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An integration of third wave cognitive behavioural interventions following stroke: a case study

*Cassandra Shields and Tamara Ownsworth**

Abstract

Many individuals with stroke experience difficulty resuming their pre-injury lifestyle, that which may lead to feelings of discouragement, shame, and self-criticism. Self-criticism has been associated with heightened risk of depression and anxiety. Therefore, managing self-criticism may be a key component in psychotherapeutic interventions; however, this is yet to be evaluated in the context of stroke. A case study is presented of “Pamela”, a forty-eight-year-old woman who experienced an aneurysm located in the right posterior communicating artery eighteen months prior to therapy. She was initially referred for an assessment of memory functioning and cognitive rehabilitation. However, it became apparent that her subjective cognitive concerns were not consistent with the likely site of neurological damage, and that her high levels of anxiety were exacerbating her functional impairments in daily life. This had resulted in the use of avoidance as a safety strategy, and an overall reduction in her activity and social participation. Following a comprehensive assessment of cognitive functioning and feedback (five sessions), therapy adopted an integrated cognitive behavioural/compassion-focused approach aimed at enhancing self-acceptance and compassion, and reducing avoidance and psychological distress. After ten sessions of psychotherapy, Pamela reported a clinically significant reduction in emotional distress, fewer avoidance behaviours, and an increase in self-compassion. At the three-month follow-up Pamela’s improvement in emotional status was maintained, despite an increase in avoidance behaviours to almost pre-treatment levels.

Key words: psychotherapy, intervention, compassion, stroke, aneurysm.

Research within the general and clinical populations has found a consistent association between high levels of self-criticism and a range of mental health issues, including: anxiety (Cox et al., 2000); eating disorders (Fennig et al., 2008); self-harm (Gilbert et al., 2010); and depression

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(Dunkley, Sanislow, Grilo, & McGlashan, 2009; Luyten et al., 2007). In addition, self-criticism has been associated with the later development of depressive symptoms and psychosocial impairment (Dunkley, Sanislow, Grilo, & McGlashan, 2009), more severe depressive symptomology (Luyten et al., 2007), poorer response to psychotherapy (Rector, Bagby, Segal, Joffe, & Levitt, 2000), and a greater likelihood of relapse (Segal, Shaw, Vella, & Katz, 1992).

The mental health issues linked to high levels of self-criticism have been attributed to intense feelings of shame and guilt (Blatt, 1995; Gilbert & Procter, 2006) and a sense of failure, inferiority, and unworthiness (Blatt & Zuroff, 1992). Consistent with stress-diathesis models of depression and anxiety (e.g., Abramson, Metalsky, & Alloy, 1989; Zvolensky, Kotov, Antipova, & Schmidt, 2005), research has indicated that self-critics possess a constant negative perception of themselves and others, and that this cognitive style may predispose individuals to psychopathology after the experience of stressful life events. These stressful life events may relate to losses (e.g., relationships) or failures (e.g., inability to achieve work or study goals) (Blatt & Zuroff, 1992; Segal, Shaw, Vella, & Katz, 1992). More generally, individuals with high levels of shame and self-criticism typically have a more negative global self-evaluation (i.e., "poor self-concept": Blatt, 1995; Tangney, 2002).

Following stroke, many individuals experience difficulty resuming their pre-injury lifestyle and face various losses and failures, resulting in a disruption to their self-concept. For example, Ellis-Hill and Horn (2000) found that individuals who had a stroke four to twenty-six months prior experienced a significant reduction in their overall self-concept, describing themselves as less capable, independent, and in control, as well as less satisfied, interested, active, confident, and of less value. Changes to their pre-stroke self-concept did not appear to be influenced by acquired physical impairments. In addition, this group reported experiencing significantly higher levels of depression and anxiety, and participated in far fewer social and domestic activities compared to a group of peers matched on age, gender, and pre-stroke self-concept. Similarly, in a mixed brain injury sample, Vickery, Gontkovsky, and Caroselli (2005) found that more negative self-concept (associated with physical, social, and family functioning) and global self-worth was associated with reduced quality of life. Furthermore, poorer quality of life was significantly associated with higher levels of depressive symptoms.

Qualitative research by Nilsson, Jansson, and Norberg (1997) suggested that difficulties with everyday functioning and independence after stroke may be viewed as signs of weakness and, at a deeper level, produce feelings of shame due to "having lost one's position and dignity as an individual" (p. 961). Consistent with Nilsson and colleagues, Dowswell and

colleagues' (2000) qualitative study revealed that many individuals post-stroke felt a sense of shame regarding the discrepancies between their pre- and post-stroke selves, with many withdrawing from social activities. More broadly, it appears that following stroke some individuals may be particularly vulnerable to developing depression and anxiety.

Depression and anxiety post-stroke are relatively common, with studies indicating that depression occurs in approximately forty per cent of individuals post-stroke, and that this can impede their recovery and increase risk of mortality (for a review of the literature see Robinson & Spalletta, 2010). Barker-Collo (2007) reported that the rate of mild to severe anxiety symptoms at three months post-stroke was thirty-nine per cent (twenty-one per cent of total cases experienced moderate-severe symptoms) and that twelve per cent displayed moderate to severe levels of both depression and anxiety. Shimoda and Robinson (1998) reported rates of eleven per cent for generalised anxiety disorder (GAD) and six per cent for major depression, with a further thirteen per cent meeting diagnostic criteria for co-morbid major depression and GAD in their stroke sample. The rates of co-morbid depression and anxiety (twelve to thirteen per cent) in the first year following stroke are far higher than twelve month co-morbidity rates within the general Australian population (one per cent: Australian Bureau of Statistics (ABS), 2007). Co-morbid anxiety and depression within the stroke population has been associated with greater impairments in activities of daily living, poorer social functioning, and protracted periods of major depression (Shimoda & Robinson, 1998). Although different mechanisms may underlie depression and anxiety post-stroke (Shimoda & Robinson, 1998), the high co-morbidity rate supports the potential utility of a transdiagnostic approach to affective disorders and their treatment (Barlow, Allen, & Choate, 2004; Dozois, Seeds, & Collins, 2009).

For over a decade researchers and clinical psychologists have been promoting a transdiagnostic (or "unified") approach to understanding depression and anxiety within the general population (Allen, McHugh, & Barlow, 2008; Barlow, Allen, & Choate, 2004). Advocates of the transdiagnostic approach suggest that increasing diagnostic categories could mistakenly separate diagnoses that are part of the same fundamental syndrome (Barlow, Allen, & Choate, 2004; Brown, Chorpita, & Barlow, 1998). There are several arguments supporting a transdiagnostic conceptualisation of depression and anxiety. First, evidence suggests that these disorders share common underlying biological, psychological, and social mechanisms (e.g., Harvey, Watkins, Mansell, & Shafran, 2004). Second, there is high co-morbidity and common symptomology between depression and anxiety (Barlow, Allen, & Choate, 2004; Dozois, Seeds, & Collins, 2009). Third, when provided with diagnosis-specific treatment,

there is often a reduction in symptomology of the co-morbid disorder (Barlow, Allen, & Choate, 2004; Mansell, Harvey, Watkins, & Shafran, 2008), that implies that common underlying processes have been affected by the treatment intervention (Mansell, Harvey, Watkins, & Shafran, 2008).

In general, psychological treatments designed to ameliorate depression or anxiety are specific to the diagnosis for which they have been developed (Dozois, Seeds, & Collins, 2009). In contrast, transdiagnostic treatments apply the same underlying treatment principles across emotional disorders, without tailoring the protocol to specific diagnoses (McEvoy, Nathan, & Norton, 2009). Recent research within the general population has provided justification and evidence for this approach (e.g., Troster, Buzzella, Bennett, & Ehrenreich, 2009). For a comprehensive review of transdiagnostic treatment outcome studies, refer to McEvoy, Nathan, and Norton, 2009.

Despite the high prevalence of depression and anxiety post-stroke and the impact on functional outcomes and quality of life, there is little evidence supporting the efficacy of psychological treatment for this population (Hackett, Anderson, House, & Xia, 2009). For example, the majority of studies investigating the efficacy of cognitive-behavioural therapies (CBT) for depression and anxiety post-stroke have yet to demonstrate reliable treatment gains for this population (e.g., Clark, Rubenach, & Winsor, 2003; Lincoln, & Flannaghan, 2002; Lincoln, Flannaghan, Sutcliffe, & Rother, 1997). However, interpreting the results of these studies is complicated by a number of factors, including: sampling issues (e.g., small sample sizes, different recruitment methods, and selection criteria), different approaches to assessing depression and anxiety, instrument sensitisation issues (Lincoln, Nicholl, Flannaghan, Leonard, & Van der Gucht, 2003), and varying treatment protocol (e.g., length and therapy techniques).

Given the prevalence and impact of mood disorders after stroke, it is vital that further investigations be conducted into potentially effective treatments. In particular, these interventions need to target the factors contributing to the development and maintenance of emotional distress post-stroke. As reviewed earlier, high self-criticism may be a key risk factor for the development of depression and anxiety symptoms within this population. As such, managing self-criticism and associated negative feelings (e.g., shame, worry, and low self-worth) may be an important component of psychotherapeutic interventions in the context of stroke, although this is yet to be evaluated for this population.

Compassion focused therapy (CFT: see Gilbert, 2009a,b, 2010) is a transdiagnostic treatment approach specifically developed for individuals with high levels of self-criticism and shame (Gilbert & Procter, 2006).

CFT is based on an integration of theories from neuroscience, attachment theory, and evolutionary psychology (Gilbert, 2009a,b). As covered comprehensively by Gilbert (see 2009a,b, 2010), the development of CFT was based upon the observation that individuals with high levels of shame and self-criticism have often experienced some type of traumatic experience in their childhood (e.g., neglect or abuse), and as adults experience great difficulty being kind to themselves (i.e., low self-compassion), and have a heightened sensitivity to threat, rejection, and criticism. Furthermore, he observed that these individuals may not always respond as well to traditional CBT, in that they may be able to make changes at a cognitive level, but not feel the changes at an emotional level.

Formulation within the CFT model takes both historical (e.g., attachment history) and current aspects of the persons experience into account, with a focus on the function of emotion, cognitions, and behaviours (Gilbert, 2010). Specifically, CFT formulation includes four key elements; 1) innate and historical influences associated with the development of, 2) internal fears (i.e., self-related; such as fear of anxiety or of becoming overwhelmed) and external fears (e.g., other-related; such as the fear of being rejected), that lead to 3) the development of internal (e.g., self-criticism or submissive behaviours) and external (e.g., avoidance or aggression) efforts at self-protection (“safety strategies”), which result in, 4) unintended consequences, such as emotional distress and intensified use of safety strategies (Gilbert, 2007, 2010). Formulation within CFT unfolds over time and across the course of therapy with a clear focus on the development of an emotional understanding of the clients’ experiences, and not just understanding on a cognitive level. As such, this process is a fluid and collaborative part of therapy, rather than linear and structured (see Gilbert, 2010, pp. 70–80, for a full description of the formulation process).

Drawing upon research in neuroscience and evolutionary psychology, three affect-regulation systems are considered key to CFT (Gilbert, 2009a,b, 2010). These include: 1) the soothing and contentment system; 2) the drive and excitement system, linked to appetitive behaviours and motivation; and 3) the threat and self-protection system, associated with feelings of anxiety, anger, and disgust, and the behavioural responses of fight, flight, or submission. According to Gilbert, emotional suffering occurs following disruption to any of these three affective systems. For example, given that the soothing and contentment system is believed to develop through the experience of secure attachments during childhood (Depue & Morrone-Strupinsky, 2005), disruption to early attachment (e.g., through abuse or neglect), may result in an absent or underactive soothing system. According to the CFT model, this would result in only drive–excitement (i.e., achievement related) and threat as fundamental affective systems for the individual.

Two key safety strategies aimed at reducing and/or inhibiting the activation of the threat system are: 1) self-criticism; and 2) avoidance (Gilbert, 2010; Gilbert & Procter, 2006). For example, rather than confronting a violent or powerful other, self-criticism/blame can minimise risk and subsequent activation of the threat system (Gilbert & Procter, 2006). Alternately, self-criticism may function as an internal motivator towards “self-improvement” (Gilbert, Clarke, Hempel, Miles, & Irons, 2004). Thus, it may be hypothesised that both self-criticism and avoidance can function as means of protection from potential failures for the achievement-related system, which would likely activate the threat system (i.e., in the face of failure or having one’s goals thwarted). All three systems are central to the CFT model. Specifically, Gilbert (2010) states that,

if we only focus on trying to change the threat system we may fail to realise that part of the problem is in the balance of the other affect regulation systems, in particular the poor output from the soothing system. When that system is developed the others can settle down. (p. 59)

Thus, negative emotional experiences (e.g., linked to self-criticism) may be targeted in therapy by activating the soothing system. The development of the soothing system is accomplished through enhancing the individuals’ capacity for compassion and self-compassion. Within CFT this is achieved through the use of compassionate mind training. Compassionate mind training may include a range of therapeutic activities aimed at developing compassionate skills and attributes, such as compassionate attention, compassionate thinking, and compassionate imagery (see Gilbert, 2009a, 2010, for a comprehensive description of these).

However, for some individuals the concept of self-compassion may be threatening (Gilbert, 2010; Gilbert, McEwan, Matos, & Ravis, 2011). Gilbert (2010) described several reasons for this reaction/experience. First, the process of classical conditioning may mean that individuals associate the experience of positive emotions with the experience of aversive events. For example, an individual is reminded of the rejection or abuse they experienced in the past when a desire for closeness or the soothing-contentment system is activated. Second, developing compassion can be associated with the development of a desire to develop closer relationships with others, and as such, may trigger a sense of grief around the sense of connection and attachment they were unable to have during their childhood. In addition, some individuals view self-kindness as a weakness and feel they do not deserve it or that it may lead to apathy (Gilbert, 2010; Neff, 2003a).

There is some preliminary support for the use of CFT for individuals with acquired brain injury (ABI). Ashworth, Gracey, and Gilbert (2011)

outlined the successful application of CFT as part of a holistic rehabilitation programme for an individual three years after a severe traumatic brain injury. “Jenny” presented with clinically elevated levels of depression, anxiety, and anger (expressed inwards), in the context of poor self-esteem and high levels of self-criticism. These issues appeared to be maintained by a perceived inability to achieve life goals post-injury. Following eighteen sessions of CFT, “Jenny” experienced a statistically reliable improvement in symptoms of depression, anxiety, and self-esteem, as well as a reduction in internalised anger to within the “normal” range post-treatment. These authors concluded that CFT may provide a useful framework for conceptualising and treating mental health issues following ABI, either as a stand-alone treatment or combined with other treatment models (e.g., cognitive behavioural therapy).

In summary, there is limited research evidence for efficacious psychotherapeutic interventions post-stroke. Research indicates that following stroke some individuals may be particularly susceptible to developing symptoms of depression and anxiety. This may be influenced by heightened self-criticism and shame due to increased difficulties in completing familiar and meaningful activities and resuming one’s pre-injury lifestyle. Therefore, managing self-criticism may be a key component in psychotherapeutic interventions; however, this is yet to be evaluated in the context of stroke. CFT is a transdiagnostic treatment framework that aims to reduce depression and anxiety by increasing self-compassion (through enhancing the soothing–contentment system), and reducing self-criticism. This case study aimed to evaluate the potential utility of CFT post-stroke. An integrated cognitive behavioural/compassion-focused intervention is described, that includes neuropsychological assessment, treatment formulation, and intervention outcomes based on comparison of pre- and post-treatment functioning and three months follow-up.

Method

Client and clinical context

Neurological history and presenting symptoms

Pamela is a forty-eight-year-old married woman with two children aged thirteen and sixteen. She experienced a grade one subarachnoid haemorrhage from an aneurysm located in the right posterior communicating artery at forty-six years of age. Pamela reported previously experiencing multiple small blood clots in her visual cortex at forty-one years, resulting in loss of vision and “heavy limbs”. An imaging report at the time identified patchy ischaemia in the left occipital cortex and to a minimal

degree in the medial right occipital cortex, and a small ischaemic focus in the left cerebellar hemisphere.

Pamela presented to a university psychology clinic for a neuropsychological assessment eighteen months after her most recent stroke due to concerns about her cognitive ability and capacity to complete an undergraduate degree. Pamela could not recall any specific cognitive changes following her earlier ischaemic attack. However, she had noticed progressive changes in her cognitive abilities approximately six months prior to her recent aneurysm. Specifically, she found that she struggled to be self-directed in assignment writing and experienced difficulty concentrating and retaining new information (e.g., during exams).

In addition, Pamela reported experiencing “information overload”. She described experiencing a number of physical symptoms at these times, including; shortness of breath, dizziness, heart racing, sweating, feeling as though she would suffocate, nausea, a sense of derealisation, and chest pain. These symptoms appeared to develop quickly, were always cued by the onset of a stressor, and she would experience the urge to escape the situation. She worried about these symptoms occurring in the future and described avoiding situations and the use of safety behaviours (e.g., only driving and shopping during non-peak times) to reduce her fears. Pamela had not experienced these “panic-like” symptoms prior to her aneurysm.

Self- and significant other’s report of cognitive and functional impairments

Pamela’s self-report on the Everyday Memory Questionnaire—Revised (Royle & Lincoln, 2008) indicated that she experiences difficulties in attending to and retrieving information on a daily basis (e.g., forgetting you were told something, losing track of a story-line), and her overall impairment score (3.70) was higher than the mean for individuals post-stroke ($M = 1.51$; Royle & Lincoln). Pamela and her husband completed the Patient Competency Rating Form (Prigatano, 1986). Pamela’s overall score was thirteen points higher than her husband’s, indicating that she perceived greater functional difficulties. She reported that she finds it “very difficult” to understand new instructions, meet her daily responsibilities, control her temper when upset, and not get depressed. According to her husband, she finds it “very difficult” to stay involved in work activities when bored or tired, handle arguments with people she knows well, and accept criticism from others.

Assessment and therapy

Therapy consisted of three phases: 1) assessment (four sessions: clinical interview and neuropsychological testing); 2) feedback (one session:

assessment results feedback, provision of a neuropsychological report and planning regarding subsequent sessions); and 3) psychological assessment, psychotherapy, and cognitive rehabilitation (ten sessions).

Neuropsychological assessment

Pamela was initially assessed at a university psychology clinic in 2010. She re-presented to the clinic in 2011 stating that she did not believe that the previous assessment and report fully represented the difficulties she was experiencing. As such, a more comprehensive assessment of attention and memory was completed in sessions one to four. A summary of the 2010 and 2011 assessment results is presented in Table 1.

It is noteworthy that Pamela's current intellectual functioning ("average to high average" range) is generally consistent with her estimated pre-morbid IQ. A comparison of results on the WAIS-IV and WMS-III indicated that her performance on measures of immediate visual memory, delayed auditory memory, and general memory was significantly lower than the level predicted based upon her overall intellectual functioning.¹

Overall, Pamela's performance across a range of memory tasks was relatively consistent, wherein her performance was significantly impaired on both auditory and visual memory tasks. Her performance across different attention tasks varied between the "severe deficit" and

Table 1 : Neuropsychological assessment results for 2010 and 2011

<i>Neuropsychological tests</i>	<i>Percentile (%)</i>	<i>Performance Description</i>
<i>NART-II:</i> ²		
Estimated pre-morbid intelligence	63–66	Average
<i>WAIS-IV:</i> ¹		
Overall intellectual functioning	77	High average
Verbal comprehension	68	Average
Perceptual reasoning	87	High average
Working memory	77	High average
Processing speed	50	Average
<i>WMS-III:</i> ¹		
Auditory (immediate)	47	Average
Visual (immediate)	14	Mild deficit
Immediate memory	27	Average
Auditory (delayed)	23	Mild deficit
Visual (delayed)	27	Average
Auditory recognition (delayed)	37	Average
General memory	21	Mild deficit
Working memory	70	Average

Continued

**Table 1 : Neuropsychological assessment results for 2010 and 2011
(continued)**

<i>Neuropsychological tests</i>	<i>Percentile (%)</i>	<i>Performance Description</i>
<i>RBMT-E:</i> ²		
First names	—	Good memory
Second names	—	Poor memory
Belongings and appointments	—	Poor memory
Picture recognition	—	Poor memory
Story memory (immediate)	—	Poor memory
Story memory (delayed)	—	Poor memory
Face recognition	—	Average memory
Route (immediate)	—	Average memory
Route (delayed)	—	Average memory
Messages (immediate)	—	Exceptionally good memory
Messages (delayed)	—	Good memory
Orientation and date	—	Good memory
<i>RAVLT:</i> ²		
Trial 1 (List A)	16	Mild deficit
Trial 2	30	Average
Trial 3	8	Moderate deficit
Trial 4	3	Moderate deficit
Trial 5	1	Severe deficit
Total word acquisition	3	Moderate deficit
Trial 6 (List B)	50	Average
Trial 7 retention of List A	4	Moderate deficit
Trial 8 (30 minute delayed recall)	1	Severe deficit
Trial 9 Recognition ³	<1 and 14	Severe and mild deficit
Trial 10 (24 hour delayed recall)	<1	Severe deficit
<i>TEA</i> ²		
Map Search		
<i>Symbols circled in one minute</i>	20.2–30.9	Low average–Average
<i>Symbols circled in two minutes</i>	12.2–20.2	Low average–Average
Elevator counting	—	"Below expected"
Elevator counting with distraction	6.7–12.2	Borderline–Low average
Visual elevator		
Accuracy Score	87.8–93.3	High average–Superior
Timing Score	0.6–1.5	Extremely low
Telephone search	0.6–1.5	Extremely low
Telephone search while counting	56.6–69.2	Average

Notes: NART = National Adult Reading Test (Nelson & Willison, 1991); WAIS-IV = Wechsler Adult Intelligence Scale-IV (Wechsler, 2008); WMS-III = Wechsler Memory Scale-III (Wechsler, 1997); RBMT-E = Rivermead Behavioural Memory Test-Extended (Wilson, Clare, Baddeley, Watson, & Tate, 1999); RAVLT = Rey Auditory Verbal Learning Test (Rey, 1964); TEA = Test of Everyday Attention (Robertson, Ward, Ridgeway, & Nimmo-Smith, 1994). Information not available is symbolised by "—".

¹ Prior assessments completed at the Griffith University Psychology Clinic in 2010.

² 2011 assessments conducted by the therapist (CS) at the Griffith University Psychology Clinic.

³ Sourced from Geffen, Moar, O'Hanlon, Clark, and Geffen, 1990.

“high-average” range for her age. Interestingly, on a task requiring attentional switching Pamela’s level of accuracy was in the “high average” to “superior” range for her age. However, to achieve this level of accuracy the time taken to complete the task was in the “severe deficit” range for her age. In addition, her performance on a task requiring both sustained and divided attention was in the “average” range for her age, despite her performance on a less complex version of this task being in the “severe deficit” range. Pamela became anxious during the administration of the Test of Everyday Attention (Robertson, Ward, Ridgeway, & Nimmo-Smith, 1994), particularly during the elevator counting tasks. She reported that the idea of not knowing what floor to get off and being in a confined space elevated her anxiety to 6–7 out of 10. More generally, her anxiety may have contributed to poorer performance across the two elevator counting tasks.

Psychological assessment

Assessment involved clinical interview and the completion of self-report questionnaires. Pamela completed the Outcome Questionnaire (OQ-45.2: Lambert & Burlingame, 1996) and the Depression Anxiety Stress Scales (DASS-21: Lovibond & Lovibond, 1995) in session one. The OQ-45.2 is a self-report measure designed to track client progress across time in three areas of functioning (i.e., symptom distress, impaired interpersonal relations, and social role difficulties). It is notable that the OQ-45.2 has not been validated for use within this population, but was administered as part of standard practice within the University clinic. Pamela’s overall and subscale scores were in the range indicating significant clinical problems that warrant psychological treatment. The DASS-21 was also administered, as unlike the OQ-45.2, the psychometric properties of the DASS-21 have been investigated in post-ABI groups (e.g., Ownsworth, Little, Turner, Hawkes, & Shum, 2008), and is commonly used within this population (e.g., Turner, Fleming, Cornwell, Haines, & Ownsworth, 2009). On the DASS-21 Pamela’s scores for depression and anxiety were in the severe and moderate range, respectively. Her level of self-reported stress was in the mild range.

In order to clarify Pamela’s diagnosis, she completed a semi-structured interview using components from the Structured Clinical Interview for *DSM-IV* Axis I Disorders (SCID-I: First, Spitzer, Gibbon, & Williams, 1996) at session six. According to her interview responses, despite displaying panic and social phobia symptoms Pamela did not meet the full criteria for these diagnoses. Specifically, Pamela reported that the onset of her panic symptoms occurred following specific triggers (especially difficulties with her daughter) and she described her social fears as realistic.

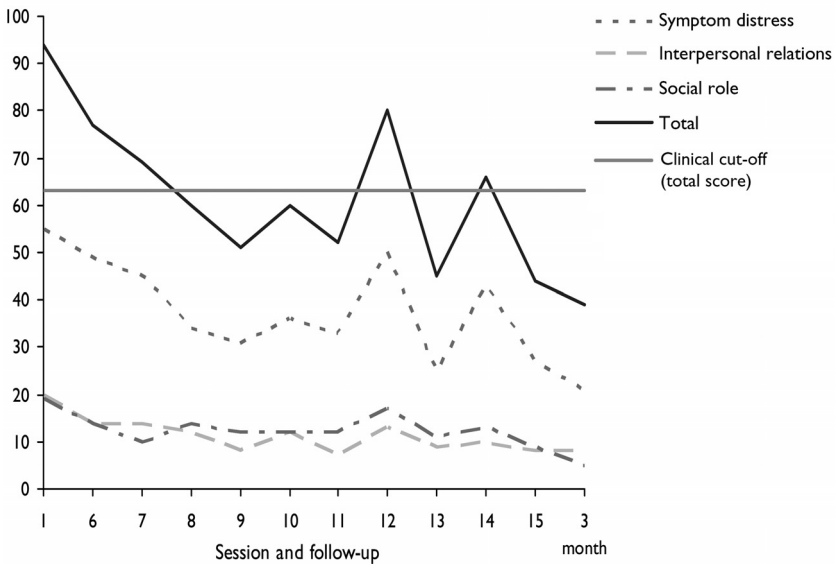


Figure 1: Pamela's scores on the Outcome Questionnaire 45.2 across sessions and at the three month follow-up.

Table 2: Overview of session content and therapy processes from session five onwards

Session five

- Neuropsychological report feedback: this was provided by the therapist demonstrating key compassionate attributes, including: *distress tolerance, sensitivity, empathy, and non-judgement* regarding Pamela and her level of distress. In addition, feedback focused on key cognitive strengths and skills, as well as noting her deficits (*compassionate attention*).

Session six

- Pamela reported using *self-compassionate thinking* during the week, by acknowledging her cognitive strengths, rather than her usual focus on cognitive weaknesses.
- Pamela reported an increase in her *compassion for others*. Specifically, she expressed an enhanced understanding (and reduction in criticism) towards her daughter who can experience some academic difficulties. This led to improvements within their relationship.
- Psychoeducation regarding the effects of anxiety on performance.
- Introduced Process of Compensation Model (Bäckman & Dixon, 1992), and discussed in the context of her current cognitive strategy use and their utility.
- Completed select sections of the SCID-I.

Continued

Table 2: Overview of session content and therapy processes from session five onwards (continued)

Session seven

- Anxiety psychoeducation regarding anxiety triggers (both internal and external).
- Psychoeducation and practice of “controlled breathing”.
- Pamela described a sense of “anger towards her brain, but not towards herself”.

Session eight

- Discussed “unhelpful thinking styles” (e.g., see Williams, 2001); in the context of an upcoming exam, leading to Pamela acknowledging how these thoughts limit her beliefs around life possibilities.
- Psychoeducation around the three affect regulation systems. Pamela explored how each circle fits her own life and experience. Specifically, she related her university studies and raising her children to the drive-motivation system, described her threat system as highly activated, and viewed the concept of self-compassion as an indicator of “weakness” when discussing the soothing-contentment system.
- Explored Pamela’s fears around self-compassion and she began to acknowledge that this likely stemmed from her childhood experiences.
- Pamela described being able to see others “blossom” when she is kind and compassionate towards them, but expressed difficulty feeling that she could also offer this towards herself, and the possibility that this too could be related to compassionate self-improvement.
- Collaboratively identified Pamela’s self-criticism as an “inner bully”.

Homework: Self-attacking worksheet (i.e., when did you start to become self-critical? What was happening in your life? What are your fears in standing up to the critical other or voice in your head? What would it be like for you to stop agreeing with it? Where would your self-criticism ideally lead you, or make you? What is your greatest fear in giving up your self-criticism? What might others gain in you being self-critical? What are the advantages and disadvantages of self-criticism?).

Session nine

- Pamela reported giving herself a “pat on the back” during the week for a personal achievement (*compassionate attention/compassionate imagery*).
- There was an observable reduction in Pamela’s avoidance outside of therapy as she reported cooking a more complex dinner than usual, and reflected on this with pride. Her previous avoidance was normalised and validated in the context of self-protection (i.e., fear of failure as a threat to her achievement system), and her courage to try these tasks (*compassionate behaviour*) was celebrated.
- Explored the function of her “inner critic”, Pamela described it as a “motivator”, and linked it to fears of “becoming lazy like her father”. She acknowledged that she started to become self-critical as a teenager, which was a time where she felt unloved and abandoned. However, she also described that she became increasingly critical after her 2004 stroke, and that she fears “not achieving her life purpose” should she stand up to this critic. However, she acknowledged that this resulted in the unintended consequences of “depression” and “never feeling good enough”.
- The distinction between self-criticism versus compassionate encouragement was discussed using the metaphor of a critical/bullying teacher versus encouraging/supportive teacher, and under which mentor would you likely achieve your best performance (e.g., Gilbert, 2009c).

Continued

Table 2: Overview of session content and therapy processes from session five onwards (continued)

Session nine (continued)

- Collaboratively, Pamela's CFT-based formulation was further developed. Specifically, she described her mother as rejecting. Thus, we explored that it made sense that she would develop fears around being rejected/not accepted/disliked. In order to best manage these fears, Pamela acknowledged that she developed "safety strategies" of placating behaviours, as well as a tendency to put others before herself. Pamela reported that she felt that the key unintended consequence to this was a "lost sense of self".
- Pamela described enhanced *compassionate thinking*, as she reported less of a need to be liked by everyone.

Homework: Diary of self-critical thoughts (i.e., What was the thought? How did this thought make you feel? Whose voice did you hear?)

Session ten

- The self-regulation approach of WSTC (i.e., *What is the problem? What are all the possible Strategies? Try one out. Check how it went*) (Ownsworth & McFarland, 1999) was taught. This strategy was used to enhance her problem solving skills regarding the challenges she faced in resuming her university studies. Prior to learning this strategy Pamela reported that she would not enrol in an on-campus course as she "would not do a good job". Using the WSTC approach she generated a number of cognitive strategies and ways of coping to support her ability to undertake this course.
- Provided handout regarding CFT conceptualisation (Gilbert, 2007) and filled in, collaboratively, based upon the development of the conceptualisation verbally across prior sessions.
- A handout was provided (and discussed) regarding "distinguishing self-correction from shame-based self-attacking" (Gilbert, 2009c), based upon the discussion from session nine.
- Pamela began to describe the "self-critic" as a separate entity, stating that it was like there are two parts of her mind, the "self-critic" and the "other".

Homework: Begin to develop imagery around these two parts of the self (i.e., the critic and the criticised).

Session eleven

- Pamela had not completed her homework as she had been away with family, and was fatigued on her return. She described a sense of "guilt" for not completing the tasks, but also described needing to "be gentle with herself" (*compassionate behaviour*).
- Reviewed previous conceptualisation.
- Introduced mindful soothing breathing rhythm—handout provided (Gilbert, 2009b,c).
- Pamela reflected on treatment gains: does not feel as alone, more able to investigate and find answers to her questions, and gained confidence.

Homework: Practice mindful soothing breathing rhythm, and imagery from previous session.

Continued

Table 2: Overview of session content and therapy processes from session five onwards (continued)

Session twelve

- Explored feelings of being “overwhelmed” by family problems. Specifically, Pamela reported feeling “neglectful” unless she met all the demands of her daughter. This fear was normalised and validated in the context of her history.
- A mindfulness exercise was conducted in which Pamela was encouraged to sit with and develop compassion for difficult/unpleasant emotions.

Session thirteen

- Explored Pamela’s sense of needing to be “on-call” for her daughter in relation to her fear of being “neglectful”, and Pamela described an increase in appropriate boundaries.
- Introduced the “Leaves on a Stream” mindfulness exercise (e.g., Harris, 2009). This exercise facilitates the capacity to stand back from our thoughts (i.e., and watch them float past like leaves on a stream), rather than getting caught up in them. During this exercise, Pamela was encouraged to just notice her thoughts with compassion, rather than having to react to them.

Homework: Mindfulness practice, and reflection on the development of beliefs/stories based upon her own childhood history.

Session fourteen

- Pamela presented to session distressed, as her pet dog died between sessions— she reported not doing her homework that asked her to examine her history for fear of becoming “depressed” at a time when she was already upset, but reported using mindfulness (e.g., Leaves on a Stream) to help ground her during her experience of grief.
- Introduced compassionate letter writing exercise (e.g., Gilbert, 2009b,c). However, Pamela reported that she feels to be kind to herself would equate to being selfish to others.
- Psychoeducation around the notion that imagining an event (e.g., biting into a tart lemon) triggers similar reactions within your brain to the actual event (e.g., actually biting into the lemon), and that the same thing happens when we are critical of ourselves (i.e., similar neural circuitry would fire as if we were actually being bullied) (e.g., Gilbert, 2009b). This was linked to the importance of learning to be more compassionate.

Session fifteen

- Completed mindfulness exercise (soothing breathing rhythm) around grief feelings (i.e., regarding dog’s death and end of therapy).
 - Provide psychoeducation material around grief.
 - Reflect on therapy gains, potential future stressors, and strategies to help manage these.
-

Note: SCID-I = Structured Clinical Interview for the DSM-IV-I.

In order to get a baseline measure of key cognitive and behavioural symptoms, Pamela completed the Social Activities and Distress Scale (SADS: Watson & Friend, 1969) and the Appraisal of Threat and Avoidance Questionnaire (ATAQ: Riley, Brennan, & Powell, 2004). She

completed these between sessions six and seven (following the neuropsychological assessment and feedback), along with the Self-Compassion Scale (short form—SCS-SF: Raes, Pommier, Neff, & Van Gucht, 2011). The SCS-SF was administered to investigate hypothesised key change processes targeted within therapy. The SADS is a twenty-eight-item measure that assesses discomfort, fear, and the avoidance of social situations. Pamela scored 26 on the SADS, which is one standard deviation above the mean for social phobia in the general clinical population ($M = 20.7$, $SD = 5.1$: Oei, Kenna, & Evans, 1991). The SCS-SF is a twelve item measure assessing the degree of self-compassion people generally show themselves during difficult times. Pamela scored 2.08 out of 5 on this measure, suggesting a low level of self-compassion. The ATAQ is a forty-one-item measure examining threat appraisals and avoidance, and was specifically designed for assessment with individuals following brain injury. Pamela reported perceiving threat and associated avoidance behaviours across a range of activities (e.g., safety beyond the home, making mistakes, and not fitting in), with a score of 13 on both indices. In comparison to the mean for a traumatic brain injury sample at least nine months post-injury (total threat appraisals, $M = 18.0$, $SD = 8.7$; total threat-related avoidance behaviours, $M = 7.2$, $SD = 8.7$: Riley, Brennan, & Powell, 2004), Pamela's score was lower for threat appraisals but higher for avoidance behaviours.

The clinical interview revealed that Pamela highly valued her studies and that her earlier goals were to complete an honours programme and a PhD. Pamela had readjusted her goals following her aneurysm, because she no longer expected to achieve the necessary grades for continued study. However, soon after commencing therapy she acknowledged that “deep down” she wanted to be able to keep her options open in regards to a research higher degree. Pamela described significant distress surrounding her cognitive decline since the aneurysm, stating that she becomes annoyed with herself, feels anxious regarding university assessments, and that she just wants to be “normal”.

Prior to her aneurysm Pamela enjoyed baking, having friends over for morning tea, and interacting with her classmates at university. However, following the aneurysm she had ceased these activities and restricted her social life (i.e., staying at home “ninety-nine per cent of the time”), believing that this is “the only way I can cope”. In addition, she expressed concerns about appearing “dim-witted” during conversations with people should she experience difficulties with her memory, and a belief that people do not understand the effects of her injury. However, she appeared to be largely satisfied with her social situation, and preferred the development of “acquaintances” rather than close relationships. Pamela was no longer attending class on-campus, had limited her

cooking to simple meals, stating that she no longer gets pleasure from this activity. In addition, she described retreating to her room and sleeping whenever she felt that she was becoming “overwhelmed” or “depressed”.

History taking indicated that Pamela’s relationship with her mother had always been strained. She described her mother as “like a child” who always put her needs before others. Pamela was asked to leave home at seventeen years of age and her mother had indicated she had not wanted her. Pamela expressed that she has always wanted to be liked, and does not want to be like her mother. For these reasons, she feels she has always put others’ needs before her own. Pamela’s father was a shift worker with whom she rarely spent time. She reported that her family described her as “dumb” as a teenager when she experienced some cognitive difficulties (e.g., difficulties with concentration, planning, and organisation). It appears that she generally felt unsupported and rejected by her family growing up.

Formulation

Overall, Pamela’s performance across a range of cognitive tests did not yield a clear pattern consistent with the location of likely damage resulting from her stroke.² In particular, although her stroke was in the right posterior area, she displayed various strengths in processing complex visuo-spatial information. However, consistent with right posterior damage, she performed in the mild deficit range on immediate visual memory tasks and also displayed impaired speed on basic visual scanning and attention tasks. There was no evidence of unilateral neglect. Pamela also displayed impaired auditory memory, which was most evident on tasks assessing learning and retention of new material over a time period. Pamela’s high average to superior performance on more complex attention tasks (e.g., working memory and accuracy of alternating attention) suggested that her executive functions, as mediated by the anterior regions of the brain, were relatively intact after the stroke.

Based on the current assessment it is apparent that neurological factors contribute to Pamela’s pattern of cognitive difficulties. However, observations during testing and Pamela’s psychological history suggest that her anxiety and depression levels most likely exacerbated her current cognitive difficulties. Moreover, she reported being critical towards herself when she found it difficult to concentrate and retain information during testing and daily activities. As such, Pamela’s presenting difficulties were conceptualised from a compassion-focused therapeutic (CFT) perspective. This conceptualisation was developed collaboratively across the course of therapy (please refer to Table 2).

Consistent with the CFT perspective, Pamela's personal history revealed that she perceived her father as absent and her mother as neglectful. It is likely that this influenced the development of beliefs that others are hurtful and rejecting, and that she is in some way inferior. This may have led to the development of key fears around rejection (*external*) and becoming overwhelmed with "information overload" (i.e., *internal*: anxiety or depression). In order to cope with these fears, it appears that Pamela developed a range of safety strategies, or methods of self-protection, including; placating behaviours and avoidance of situations in which she feels at risk of being judged (e.g., in social interactions such as tutorials at university). However, the use of these safety strategies is likely to have unintended negative consequences and maintain her distress over time. For example, Pamela has a limited support network (i.e., only her husband and daughters) and her social avoidance serves to reinforce her beliefs that she is unable to cope with social interaction outside the home. It was hypothesised that the occurrence of Pamela's aneurysm and associated cognitive and emotional difficulties triggered her key fears around rejection and becoming overwhelmed. These key fears most likely led to an exacerbation of safety-behaviours (e.g., avoidance and self-criticism). In turn, her withdrawal from activities (e.g., attending university and socialising) is likely to have perpetuated her fears and beliefs about herself and others, thus maintaining her emotional distress.

CFT also highlights the interaction between emotion-regulation systems, that appeared to be out of balance for Pamela, and influence her emotional distress. Specifically, it is likely that Pamela's threat system was strengthened during her youth due to her experience of perceived criticism and rejection, predisposing her to an overactive threat system in her adult life. In turn, these experiences most likely contributed to an underdeveloped soothing-contentment system. In addition, her experience of an aneurysm was perceived as thwarting her main goal of completing her university degree (associated with the motivation system) due to the subsequent cognitive difficulties she experienced. Blocks to one's goals are also typically associated with activation of the threat system. Thus, Pamela's self-criticism may be viewed as another "safety strategy" aimed at reducing possible threat to her drive-motivation (i.e., achievement) system, by working as a "motivator" to help her overcome her current cognitive difficulties. However, it is likely that her self-criticism has the unintended consequence of adding to her cognitive load (compounding her post-stroke difficulties), as well as her level of distress (i.e., feelings of depression around never being good enough).

Therapeutic intervention and course of therapy

Pamela experienced mixed emotions regarding the feedback on her cognitive assessment (session five). She reported that on the one hand, she “wanted to smile” as she felt as though it validated her experience. However, she also became teary seeing the areas in which she experienced significant difficulty. Pamela agreed with the observation that anxiety was likely to have had an impact on some assessment tasks, and reflected that this had also been her experience in real life activities. As such, it was collaboratively decided that therapy would take a “two pronged” approach by incorporating components of both cognitive rehabilitation and psychotherapy.

There is a greater evidence base for CBT than any other form of psychotherapy for managing anxiety and depression after brain injury (e.g., Bradbury et al., 2008; Hodgson, McDonald, Tate, & Gertler, 2005). However, given Pamela’s presentation, we adopted a combined approach, integrating traditional and third-wave cognitive-behavioural techniques. In particular, drawing on a compassion-focused therapy (CFT) framework (please refer to Table 2, for an overview of session content and therapy processes). This approach was considered to have the potential to enhance the effectiveness of therapy over and above CBT alone. Assessment and therapy was completed as part of the training requirements for the therapist’s (CS) Doctor of Philosophy in Clinical Psychology. As such, therapy completion at session fifteen was due in part to the therapist completing her practical placement. Due to Pamela’s memory difficulties, information sheets were provided for all aspects of psychoeducation, and homework sheets were used to support practice between sessions.

Therapeutic process and outcomes

The therapist observed that Pamela was friendly and talkative throughout therapy. However, in session two Pamela expressed concern that she had “over-burdened” the therapist with information. She also worried that because she had begun to take time out to care for herself since the stroke, she was becoming like her mother. Related to this concern was the main challenge that the therapist regularly experienced and discussed in supervision, namely, Pamela’s resistance to using self-compassion. Consequently, it was important for the therapist to create a safe-soothing environment and to demonstrate the skills and attributes of compassion (e.g., expressing/modelling sympathy, empathy, and distress tolerance from a non-judgemental position) within sessions (Gilbert, 2009a). In relation to this, the development of a strong thera-

peutic relationship was important. Although the therapeutic alliance was not formally assessed during the treatment processes, various indicators supported that a strong therapeutic bond had formed. For example, the therapist sensed it may be important to begin preparing Pamela for the termination processes from session ten, at which point Pamela reported that she “felt a gasp at the thought (of the relationship ending)”. In addition, Pamela shared her achievement of an inter-state trip (with her children) via sending a postcard to her therapist at the clinic. It was also reflected in Pamela’s feedback provided to the University clinic at the end of the treatment programme, in which she reported appreciating the “kindness” of her therapist, and that the therapist “always listened to and addressed my feelings”.

Pamela was provided the opportunity to continue therapy with another therapist via a handover process, but declined because she felt that she had made several gains in therapy (e.g., improved cognitive functioning, increased social interaction, and a reduction in anxiety symptoms), and felt better able to cope without continued support.

Post-intervention and three month follow-up assessment

The efficacy of the intervention was assessed quantitatively through a comparison between Pamela’s pre- and post-therapy scores, as well as three month follow-up (returned by post to the therapist CS) on a series of self-report measures. Measures included those assessing her level of emotional distress (OQ-45.2 and DASS-21), behavioural functioning (SADS, ATAQ), and compassion-focused processes (SCS-SF). Reliable change indices (RCI: Jacobson & Truax, 1991) were calculated where possible for increased statistical rigour (i.e., the minimum required difference score to indicate whether the change is greater than would be expected through error). However, interpretation of these results should be done cautiously as most are based upon non-acquired brain injury samples.

RCI is a measure of treatment efficacy that indicates whether the difference between two points of assessment administration are due to measurement error or indicative of a true change score (Jacobson & Truax, 1991). RCI were calculated using the ClinTools program ($p < 0.05$: Devilly, 2005) for the DASS-21 and SCS-SF. Test–retest reliability was sourced from the long version of the SCS using a sample of undergraduate university students (Neff, 2003b). The standard deviation of the sample was provided by K. Neff (personal communication, April 1, 2012). There are high correlations between the short and long form (Raes, Pommier, Neff, & Van Gucht, 2011). The test–retest reliability and standard deviation scores were sourced from Ownsworth and colleagues (2008) from a brain tumour sample for the DASS-21. RCI for the OQ-45

were sourced from Lambert, Gregersen, and Burlingame (2004) and were calculated from community and clinical outpatient samples (Lambert, Gregersen, & Burlingame, 2004).

Overall, there was a clear decline in Pamela’s level of distress over the course of therapy as indicated by a reduction in her scores on both the OQ-45.2 and DASS-21 (see Figure 1 and Table 3). In order for improvements to be considered clinically significant, change scores must improve by the RCI *and* no longer be within the clinical range (Jacobson & Truax, 1991). It is notable that there were two spikes in Pamela’s distress levels (according to the OQ-45.2) at sessions twelve and fourteen, that corresponded with psychosocial stressors (i.e., feeling “overwhelmed” by demands placed on her by her daughter, and when her dog died).

In order to identify Pamela’s pre-treatment functioning as a baseline, scores on the OQ-45.2 were initially examined between the first and

Table 3:Reliable change indices for outcome measures (OQ-45.2, DASS-21, and SCS-SF)

Measure	SD	r_{xx}	Score			Interpretation			Reliable change		
			Pre	Post	Follow-up	Pre	Post	Follow-up	RCI ^a	Pre-post	Pre-follow
OQ-45.2—session one											
SD	—	—	55	27	21	Clinical	Normal	Normal	10	Yes	Yes
IR	—	—	20	8	8	Clinical	Normal	Normal	8	Yes	Yes
SR	—	—	19	9	5	Clinical	Normal	Normal	7	Yes	Yes
Total	—	—	94	44	39	Clinical	Normal	Normal	14	Yes	Yes
OQ-45.2—session six											
SD	—	—	49	27	21	Clinical	Normal	Normal	10	Yes	Yes
IR	—	—	14	8	8	Normal	Normal	Normal	8	No	No
SR	—	—	14	9	5	Clinical	Normal	Normal	7	No	Yes
Total	—	—	77	44	39	Clinical	Normal	Normal	14	Yes	Yes
DASS-21											
Depression	6.7	0.78	22	0	4	Severe	Normal	Normal	8.71	Yes	Yes
Anxiety	7.4	0.73	14	6	0	Moderate	Normal	Normal	10.66	No	Yes
Stress	7.1	0.65	14	8	8	Normal	Normal	Normal	11.64	No	No
SCS-SF	3.98	0.93	2.08	3.5	3.25	Low	Mod-High	Moderate	2.92	No	No

Note: OQ-45.2 = Outcome Questionnaire 45.2; SD = Symptom Distress; IR = Interpersonal Relations; SR = Social Role; DASS-21 = Depression Anxiety Stress Scales 21; SCS-SF = Self-Compassion Scale-Short Form.

^aThe minimum difference required for the change to be considered statistically reliable (i.e., more than what would be expected through error).

sixth session (i.e., between the initial intake session and prior to the outset of therapy). Although there was an improvement in overall and subscale scores between the initial and sixth session, this improvement only met criteria for a reliable improvement on the total score. Therefore, to adopt a more conservative approach to assessing therapy outcome, her post-treatment and follow-up scores were compared to her self-reported level of distress on the OQ-45.2 at both sessions one and six (see Table 3).

As shown, there was a clinically significant improvement in Pamela's level of symptom distress (according to the OQ-45.2) and depression symptoms (according to the DASS-21) between the pre- and post-assessment, and these gains were maintained at the three month follow-up. In addition, there were improvements in Pamela's distress regarding her social role performance and level of anxiety between pre- and post-assessment. However, these did not meet the criteria for clinically significant improvement until the three month follow-up, suggesting continued gains post-therapy. Although these improvements coincided with an increase in Pamela's level of self-compassion, her improvement on the SCS-SF did not reach the cut-off for a reliable change.

In addition, Pamela's distress and avoidance regarding social situations on the SADS reduced from above the mean for social phobia (26) to within the normal range (9) at the post-assessment. However, it is notable that between the post-assessment and follow-up there was a substantial increase in her scores on this measure (23). This pattern was in parallel with her scores on the ATAQ, in which her threat appraisals reduced (from 13 to 6) between pre- and post-treatment, with an associated absence of avoidance behaviours. However, at three month follow-up her ATAQ scores increased to 11 for both threat appraisals and avoidance behaviours.

In addition to the questionnaire data, Pamela reported several gains across the course of therapy, including: an increase in her social network (i.e., re-established contact with neighbours); cooking dinners that consist of four components; developing her own cognitive strategies to facilitate the completion of her university assessments; feeling better able to manage stressful events and symptoms of anxiety (through techniques taught in therapy, e.g., mindfulness); and gaining self-confidence. Although these gains were not directly assessed at the three month follow-up, it was apparent from the ATAQ that she was avoiding social activities and demanding tasks (e.g., due to concerns about not fitting in, and taking too long to do things). Nonetheless, her scores on the DASS-21 and OQ-45.2 remained in the normal range, suggesting that she had maintained her gains in emotional well-being.

Discussion

Overall, this case study demonstrates the potential benefits of CFT for individuals following stroke, as well as highlighting some of the challenges that may be encountered. In particular, the findings reinforce Gilbert's (2010) view that some individuals resist the use of self-compassion. Notwithstanding this less effective aspect of the therapy, the integrated cognitive-behavioural/CFT approach was found to facilitate a clinically reliable reduction in depression and anxiety symptoms that was maintained at three months follow-up. Few studies have demonstrated efficacious psychotherapies for anxiety and depression post-stroke, and there is more evidence supporting the efficacy of preventative approaches for post-stroke depression (Hackett, Anderson, House, & Xia, 2009). However, given that individuals often do not present for treatment until they are experiencing significant symptom distress, it is important to validate both approaches for preventing and treating post-stroke affective disorders.

While investigating the efficacy of psychotherapy treatments, it is critical to consider the therapeutic processes (i.e., potential mechanisms of change) as well as the overall therapeutic outcome (e.g., Laurenceau, Hayes, & Feldman, 2007). According to Pamela, the aspect of therapy she felt to be the most beneficial was the development of mindfulness skills. In particular, Pamela described these as "grounding" at times when she was feeling emotionally "overwhelmed". This is consistent with research that has found mindfulness-based therapies to be beneficial in the treatment of depression and anxiety within clinical and health populations (see Hofmann, Sawyer, Witt, & Oh, 2010 for a meta-analytic review). Mindfulness-based therapies have also been associated with a significant reduction in depressive symptoms and a minor reduction in anxiety symptoms six months post-neurosurgery for ruptured aneurysm (Joo, Lee, Chung, & Shin, 2010). Kangas and McDonald (2011) presented a rationale for the application of mindfulness-based therapies (e.g., acceptance and commitment therapy) in the treatment of emotional disorders in ABI.

In addition to the development of mindfulness skills, the formation of a good therapeutic relationship was considered an important factor contributing to Pamela's outcome. Specifically, the therapist endeavoured to provide a safe, non-judgemental environment in which self-compassionate behaviours could be modelled (e.g., "kindness"). Although mindfulness is assessed within the SCS-SF (two items), the examination of data on this subscale is not recommended on the short form due to poorer reliability (Raes, Pommier, Neff, & Van Gucht, 2011). Thus, the development of mindfulness skills and the strength of the therapeutic relationship were not formally assessed in this study. However, it is proposed that these contributed to the clinically significant reduction in emotional

distress between the pre- and post-intervention assessments, and the long-term maintenance of these gains at the three month follow-up. Further research into the importance and utility of these factors in post-stroke psychotherapy is recommended.

It is important to acknowledge that not all short-term improvements (i.e., at therapy completion) were maintained at the three-month follow-up. Specifically, there was an increase in Pamela's avoidance behaviours according to the ATAQ and the SADS. This is more consistent with prior research (Bradbury et al., 2008) that found that individuals with brain injury experienced a significant reduction in the symptoms of emotional distress following cognitive behavioural therapy, but did not demonstrate functional improvements such as increased community participation. One possible explanation for these findings is the concept of selective optimisation compensation originally proposed by Baltes (1997) and reviewed in the context of stroke by Broomfield and colleagues (2010). According to this theory, individuals post-stroke may be required to modify or adapt their participation in meaningful activities in order to perform at an "optimal level" given their post-stroke related impairments. This is consistent with some of Pamela's own choices regarding the reduction in her social activities. Notably, her reduced participation appeared to be linked to high levels of self-criticism, and symptoms of depression and anxiety pre-treatment. However, at the three month follow-up her reduced activity participation was no longer associated with emotional distress. Thus, it is possible that her reduction in activity participation in some areas allowed Pamela to optimise her functioning in other areas (e.g., university studies) that contributed to her positive mood.

This study aimed to investigate the potential utility of an integrated cognitive behavioural/CFT approach to therapy post-stroke. Accordingly, the investigation of changes to Pamela's degree of self-compassion was an important aspect in examining treatment efficacy. Although Pamela's experience of enhanced emotional well-being coincided with an increase in self-compassion, the increase did not reach the cut-off for reliable change. However, it must be noted that a limitation to the current study is the use of data from the general clinical population in order to calculate and investigate reliable change. Furthermore, it must be acknowledged that the treatment protocol itself did not take a pure CFT approach; rather it incorporated other third-wave therapies (e.g., mindfulness), traditional CBT, as well as cognitive rehabilitation strategies, increasing the difficulty in teasing out the exact ingredients for change. Another possible explanation for these findings is the brevity of the current treatment intervention. Specifically, the number of therapy sessions was limited by the therapist's practical placement. As such, it is possible that continued treatment and booster sessions may have facilitated a

reduction in Pamela's fears of self-compassion (possibly allowing for a continued increase in self-compassion), and may have helped to maintain her reduction in social distress, threat appraisals, and avoidance of social situations and activities. For example, Ashworth, Gracey, & Gilbert's (2011) single case study demonstrated the success of CFT post-traumatic brain injury following twenty-four sessions of treatment (eighteen sessions were focused on CFT, after an initial six cognitive behavioural therapy sessions). As such, the ten sessions of therapy within the current programme may have been too brief to promote broader psychosocial gains. Furthermore, as with all case studies, it is not possible to generalise these current findings to other individuals with stroke.

Overall, the main contributions of this case study to the literature relate to the potential utility and challenges of delivering psychotherapeutic interventions for individuals after stroke. The current case study showed some preliminary evidence that supports the utility of incorporating CFT in post-stroke therapy. However, it also demonstrated possible challenges within this treatment framework. In particular, some individuals post-stroke may view self-criticism as a motivator helping them to achieve pre-stroke levels of functioning, and as a result may experience greater difficulty with self-compassion. As such, a more extended intervention may be required to explore the function of self-criticism prior to training in self-compassion. It also appeared that the development of mindfulness and a supportive therapeutic relationship were particularly important, and such aspects of the therapy process need to be specifically examined in future research.

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Notes

1. These results should be interpreted with caution as different versions of the WAIS-IV and WMS-III were used in this comparison. As such, only FSIQ was utilised in the analyses, and hence the comparison may potentially underestimate Pamela's relative memory difficulties.
2. The authors acknowledge that due to Pamela's earlier stroke; it would be unlikely there would be a clear pattern in her cognitive profile based upon her stroke location. In addition, we cannot rule out the possibility of a development condition. However, the authors consider these factors to be unlikely influences on her current profile, given her former academic functioning (i.e., between the first and the second stroke).

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