

USING THE PERCEIVER ELEMENT GRID (PEG) TO ELICIT IN-TRAFAMILY CONSTRUAL FOLLOWING PARENTAL ACQUIRED BRAIN INJURY

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Construct systems are subject to reorganisation at points of transition, and adjusting to parental ABI is no exception. This paper presents an analysis of the construal processes of three families affected by parental ABI. In particular, aspects of perceived similarity, commonality, and sociality are explored. The findings highlight some of the difficulties faced by these families and the way in which interactional processes may be perpetuated. Affected families may benefit from systemic approaches to psychological support, whilst further research will offer further understanding of interpersonal relationships, families' construal throughout the recovery pathway, and changes to construal post-ABI.

Key words: Perceiver Element Grid (PEG), Acquired Brain Injury (ABI), young people's adjustment to parental ABI.

INTRODUCTION

Acquired Brain Injury (ABI) describes any injury to the brain occurring after birth that is unrelated to congenital or degenerative pathology (Royal College of Psychiatrists & British Society of Rehabilitation Medicine [RCP & BSRM], 2013). Within the United Kingdom, it is estimated that there are more than 300,000 hospital admissions for ABI per annum, representing a 10% increase since 2005 (Headway, 2015). The consequences of ABI are diverse, and vary according to the severity and location of the injury, and depending upon pre-morbid functioning. Sequelae may encompass cognitive, physical and psychological domains, which impact behavioural, social and occupational functioning, and emotional wellbeing (RCP & BSRM, 2013).

Existing research investigating the impact of ABI on significant others has largely focused on the experiences of spouses of brain-injured individuals and parents of brain-injured children (Verhaeghe, Defloor & Grypdonck, 2005). Changes in social and occupational activities, and negative health-related behaviours including smoking and inactivity, are placing an increasing

number of individuals of child-rearing age at risk of ABI (e.g. Stroke Association, 2012; Yates, Williams, Harris, Round & Jenkins, 2006). Given the increased prevalence of child and adolescent mental health difficulties (e.g. Green, McGinnity, Meltzer, Ford & Goodman, 2004), and the identification that parental wellbeing is predictive of psychosocial outcomes in young people (e.g. Armistead, Klein & Forehand, 1995; Korneluk & Lee, 1998; Office of the Deputy Prime Minister, 2004), it is therefore timely and relevant to develop an understanding of the experiences of young people affected by parental ABI.

Research findings indicate that young people may experience psychosocial problems following parental ABI. These include, but are not limited to, stress, depression, and behavioural difficulties (e.g. Tiar & Dumas, 2015). Kelly (1955) described emotional experiences as resulting from transitions in construing. Specifically, Kellian anxiety describes an awareness of being faced with events that are difficult to construe, whilst Kellian threat and fear describe the experiences of becoming aware of 'comprehensive' and 'incidental' changes to one's core structures,

respectively (Kelly, 1955). Since ABI is typically unexpected, recovery and prognosis is often unpredictable, and consequences may be diverse and longstanding, it is conceivable that young people may have difficulty applying their existing constructs to their experiences of parental ABI. This is consistent with the Range Corollary: "a construct is convenient for the anticipation of a finite range of events only" (1955, p. 68); it is likely that the incidence of ABI lies outside the range of convenience of a young person's constructs. Furthermore, Kelly defined psychological disorder as "any personal construction that is used repeatedly in spite of consistent invalidation" (1955; p. 831). This suggests that young people may be at increased risk of psychosocial difficulties if they fail to revise their construct systems in accordance with their experience of parental ABI. Young people affected by parental ABI have been identified as being more likely to experience emotional distress than their counterparts affected by parental chronic illness (Kieffer-Kristensen, Teasdale & Bilenberg, 2011). This difference has been attributed to the sudden onset and often traumatising nature of ABI, in comparison to chronic illness which is often associated with a more predictable trajectory and progressive deterioration; these variables may offer young people more time to revise their construct systems resulting in them being less vulnerable to invalidation.

Deterioration in parent-child relationships following ABI has also been documented (Butera-Prinzi & Perlesz, 2004; Charles, Butera-Prinzi & Perlesz, 2007; Pessar, Coad, Linn & Willer, 1993). Commonality is "the extent that one person employs a construction of experience which is similar to that employed by another, his psychological processes are similar to those of the other person" (Kelly, 1955, p. 90), and has been described as being fundamental to the maintenance of interpersonal relationships (Duck, 1975, as cited in Dallos, 1991). Relationship satisfaction has also been associated with a higher degree of validation (Neimeyer & Hudson, 1985), and the Sociality Corollary states that "the extent that one person construes the construction processes of another, he may play a role in a social process involving the other person" (Kelly, 1955, p. 95). Common ABI sequelae such as cognitive impairment or personality changes may make it harder for young people to

anticipate the construal processes of their parent, or for the parent-child dyad to construe events similarly, thus having implications for the maintenance of relationships. Furthermore, the experience of ABI may result in a number of constructs being invalidated, resulting in relationship dissatisfaction.

Given the breadth of possible changes that families may be confronted with following parental ABI, it was anticipated that affected individuals' personal construct systems would be subject to reorganisation. The overarching objective of this research was to explore the interpersonal construing of families affected by ABI. Specifically, the aims were to explore construal processes in the context of young people's and families' adjustment.

METHOD

Design

This study employs a case study design, and constitutes part of a larger cross-sectional research project. Themes identified between families, notably in relation to Kellian emotions, are reported elsewhere (Coppock, 2016).

Participants

Purposive sampling was used to identify potential families from National Health Service (NHS) and Headway (UK brain injury association) sites. Families were eligible if a parent was experiencing moderate to severe functional impairment following ABI that occurred at least 12 months previously. It was anticipated that by this stage participants would be medically, physically, and cognitively more stable (e.g. RCP & BSRM, 2003). Representatives from recruitment sites assessed individual suitability for participation, for example, through evaluating each individual's ability to recall experiences, retain information, and communicate ideas (both verbally and non-verbally). Formal assessment of cognitive functioning was not completed within this study; however, this may be a helpful adjunct to future research.

Since the research focused on eliciting multiple perspectives within each family system, it

was desirable for all members of a family to participate. However, families were eligible provided the parent with ABI and at least one young person aged 8-16 years old consented to take part. A lower age limit was imposed as the research methods involve sociality which is typically developed by eight years old (Selman, 1976 as cited in Mancuso, 2003). An upper age limit was imposed since young people over the age of 16 years old are no longer considered dependents and may therefore have considerably different experiences of adjusting to parental ABI.

Procedure

Participating family members completed an individual semi-structured interview facilitated by a Perceiver Element Grid (PEG; Procter, 2002, 2005). The PEG is a qualitative tool that is used to elicit personal constructs and facilitate understanding of interpersonal relationships. It is a matrix in which perceivers are marked down the left hand column, and elements along the top row. In this study, family members were both perceivers and elements; each family member described how they perceive themselves, other family members, and the ABI, in addition to describing other people in the family and the ABI would perceive them. Each section of the matrix was introduced with a question that was based upon Kelly's self-characterisation:

Imagine that somebody wants to get to know you, but they have never met you before. This person wants to find out the most important things about what you are like as a person. Using this piece of paper, could you draw a picture of yourself, or write something down to describe what you are like as a person? (adapted from Kelly [1955])

Interview prompts were designed to help participants elaborate their construing, for example, by eliciting contrast and preferred poles. The inclusion of the ABI as a perceiver allowed participants to personify the injury and consider how the ABI would construe each of the elements. Personification of problems is thought to help individuals to access construing about matters that are not easily verbalised (e.g. Morris & Appleby, 2012 as cited in Walker, 2016). Partici-

pants were able to draw, write, or discuss their responses using the matrix. The utility of drawings in the understanding of construal processes of individuals who may be less verbally competent has been recognised (e.g. Bell & Bell, 2008; Ravenette, 1977). Consequently, the methodology was chosen for its accessibility for individuals of different ages and abilities.

PEG data was compared to measures of family functioning and wellbeing of young people. Family functioning was measured using the General Functioning sub-scale of the McMaster Family Assessment Device (FAD-GF; Epstein, Baldwin & Bishop, 1983), a short-form screening measure used to identify healthy and unhealthy patterns of family functioning (Byles, Byrne, Boyle & Offord, 1988; Ridenour, Daley & Reich, 2000). Young people's wellbeing was measured using the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997). The SDQ measures positive and negative aspects of emotional wellbeing including emotional symptoms, conduct problems, hyperactivity and inattention, peer relationship difficulties and pro-social behaviour. The properties of the FAD-GF and SDQ are summarised in *Table 1*.

Ethics

Ethical approval was granted by the University of Hertfordshire Ethics Committee and London-Central NHS Research Ethics Committee, and ethical guidelines were adhered to throughout (British Psychological Society [BPS], 2010). Informed consent was sought from all participants prior to participation, and capacity to consent was assessed for all individuals with ABI. Participants were assigned pseudonyms that have been used throughout data analysis and in the presentation of results to ensure that confidentiality and anonymity are upheld.

Analysis

All interviews were transcribed by the first author after having been listened to a minimum of twice. Individual PEG data and interview transcripts were reviewed concurrently. Interview transcripts were reviewed line by line, whilst constructs and processes of construal were

documented. The PEGs and transcripts for members of the same family were compared in order to identify individuality and commonality within the family system. Perceived and actual similarities were also documented. Finally, PEGs were compared to establish whether family members had accurately predicted the construal processes of others and to determine whether or not there was evidence of sociality. For quality assurance, co-authors reviewed sections of the coded inter-

view transcripts. After preliminary analysis, participants were also given the opportunity to comment on the validity of interpretations.

Questionnaires were scored and interpreted in relation to clinical cut-offs derived from normative data. Descriptive statistics are reported, and similarities and differences between questionnaire data and construal within families are explored within a PCP framework.

Table 1: *Properties of the FAD-GF and SDQ.*

	FAD-GF	SDQ
Items	12	25
Scale	4-point Likert scale	3-point Likert scale
Scoring	Overall score derived from sum of item scores divided by 12. Maximum score = 4.00 Higher scores indicate more significant difficulties.	Overall score derived from sum of 'emotional symptoms', 'conduct problems', 'hyperactivity' & 'peer relations' subscale scores. Maximum score = 40. Higher scores indicate more significant difficulties Prosocial behaviour score derived from sum of subscale item scores. Maximum score = 10. Lower scores indicate more significant difficulties.
Clinical cut-off	Family mean > 2.00 Family disagreement: individual scores each side of the mean with a difference of ≥ 2 SD	Parent-report ≤ 13 normal 14 - 16 borderline ≥ 17 clinical Self-report ≤ 15 normal 16 - 19 borderline ≥ 20 clinical
Respondents	Individual (12+)	Self-report (11-16 years old) Parent-report (3-16 years old)
Reliability	Good*	Good**
Validity	Good*	Good**

*Byles, Byrne, Boyle & Offord (1988); Ridenour, Daley & Reich (1999) ** Goodman (2001)

RESULTS

Participants

Three families participated in the research. Family demographics and illness variables are summarised in *Table 2*.

Questionnaire data

FAD-GF results are presented in *Table 3*. The results suggest that two of the three families could be classified as experiencing unhealthy patterns of family functioning. Across all families, there was only evidence of one family dis-

agreement; in Family 3, Susan and James' scores fell either side of the clinical cut-off and differed by more than two standard deviations.

SDQ results are presented in *Table 4*. Based on the self-report of the four young people completing the measure, one young person was considered to be experiencing borderline to clinically significant difficulties based on their overall score, whilst 75% (N = 3) experienced clinically significant difficulties on at least one subscale. Based on parent-report, 60% (N = 3) of young people were considered to be experiencing clinically significant difficulties based on their overall score.

Table 2. *Participating Families*

	Participants	Age of YP	Type of ABI	Time Elapsed since ABI	Sequelae
Family 1	Leo* Carina Oliver	16	Left hemispheric ischaemic stroke	46	RHS muscle weakness, aphasia, apraxia. short-term memory loss, poor fine motor skills.
Family 2	Joyce* Katie	16	Right hemispheric stroke	18	LHS muscle weakness
Family 3	Richard* Susan Mark James Harry	16 12 9	Subarachnoid haemorrhage	42	Hemianopia, poor balance, impaired short-term memory, impaired concentration, aphasia, executive dysfunction

*Parent with ABI

YP = Young People, RHS = Right hand side, LHS = Left hand side

Table 3: *FAD-GF Results*

	Individual Score	Family Mean	SD
Family 1		1.55	0.21
Leo	1.75		
Carina	1.33		
Oliver	1.58		
Family 2		2.11	0.15
Joyce	2.00		
Katie	2.21		
Family 3		2.31	0.38
Richard	2.50		
Susan	2.75		
Mark	2.08		
James	1.92		

Table 4: *SDQ Results*

	Oliver		Katie		Mark		James		Harry
	P	S	P	S	P	S	P	S	P
Overall	8	15	18	19	18	14	7	9	18
Emotional	3	4	5	4	4	4	1	0	7
Conduct	0	6	4	5	4	4	0	3	2
Hyperactivity	4	4	5	9	5	6	5	6	5
Peer relations	1	1	4	1	5	0	1	0	4
Prosocial Behaviour	10	10	6	4	7	8	10	7	9

P = parent-report; S = self-report

PEG data

Family 1

Family members perceived themselves to be similar, and Carina construed the family as “five people but like one person”. Oliver and Leo discussed the similarities between different dyads within the family, whilst Carina also acknowledged individual differences. Similarity was reflected within FAD-GF data, wherein all family members construed healthy patterns of family functioning.

There was commonality in construal of familial roles, particularly in relation to gender. Carina appeared to engage in constellatory construal, stating “I’m the only woman in the family, you know. I’m the mum and the wife” and described her role as being to “look after the kids and [Leo] and cooking”. Carina also anticipated that Leo would describe himself as a “good husband and father...and he always provides for the family”, emphasising the traditional gender roles that appeared to exist within their family system. There was also commonality in construal of religion. For example, “always pray to God if things aren’t going well” (Oliver), “the only thing to help us, it was our faith” (Carina) and “pray...‘cause that’s all I can do” (Leo). Construal of religion appeared tighter than some of the family’s other construing. Tight construal can reduce anxiety through enabling predictability in families of brain-injured people (Winter, Metcalfe, and Shoeb, 1997); for this family, tight construal of religion appeared to be an effective coping strategy during a time when the ABI and associated impact may have lain outside their ranges of convenience. In comparison, the family were observed to construe the ABI more loosely. For example, “it’s hard” but “every day is better” (Leo). In this instance, looser construal may result in fewer invalidations and thus offer a greater propensity to coping.

Family members generally exhibited sociality. This was congruent with descriptions of their family system as “we are this open family, everything we share together, we never have the secret” (Carina). However, Oliver described himself as “always worried”, yet neither of his parents construed him this way or anticipated that he may construe himself in this manner.

These differences were also reflected in SDQ data; the parent-report did not yield any significant results whereas Oliver’s self-report suggested that he was experiencing clinically significant difficulties. Carina had acknowledged that Oliver “put [on] a mask”; however, this had appeared to be time-bound to the acute phase of the ABI. Figure 1. uses a ‘bow-tie’ diagram (Procter, 1987) to illustrate how Carina and Oliver’s construal may be perpetuated by their actions.

Oliver’s strategy of “keeping it in” appeared to allow him to “be strong” for his family. Simultaneously, Carina was led to believe that Oliver was coping, especially since she felt confident that he would confide in her if necessary. In accordance with the family’s construal of gender roles, Oliver may have felt it necessary to fulfil a traditional male role since his father’s functioning became impaired and his older brothers left the family home. This was corroborated by Carina’s construal of Oliver as “wanted to be macho” and “grow up quickly”. Carina and Leo’s assurance that Oliver was coping may also have been perpetuated by Oliver’s behaviour varying in different contexts. Regarding school, Oliver reported that “I kinda like getting in trouble” and he spoke about having a “reputation”, yet he also raised concern over the impact of his behaviour, stating that “if I keep getting phone calls my Mum thinks I’m not doing well”. The resulting incompatibility between “doing well” and “like getting in trouble” appears to exemplify Kelly’s (1955) Fragmentation Corollary, suggesting that Oliver may construe himself differently depending upon his context.

Leo appeared to find the research interview most challenging, which appeared to be a consequence of both his verbal communication difficulties, and the emotion that the interview invoked. Leo had a tendency to construe things similarly to one another, at times responding to questions about his family with “all the same”. Whilst this may indicate tight construal, it may also have reflected cognitive functioning difficulties post-ABI, particularly with regard to word-finding difficulties. Nevertheless, Leo’s construal did not significantly differ from that of other family members.

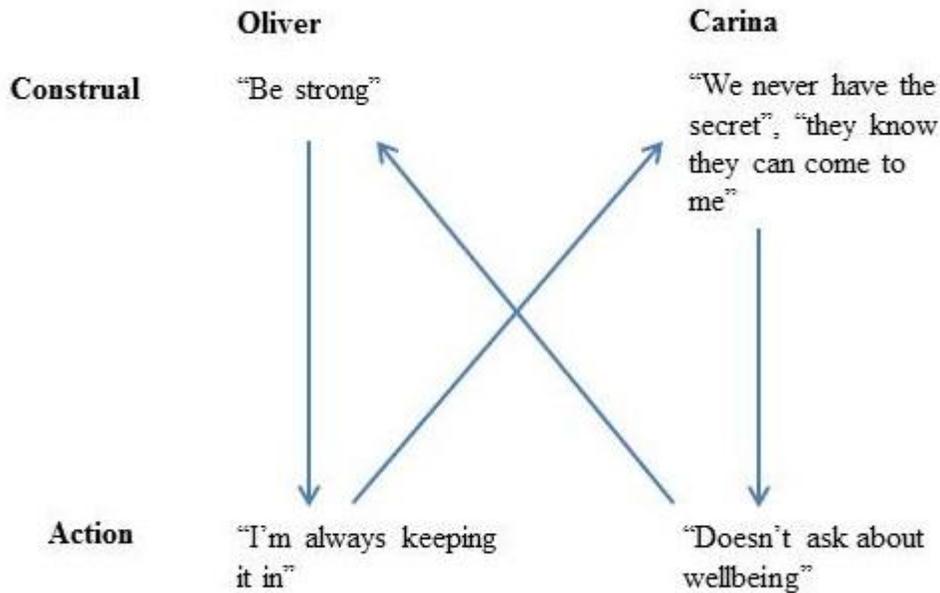


Figure 1. *Perpetuation of parental assumption that Oliver is coping.*

Family 2

Joyce perceived herself to be similar to other family members, whilst Katie was quick to describe herself as different, particularly in comparison to Joyce. Interestingly, when Katie was asked to elaborate these perceived differences, she began talking about similarities. Perceived similarities tended to relate to superficial constructs, including a shared interest in cookery, rather than construal of events, or psychological processes.

Joyce and Katie tended to exhibit commonality when construing at a superficial level, for example, the physical implications of the ABI. However, at a more psychological level, there were a number of observed differences in both the content of their constructs, and their patterns of construal. For example, Katie anticipated that Joyce would be construed by the ABI as “weak ‘cause she can’t do much”, whereas Joyce described thinking that she would be construed as “hardworking”, explaining that, “for me it’s not struggle, I’m trying my best”.

Differences in construal of psychological processes were also evidenced in the SDQ data. Whilst overall scores were similar, there were notable differences on the hyperactivity and peer relations subscales. Katie acknowledged that she behaves differently in different contexts, for example, school. This may suggest that Joyce’s construal of Katie is tight and consequently it may be difficult for her to anticipate changes in Katie’s presentation depending upon her context.

There was also evidence of individuality when construing Joyce’s temperament. Katie acknowledged that “you don’t wanna get on the wrong side of her”; however, she did not perceive this to be a consequence of the ABI, explaining that “the stroke hasn’t changed her, it’s just changed like her movements and stuff”. In contrast, Joyce described a significant change in her temperament post-ABI, stating that “I get fed up so easily now”. Joyce elaborated her construal and expressed that “I start screaming sometimes, I get angry, I nearly throw everything on the floor”, and explained that she attended anger management therapy post-ABI.

Katie, however, did not describe the extent of Joyce’s anger difficulties. Whilst these differences may reflect individuality in construal, Katie’s minimisation may also have been demonstrative of family loyalty. Despite these differences, Katie and Joyce construed sources of familial disagreement similarly. This was consistent with their scores on the FAD-GF that showed a shared construal of family dysfunction. Additionally, they both appeared to hold egocentric positions within their interpersonal relationships, which may contribute to the perpetuation of familial conflict. This is illustrated using the ‘bow-tie’ diagram (Procter, 1987) in Figure 2.

In this example, Joyce had expected her needs to be prioritised, whereas Katie wants her own needs prioritised. Katie’s delayed response appears to perpetuate Joyce’s construal and result in the screaming behaviour. In situations when Joyce’s needs are not met, she appears to take the position of struggling. Kelly (1955) described ‘slot-rattling’ as the re-construal of an

element, such as oneself, at the contrast pole of an existing construct. This example is demonstrative of Joyce slot-rattling between “trying my best” and “struggling”, both of which appear to be functional at different times.

Joyce and Katie were both able to construe the other’s construing of the self and the ABI, yet exhibited relatively poor sociality when it came to predicting how they were perceived by each other. For example, Katie anticipated that her mother would describe her as “lazy”, although Joyce reported that Katie has to “work hard, helping us, helping me”. Similarly, Joyce anticipated that Katie would describe her as “very strict”, whereas Katie actually stated that, “she’s not like really strict”. Despite these differences, there appeared to be an ambivalence about how they were perceived by each other. For example, Joyce stated, “either she thinks that’s strict with just being caring but it’s up to her”.

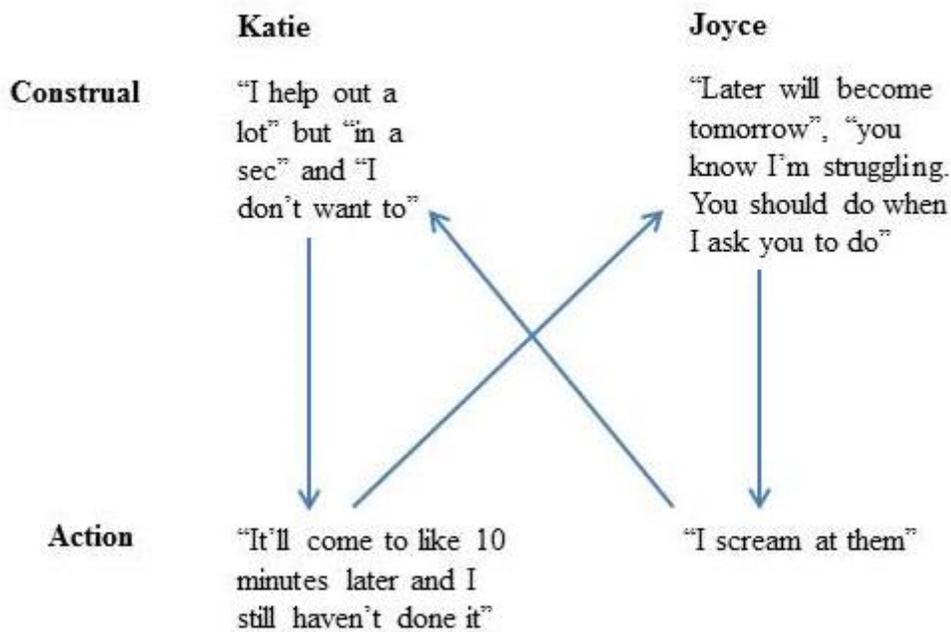


Figure 2: *Bow-tie diagram illustrating perpetuation of conflict.*

During the interview, some discrepancies between Joyce's verbal and non-verbal communication were observed. For example, she construed herself as "friendly, easy to get on with", but her affect was flat, and at times she appeared disinterested. These discrepancies may have indicated the presence of a double-bind (Bateson, 1972); in this instance, other people may find it more difficult to construe Joyce's construal processes, potentially resulting in interpersonal difficulties. However, it is acknowledged that these observed discrepancies may simply have been a consequence of the artificial nature of the interview and may not reflect her typical communication style.

Family 3

Perceived similarity appeared important for Family 3. Mark described Harry "like a twin brother but a smaller version" and construed Richard and James as "almost like the same person". Harry explained that when you are similar to other family members, "you just don't feel like really lonely". Whilst James perceived himself as similar to others, and other people perceived James as similar to different family members, nobody explicitly described themselves as similar to James. Interestingly, Mark and Harry both described themselves as most different to James.

This perceived difference appeared to reflect an actual difference in construal, for example, as evidenced by results of the FAD-GF. With the exception of James, all family members produced scores indicative of unhealthy patterns of family functioning. The difference in James' perception appeared concordant with the aforementioned differences, and may be indicative of James construing things differently. Alternatively, given Mark's description that "he's always there to just keep you happy", and James' own admission that he "don't [sic] wanna hurt anyone", he may have felt uncomfortable discussing familial difficulties. The disagreement indicated by the difference between Susan's and James' scores may have reflected their differential emotional states; Susan was described as being the most stressed member of the family, whilst James was described as "happy-go-lucky".

Harry found it difficult to construe the construal processes of others, often responding with "don't know". Likewise, James generally found it challenging to anticipate other people's construal processes when they were incongruent with their actions. For example, he perceived his mother to enjoy cleaning, stating, "It seems like she loves it or something 'cause she always does it". Mark was able to accurately construe his parents' perceptions of each other and the ABI. He described worrying about his mother, stating that "it makes me think what she is thinking about, like how she's coping with it". Susan had acknowledged that it had been difficult to cope following the ABI and she described her experiences of agoraphobia. Agoraphobia has been described as a process of constriction whereby an individual narrows their perceptual field to reduce the risk of their constructs being invalidated (Winter & Gournay, 1987); it appeared as though Susan had employed this strategy in an effort to cope with the impact of the ABI.

Parent- and self-report versions of the SDQ generally yielded similar scores, suggesting that Susan and Richard were able to construe the psychological processes of their children with reasonable accuracy. However, there was a notable difference between Mark's score on the 'peer relations' subscale, with his parents perceiving him to have significant difficulties in this domain. Given the observation of tight construal of Mark, it may be that they lack flexibility to consider varying predictions of Mark in different contexts. Mark reported that he can have mood swings and prefer to spend time away from his family; consequently, his parents may believe that he behaves similarly amongst friends.

James perceived himself to have difficulties with behaviour, which was not corroborated by his parents. James explained, "I do get quite angry, I just go upstairs into my bedroom and play with my phone or something". He described this as being different to other family members who "get really angry and start like stompin' and shouting", and expressed, "I prefer I can take myself away because if I stomp and shout it'll just get me in more trouble"; given this difference, it may be more difficult for family members to construe James' psychological processes, especially if his emotional responses are not accompanied by overt behavioural change.

Whilst Harry did not complete the SDQ due to his age, parent-report data can still be compared to PEG data. In contrast to Susan & Richard's high score on the 'emotional' subscale, Harry reported that he is not often upset. Richard and Susan also rated him high on 'hyperactivity'; whilst this was not reported by Harry per se, he construed himself as easily bored, and was observed to be restless and distractible during the research interview.

Despite similarities between self-report and parent-report data on the SDQ, Richard's sociality appeared variable. His construal of different family members appeared limited to the acute phase of the ABI and he didn't describe any changes to other people's construal at different times throughout the recovery pathway. This could have been a reflection of Richard's cognitive functioning difficulties post-ABI since executive dysfunction may have had implications for his level of insight, however, this may also have related to his perception of the research interview and which topics he felt he ought to be discussing.

DISCUSSION

This paper has summarised some of the construal processes of three families affected by parental ABI. Construal of psychosocial difficulties, and elevated SDQ scores for the majority of young people, is consistent with findings that young people affected by parental ABI may be at increased risk of developing psychosocial difficulties (e.g. Tiar & Dumas, 2015). Similarly, elevated FAD-GF scores lend support to the hypothesis that family functioning may be impaired following ABI (e.g. Butera-Prinzi & Perlesz, 2004; Charles et al., 2007; Pessar et al., 1993). Both of these findings may indicate that individuals repeatedly experience invalidation of their personal constructs following ABI. However, in the absence of pre-ABI data, causal inferences regarding young people's wellbeing and family functioning cannot be made. It was interesting, however, to observe that the injured parents' construal did not appear to differ significantly from that of other family members. Assuming that there may be changes to cognitive functioning, some constructs and construal processes may be unaffected; further research explor-

ing the impact of ABI on construal would be beneficial.

There appeared to be an association between commonality and perceived similarity, with individuals who construed things similarly also describing themselves as having more in common. These findings are consistent with the idea that commonality is an important factor within relationships (Duck, 1975 as cited in Dallos, 1991). Differences in sociality appear to have influenced individual and family functioning, in particular when it has been difficult to construe other people's emotional wellbeing. Generally, the most significant differences in construal between family members appeared to relate to contextual differences; this could reflect young people's efforts to protect their families from further burden (e.g. Butera-Prinzi & Perlesz, 2004), or it may simply reflect a change in parent-child relationships that typically occurs in adolescence.

The findings from these case studies highlight some of the complexities within family systems, and further investigation with regard to young people's and families' adjustment to parental ABI is warranted.

Clinical implications

A systemic approach to supporting young people and families finding it difficult to adjust to parental ABI may be particularly beneficial, for example, personal construct family therapy (Procter, 1985; 2005). The use of a PCP methodology in this research highlighted similarities and differences in family members' construal, and began to identify ways in which family difficulties were perpetuated. For example, family members' efforts to protect one another that resulted in difficulties not being spoken about. Personal construct family therapy can be used to help highlight patterns of interpersonal construal and implicative dilemmas, whilst using qualitative grids clinically can invite conversations about different perspectives and support the development of sociality within the family (Procter, 2005). This may be particularly useful for the parent affected by ABI, especially if they have experienced executive difficulties resulting lack of empathy or poor emotional regulation. Cummins (2003) proposed that a psychological intervention to improve sociality may also sup-

port individuals in overcoming anger through enabling them to better understand different points of view; given the reported experiences of family dysfunction and changes to temperament, the PEG may be an effective tool for helping families to understand differing perspectives and mutually identify ways to move forwards.

Strengths and limitations

The elicitation of multiple perspectives within each family system has offered a greater depth of understanding of the experiences of families affected by parental ABI. However, it is important to recognise that the research offers an insight into the construal processes of three families at one moment in time. The generalisability of results is therefore limited, particularly given the systematic differences between each of the participating families.

There appears to be considerable utility in using the PEG as a research tool as it supported the acquisition of a rich data set. It was observed that for many participants, particularly young people, richer descriptions of life following ABI followed the consideration of the ABI as both a perceiver and an element. This demonstrates the value of being able to externalise the ABI from the person.

The uptake of the PEG was variable among participants. Whilst the PEG was chosen for its accessibility and flexibility, the majority of participating family members preferred to discuss their answers ($n = 7$), with fewer writing responses ($n = 3$), and no participants opting to draw. We hypothesised that documenting answers on paper may have resulted in participants feeling more threatened since these domains are more concrete. This was contradictory to what had initially been anticipated; it was predicted that young people in particular may have preferred to write or draw.

The PEG appeared most difficult for the injured parents, which seems understandable given its cognitive requirements. Caution should be used when analysing construal, particularly since language or cognitive difficulties may make it more difficult to elicit and identify constructs. The validity of future research would be enhanced if the neuropsychological profile of the

brain injured participants was determined at the outset.

Finally, the methodology was time consuming, especially for larger families. During the design of the research, the elaboration of construal had perhaps not been fully considered. Nevertheless, such elaboration contributed to a richer data set. For ease and brevity, PEGs could be adapted, for clinical work through using fewer perceivers or elements, as appropriate.

Future research

Whilst individual interviews were conducted in order to establish unique perspectives and patterns of construal, conducting family interviews would offer researchers the opportunity to observe 'construing in action' (Procter, 2008). This approach was initially proposed to take place following individual interviews; however, given the time restraints of the research it was not feasible.

Further research may also benefit from using alternative qualitative grids. The Perceiver Dyad Grid (Procter, 2014) would support understanding of individuals' construal of relationships between family members, and the Event Perceiver Grid (Procter, 2014) may elicit a more accurate construal of the ABI at different moments in time, for example, the event, acute phase, post-acute phase and subsequent rehabilitation. Mapping changes in construal over time whilst taking into account pre-morbid factors, differences in the recovery pathway, and cultural differences may support a clearer understanding of the processes that underpin adjustment.

Finally, whilst the aim of the research was not to explore the effect of ABI upon construal, it has been recognised throughout that specific deficits may differentially impact construing; further research in this area would be beneficial.

CONCLUSION

These case studies offer insight into some of the processes underlying adjustment to parental ABI, an area which is currently under-researched. The findings support existing research that recognises the importance of family systems when working with individuals affected

by ABI. Application of personal construct theory provides a framework for understanding individual and family experiences that could help facilitate therapeutic support. Employing a credulous stance will support the identification of each family's unique needs.

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DECLARATIONS OF INTEREST

None.

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