

You only get one brain: adult reflections on coping and recovery after traumatic brain injury in adolescence

Therese Mulligan, Suzanne Barker-Collo, Kerry Gibson & Kelly Jones

To cite this article: Therese Mulligan, Suzanne Barker-Collo, Kerry Gibson & Kelly Jones (2023): You only get one brain: adult reflections on coping and recovery after traumatic brain injury in adolescence, Brain Injury, DOI: [10.1080/02699052.2023.2243824](https://doi.org/10.1080/02699052.2023.2243824)

To link to this article: <https://doi.org/10.1080/02699052.2023.2243824>



© 2023 The Author(s). Published with license by Taylor & Francis Group, LLC.



Published online: 06 Aug 2023.



Submit your article to this journal [↗](#)



Article views: 167



View related articles [↗](#)



View Crossmark data [↗](#)

You only get one brain: adult reflections on coping and recovery after traumatic brain injury in adolescence

Therese Mulligan^a, Suzanne Barker-Collo^a, Kerry Gibson^a, and Kelly Jones^b

^aClinical Training Programme, School of Psychology, University of Auckland, Auckland, New Zealand; ^bNational Institute of Stroke and Applied Neurosciences, Auckland University of Technology, Auckland, New Zealand

ABSTRACT

Background: TBI during adolescence can result in significant acute symptoms that can persist into adulthood. This research analyzed retrospective qualitative accounts of young adults who had sustained a TBI in adolescence to explore coping and recovery processes specific to this developmental stage.

Methods: Thirteen adults (aged 20–25 years; mean 23 years) who sustained a mild ($n = 12$) or moderate ($n = 1$) TBI during adolescence (aged 13–17 years at injury), approximately 7.7 years (range = 6.7–8.0 years) prior, participated. Semi-structured individual interviews, analyzed using thematic analysis, explored participants' experiences following their TBIs.

Results: Thematic data analysis produced two key categories of themes relating to recovery processes: (1) Individual factors impacting coping, with themes of learning to cope with difficulties, seeking acceptance and balance, and finding meaning; and (2) Social factors impacting coping, which included themes of feeling included, relying on family, professionals didn't get it, and lacking someone who understands.

Conclusions: Recovery following TBI sustained during adolescence could be maximized by facilitating greater understanding of specific impacts on young people among clinicians and family, longer term monitoring of symptoms including emotional reactions to symptoms, and the provision of emotional support.

ARTICLE HISTORY

Received 29 September 2021

Revised 26 June 2023

Accepted 31 July 2023

KEYWORDS

Adolescent; traumatic brain injury; qualitative; coping; recovery processes

Adolescent traumatic brain injury

Adolescence is a transition between childhood and adulthood (1,2) that involves significant cortical, cognitive, social and identity development (3–5). One of the leading causes of death and disability in adolescence is traumatic brain injury (TBI) (6,7), the majority of which are mild injuries (8). Internationally, TBI incidence appears to peak during early childhood, adolescence, and again in late life, with 30–60% of cases being pediatric (9,10).



While the cognitive, emotional and behavioral consequences of mild TBI, were once assumed to resolve within a few weeks of injury, growing evidence suggests that 30% to 32% of those who sustain a mild TBI prior to age 18 may experience persistent symptoms long beyond this acute period (11,12). Persisting post concussive symptoms have been shown to contribute to negative consequences for long-term psychosocial functioning and quality of life (13–15). In our previous qualitative study (16), TBI during adolescence was found to result in significant acute symptoms, particularly headache, fatigue, and difficulty thinking. The extent and impact of these symptoms was reflected in feelings of frustration and often anxiety and/or depression in adulthood. Alterations in communication following TBI (e.g., difficulty communicating, or keeping up with the pace of communication) have also been

shown to impact social relationships and identity which are central to adolescent development (17). TBI during this period has been shown to have an impact on central developmental tasks of adolescence such as identity development (18).

Adolescent coping processes

Adolescents are thought to become more independent in their coping style with age, demonstrating increased self-efficacy in their responses to stress through middle- to late-adolescence (19–21). Self-efficacy involves the belief that one has the capacity to influence life events, and that challenges can be overcome through mastery and problem-solving (19). The literature also indicates that, while adolescent coping styles tend to center on individual efforts, social supports also play an important role as a 'back up system' in the event of stress (20). That is, peers become more prominent in the young person's support system with age, while adolescents continue to seek support from family, if to a lesser degree (19–21).

There is a dearth of literature available regarding adolescent responses and general coping processes related to the challenges faced following TBI. Some of these challenges identified in a recent qualitative examination included themes relating to young people's experiences of PCS (e.g., thinking problems,

CONTACT Suzanne Barker-Collo  s.barker-collo@auckland.ac.nz  Clinical Psychology Training Programme, School of Psychology, The University of Auckland, Private Bag, Auckland 92019, New Zealand

© 2023 The Author(s). Published with license by Taylor & Francis Group, LLC.

This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

fatigue, migraines) which often persisted for many years following their injuries, and the impact of these on important areas of their lives (e.g., school, work, social), and on the development (or retention) of a sense of self. The idea that the presence of friendships and a sense of social inclusion have a positive effect on recovery appears frequently in qualitative studies examining TBI samples (22–24). Young people often name ongoing support from family members (e.g., parents being present and motivating) as important for post-TBI adjustment (22–24), which is consistent with quantitative evidence for the protective role of family support in recovery (25). A preference has also been found for online interventions with preference linked to reduced attrition (26).

The concepts of finding meaning from a TBI experience, and post-traumatic growth (27–29) have been documented in literature regarding adult experiences of TBI. Post traumatic growth is the conception that a traumatic event, such as TBI, can be a meaningful experience that might alter an individual's values, beliefs, and behavior in multiple areas of life in a positive way (30). There is some suggestion that adolescents may undergo similar adolescents' view of the world (24), and in another study to a change in goals, aspirations and life trajectory for others (31). Finding meaning in the injury, or developing belief in a higher purpose, and maintaining optimism and getting on with life have also been mentioned by youth as important for coping (24,32).

The aim of this study was to analyze retrospective qualitative accounts of young adults who had sustained a TBI in adolescence to explore coping and recovery processes specific to this developmental stage.

Methodology

This qualitative interview-based study analyzed retrospective accounts of young people with a TBI in adolescence to identify factors that contributed either positively or negatively to their coping with the injury.

Study design and participants

Participants who sustained a TBI during adolescence were identified from the population-based Brain Injury Incidence and Outcomes in the New Zealand Community [BIONIC] study. Comprehensive descriptions of BIONIC study

methodology are published elsewhere (8, 33). Briefly, BIONIC identified all incident cases of TBI in the Hamilton and Waikato districts of New Zealand over a 12-month period (1 March 2010–28 February 2011 (8)). Participants were identified via multiple overlapping sources including hospital records, accident and medical clinics, general medical practices, schools, sports clubs, and self-referral.

For the present study, demographic and contact details were obtained for 51 adolescents from the original BIONIC cohort who were: (1) aged 13 to 17 years at the time of injury, and (2) previously identified as willing to be contacted for future research. Of these, 13 individuals who were contactable provided informed consent to participate. Recruitment then halted as data saturation was reached. As seen in Table 1, five participants (38.5%) were female, and eight (61.5%) male. The age of participants ranged from 13 years 2 months to 17 years 11 months (mean = 15 years 4 months) at the time of injury. Approximately 7 years 8 months (range = 6 years 8 months – 8 years 4 months; mean = 7 years 8 months) had passed since the TBI had occurred. The majority of participants had mild TBI (92.3%, $n = 12$), with only one (7.7%) experiencing a moderate injury. The majority self-identified as New Zealand European ($n = 11$), with the remaining two identifying as either Māori or as Pacifica. Two participants had a high school diploma, whilst four had completed or were working toward a trade certificate/apprenticeship, and the remaining seven had obtained ($n = 5$; 4 with honors) or were working toward ($n = 2$) a bachelor's degree. Injuries had occurred in the context of sporting activities ($n = 5$) or road accidents (i.e., bicycle and motor vehicle; $n = 7$), with one resulting from assault.

Procedure

Ethical approval was obtained from the University of Auckland Human Participants Ethics Committee (Reference 019641). Letters of invitation and information sheets about the study were sent to potential participants. After two weeks, potential participants were contacted by telephone to inquire if they would like to participate. Data were collected by the primary researcher (TM) following the recommended procedure for semi-structured interviews (34,35). The interview schedule, devised surrounding several areas of inquiry elicited from prior literature, was deliberately wide-ranging, consisting of open-ended questions (36). Areas of inquiry specific to

Table 1. Participant and injury details.

Pseudonym	Sex	Age at injury	Age at interview	Time since injury	Injury Severity	Injury Mechanism	Education level
Brandon	M	13y 2 m	20y 6 m	7y 5 m	mild	Motor vehicle accident	Bachelors (hons)
Rachel	F	13y 6 m	20y 11 m	7y 5 m	mild	Sport	Bachelors (hons)
Nick	M	13y 10 m	20y 6 m	6y 8 m	mild	Cycling; sport	Bachelors
Danielle	F	14y, 6 m	22y 5 m	7y 11 m	mild	Motor vehicle accident	Bachelors
Adam	M	14y 9 m	22y 7 m	7y 10 m	mild	Cycling; sport	Undergoing trade apprenticeship
Amy	F	14y, 9 m	22y 3 m	7y 6 m	mild	Sport	Bachelors (hons)
Dylan	M	15y 2 m	23y	7y 10 m	mild	Sport; assault	Bachelors
Samuel	M	15y 7 m	23y 5 m	7y 9 m	mild	Sport	Trade qualification
Matthew	M	15y 10 m	23y 10 m	8y	mild	Vehicle vs. bicycle	High school
Ethan	M	16y 6 m	23y 11 m	7y 5 m	mild	Motor vehicle accident	Trade Certificate
Ryan	M	17y 4 m	24y 11 m	7y 7 m	moderate	Motor vehicle vs. bicycle	First year diploma, IT
Talia	F	17y 1 m	25y 5 m	8y 4 m	mild	Self-harm	High school
Lauren	F	17y 11 m	25y 8 m	7y 9 m	mild	Sport	Bachelors (hons)
Mean		15 y 4 m	23y 0 m	7y 8 m			

coping following injury included, for example, ‘What was helpful during the time after the injury?’, ‘Who was important in helping you recover?’, ‘What kind of help could you have done with?’, and ‘Is there any kind of help that would have been beneficial, but wasn’t available/offered to you?’. A copy of the interview schedule can be made available on request.

A ‘naïve inquirer’ position was assumed, where the interviewer presented as knowledgeable, but less so than participants, and sought concrete examples from the participant’s life rather than questioning theoretical ideas (37,38). Qualitative research is a ‘stance’ (39) that incorporates the researcher’s perspective on how best to study the world and on how humans construct and make sense of their world (40). The guiding paradigm of the present study was one of critical realism (36). A paradigm may be seen as a ‘net’ that reflects a researcher’s assumptions in relation to ontology (which asks ‘what is the nature of reality?’), epistemology (i.e., regarding how that reality can be known), and axiology (i.e., the role of values in the research process), and has an impact on how the research question is approached and the methodology employed (34,36,41). Here, a critical realist paradigm was applied. Critical realism falls between the extremes of essentialism (or realism) and constructionism. Essentialism might report on experiences and meanings of participants as reality or truth, whereas the constructionist approach perceives such experiences and meanings as products of the discourses that operate within society (41,42). Critical realism ‘assumes an ultimate reality, but claims that the way reality is experienced and interpreted is shaped by culture, language and political interests’ (p.329) (42). It acknowledges a reality beyond individuals, without overestimating how much can be known about that reality. Critical realism was considered an appropriate lens for the current research question as it acknowledges that there are certain measurable ‘truths’ regarding sustaining a brain injury (e.g., neurological damage), whilst recognizing the limitations of how we come to understand such truths. First engaging with the literature allowed the researchers to formulate a picture of what is currently thought to be known about the experience of TBI during adolescence. These prior findings and theories aided the development of broad areas of inquiry for this study, but these theories were held to be amongst some of the possible ‘truths’ regarding the experience of adolescent TBI. In this way, critical realism allowed contemplation of how participants ascribed meanings to their experiences and consideration of the influence of contextual factors on those meanings.

Regarding personal orientation, qualitative research embraces the role of the ‘researcher-self,’ and takes advantage of the relationship that arises within the research setting, which sees both researcher and participant inevitably influencing the findings (40,43). Taking a reflexive stance, acknowledging and disclosing one’s personal orientation (e.g., social position, experience with the topic) is an important part of demonstrating researcher credibility, by enabling the reader to allow for the effects of such factors (36,40). TM, who conducted the analysis, is a white Irish woman who moved to New Zealand at the age of 22, and was aged 28 to 30 during the course of this research, prior to commencing her Doctorate in Clinical Psychology she worked for 8 years with children and

young people in various roles within mental health, drug and alcohol treatment, and autism specialist services. The World Health Organisation report, *Health for the World’s Adolescents (H4WA): A Second Chance in the Second Decade* (44), endorses a positive youth perspective, viewing young people as resilient, with the potential to maximize the opportunities offered by the social circumstances of their generation. The researcher entered this research with a similar youth empowerment stance; feeling disappointed by the prevalence of problem-focused themes within the broader literature on adolescent TBI and questioned whether such a discourse may serve to stunt rather than empower a young person’s development and recovery following TBI.

Interviews were held at participants’ places of residence or a suitable alternative preferred location (e.g., local café). Interviews varied in duration (range = 35–100 minutes; mean = 58 minutes) and were audio recorded. Participants were compensated for their time with their choice of a movie or supermarket voucher (value \$20). A total of 35 participants from the BIONIC study were identified as meeting inclusion criteria for the study. Of these, 21 could be located and were contacted by the researcher, and 8 declined to participate. At this stage ongoing analysis suggested data had reached saturation, that is, the point where themes were rich and fleshed out, and no new categories or themes were evident (45).

Data analysis

Interviews were listened to at least twice and then transcribed by the primary researcher (TM). The accuracy of 10% of transcripts was checked by an external auditor, who considered the transcripts were accurate when compared against interview audios. Transcripts were entered into a qualitative data analysis computer software package (NVivo; see (46)).

This analysis was guided by the research question: How did young people cope with the aftermath of a TBI in adolescence? A reflexive iterative approach was applied, with recursive moving back and forth through the dataset and the steps described below (41,47). Analysis began inductively, deriving themes from the data themselves, rather than attempting to validate prior research or theory (47). Reading and rereading transcripts allowed continual checking of emerging insights against the data, thereby refining and progressively focussing the patterns. Thematic analysis (48) was conducted using Braun and Clarke’s (49,50) six-phase approach, as follows:

1. Familiarization with the data. Analysis began with reading and rereading the entire dataset to familiarize myself with the depth of its content. Notes were taken on possible patterns within the data and an initial list of ideas regarding what seemed noteworthy was generated. **2. Coding.** Based on the initial list, several potential categories/codes within NVivo were derived, each identifying an important feature of the data which might become relevant to answering the research questions. Sections of text within each interview transcript were collated within NVivo files that represented each code. Upon completion of this phase 88% of the data had been allocated to at least one category. **3. Searching for themes.** Next, codes were printed, and different colored highlighters were used to consider the relationship amongst the listed codes. Codes were sorted into potential themes and categories

of themes based on broader patterns. Relevant data extracts were collated within each candidate theme. **4. Reviewing and refining themes.** The significance of each theme was considered by checking candidate themes against the dataset and questioning if a theme captured the essence of a meaningful pattern in the data. In this way, themes were refined, combined, separated or discarded. A thematic map was developed and used to review and refine coding until the map seemed to accurately reflect meanings evident in the dataset. **5. Defining and naming themes.** The focus of individual themes was considered, and themes were further refined as writing commenced. A detailed analytic narrative was then written for each theme, which sought to identify the story of each theme and how it fit within the broader story of the data. **6. Writing up the analysis.** The analytic narrative was woven with data extracts in a way that would convey what was interesting about the data. Data extracts that most appropriately captured the essence of each theme were chosen. Extracts were cleaned by removing identifiers, repetitions and redundant discourse markers. Removed words in quotes were replaced by an ellipsis. Note that all names used are pseudonyms to protect participant confidentiality.

Striving for the highest possible quality data is a crucial factor in conducting research. However, the divergent methodological, ontological and epistemological assumptions regarding how phenomena can be understood creates challenges for judging the quality of qualitative research (40,41). Rather than seeking reliability or validity statistics, concepts more suited to research situated in realist perspectives, rigor is often spoken about in qualitative research in terms of 'trustworthiness' (41). It is not reasonable to apply a single set of criteria for achieving trustworthiness across qualitative approaches (41,51). Therefore, suggestions offered by a number of authors (34,41,45) were used in designing and conducting this study, in an effort to demonstrate the integrity of the data and the credibility of the study. For example, a crucial element of allowing a reader to judge the trustworthiness of a study is making visible the details of data and how they were obtained (45,52). Thus, an attempt was made to demonstrate that data of sufficient quality and quantity have been gathered from a sample that was adequately diverse to offer a variety of viewpoints (53). Trustworthiness may also be attained through thoroughly describing and referencing the research design, recruitment process, interview protocol, and any personal biases that might impact these (41,45). A rich description of the research setting and of participants was important for enabling the reader to ascertain the relevance of findings within other contexts (34).

The credibility of research findings relates to how congruent reported findings are with participant experiences (34). Nutt Williams et al (45) described this in terms of balancing 'perspective and meaning,' where research findings are deemed the product of a 'mutual construction of meaning' (p. 579). The authors acknowledge consideration of the subjectivity of qualitative data collection and analysis, and attempted to verify credibility through: 1. Reflexivity practices, which included maintaining two journals to reflect on the content/context of the data collection and on personal reactions to the interviews. 2. Clarifying

participant meanings during interviews (34) and offering participants the opportunity to review the transcribed data retrospectively. 3. Searching for alternative patterns to challenge our own views and avoid overly simplistic interpretations of the data (36). 4. Interpretations were broadened by engaging in discussions with supervisors and members of a qualitative research peer group (54). And 5. In forming the discussion, theoretical triangulation was applied (i.e., interpreting the findings from the perspectives of multiple theories) so as to examine how data and interpretations may be understood from various perspectives (34).

Results

The results of this analysis captured aspects of participants' post-injury experience that impacted either positively or negatively on their coping. These have been organized into two broad categories (1) *Individual factors impacting coping*, with themes of getting on with life, accepting limitations, and finding meaning; and (2) *Social factors impacting coping*, which included themes of finding comfort and inclusion through friendship, relying on family, professionals who didn't get it, and lacking someone who understands.

Individual factors impacting coping

Getting on with it

The perception of TBI as a minor event was common immediately after the participants' injuries. Adam considered his TBI as like any other injury: '*At the time, I didn't really link it to anything. I thought a concussion was like, when I broke my arm, all that sort of stuff, a week later, I'm sweet, sort of thing*'. Thus, participants tended to 'just get on with it', not complaining or seeking help. Ethan stated: '*Yeah, there's no point in crying about it, that's my theory anyway*', and Ryan said: '*I've always been the sort of person not to complain about too much. It's probably a good thing for this sort of injury*'.

Participants tended to draw on a sense of determination to help them through the immediate adjustment following their injuries, a coping stance that seemed connected to how they viewed themselves. Ethan stated, '*I just put my mind to something and stick to it*', and Samuel reflected, '*I've always been quite focused on what I'm doing, so if I've got a goal, I'll try and achieve it and just try to not let anything hold me back*'. For some, this attitude meant working extra hard at school or finding new ways to study as new thinking challenges contributed to academic challenges.

I knuckled down, I was like 'I have to learn as much as I can just to get through this'. . . . 'Cause yeah, usually I'd just listen to it or see it and that's it, got it, but it wasn't happening. So, it was a big learning curve for me having to actually process things a bit differently.
[Lauren]

Some reflected on the impact of this determination, as, for example, they found their fatigue was exacerbated by their desire to work hard so that they could progress academically. Lauren recalled, '*there were definitely times when fatigue hit me pretty hard, mostly around the exam period*', while Danielle

described her fatigue and migraines as being at their worst ‘mainly at uni’.

Learning to accept limits

Over time, participants seemed to change their perspectives of their injuries. Gradually learning to accept the ongoing effects of their TBIs helped the participants to cope with the upset associated with some of their losses and to move forward. For many, acceptance was aided by reflecting on how things could be worse, often through comparisons to others who seemed worse off, as Samuel said, ‘there’s always kind of like “why me?” but then there’s always someone worse’. Some discussed learning and accepting that recovery can take time, that ‘you can’t make your brain heal faster’ [Ryan]. For others this meant standing up to people who had an unrealistic view of how long it should take to recover from a TBI: ‘I had a boss and he said, “you’re young, you can bounce back quite a bit quicker.” That’s actually not the case, it doesn’t matter how old you are, the way I see it, it takes ages to recover’ [Matthew].

Acceptance allowed participants to recognize that they would have to lower their expectations and give themselves time to recover. Samuel recounted the realization that “making sure that you rest up when you have an injury like that, ‘cause you only get one head and one brain, so you might as well look after it”. Many of the migraine sufferers noted managing stress levels and ensuring regular sleep as important for staying well. Brandon learned, ‘I think I can usually pretty much avoid [migraines] ... it’s about how regular my sleeping pattern is ... like if I get out of whack, yeah.’ Some expressed how it was not always possible to maintain balance or to preempt ‘burn out’ [Amy]. Motivation to remain involved in life continued to present dilemmas as participants wanted to stay involved in everything they valued, despite knowing that this might exacerbate their symptoms. Amy shared how she would try to observe her limits, and prioritize the things that were most important:

It was hard to say no ... But like once I’d said ‘no’ once, it was really empowering ... I’ve definitely come a long way to be like reflecting on what’s happened and actually knowing what I like and being confident in myself and saying ‘no.’ [Amy]

Finding positive meaning

None of the participants said that they would take away what happened. Instead, participants sought to take positive meaning from their TBIs, mostly by reflecting on how they had become more resilient, or how they could use their experience to help others. Samuel articulated how such an experience could make one ‘stronger’:

If you don’t go through trials, then you don’t become stronger ... The more things you go through, the better you come out. You can either come out of it bitter or better. So it’s just a personal choice you have to make.

Experiencing a TBI often led to gratitude for having survived and grown from it whilst, at the same time, allowing grief over what was lost:

I find trying to think about it, there are parts where I just want to break down and cry ... it’s this overwhelming emotion, like ‘I can’t

believe I’ve been through that, and it happened to me, and I’ve got out the other side,’ and then part of it’s, you know, like, ‘I wonder what it could have been like, if it had been different?’ [Dylan]

Another source of meaning for participants was using their experience to help others. Those who worked in healthcare felt that their experiences provided them with inside knowledge, which enabled them to develop a deeper empathy for the position of their patients than they may otherwise have had:

I’ve almost been able to flip it back the other way now that I work in [healthcare] ... when you’re talking to patients and relating to them, you know ... I mean they may not have had a head injury but they’ve got that anxiety, that stress, you know. ... my negative experience has much become a positive change for the way I would try to relate to people in my job. [Dylan]

For some participants they viewed this capacity to understand as an asset in their professional roles:

If we ever get someone on the ward with a concussion or TBI ... I think if I hadn’t had had a concussion, I wouldn’t have been as understanding, ‘cause I know a lot of [my colleagues] are just like ‘oh, could be a TBI, could be a concussion, they’ll be right, they’re walking, they’re fine’ ... and I was like ‘hang on!’ [Lauren]

Social factors impacting coping

Finding comfort in friendship

Friendships were central to almost all recovery narratives, with most participants speaking about how helpful ‘camaraderie’ [Nick] had been. One important way friends had been supportive was by carrying on as normal and continuing to hang out with them, as Danielle shared, “I had quite a really good friends’ network, like I had quite a lot of friends, different friends ... and I guess spending quite a lot of time with them ... Yeah, it did make quite a bit of difference.” Similarly, Brandon recalled how his friends ‘always still kept inviting me out and stuff like that ... I suppose just going to school and carrying on like it’s a - normal day ... that helped.’ This sense of group belonging continued to be important beyond the acute injury phase:

You know, you’re working in a team, and it might not be on a sports field but there’s always that sense of accomplishment ... We’ve done it as a team, everyone is excited and happy, you know. Even the whole meeting up after work and stuff ... coming into this team as a brand-new person and being so accepted and so welcomed straight away, having everyone wanting to get to know you, I think was, when the whole isolation bit, I kind of started living. [Dylan]

Relying on family

Many participants had relied on support from their families who had continued to look after them following their injuries, ‘I mean if I didn’t have my parents supporting me as much as I did, I have no idea where I would be now’ [Ryan]. In addition to support with daily needs, Ryan noted the importance of his parents’ advocacy with the medical system:

Just everything, like letting me live here no problem, like Mum definitely helped with all the [medical insurance] ACC stuff ‘cause I had none of that basically, it was hard enough to deal with other stuff. Yeah, they just generally helped with everything like. I guess I lived just like a teenager for quite a few years you know.

Brandon also discussed how his mother continued to help him navigate the medical system at the time of interview: *'She's probably just been like a manager really, organizing, taking the lead'*.

Participants mostly talked about their parents, but there were times siblings had filled the 'looking after' role. Lauren recalled her sister's help in the initial stages after her TBI:

Well I think my sister did the extra looking after for a little while. She was the one that was there telling me, like waking me up when I'd sleep too long, and making sure I wasn't reading too much and all of that, yeah. . . . It was really nice to be honest.

Professionals didn't get it

Almost all participants talked about the absence of professional input in their recovery journey. Brandon reflected that he *'probably didn't actually have a lot of support from any doctors or anything like that'*. An absence of someone with specialized TBI knowledge, who could provide an idea of how their injury might impact them, was common. Ryan said, *'I remember at the time no one would ever like tell you how long it's going to take to recover, and that sort of thing'* and recalled feeling as though *'you're sort of left in the dark, to find your own way.'*

Difficulty understanding what was happening to them was described amongst the most challenging and anxiety-provoking aspects of the TBI: *'It's given me a lot of fear and anxiety just from not knowing what was going on or what was going to happen'* [Dylan]. Many felt that being given some information regarding what to expect would have made it easier to cope: *'I know you can't give definitive timelines in something like this, but the possibility that this could be a longstanding thing would have been nice to know'* [Lauren].

Many also noted a lack of rehabilitation that targeted their TBI-related symptoms: *"If you break your arm or whatever, then you go to physio' after you get your cast off, to rehabilitate it. There should be rehabilitation afterward . . . I wasn't going to anything for the concussion"* [Brandon].

Lacking someone who understands

Finally, participants commonly reflected how they would have benefited from having access to others who understood what they were going through. Many found initial understanding from those around them to be short-lived, particularly regarding persisting headaches, fatigue and irritability. Participants often interpreted their family's attitude to their injuries as, *'Oh, you'll be fine'* [Rachel] or *'you'll be right'* [Lauren], and recalled feeling as though they were expected to *'get back on the horse'* [Danielle].

Some, like Ryan, shared how hard it had been to cope with the invisibility of their injuries: *'I remember I broke my hand like probably six months after my head injury . . . I remember people like asking me about my hand a lot more than my head, and it's like my hand was nothing!'* He described the disillusionment he felt as people did not seem to recognize just how hard he was trying in the face of considerable fatigue: *'you're working your ass off but like nobody else can see it . . . I'd be like really working as hard as I can . . . and everyone else would just take it for granted that you should be doing more than that.'*

The perception that others would not understand seemed to contribute to a tendency to *'hold everything in'* [Danielle]. Keeping everything to oneself had been quite a lonely experience for participants: *'I very much felt like I was on my own'* [Dylan]. On reflection, many participants considered how they would have appreciated *'somebody to talk to'* [Brandon]. Rachel felt that parents should position themselves as available for their young people to talk to and considered *'not just knowing they're there'* as important *'but actually being able to talk to them'*. Some related their loneliness to feeling as though they were the only one to experience this kind of suffering. Matthew said: *"Just not having the support from people, just that's quite hard 'cause it just feels like I'm the only one who's had it and I only know what it's like to go through it."* A couple of participants noted how it may have helped to talk to peers with similar injuries: *'If they had gone through the same thing . . . I would have been able to learn from their experience of what they learnt, rather than going into it alone'* [Matthew]. Those who did have this access had not felt so alone: *'I'm not the only one to go through injuries, my older brother's had a few so, it's like, "I kind of know how you feel."* He's had concussions . . . So it's kind of cool. . . . He's sort of been through a similar thing.' [Samuel]

Discussion

The present study sought to broaden the literature regarding recovery experiences following adolescent TBI, and to understand what adolescents themselves might consider helpful or unhelpful in their coping following such an injury. Thematic analysis of retrospective interviews with young adults who sustained TBI during adolescence produced themes relating to key individual and social factors which they believed had helped, or might have helped, in the years following their injuries; in addition to identification of factors that were not helpful. The overriding story which emerges, regardless of the mechanism of injury, is one of reliance on self, while acknowledging the central role of the support of others with recovery depicted as an ongoing process involving finding balance, learning about oneself, and finding ways to view the experience in positive ways.

Individual resources impacting coping

Participants in this study showed a clear preference for self-reliance and problem-solving when faced with initial challenges relating to their TBIs, which is consistent with developmental literature on coping styles (19,21). It is also likely that this self-reliance was reinforced in instances where stress was encountered due to the unavailability of steady friendships, or where professionals did not 'get it.' The broader literature on coping (55) suggests that when stressful situations cannot be resolved through problem-solving, accommodative strategies, which involve changing one's perspective of a problem, are used. They demonstrated accommodative coping by making downward comparisons (e.g., 'it could be worse'), accepting problems that could not be solved, altering their view of the problem to a more positive one, changing their focus to new interests, and/or achieving rest and balance.

Participants' responses to their injuries went beyond simply coping. Through time, many underwent what appeared to be post-traumatic growth (30), concluding that their TBIs had helped them grow into stronger or 'better' people, or allowed them to better understand others (e.g., their own medical patients). Post traumatic growth has frequently been observed in adults following TBI (27,29), whilst adolescents in other qualitative studies have been seen to draw meaning from TBIs in similar ways (24,31,33). While the literature regarding adolescent TBI recovery processes is limited, research on youth experiences of physical illness (56,57) and mental health issues (58,59), also depict recovery as an ongoing process involving finding balance, reducing commitments, learning about oneself, experiencing illness as life-enhancing, and finding ways to 'give back' by helping others (58,60).

Social resources impacting coping

Almost all participants described how friends, family and professionals had contributed to their recovery. The literature indicates that, while adolescent coping styles tend to center on individual efforts, social supports also play an important role in the event of stress (19). Peers are seen to become more prominent in the young person's support system with age, while adolescents continue to seek support from family, if to a lesser degree (19–21).

Participants in the current study saw friendships as important to providing a sense of belonging and continuity. It was evident that some participants felt better able to cope with the ups-and-downs of post-injury life when they had an established and available friendship group. Others described stress related to the unavailability of steady friendships. This finding may be understood in the context of the 'general benefits' and 'stress-buffering' models of social support, which together convey the importance of peer availability for bolstering self-worth, purpose and positive affect more generally, whilst also offering protection against the negative effects of stress (61,62).

Emotional support and caring from family were critical for helping the participants through challenges related to their injuries. It seemed important that family were available to 'look after' the young person as they struggled to manage symptoms, and to provide practical support by allowing the young person to remain living at home. Parents were also important advocates who helped navigate the healthcare system. Adults who have experienced TBI (63,64) and young people experiencing a psychotic episode (58,65) have reported similar forms of support from family as helpful in their recoveries.

One of the most significant findings was that overwhelmingly, participant narratives denoted an absence of any specialized brain injury support. Participants felt that the professionals available (e.g., GPs, assessing psychologists) were unable to provide the answers they sought regarding what to expect from TBI recovery. Participants expressed that feeling more informed might have alleviated some of their anxiety regarding ongoing symptoms. Feeling validated and reassured by practitioners, as well as supported to develop a coherent understanding of their injuries, are considered by others with TBI as important for enabling recovery (66,67).

Adults recovering following TBI in New Zealand and internationally have expressed similar feelings of confusion, dissatisfaction and perceived lack of rehabilitation and information from professionals (63,64,66). Whilst specialist TBI services are available in New Zealand via the Accident Compensation Corporation (ACC; government funded no-fault system that funds all injury-related health care including specialist concussion clinics), it seemed that many of the current participants were unaware of this or of how services could be accessed. Those who have experienced a TBI elsewhere have identified a lack of transparency regarding support available as a barrier to treatment, and individuals with milder injuries seem to experience particular difficulty in this regard (64). Graff and colleagues (64) also noted the absence of services equipped to meet the specific needs of young people.

The current participants' descriptions of the more negative impacts on their coping pointed to a perceived lack of validation and emotional support. Many wished they had had a trustworthy other to talk to about their TBI-related problems. Young people elsewhere have shared the importance of feeling understood, believed and listened to non-judgementally in their mental illness journeys (68). Likewise, interviews with adults following a mild TBI indicated that feeling validated and reassured by others could have a buffering effect on their stress (66). Furthermore, an adolescent's need for support may go unrecognized due to the invisibility of TBI, alongside the young person's motivation to 'get on with it' and to appear 'just like everyone else'. Such a pattern has been documented in the 'identity paradox', which is apparent in youth with chronic illnesses and disability (56). Adults with TBI have described how invisibility may enable a degree of 'normality' to be preserved, whilst also exacerbating suffering and loneliness (63,69).

Literature regarding adolescent help-seeking behaviors indicates a preference for autonomous coping, in addition to mistrust in health professionals, likely forms barriers to youth approaching services (70,71). Societal factors may also play a role in the participants' difficulty obtaining emotional support. Attempts made to elicit care from others were often met with a feeling of being stigmatized, consistent with a reported perception that people look down upon those who have sustained a TBI in New Zealand (72). Participants also described being told 'you'll be right' and 'get back on the horse', messages which reflect a cultural view common within New Zealand that promotes stoicism and a 'she'll be right' approach to life (49,73,74).

Clinical implications

The findings from the current study support recommendations described in the guidelines for mild TBI management in children and adolescents by The Centers for Disease Control and Prevention (CDC (75)). Specifically, this research highlights how recovery following an adolescent TBI might be supported by facilitating greater understanding of the impact of TBI, through education for the young person and their family; follow up with a multidisciplinary team, with long term monitoring of symptoms and emotional reactions; and the facilitation of social and emotional support (e.g., youth

support groups to bring together young people with TBI to share their experiences). Accessing services was a particular barrier and there is a need for increased transparency regarding supports that are available. Unfortunately, there are no specific protocols/regulations to meet the unique needs of adolescents post-TBI (76) and this should be a priority for future research. Participants indicated that having an ongoing relationship with a trustworthy professional may have helped. Young people have indicated that the availability of a professional who demonstrates trustworthiness and approachability, and who prioritizes rapport might reduce the barriers to help-seeking and disclosure (70,77).

The current participants also thought stress might have been eased had they been given opportunity to connect with others who had been through a similar experience. Youth experiencing mental illness have found that group identification and connecting with similar others can enhance recovery, personal wellbeing and social integration, suggesting the need for youth support groups (58,65,78). Finally, the present study findings would suggest the potential benefits of individual therapy directed at the promotion of adaptive coping strategies (e.g., cognitive re-appraisal) in the medium term and meaning-making (e.g., facilitating Post traumatic growth) in the longer term. Although the literature is significantly lacking (79), there is some support for psychotherapy in the treatment of TBI (80).

Strengths and limitations

To the authors' knowledge, this is the first study to qualitatively explore longer term recovery processes following adolescent TBI, spanning the period into early adulthood. That all participants had sustained their TBI between the ages of 13 and 17 years and were in their early 20s at interview, with a similar time period between injury and participation, add to the strength of this study. The qualitative design presented the ideal stance from which to explore the research topic, with the majority of existing research on adolescent TBI dependent on quantitative measures and parent reports. Rather than pursuing an objective 'truth', this research sought to uncover the range of subjective experiences that might occur for a young person following a TBI.

The findings are limited by selection bias due to the nature of the recruitment process. Those who continued to consent to involvement in the BIONIC research, and who were willing to partake in this study may not be representative of the whole sample. The sample may have been biased toward those with an interest in healthcare and/or who were more educated, as most participants were at least working toward third level (post-secondary) qualifications. This is not insignificant, given that socioeconomic status can affect outcomes following adolescent TBI (81). It must also be acknowledged that, with the exception of one individual with moderate TBI all participants in this study had experienced mild TBI. While this is expected given that 96% of TBI are expected to be of mild severity (8), it must be acknowledged that the findings are not generalizable to those with moderate and severe TBI. It should also be noted that this was a generally well educated sample. Indices of deprivation such as reduced education and

socioeconomic status can impact outcomes of TBI outcomes (82). One implication for the present study then is that if educated families found navigating and accessing services difficult, it is likely that those with lower levels of education would find it even more difficult.

Conclusions

Recovery following TBI sustained during adolescence could be maximized by facilitating greater understanding of the injury. Broader understanding for patients, family, and clinicians and service providers seems applicable based on the study findings and its likely impacts, longer term monitoring of symptoms including emotional reactions to symptoms, and the provision of emotional support.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

The author(s) reported there is no funding associated with the work featured in this article.

References

1. Furlong A, Woodman D, Wyn J. Changing times, changing perspectives: reconciling "transition" and "cultural" perspectives on youth and young adulthood. *J Sociol.* 2011;47(4):355–70. doi:10.1177/1440783311420787.
2. Sawyer SM, Azzopardi PS, Wickremaratne D, Patton GC. The age of adolescence. *Lancet Child Adolesc Health.* 2018;2(3):223–28. doi:10.1016/S2352-4642(18)30022-1.
3. Dumontheil I. Development of abstract thinking during childhood and adolescence: the role of rostralateral prefrontal cortex. *Dev Cogn Neurosci.* 2014;10:57–76. doi:10.1016/j.dcn.2014.07.009.
4. Inhelder B, Piaget J. *Adolescent Thinking.* in *The growth of logical thinking: from childhood to adolescence. An essay on the construction of formal operational structures.* B.I.J. Piaget, Ed. 2013. Routledge; pp. 334–50. 10.1037/10034-018.
5. Nelson EE. The social re-orientation of adolescence: a neuroscience perspective on the process and its relation to psychopathology. *Psychol Med.* 2005;35(2):163–74. doi:10.1017/S0033291704003915.
6. Edge L. Traumatic brain injury: time to end the silence. *Lancet Neurol.* 2010;9(4):331. doi:10.1016/S1474-4422(10)70069-7.
7. Semrud-Clikeman M, Bledsoe JC. Traumatic brain injury in children and adolescents. In: D'Amato ASDRC, editor *Handbook of Pediatric Neuropsychology.* New York: Springer; 2010. pp. 963–77.
8. Feigin V, Theadom A, Barker-Collo S, Starkey NJ, McPherson K, Kahan M, Dowell A, Brown P, Parag V, Kydd R, et al. Incidence of traumatic brain injury across all ages and the full disease spectrum: a population-based study in New Zealand. *Lancet Neur.* 2013;12(1):53–64. doi:10.1016/S1474-4422(12)70262-4.
9. Rickels E, von Wild K, Wenzlaff P. Head injury in Germany: A population-based prospective study on epidemiology, causes, treatment and outcome of all degrees of head-injury severity in two distinct areas. *Brain Inj.* 2010;24(12):1491–504. doi:10.3109/02699052.2010.498006.
10. Hyder AA, Wunderlich CA, Puvanachandra P, Gururaj G, Kobusingye OC. The impact of traumatic brain injuries: A global perspective. *NeuroRehabilitation.* 2007;22(5):341–53. doi:10.3233/NRE-2007-22502.

11. Davis GA, Anderson V, Babl FE, Gioia GA, Giza CC, Meehan W, Moser RS, Purcell L, Schatz P, Schneider KJ, et al. What is the difference in concussion management in children as compared with adults? A systematic review. *British j sport med.* 2017;51(12):949–57. doi:10.1136/bjsports-2016-097415.
12. Starkey N, Jones K, Case R, Theadom A, Barker-Collo S, Feigin V. Post-concussive symptoms after a mild traumatic brain injury during childhood and adolescence. *Brain Inj.* 2018;32(5):617–26. doi:10.1080/02699052.2018.1439533.
13. Chrisman SPD, Richardson LP. Prevalence of diagnosed depression in adolescents with history of concussion. *J Adolesc Health.* 2014;54(5):582–86. doi:10.1016/j.jadohealth.2013.10.006.
14. Jones KM, Prah P, Starkey N, Theadom A, Barker-Collo S, Ameratunga S, Feigin VL. Longitudinal patterns of behavior, cognition, and quality of life after mild traumatic brain injury in children: BIONIC study findings. *Brain Inj.* 2019;33(7):884–93. doi:10.1080/02699052.2019.1606445.
15. Sariasslan A, Sharp DJ, D'Onofrio BM, Larsson H, Fazel S. Long-term outcomes associated with traumatic brain injury in childhood and adolescence: a nationwide Swedish cohort study of a wide range of medical and social outcomes. *PLoS One.* 2016;13(8):1–18. doi:10.1371/journal.pmed.1002103.
16. Mulligan T, Barker-Collo S, Gibson K, Jones K. You only get one brain. Adult reflections on acute and ongoing symptom experiences after traumatic brain injury in adolescence. *Brain Inj.* 2021;35(10):1308–15. doi:10.1080/02699052.2021.1972336.
17. Buckeridge K, Clarke C, Sellers D. Adolescents' experiences of communication following acquired brain injury. *Int J Lang Comm Dis.* 2020;55(4):97–109. doi:10.1111/1460-6984.12506.
18. Kakonge L, Charron VP, Vedder J, Wormald K, Turkstra LS. A mapping review of adolescent identity after TBI: what clinicians need to know. *Neuropsychol Rehabil.* 2022;32(8):1868–903. doi:10.1080/09602011.2022.2071299.
19. Cicognani E. Coping strategies with minor stressors in adolescence: relationships with social support, self-efficacy, and psychological well-being. *J Appl Soc Psych.* 2011;41(3):559–78. doi:10.1111/j.1559-1816.2011.00726.x.
20. Compas BE, Jaser SS, Bettis AH, Watson KH, Gruhn MA, Dunbar JP, Williams E, Thigpen JC. Coping, emotion regulation, and psychopathology in childhood and adolescence: A meta-analysis and narrative review. *Psychol Bull.* 2017;143(9):939–91. doi:10.1037/bul0000110.
21. Zimmer-Gembeck MJ, Skinner E. Review: the development of coping across childhood and adolescence: An integrative review and critique of research. *Int J Behav Dev.* 2011;35(1):1–17. doi:10.1177/0165025410384923.
22. Di Battista A, Godfrey C, Soo C, Catroppa C, Anderson V. Does what we measure matter? Quality-of-life defined by adolescents with brain injury. *Brain Inj.* 2015;29(5):573–82. doi:10.3109/02699052.2014.989905.
23. Iadevaia C, Roiger T, Zwart MB. Qualitative examination of adolescent health-related quality of life at 1 year postconcussion. *J Athl Train.* 2015;50(11):1182–89. doi:10.4085/1062-6050-50.11.02.
24. Mealings M, Douglas J. 'school's a big part of your life.:adolescent perspectives of their school participation following traumatic brain injury. *Brain Impair.* 2010;11(1):1–16. doi:10.1375/brim.11.1.1.
25. Savage RC, DePompei R, Tyler J, Lash M. Paediatric traumatic brain injury: A review of pertinent issues. *Pediatr Rehabil.* 2005;8(2):92–103. doi:10.1080/13638490400022394.
26. Wade S, Cassedy AE, Sklut M, Taylor HG, McNally KA, Kirkwood MW, Stancin T, Kurowski BG. The relationship of adolescent and parent preferences for treatment modality with satisfaction, attrition, adherence, and efficacy: the coping with head injury through problem-solving (CHIPS) study. *J Pediatr Psychol.* 2019;44(3):388–401. doi:10.1093/jpepsy/jsy087.
27. Grace JJ, Kinsella EL, Muldoon OT, Fortune DG. Post-traumatic growth following acquired brain injury: A systematic review and meta-analysis. *Frontiers Psychol.* 2015;6(8):1–16. doi:10.3389/fpsyg.2015.01162.
28. Thomas EJ, Levack WMM, Taylor WJ. Self-reflective meaning making in troubled times: change in self-identity after traumatic brain injury. *Qual Health Res.* 2014;24(8):1033–47. doi:10.1177/1049732314542809.
29. McGrath JC, Linley PA. Post-traumatic growth in acquired brain injury: A preliminary small scale study. *Brain Inj.* 2006;20(7):767–73. doi:10.1080/02699050600664566.
30. Rogan C, Fortune DG, Prentice G. Post-traumatic growth, illness perceptions and coping in people with acquired brain injury. *Neuropsychol Rehabil.* 2013;23(5):639–57. doi:10.1080/09602011.2013.799076.
31. Di Battista A, Godfrey C, Soo C, Catroppa C, Anderson V. Åœœin my before lifeåœœ?: Relationships, coping and post-traumatic growth in adolescent survivors of a traumatic brain injury. *J Rehabil Med.* 2014;46(10):975–83. doi:10.2340/16501977-1883.
32. Rennie BJ. Social impact of traumatic brain injury in adolescents: a mixed methods study with a focus on rural adolescents. PhD Dissertation, Department of Psychology, University of Montana; 2015.
33. Theadom A, Barker-Collo S, Feigin VL, Starkey NJ, Jones K, Jones A, Ameratunga S, Barber PA. The spectrum captured: A methodological approach to studying incidence and outcomes of traumatic brain injury on a population level. *Neuroepidemiology.* 2012;38(1):18–29. doi:10.1159/000334746.
34. Chwalisz K, Shah SR, Hand KM. Facilitating rigorous qualitative research in rehabilitation psychology. *Rehabil Psychol.* 2008;53(3):387–99. doi:10.1037/a0012998.
35. Doody O, Noonan M. Preparing and conducting interviews to collect data. *Nurse Res.* 2013;20(5):28–32. doi:10.7748/nr2013.05.20.5.28.e327.
36. Morrow SL. Qualitative research in counseling psychology: conceptual foundations. *Couns Psychol.* 2007;35(2):209–35. doi:10.1177/0011000006286990.
37. Herman H. *Interviewing as an activity*, in *A Companion to Qualitative Research : paradigms, Theories, Methods, Practice and Contexts.* E.c.K. U. Flick, & I. Steinke, Ed. London:Sage Publications; 2008pp. 295–96.
38. Leech B. Asking questions: techniques for semistructured interviews. *Political Sci & Politics.* 2002;35(4):665–68. doi:10.1017/S1049096502001129.
39. Marecek J. Dancing through minefields: Toward a qualitative stance in psychology. In: Camic PM, Rhodes JE, Yardley L, editors. *Qualitative research in psychology expanding perspectives in methodology and design.* American Psychological Association; 2004. p. 49–69.
40. Hammersley M. *Defining qualitative research*, in *What is Qualitative Research?*. M. Hammersley, Ed. London:Bloomsbury Academic;2013pp. 1–7.
41. Twining P, Heller RS, Nussbaum M, Tsai C-C. Some guidance on conducting and reporting qualitative studies. *Comput Educ.* 2017;106:A1–A9. doi:10.1016/j.compedu.2016.12.002.
42. Braun V, Clarke V. *Successful qualitative research: a practical guide for beginners.* London: Sage; 2013.
43. Camic PM, Rhodes JE, Yardley L. Naming the stars: Integrating qualitative methods into psychological research. In: Camic PM, Rhodes JE, Yardley L, editors. *Qualitative research in psychology: expanding perspectives in methodology and design.* American Psychological Association; 2003. p. 3–15.
44. Dick B, Ferguson BJ. Health for the world's adolescents: A second chance in the second decade. *J Adolesc Health.* 2015;56(1):3–6. doi:10.1016/j.jadohealth.2014.10.260.
45. Nutt Williams E, Morrow SL. Achieving trustworthiness in qualitative research: A pan-paradigmatic perspective. *Psychother Res.* 2009;19(4–5):576–82. doi:10.1080/10503300802702113.
46. Bazeley P, Jackson K. *Qualitative Data Analysis with NVivo.* P.B. K. Jackson, ed. London: Sage Publications; 2013.
47. Srivastava P, Hopwood N. A practical iterative framework for qualitative data analysis. *Int J Qual.* 2009;8(1):76–84. doi:10.1177/160940690900800107.

48. Braun V, Clarke V. Can I use TA? Should I use TA? Should I not use TA? Comparing reflexive thematic analysis and other pattern-based qualitative analytic approaches. *Couns Psychother Res*. 2021;21(1):37–47. doi:10.1002/capr.12360.
49. Braun V. “She’ll be right”? National identity explanations for poor sexual health statistics in Aotearoa/New Zealand. *Social Sci Med*. 2008;67(11):1817–25. doi:10.1016/j.socscimed.2008.09.022.
50. Braun V, Clarke V. Thematic analysis. *J Posit Psychol*. 2017;12(3):297–298.
51. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol*. 2006;3(2):77–101. doi:10.1191/1478088706qp063oa.
52. Santiago-Delefosse M. Quality of qualitative research in the health sciences: analysis of the common criteria present in 58 assessment guidelines by expert users. *Social Sci Med*. 2016;148:142–51. doi:10.1016/j.socscimed.2015.11.007
53. Sandelowski M. Sample size in qualitative research. *Res Nurs Health*. 1995;18(2):179–83. doi:10.1002/nur.4770180211.
54. Hill CE, Knox S, Thompson BJ, Williams EN, Hess SA, Ladany N. Consensual qualitative research: an update. *J Couns Psychol*. 2005;52(2):196. doi:10.1037/0022-0167.52.2.196.
55. Thomsen T, Fritz V, Mößle R, Greve W. The impact of accommodative coping on well-being in childhood and adolescence. *Int J Behav Dev*. 2015;39(5):467–76. doi:10.1177/0165025414551762.
56. Jones BL, Parker-Raley J, Barczyk A. Adolescent cancer survivors: Identity paradox and the need to belong. *Qual Health Res*. 2011;21(8):1033–40. doi:10.1177/1049732311404029.
57. Manning JC, Hemingway P, Redsell SA. Long-term psychosocial impact reported by childhood critical illness survivors: A systematic review. *Nurs Crit Care*. 2014;19(3):145–56. doi:10.1111/nicc.12049.
58. Corrigan PW, Druss BG, Perlick DA. The impact of mental illness stigma on seeking and participating in mental health care. *Psychol Sci Public Interest*. 2014;15(2):37–70. doi:10.1177/1529100614531398.
59. Kerrisk KL. Narrative, identity, and meaning making: young people’s experiences of psychotherapy. Doctoral Thesis, School of Psychology. Auckland: University of Auckland; 2014.
60. Lam MML, Pearson V, Ng RMK, Chiu CPY, Law CW, Chen EYH. What does recovery from psychosis mean? Perceptions of young first-episode patients. *Int J Soc Psychiatry*. 2011;57(6):580–87. doi:10.1177/0020764010374418.
61. Cohen S, Wills TA. Stress, social support, and the buffering hypothesis. *Psychol Bull*. 1985;98(2):310. doi:10.1037/0033-2909.98.2.310.
62. Rueger SY, Malecki CK, Pyun Y, Aycock C, Coyle S. A meta-analytic review of the association between perceived social support and depression in childhood and adolescence. *Psychol Bull*. 2016;142(10):1017–67. doi:10.1037/bul0000058.
63. McPherson K, Fadyl J, Theadom A, Channon A, Levack W, Starkey N, Wilkinson-Meyers L, Kayes N. Living life after traumatic brain injury: phase 1 of a longitudinal qualitative study. *J Head Trauma Rehabil*. 2018;33(1):E44–E52. doi:10.1097/HTR.0000000000000321.
64. Graff HJ, Christensen U, Poulsen I, Egerod I. Patient perspectives on navigating the field of traumatic brain injury rehabilitation: a qualitative thematic analysis. *Disabil Rehabil*. 2018;40(8):926–34. doi:10.1080/09638288.2017.1280542.
65. Wilson BA, Emslie HC, Quirk K, Evans J. George: learning to live independently with NeuroPage®. *Rehabil Psychol*. 1999;44(3):284–96. doi:10.1037/0090-5550.44.3.284.
66. Snell DL, Macleod ADS, Anderson T. Post-concussion syndrome after a mild traumatic brain injury: a minefield for clinical practice. *J Behav Brain Sci*. 2016;6(6):227–32. doi:10.4236/jbbs.2016.66023.
67. Levack WMM, Kayes NM, Fadyl JK. Experience of recovery and outcome following traumatic brain injury: A metasynthesis of qualitative research. *Disabil Rehabil*. 2010;32(12):986–99. doi:10.3109/09638281003775394.
68. Wallcraft J. Recovery from mental breakdown. In: Trew J, editor. *Social perspectives in mental health*. Philadelphia, PA: Jessica Kingsley Publishes; 2005. p. 200–215.
69. Paterson J, Stewart J. Adults with acquired brain injury: perceptions of their social world. *Rehabil Nurs*. 2002;27(1):13–18. doi:10.1002/j.2048-7940.2002.tb01973.x.
70. Berridge BJ, McCann TV, Cheetham A, Lubman DI. Perceived barriers and enablers of help-seeking for substance use problems during adolescence. *Health Promot Pract*. 2018;19(1):86–93. doi:10.1177/1524839917691944.
71. Rickwood D, Deane FP, Wilson CJ, Ciarrochi J. Young people’s help-seeking for mental health problems. *Austr E-J Adv Ment Health*. 2005;4(3):218–51. doi:10.5172/jamh.4.3.218.
72. McLellan T. Traumatic brain injury and the use of documentary narrative media to redress social stigma. *Disabil Rehabil*. 2010;16(4):1511–21.
73. P B. Workplace bullying in New Zealand: ‘She’ll be right?’, In: *Workplace Abuse, Incivility and Bullying*. Omari MOM Paull M, editors. 2015. Routledge:London; pp. 173–91. doi:10.4324/9781315739724-12.
74. Cupples J, Guyatt V, Pearce J. “Put on a jacket, you wuss”: cultural identities, home heating, and air pollution in Christchurch, New Zealand. *Environ Plan A*. 2007;39(12):2883–98. doi:10.1068/a3932.
75. Lumba-Brown A. Centers for disease control and prevention guideline on the diagnosis and management of mild traumatic brain injury among children. *JAMA Pediatr*. 2018;172(11):1–13.
76. Corporation., A.C., *Traumatic Brain Injury Strategy and Action Plan*. (2017-2021). Improve the quality of life of New Zealanders by reducing the incidence, severity and impacts of traumatic brain injury. www.acc.co.nz. Corporation AC, Ed. 2017. New Zealand: Wellington.
77. Corry DAS, Leavey G. Adolescent trust and primary care: help-seeking for emotional and psychological difficulties. *J Adolesc*. 2017;54(1):1–8. doi:10.1016/j.adolescence.2016.11.003.
78. Naslund JA, Aschbrenner KA, Bartels SJ, Bartels SJ. The future of mental health care: peer-to-peer support and social media. *Epidemiol Psychiatr Sci*. 2016;25(2):113–22. doi:10.1017/S2045796015001067.
79. Bergersen K, Halvorsen JØ, Tryti EA, Taylor SI, Olsen A. A systematic literature review of psychotherapeutic treatment of prolonged symptoms after mild traumatic brain injury. *Brain Inj*. 2017;31(3):279–89. doi:10.1080/02699052.2016.1255779.
80. McCarty CA, Zatzick D, Stein E, Wang J, Hilt R, Rivara FP. Collaborative care for adolescents with persistent postconcussive symptoms: a randomized trial. *Pediatrics*. 2016;138(4):e20160459. doi:10.1542/peds.2016-0459.
81. Fineblit S, Selci E, Loewen H, Ellis M, Russell K. Health-related quality of life after pediatric mild traumatic brain injury/concussion: a systematic review. *J Neurotrauma*. 2016;33(17):1561–68. doi:10.1089/neu.2015.4292.
82. Humphries TJ, Ingram S, Sinha S, Lecky F, Dawson J, Singh R. The effect of socioeconomic deprivation on 12 month Traumatic Brain Injury (TBI) outcome. *Brain Inj*. 2020;34(3):343–49. doi:10.1080/02699052.2020.1715481.