When examining the current education and training that speech pathologists conduct with friends it is evident that the content addresses behaviours. This raises the question as to whether it would be beneficial for health professionals to focus their attention on the preceding stages that occur prior to the way that people act with their friend following a TBI. By influencing these preceding contexts, it may consequently change the way that friends interact or behave with their friend following a TBI. This concept is aligned with the principles of positive behaviour supports (Ylvisaker, Turkstra et al., 2005). The notion of positive behaviour supports is one that is applied to intervention with people, when trying to change people’s behaviour. With further research, the concepts formed in this research could be used to develop an intervention program that could be conducted with friends to assist with changing their behaviour when interacting with the person with TBI. This demonstrates the relevance of considering the
similarities between positive behaviour support and symbolic interactionism. Symbolic interactionism has assisted with the development of the pathways outlined in the preliminary model. Positive behaviour support assists with bridging the gap between theoretical understanding of the preliminary model and determining how these findings can move toward influencing clinical practice. Positive behaviour support emphasises the importance of controlling antecedents through facilitating choice and control, engagement in personally meaningful activities, encouraging positive communication between communication partners, teaching positive communication as an alternative to a negative behaviour and providing natural rewards for positive behaviour. Similarly, this model demonstrates that friends may be able to control their behaviours that are executed with their friend with TBI, as a result of antecedents. Given that Ylvisaker, Turkstra et al. (2005) have shown that controlling antecedents can influence behaviour of those with a TBI in a positive way, perhaps the same is true for friends. Therefore, if speech pathologists or other health professionals are able to discuss the thoughts, perceptions, ideas and feelings of friends surrounding befriending someone with a TBI and then provide intervention that may influence the thoughts experienced by friends, then health professionals may be able to influence the behaviour of friends in a positive way. This may consequently lead to the maintenance or development of a friendship post TBI.

In the preceding discussion, symbolic interactionism has been used to show a possible response that some friends may have to their friend sustaining a TBI, which in the circumstances examined in this research led to a successful
friendship. By no means does this imply that if friends’ experiences align with
the model, then the friendship will automatically be a successful one. Symbolic
interactionism derived from Darwin’s evolutionary theory which suggests that a
person’s behaviour is constantly changing dependent on the environment
(Charon, 2007). This change in behaviour is, however, constrained by
characteristics of individuals and their environments. Hence, another individual
whose friend sustains a TBI and is exposed to similar experiences may process
this differently and therefore behave differently, which could affect the outcome
of the friendship. This dynamism is seen in the proposed model by the
friendship characteristics. Each friendship that was investigated was unique,
with a different combination of friendship characteristics. The exact influence of
these characteristics on the friendship is unknown, however they were
identified as having an important influence on the friendship.

4.5 Friendship following TBI – looking forward

This study has provided an overview of current practices of speech pathologists
in the area of friendship in light of the barriers, facilitators and attitudes about
working in the area of friendship, as well as considering the perspective of nine
friends who have supported a person who has sustained a TBI. Miller (2010)
discusses the role that qualitative studies can play in informing clinical practice
in nursing. Interpretive studies, not unlike this study, are considered to have
potential applicability to clinical practice, in comparison to studies that simply
summarise themes in the data. While it is acknowledged that qualitative
findings and descriptive results may not be generalisable to groups of people,
they can provide knowledge of human experiences that can be applied to
individuals with whom health professionals work. Hence, perhaps the following recommendations surrounding future work in the area of friendships could be considered, dependent on the individuals’ (person with TBI and their friends) circumstances.

This study has considered a current reality for two key stakeholders, speech pathologists and friends of those who have sustained a TBI. The results may be used as a framework that could be built upon in future research. More specifically, these findings provide a baseline regarding some clinical practices and attitudes of speech pathologists in reference to their work with friends. This baseline information could enable the potential evaluation of the effects on work surrounding friendship if a specific intervention program is introduced or further guidance was provided by additional research in the area. The knowledge about barriers and facilitators surrounding work in the area of friendship may also provide some insight into issues that may affect uptake or implementation of such research. An awareness of these barriers may enable other researchers to consider these when developing possible programs that could be conducted with friends.

In relation to the qualitative component of this study it provides insight into the way that some friends approach the development and maintenance of friendship post TBI. Again this information may be useful when considering the information and input from health professionals that friends may consider relevant and useful. Additionally, the section explaining why some friendships may be maintained or developed post TBI considers the notion that to address
the way that friends interact with their friend with TBI may not simply be a matter of providing education and training on how to change their behaviour. Perhaps, consideration needs to be given to the stages that precede a person’s behaviour.

It has been established that education and training is provided to friends of those who have sustained a TBI, however fewer speech pathologists provide education and training than those that indicated that they do not. Speech pathologists suggested that further knowledge surrounding what to do with friends would be beneficial. Therefore, it is possible that if speech pathologists had a better understanding of what to do with friends, the work that is conducted in this area may increase or be enhanced. The qualitative component of this study demonstrates that there are processes that friends engage in, to actively place themselves in the friendship. More specifically, friends use pathways to make sense of the TBI and its consequences and maintain normality. Perhaps this provides preliminary guidance as to areas that training and education could focus on. Some of these include participating in activities, providing advice, socialising, helping one another and using strategies to manage change such as prompting. The results demonstrate that friends are able to utilise some strategies to assist with managing the changes that occur following TBI. This may provide preliminary evidence to suggest that friends could benefit from training, as it appears to have assisted with the development and maintenance of friendships when they have been used spontaneously, in the absence of any input from health professionals. Further to this given that all of the friends that were interviewed in study 2 were able to identify activities
that they could participate in with their friends, perhaps it would be beneficial for clinicians to ensure that friends are included in the rehabilitation program to enable engagement at the level of activity and participation. Clinicians could be involved in troubleshooting ways that the person with TBI could continue to participate in activities that they did with their friend pre-injury. They could also assist the person with TBI and their friend to establish new activities that they could partake in together.

In terms of how education has been conducted, speech pathologists currently engage friends across multiple sessions, as well as one-off sessions. These sessions have also been planned and scheduled, as well as unplanned and spontaneous. Currently, it appears that training and education can be provided flexibly. This is useful, given that two of the barriers selected by most speech pathologists who participated in the survey were time constraints and access to friends. Therefore, if education and training can be provided with flexibility and can be adaptable, it may be more likely to overcome these barriers, rather than feed into them.

Future research should consider the roles of the multidisciplinary team when conducting work surrounding friendship. It is likely that the area of friendship is the responsibility of the entire team. While speech pathologists have shown that they do provide specialist knowledge and skills in education and training on how cognition and communication may affect a friendship, there are other impairments, such as mood and physical impairments that also affect
friendships. It may be more suitable for other professionals to focus on these domains.

4.6 Limitations

The second study was a qualitative study. While it was an appropriate methodological choice to answer the proposed research question, there are limitations of qualitative research. As previously mentioned it cannot be applied broadly to all relevant groups, in this case all friendships that continue post TBI. It is acknowledged that the results from this study are the lived experiences of these particular participants, however others’ experiences may differ from those of this group, depending on their context and environment (Creswell, 2007). For example, all of these friendships existed within a regional or rural context. Therefore, these findings may not reflect the experience of friendships that exist within a metropolitan context.

As previously mentioned theoretical saturation was not achieved in the qualitative study. While repetition of ideas was seen and it was possible that some focused codes did reach theoretical saturation, time constraints did not enable the establishment of a systematic approach to determine whether all categories reached a point where no new properties or dimensions could be established (Birks & Mills, 2015).

It is well documented that TBI is more frequently sustained by youths, young adults and people over the age of 60 (Helps, Henley et al., 2008). Unfortunately in this sample, only one participant with TBI was a young adult. Hence the
sample was not necessarily representative of the usual demographic that would be likely to sustain a TBI. Other participants under the age of 20 were invited to participate in the qualitative study. Two chose not to be involved secondary to concern that it may affect the friendships that they had, they didn’t feel it was a priority for their friend or they were unable to identify a friend to participate.

In regards to the survey, it may not have reached all speech pathologists that worked with TBI. Further to this, only speech pathologists that were interested would have chosen to participate. Both these sampling factors may have affected the generalisability of the results, particularly if response was biased towards those that did have an interest in conducting work with friends.

The survey does not reveal in-depth results, as most questions were closed questions and those questions that were open did not require lengthy responses. However, the responses from open questions were analysed using qualitative methodology.

Overall, further research is required into the area of friendship following TBI. This study may provide preliminary findings that could assist with development of intervention that may assist speech pathologists and other clinicians in improving friendship outcomes for people following TBI. The link between symbolic interactionism and positive behaviour support has been discussed. The qualitative component of this study shows that friends do change their behaviour when interacting with a person with TBI and they do engage in preliminary thinking prior to changing their behaviour. Perhaps if further
research is conducted into interventions to assist with maintenance and development of friendship post TBI, the intervention should incorporate strategies to encourage preliminary thinking, rather than solely changing behaviour.

It has also been established that the multidisciplinary team is likely required to achieve overall gains in the area of friendship, in contrast to speech pathologists predominately contributing to gains in the area of communication only. Further research may like to consider to roles team members.
5. Concluding remarks

The aim of this study was to investigate friendships following TBI. The viewpoints of two key stakeholders were considered. These included speech pathologists who work with clients who have sustained a TBI and friends of those who have sustained a TBI. Speech pathologists participated in an online survey, which sought their experiences of working on the area of friendship. Nine friends of those who had sustained a TBI were interviewed, using a semi-structured interview. Data was analysed using a grounded theory approach.

The result of these two studies adds to the evidence surrounding friendship following TBI. It reinforces that while friendships do change after TBI, there are occasions when friendships can succeed. The study shows that speech pathologists are able to intervene in the area of friendships, however there is limited direction and guidance provided in the research that supports clinicians to do this. In the meantime, some friends are able to find a place in the friendship and make headway, enabling the friendship to continue and grow. Perhaps the proposed model grounded in the experience of the friends who participated in this study will assist in further developing the skills and knowledge of speech pathologists and in turn enable further research to inform a more considered and structured approach to working with friends in the future.
Appendix A: Survey instrument

1. Do you work predominately with people who have had a traumatic brain injury (TBI)?
   - Yes
   - No
2. How many years have you worked as a Speech Pathologist?
- Less than 2 years
- 2-5 years
- 6-10 years
- 10 or more years

3. How many years have you worked with a TBI caseload?

4. At what stage of rehabilitation have you predominately worked?
- Acute
- Sub acute
- Community
- Long term follow up for maintenance
- Combination of all of the above
- Other (please specify)

5. What states or territories have you spent most of your time working with people with TBI?
- NSW
- Victoria
- Queensland
- Tasmania
- South Australia
- Western Australia
- ACT
- Northern Territory
- Other

6. What setting have you spent most of your time working with people with TBI?
- Metropolitan
- Regional
- Rural
- Remote
7. What sector have you spent most of your time working with people with TBI

- [ ] Public
- [ ] Private
- [ ] Non-government organisation
- [ ] Charity organisation
8. Have you conducted work surrounding friendship post TBI?

☐ Yes
☐ No
9. What has your direct contact with friends involved

- [ ] Assessment incorporating friends e.g. discourse assessment
- [ ] Interviewing friends to better understand pre-injury traits
- [ ] Allowing friends to observe treatment
- [ ] Asking the friend to be involved in treatment-related activities e.g. participate in a therapy task practicing circumlocution
- [ ] Therapy involving friends e.g. providing feedback when the person with TBI is talking with their friend
- [ ] Encouraging friends to be friends, rather than asking them to take an active role in recovery
- [ ] Help establish particular activities or roles that a friend will do with the person with a TBI
- [ ] Establishing groups with the content of the group focused on encouraging development of new friendships within the group
- [ ] Establishing or facilitating peer support groups, where the main focus is for people with TBI and families or friends to meet regularly to offer one another support
- [ ] I haven't worked directly with friends

Other (please specify)
10. Have you provided friends with information?

- Yes
- No
11. What information have you provided to friends?

- General information on TBI e.g. causes, statistics, prognosis
- Information on communication impairments
- Information on cognitive impairments
- Information on therapy progress
- Information on prognosis
- Information on tasks or activities the person with TBI may find difficult

Other (please specify):

12. Did you provide information as a

- A one off session
- A series of sessions
- Both

13. When you provided information it was

- Planned e.g. you phoned ahead and made an appointment with the friend
- Unplanned and due to circumstance e.g. a friend was visiting and asked if they could attend the session
- Both
14. Have you provided training to friends? E.g., opportunities to practice communication strategies with the friend

- Yes
- No
15. What has your intervention with friends covered?

- Training of the friend to assist with completing therapy practice e.g. assisting the person with TBI to keep notes in a diary
- Training the friend to compensate for communication problems e.g. asking the friend to talk to the person with TBI in a quiet environment to reduce distractions
- Training the friend to assist the person with TBI to return to the community e.g. training the friend about appropriate environments to take the person with TBI
- Teaching the friend to use strategies e.g. teaching the friend to use less testing questions

Other (please specify):

16. Did intervention take place across

- A one off session
- A series of sessions
- Both

17. Was intervention

- Planned e.g. you phoned the friend to schedule an appointment
- Unplanned and due to circumstance e.g. the friend was visiting, so you provided some intervention while they were there
- Both
18. Have you spoken to friends about the changes to the friendship post TBI?

- Yes
- No
19. Describe your experience of talking to the friend about this
20. What indirect work have you completed where the outcome is improving friendships?

- Education of families surrounding how to facilitate friendships
- Assisting the person with TBI in plan contact with friends
- Educating the person with TBI about the importance of maintaining friendships
- Providing functional examples of how therapy tasks relate to improving friendships e.g., role playing dialogue that a person with TBI may have with a friend
- Recommending activities that may help to build new friendships

Other (please specify)
21. What resources have you used to assist your work with friends e.g. a communication partners training manual such as TBI Express or worksheets from manuals targeting cognition to develop ideas for what to do with friends?
22. Has your focus been on

☐ Developing new friendships
☐ Maintaining pre-injury friendships
☐ Both
23. What is your rationale for targeting friendships?
24. What Speech Pathology specific goals were achieved by working with friends? 
E.g. For the person with TBI to remain on topic when talking with their friends
25. Have you worked with friends with another member of the multidisciplinary team?

- Yes
- No
<table>
<thead>
<tr>
<th>*26. Which member of the team and what did you work on?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupational Therapy</td>
</tr>
<tr>
<td>Physiotherapy</td>
</tr>
<tr>
<td>Clinical Psychology</td>
</tr>
<tr>
<td>Neuropsychology</td>
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<tr>
<td>Rehabilitation Psychology</td>
</tr>
<tr>
<td>Recreational therapy/Diversional therapy</td>
</tr>
<tr>
<td>Social Work</td>
</tr>
<tr>
<td>Case Manager</td>
</tr>
</tbody>
</table>
27. What percentage of your clinical time is spent targeting the quality or quantity of friendships?

- Less than 25%
- 26-50%
- 50-75%
- 75-100%
28. What advantages does working with friends offer you?

29. What disadvantages affect you when working with friends?
30. Do you think it is within Speech Pathologist's scope of practice to directly target the improvement of the quality of friendships?

- Yes
- No

31. Why do you feel this way?
32. During your initial interviews with clients how often are friendship issues discussed? e.g. feeling lonely, changes to friendships

- Less than 25%
- 25-50%
- 50-75%
- 75-100%

33. Are these raised predominately by

- Yourself
- Person with TBI
- Friends
- Family
- Combination
- None
34. What barriers have you faced that has affected or prevented your work with friends?

☐ I haven't considered working with friends
☐ Not feeling comfortable working with friends
☐ Conflict with family e.g., family reluctance for friends to be involved
☐ Suitability of pre-injury friends
☐ Reduced support from colleagues
☐ Policies, procedures or workplace practices
☐ Reduced social network pre-injury
☐ Client choosing not to involve friends
☐ Time constraints e.g., due to time constraints it is not achievable to work with family and friends
☐ Culturally and linguistically diverse backgrounds
☐ Inability to access friends e.g., friends come to visit after hours, friends live far away
☐ Not knowing what to do with friends
☐ Environmental e.g., office space, inability to access transport to visit friends offline

Other (please specify)
35. Do you feel that there is sufficient research/evidence base to assist you to determine what to do with friends or how to target friendships?

- Yes
- No
- I don't know
**36. What would have helped you to work with friends?**

- [ ] Greater accessibility to friends e.g. friends being more available
- [ ] If the person with TBI had a larger social network
- [ ] If the person had a more appropriate social network
- [ ] If families were less protective of the person with TBI
- [ ] More knowledge of what to do with friends via research
- [ ] More knowledge of what to do with friends via resources, such as training manuals
- [ ] Access to technology such as social networking sites
- [ ] More time to be able to logistically organise sessions with friends
- [ ] None of the above

Other (please specify):
37. In people who do not receive any intervention targeting friendships, what do you think are the factors associated with the successful maintenance of their friendships?
Appendix B: Interview protocol

Interview Guide

I'm interested to hear about your friendship with xx, you know whatever comes to mind, how long you've know each other, the things you like to do together, and the things that you enjoy about xx and even the things that might frustrate you or get on your nerves.....

Then follow the tracks/themes developed/touched on by the interviewee, with some key word reminders for you to keep track of what you're covering:

- Characteristics of the friendship
- Activities
- Getting along
- Problems
- Sharing
- Having fun
- Supporting each other
- Talking together
- The accident
- Changes
- Your experience
- What would have helped
- Who helped
Appendix C: CT results for TBI participants

<table>
<thead>
<tr>
<th>Participant</th>
<th>CT results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mild depression of the right anterior parietal bone at the vertex, immediately posterior to the coronal suture. There is underlying mild gliosis with haemosiderin staining in the right superior frontal/middle frontal gyri. There also appears to be a shunt tube track extending from this region into the body of the right lateral ventricle with a small defect in the corpus callosum. There is mild gliosis along the tube track. In addition, there is patchy mild gliosis together with haemosiderin staining in the mid body of the corpus callosum as well as both cingulate gyri in this region.</td>
</tr>
<tr>
<td>2</td>
<td>Numerous haemorrhagic contusions throughout cerebral hemispheres involving both grey and white matter.</td>
</tr>
<tr>
<td>3</td>
<td>Multiple parenchymal contusions in thin left frontal lobe inferiorly. The left temporal lobe superiorly and the left cerebellum; small subarachnoid haematomas over left frontal and right parietal lobes, some blood within the interpeduncular cistern and surrounding tentorium</td>
</tr>
<tr>
<td>4</td>
<td>Intracranial haematoma in left middle cranial fossa, extra-axial lesion haematoma overlying left frontal convexity, left frontal subdural haemorrhage, multiple bilateral frontal contusions</td>
</tr>
</tbody>
</table>
Appendix D: Ethics approval

28th January 2014

Professor Leanne Togher
Principal Research Fellow
Faculty of Health Services
C42 Cumberland Campus
The University of Sydney
LIDCOMBE NSW 2141

Dear Professor Togher,

Greater Western Human Research Ethics Committee (HREC)
HREC Project No. HREC/13/GWAHS/40

Investigations of Friendships Following Traumatic Brain Injury (TBI)

Application for Ethical Review

Thank you for responding to the HREC’s request for clarification and further information for the above project. The HREC Executive reviewed your responses on 27th January 2014.

The Greater Western HREC has been accredited by the NSW Ministry of Health as a lead committee to provide the single ethical and scientific review of proposals, to conduct research within the NSW public health system. Further, this committee is constituted and operates in accordance with the National Health and Medical Research Council's National Statement on Ethical Conduct in Human Research and the CPMP/ICH Note for Guidance on Good Clinical Practice.

I am pleased to advise that the HREC has granted ethical approval of this research project. The following documentation has been reviewed and approved by the HREC:

- National Ethics Application Form (NEAF) (Amended) (AU/1/E39518) - dated 18/11/2013
- Researcher’s Response Template (Deferred Decision) - dated 19/7/2013
- Researcher’s Response Template (Deferred Decision) - dated 25/10/2013
- Outline of Amendments - undated, as submitted 18/9/2013
- NSW Ministry of Health Privacy Questions - undated, as submitted 17/6/2013
- Research Protocol (General Information) - undated, as submitted 18/11/2013
- Participant Information Statement for Speech Pathologists - version 3, dated 14/1/2014

Greater Western Human Research Ethics Committee
Incorporating the Western NSW & Far West Local Health Districts

PO Box 143, Level 1, 230 Howick Street, BATHURST NSW 2795
Tel: (02) 6339 5601 Fax: (02) 6339 5636
• Participant Information Statement for Persons with TBI / Guardian - version 3, dated 14/1/2014
• Participant Consent Form for Persons with TBI - version 3, dated 14/1/2014
• Participant Information Statement for Friends - version 4, dated 14/1/2014
• Participant Consent Form for Friends - version 4, dated 14/1/2014
• Participant Consent Form for Guardian of Friend - version 3, dated 14/1/2014
• Interview Questions - version 3, as submitted 16/9/2013
• Questionnaire for Speech Pathologist - undated, as submitted 17/6/2013

The project is approved to be conducted at the following NSW Public Health sites:

• Mid Western Brain Injury Rehabilitation Program

Please note the following conditions of approval:

1. The coordinating investigator will immediately report anything which might warrant review of ethical approval of the project in the specified format, including any unforeseen events that might affect continued ethical acceptability of the project.

2. Proposed changes to the research protocol, conduct of the research, or length of HREC approval will be provided to the HREC for review in the specified format.

3. The HREC will be notified, giving reasons, if the project is discontinued at a site before the expected date of completion.

4. The coordinating investigator will provide an annual report to the HREC and at completion of the study in the specified format.

HREC approval is valid for four (4) years from the date of this letter.

This HREC approval letter constitutes ethical approval only. You are required to submit a site specific assessment application for each site at which you wish to conduct this project. You must not commence this research project at a site until separate authorisation from the Chief Executive or delegate of that site has been obtained. A copy of this letter must be forwarded to all Principal Investigators at every site for submission to the relevant Research Governance Officer as part of the site specific assessment process.

Should you have any queries about your project please do not hesitate to contact the Greater Western HREC Executive Officer on (02) 6339 5601 or via email WNSWLHD-EthicsCommittee@health.nsw.gov.au.
Please quote HREC Reference No. HREC/13/GWAHS/40 in all correspondence.

The HREC wishes you every success in your research.

Yours sincerely

[Signature]

Suzanne Degiorgio

**Ethics & Research Governance Officer**
**Western NSW & Far West Local Health Districts**
Appendix E: Ethical amendment approval letter

7 October 2014

Professor Leanne Togher  
Principle Research Fellow & NHMRC Senior Research Fellow  
Faculty of Health Sciences  
University of Sydney  
C42 Cumberland Campus  
LIDCOMBE NSW 2141

Dear Professor Togher,

Greater Western Human Research Ethics Committee (HREC)  
HREC Project No. HREC/13/GWAHS/40  
Amendment No. AM01

Investigations of Friendships Following Traumatic Brain Injury (TBI)

Amendment Request

Thank you for submitting an amendment for the above project. The HREC reviewed your request at its meeting held on 1 October 2014.

The Greater Western HREC has been accredited by the NSW Ministry of Health as a lead committee to provide the single ethical and scientific review of proposals, to conduct research within the NSW public health system. Further, this committee is constituted and operates in accordance with the National Health and Medical Research Council’s National Statement on Ethical Conduct in Human Research and the CPMP/ICH Note for Guidance on Good Clinical Practice.

The committee has given conditional approval to this amendment but requests some further clarification and information before giving full approval:

- The HREC noted that the researcher has made some amendments to the NEAF. Please provide a copy of the complete NEAF (all pages) that has been locked (a submission code generated).

- The HREC requires the researcher to amend this project’s research protocol. Please provide a copy of the amended research protocol.

- The HREC noted that the Participant Information Sheet (PIS) for Person With TBI / Guardian still makes reference to ‘three friends’. Please review and amend the PIS to reflect the requested amendments. Please provide a copy of the amended PIS.

Greater Western Human Research Ethics Committee  
Incorporating the Western NSW & Far West Local Health Districts

PO Box 143, Level 1, 220 Howick Street, BATHURST NSW 2795  
Tel (02) 6338 5601 Fax (02) 6338 5608
The Executive officer has delegated authority to approve this project on receipt of appropriate documentation.

In order to facilitate the HREC’s consideration of your project, please provide the requested information as soon as possible. Your response may be emailed to the Executive Officer WNSWLHD-EthicsCommittee@health.nsw.gov.au however this should be accompanied by a hard copy.

Please note that if the requested information is not received within 3 months or two meetings (whichever occurs sooner), the project will be dismissed and you will be required to re-submit the project at a later date.

You must not begin your research before receiving final approval. It is necessary for you to notify the HREC in writing of the measures taken to address these issues and they must be incorporated into the project for your ethical approval to be effective.

Once final approval is granted you will be required to submit a site specific assessment application. The HREC approval letter constitutes ethical approval only. You must not commence this research project at a site until separate authorisation from the Chief Executive or delegate of that site has been obtained.

Should you have any queries about your project please do not hesitate to contact the Greater Western HREC Executive Officer on (02) 6330 5941 or via email WNSWLHD-EthicsCommittee@health.nsw.gov.au.

Please quote HREC Reference No. HREC/13/GWAHS/40 in all correspondence.

Yours sincerely

Suzanne Degiorgio  
Ethics & Research Governance Officer  
Western NSW & Far West Local Health Districts
Appendix F:

Participant information sheet provided to participants who completed the survey. The form was attached to an email, which was sent to participants.
**Participant Information Statement for Speech Pathologists**

Investigations of friendship following traumatic brain injury (TBI): Treatment for people with TBI and their friends

You are invited to participate in a study that is investigating treatment programs to help maintain friendships after people have a TBI. The study is being conducted by Tennille Thomas and will form the part of a Master of Applied Sciences at The University of Sydney, supervised by Professor Leanne Togher and Dr Emma Power.

Before you decide whether or not you wish to participate in this study, it is important for you to understand why the research is being conducted and what it will involve. Please take the time to read the following information carefully.

1. **What is the purpose of this study?**
   
   The purpose is to investigate the current practices of Speech Pathologists who work with people who have sustained a TBI. We are specifically investigating speech pathology practice regarding friends of people with TBI.

2. **Why have I been invited to participate in the study?**
   
   You have been invited to participate because you work as a Speech Pathologist and see clients who have sustained a TBI.

3. **What if I don’t want to take part in this study, or want to withdraw later?**
   
   Participation in this study is voluntary. It is up to you whether you decide to participate. If you decide not to participate you can do so by not completing the survey. Completion and submission of the survey implies consent.

   You can choose to withdraw from the study before your name and identifying information is removed, you can do so without having to provide a reason. Any information that you have already provided will be discarded.

4. **What does the study involve?**
   
   If you choose to participate in the study you will be asked to complete an online survey via Survey Monkey. The survey will take approximately 15 minutes.

5. **Are there any risks to me participating in the study?**

Version #1, Mid Western Brain Injury Rehabilitation Program, 14.01.2014
There should not be any direct risks to you.

6. **Will I benefit from the study?**

The study will not directly benefit you.

7. **Will participating in the study cost me anything, and will I be paid?**

Participation in the study will not cost you anything. There is no payment for your participation.

8. **Will anyone else know the results?**

Nobody else will have access to the information that you provide. The information that you provide will not make you identifiable.

9. **What will happen with the results?**

Results will be published in peer reviewed journals and presented at conferences. The results will also be submitted in a thesis as part of Tennille Thomasz’ Master of Applied Science. In any case, your identity will remain confidential. Results of the study can be provided to you if you wish.

The information that you provide will be kept for a period of 10 years

10. **What should I do if I want to discuss the study further before I decide?**

You can contact a member of the research team, including Tennille Thomasz on 0410487738 or Professor Leanne Togher on (02) 9951 9899.

11. **What if I have complaints or concerns?**

Information regarding this will be inserted once ethical approval has been sought, i.e. reference number and the details of an independent person who could be contacted regarding complaints or concerns.

The ethical aspects of the project have been approved by the Greater Western Human Research Ethics Committee (HREC) of the Western NSW & Far West Local Health Districts. If you have any concerns or complaints please contact: The Executive Officer, Greater Western Human Research Ethics Committee, Western NSW Local Health District, PO Box 143 Bathurst NSW 2795 or telephone (02) 6339 5601.

Thank you for taking the time to consider this study.

If you wish to take part in it, please click on the link provided in the email. This will take you to the survey

*This information sheet is for you to keep.*
Appendix G:

Participant information sheet provided to people with TBI.
Participant Information Statement for person with TBI/guardian

Investigations of friendship following traumatic brain injury (TBI): Friend’s experiences

You have been contacted to determine whether you would have one to three friends who may be interested in participating in some research. With your permission we would like to invite one of your friend’s to participate in a study that is investigating whether friendships change after a person has a TBI. The study is being conducted by Tennille Thomasz and will form the part of a Masters of Applied Sciences at The University of Sydney, supervised by Professor Leanne Togher and Dr Emma Power. You have been given this form by staff at the Mid Western Brain Injury Rehabilitation Program.

Before you decide whether or not you wish to nominate three friends to participate in this study, it is important for you to understand why the research is being done and what it will involve. Please take the time to read the following information carefully and discuss it with the team at the Mid Western Brain Injury Rehabilitation Program.

1. What is the purpose of this study?

   The purpose is to determine whether friends of people with a TBI experience changes to the friendship. This information will be used to inform a training program, which will be developed to assist friends of people with a TBI.

2. Why have my friends been invited to participate in the study?

   Your friends have been invited to participate because you sustained a TBI and they may be willing to share whether this experience has affected your friendship.

3. What if I don't want my friends to take part in this study, or my friends want to withdraw later?

   Participation in this study is voluntary. It is up to you whether you decide to nominate any friends. If you decide not to it will not have any negative ramifications on your rehabilitation program.

   You or your friend can choose to withdraw from the study before names and identifying information is removed, you or your friend can do so without having to provide a reason. Any information that you have already provided will be discarded.

Version 6, Mid Western Brain Injury Rehabilitation Program, 01.09.2016
4. **What does the study involve?**

If you choose to nominate friend/s both you and your friend will be asked to sign the consent form.

The researcher will contact your friend/s. Any of your friends who agree to participate in the study may be asked to meet with the researcher and complete a verbal interview. The interview will cover questions about your friendship before your TBI and whether this has changed since the accident.

The interview will take approximately two hours and will take place at the Brain Injury Rehabilitation Program at Bathurst Base Hospital or at another convenient meeting place. The interview will be video and audio recorded, so that the researcher can refer back to information at a later date.

5. **Are there any risks to me participating in the study?**

There should not be any direct risks to you. If you are worried about how the interview may affect your friendship with your friend, you do not have to nominate any friends for the study.

6. **Will I benefit from the study?**

The study will not directly benefit you.

7. **Will participating in the study cost me anything, and will I be paid?**

Participation in the study will not cost you or your friend anything. There is no payment for your participation or your friend’s.

8. **Will anyone else know the results?**

The researchers will keep the audio and video files, as well as written transcripts of the interviews. Identifiable information will be removed from the written transcripts. Audio and video files will not be labelled with any identifying information.

9. **What will happen with the results?**

Results will likely be published in peer reviewed journals and presented at conferences. The results will also be submitted in a thesis as part of Tennille Thomas’ Master of Applied Science. In any case, your identity will remain confidential. Results of the study can be provided to you if you wish.

The results from this study may be used in future studies. The information that you provide will be kept excluding any identifiable information, for a period of 10 years.

If you provide consent you may be contacted to participate in further studies in the future.
10. What should I do if I want to discuss the study further before I decide?

You can contact a staff member at the Mid Western Brain Injury Rehabilitation Program, who will pass you on to Tennille Thomasz, who will provide further information and answer any of your questions. If you would like to talk to someone independent of the Mid Western Brain Injury Rehabilitation Program, you can contact Professor Leanne Togher on 9351 9639.

11. What if I have complaints or concerns?

The ethical aspects of the project have been approved by the Greater Western Human Research Ethics Committee (HREC) of the Western NSW & Far West Local Health Districts. If you have any concerns or complaints please contact: The Executive Officer, Greater Western Human Research Ethics Committee, Western NSW Local Health District, PO Box 143 Bathurst NSW 2795 or telephone (02) 6339 5601.
Appendix H:

Participant information sheet provided to friends.
Participant Information Statement for friends

Investigations of friendship following traumatic brain injury (TBI): Friend's experiences

You are invited to participate in a study that is investigating whether friendships change after a person has a TBI. The study is being conducted by Tennille Thomaz and will form the part of a Masters of Applied Sciences at The University of Sydney, supervised by Professor Leanne Togher and Dr Emma Power. You have been given this form by staff at the Mid Western Brain Injury Rehabilitation Program.

Before you decide whether or not you wish to participate in this study, it is important for you to understand why the research is being done and what it will involve. Please take the time to read the following information carefully and discuss it with the team at the Mid Western Brain Injury Rehabilitation Program.

1. **What is the purpose of this study?**

   The purpose is to determine whether friends of people with a TBI experience changes to the friendship. This information will be used to inform a training program, which will be developed to assist friends of people with a TBI.

2. **Why have I been invited to participate in the study?**

   You have been invited to participate because your friend who has had a TBI indicated that you are a friend who may be interested in helping to contribute to this research.

3. **What if I don’t want to take part in this study, or want to withdraw later?**

   Participation in this study is voluntary. It is up to you whether you decide to participate. If you decide not to participate it will not have any negative ramifications on your friend’s rehabilitation program.

   Your friend with a TBI will not be told if you choose not to participate.

   You can choose to withdraw from the study before your name and identifying information is removed, you can do so without having to provide a reason. Any information that you have already provided will be discarded.

4. **What does the study involve?**

   If you choose to participate in the study you will be asked to sign the consent form.
You will be asked to meet with the researcher and complete a verbal interview. The interview will cover questions about your friendship before your friend’s TBI and whether this has changed since the accident.

The interview will take approximately two hours and will take place at the Brain Injury Rehabilitation Program at Bathurst Base Hospital. The interview will be video and audio recorded, so that the researcher can refer back to information at a later date.

5. **Are there any risks to me participating in the study?**

There should not be any direct risks to you. We have taken precautions to maintain your confidentiality, particularly to ensure that your participation or decision not to participate does not affect your friendship.

There is the potential for emotional discomfort when you are providing information during interviews. In any case, the interview can be stopped at your request. As previously mentioned, you can choose to withdraw the information that you have provided and it will be discarded.

6. **Will I benefit from the study?**

The study will not directly benefit you.

7. **Will participating in the study cost me anything, and will I be paid?**

Participation in the study will not cost you anything. There is no payment for your participation.

8. **Will anyone else know the results?**

The researchers will keep the audio and video files, as well as written transcripts of the interviews. Identifiable information will be removed from the written transcripts. Audio and video files will not be labelled with any identifying information.

9. **What will happen with the results?**

Results will likely be published in peer reviewed journals and presented at conferences. The results will also be submitted in a thesis as part of Tennille Thomas’ Master of Applied Science. In any case, your identity will remain confidential. Results of the study can be provided to you if you wish.

The results from this study may be used in future studies. The information that you provide will be kept excluding any identifiable information, for a period of 10 years.

If you provide consent you may be contacted to participate in further studies in the future.

10. **What should I do if I want to discuss the study further before I decide?**
You can contact a staff member at the Mid Western Brain Injury Rehabilitation Program, who will pass you on to Tennille Thomas, who will provide further information and answer any of your questions. If you would like to talk to someone independent of the Mid Western Brain Injury Rehabilitation Program, you can contact Professor Leanne Togher on 9351 9639.

11. **What if I have complaints or concerns?**

The ethical aspects of the project have been approved by the Greater Western Human Research Ethics Committee (HREC) of the Western NSW & Far West Local Health Districts. If you have any concerns or complaints please contact: The Executive Officer, Greater Western Human Research Ethics Committee, Western NSW Local Health District, PO Box 148 Bathurst NSW 2795 or telephone (02) 6339 5601.
Appendix I:

Consent form provided to participants with TBI.
Participant Consent Form-Person with TBI

Investigations of friendship following traumatic brain injury (TBI): Friend’s experiences

1. I, ____________________________, agree to nominated friends participating in the research described in the participant information statement attached to this form.

2. I acknowledge that I have read the participant information statement, which explains the purpose of the study, why I have been selected, the risks and provides information about how I can withdraw from the research. I understand the participant information statement.

3. Before signing this consent form I have been given the opportunity to ask any relevant questions, including questions related to any harm that may arise from participation in the study.

4. I understand that my confidentiality will be maintained. If information is presented at conferences or published in academic journals, the information I provide will not be identifiable.

5. I understand that I or my friend can withdraw from the study at any time and any information that I or my friend has provided will be discarded.

6. I consent to:

   ☐ Yes ☐ No Participating in audio and video recording
   ☐ Yes ☐ No Information from this study being used for future studies by members of the research team
   ☐ Yes ☐ No Being contacted by the researcher about future studies related to TBI

The ethical aspects of the project have been approved by the Greater Western Human Research Ethics Committee (HREC) of the Western NSW & Far West Local Health Districts. If you have any concerns or complaints please contact the Executive Officer, Greater Western Human Research Ethics Committee, Western NSW Local Health District, PO Box 143 Bathurst NSW 2795 or telephone (02) 6339 5601.

Signature of Participant  Please print name  Date

Signature of Researcher  Please print name  Date

Version #: Mid Western Brain Injury Rehabilitation Program, 23.09.2014
Appendix J:

Consent form provided to friends.
Mid Western Brain Injury
Rehabilitation Program

Participant Consent Form-Friend

Investigations of friendship following traumatic brain injury (TBI): Friend’s experiences

1. I ______________ of ______________ agree to participate in the research described in the participant information statement attached to this form.

2. I acknowledge that I have read the participant information statement, which explains the purpose of the study, why I have been selected, the risks and provides information about how I can withdraw from the research. I understand the participant information statement.

3. Before signing this consent form I have been given the opportunity to ask any relevant questions, including questions related to any harm that may arise from participation in the study.

4. I understand that my confidentiality will be maintained. If information is presented at conferences or published in academic journals, the information I provide will not be identifiable.

5. I understand that I can withdraw from the study at any time without having to provide a reason and any information that I have provided will be discarded.

6. I consent to:

☐ Yes ☐ No Participating in audio and video recording

☐ Yes ☐ No Information from this study being used for future studies by members of the research team

☐ Yes ☐ No Being contacted by the researcher about future studies related to TBI

The ethical aspects of the project have been approved by the Greater Western Human Research Ethics Committee (HREC) of the Western NSW & Far West Local Health Districts. If you have any concerns or complaints please contact: The Executive Officer, Greater Western Human Research Ethics Committee, Western NSW Local Health District, PO Box 143 Bathurst NSW 2795 or telephone (02) 6339 5601.

______________________________
Signature of Participant

Please print name

Date

______________________________
Signature of Researcher

Please print name

Date

*Version #4, Mid Western Brain Injury Rehabilitation Program, 14.03.2014*
References


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Hughes, J. (2012). SAGE internet research methods. Los Angeles, California, SAGE.


