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# Treatment of Posttraumatic Stress Disorder Following an Armed Robbery: A Case Study Testing the Transportability of Trauma-Focused Cognitive-Behavioural Therapy to Urban Africans

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**John, an urban African male who developed posttraumatic stress disorder (PTSD) following an armed robbery at the petrol station where he worked, was treated with 12 sessions of Trauma-focused cognitive behaviour therapy. Intervention involved a combination of psychoeducation, prolonged imaginal exposure, cognitive restructuring and behavioural assignments. This article is a systematic case study of his treatment which included a comprehensive narrative and tracking of progress by means of the Posttraumatic Diagnostic Scale. John responded well to the treatment, finding it acceptable and credible and remained free of PTSD symptoms at 15 months follow up. It is argued, based on the principles of Elliott's Hermeneutic Single Case Efficacy Design, that there is evidence from within the narrative that it was the treatment that led to remission of symptoms. This case study demonstrates the cognitive, emotional and behavioural processes underlying John's PTSD, which fits with those extensively described in the research literature, and that this evidence-based treatment developed in a westernised context is transportable to work with urban Africans.**

*Keywords: case study, cognitive-behavior therapy, posttraumatic stress disorder*

Potentially traumatizing events that can precipitate posttraumatic stress disorder (PTSD) are all too common in South Africa with the result that PTSD is a significant public health problem, as documented by Edwards' (2005b) review. Further evidence for the pervasiveness of PTSD has subsequently been published. Peltzer, Seakamela, Manganye, Motsei, and Methebula (2007) found significant rates of trauma exposure and PTSD among rural Black Africans who were patients at a rural primary clinic and reported a PTSD prevalence of 12.4%, somewhat lower than the 19.9% reported by Carey, Stein, Zungu-Dirwayi, and Seedat (2003) for an urban Xhosa primary care population. Kaminer, Grimsrud, Myer, Stein, and Williams (2008) found that, within their lifetime, over a third of South Africans are likely to be exposed to the kinds of violence that can precipitate PTSD. They found higher rates of exposure among men than women, a significant prevalence of physical abuse in childhood in both men and women, greater exposure of men to criminal violence, and of women to intimate partner violence and sexual assault. Among South African emergency service workers, Ward, Lombard and Gwebushe (2006) found a higher incidence of exposure to traumatizing events than that reported in Europe and North America as well as higher rates of trauma related psychopathology. The problem of PTSD as a result of accidents in the South African mining industry was highlighted by Stevens, Calitz, Joubert, Gagiano, and Nel (2006).

Several Trauma-focused Cognitive Behaviour Therapy (TF-CBT) models have been shown to be efficacious for treating PTSD in randomized controlled trials (Edwards, 2009; Foa, Keane and Friedman, 2000). There is increasing case-based evidence that TF-CBT treatments are applicable in South Africa in a wide variety of settings. In a series of systematic case studies, Edwards and his colleagues demonstrated the transportability of Ehlers and Clark's (2000, Clark & Ehlers, 2005; Ehlers, Clark, Hackmann, McManus & Fennell, 2005) cognitive therapy (CT) in Black African university students (Boulind & Edwards 2008; Davidow & Edwards 2005; Karpelowsky & Edwards 2005; Laas 2009; van der Linde 2007), but also in township settings (Padmanabhanunni, 2010; Payne & Edwards 2009). The limitations of the model when there is inadequate social support from the family have also been highlighted (Padmanabhanunni & Edwards, 2012; Swartz, 2007). This article is a case study of a treatment by the first author (BD) using another TF-CBT model, Prolonged Imaginal Exposure (PIE) (Foa, Hembree & Rothbaum, 2007), supplemented by a number of cognitive interventions and behavioural assignments. It provides for an examination of the effectiveness of a combination TF-CBT treatment for acute PTSD within a South African context.

## Methodology

This is a systematic case study (Fishman, 2005), based on a naturalistic clinical situation. John, an urbanised, Black, South African, adult male with little formal education and an economically disadvantaged and non-Western background, was referred by a medical practitioner for treatment of PTSD, following an armed robbery about one month earlier at the petrol station where he worked. The treatment was financed by his employer. Systematic case studies can make several contributions to evidence-based practice (EBP) by offering a bridge between group comparison research and the details of clinical reality (Dattilio, Edwards, & Fishman, 2010; Edwards, 2005c; Edwards, Dattilio, & Bromley, 2004). First, they can examine whether treatments are effective in real world settings different from those of the

original RCTs. Second, they can focus on client or context-specific obstacles to treatment and provide information about the need for adaptation of treatment protocols for particular clients and cultural groups. Third, they can focus on clinical factors that determine the choice and timing of particular interventions.

There were 12 sessions and a follow-up interview 15 months later (See Table 1 below for more details). John gave informed consent for the use of the case material, and identifying information has been omitted or changed to ensure confidentiality.

The data sources on which this study is based are as follows:

1. Session Records: Shortly after each session, BD made detailed summaries of John's reports of his symptoms between sessions, his experience with the homework, the sequence of activities within the session and his perception of John's symptom presentation and progress.
2. The Post-traumatic Diagnostic Scale (PDS) - Part 3 (Foa, Cashman, Jaycox, & Perry, 1997) was administered regularly throughout assessment and treatment. This contains 17 items assessing the nature and severity of PTSD symptoms. The clinician determined that John was able to understand the items and the task of responding to this scale.

The following data reductions were written, based on these sources, and drawing on Fishman's (2005) guidelines for the online journal *Pragmatic Case Studies in Psychotherapy,* an assessment summary, a case history, and a narrative of John's assessment and treatment process including information gathered at follow-up.

### Background and Assessment Summary: Session 1

**John's context and family background.** John (39) was open and polite and conversed easily in English (the home language of the therapist) although it was not his first language. The son to a Black, African, Xhosa-speaking father and an Afrikaans-speaking mother of mixed racial ancestry, he spoke Afrikaans, English, and isiXhosa. His childhood and adolescence had been lived against the background of Apartheid-era racial segregation. Until age 4, he had lived in a rural area outside Cape Town. His mother was illiterate, had no formal education and worked as a domestic cleaner. His father, who had completed Grade 3, started as a farm labourer, learned to work as a mechanic, and worked for a motor-vehicle manufacturer, then at a clothing retail warehouse until he was promoted to the position of manager of the gardens, a job at which he was especially talented, according to John. His mother regularly consulted an *igqirha* (traditional healer) for health problems and referred to him as "*die slim man*" (Afrikaans for "clever man") while his father, who had a strong affiliation with a Christian church was not drawn to traditional healers.

His parents and the wider community placed little value on education because of the limited employment prospects for Black people under Apartheid. John had left school at the age of 16 before completing Grade 7 to work as a supermarket packer. He was now utilizing the opportunities of the post-Apartheid dispensation to improve his socio-economic standing within an urban and racially integrated setting. John was a well-respected and high functioning manager at the filling station, in a middle class suburb, suggesting that he was capable and intelligent. John had seven children from four different relationships and was in a seven-year marriage to his second wife. He had contact with four of his children, including one who was living with him and his wife in rented accommodation. At age 18 he had seen a psychologist after being hospitalized following a suicide attempt, a crisis precipitated by the end of an intimate relationship, which left him with feelings of hurt and a strong desire for revenge. This no longer disturbed him and he reported no other significant psychiatric history.

**The armed robbery.** On arrival that morning, John noticed two men leaving the shop at the filling station, and walking back to their car. One of them went to the back of the property and an employee commented that they were "looking for money." Concerned, John followed but was relieved to see them driving away in a white Fiat Uno, as there had been several armed robberies at filling stations in the area over the preceding months. Not long after, however, these two men and another returned, threatened John and his staff with firearms, took most of the cash that was on site, and left without injuring anyone.

**Development of symptoms**. The next day, the company brought in a group of trauma specialists who offered a debriefing attended by John and one of the cashiers who had also been directly affected. The trauma counsellor must have concluded that John was not at risk for PTSD and did not recommend any follow-up. However, John subsequently began to experience insomnia and irritability and became verbally aggressive. The memory of the event would "play through my head like a DVD." The thought, "What if they did shoot me?" was accompanied by intense anxiety. Cognitions such as "I could've prevented the whole incident," "I should've known," and "They humiliated me, and I couldn't do anything," were associated with guilt and shame. A friend had offered him the benzodiazepine Alprazolam, which he was using "as required," and he was taking a hypnotic prescribed by the referring medical practitioner, but these had been of limited help.

John described several cues that triggered hypervigilance: staff shift changes, white Fiat Unos, Black people, three or more Black men in a group, people wearing white hats. He described himself as having become "more racist" and had experienced a panic attack at church in response to the large number of Black people present, even though he had been a member of the congregation for some time. At work, he reported an exaggerated startle response and had been monitoring the closed-circuit television in his office much more than usual. He feared a repeat of the robbery or that the perpetrators would come after him. He would often respond to the arrival of a motor vehicle at the filling station with the appraisal that it was "maybe them coming back for me." He was using avoidant strategies including thought suppression and affective avoidance in response to intrusive recollections of the event. For example, he reported that "I try not to think about it because it's really not pleasant," and "during the debriefing I wanted to cry, but I held it back." This was evidently part of a habitual coping style, because he also added, "I am a fighter, a strong person." He was also more avoidant of church, Black people and interaction with unknown customers, and felt distant and cut off from people around him. These symptoms had affected his ability to function at work, in relationships with friends, and had had an adverse impact on his general satisfaction with life.

### Case Formulation, Treatment Rationale and Treatment Plan

The length and structure of the 12 sessions of assessment and intervention is detailed in Table 1. John met criteria for PTSD according to DSM-IV (American Psychiatric Association, 2000). There were symptoms of depression but these were not sufficient to make a diagnosis of a major depressive episode.

Table 1
*Focus of Sessions*

| Session no. | Time | Content |
|---|---|---|
| 1 | 60 minutes | Assessment and Background |
| 2 | 90 minutes | Psychoeducation and Treatment Preparation |
| 3-5 | 90 minutes each | PIE and Cognitive Restructuring |
| 6-9 | 60 minutes each | Cognitive Restructuring |
| 10-12 | 60 minutes each | Consolidation and Relapse Prevention |

The memory of the robbery was associated with intense anxiety, which was related to the appraisal that he would be killed. John expressed elevated perceptions of responsibility for having put his staff at risk. He believed that he should have acted in a more timeous manner and that he could have prevented the robbery. His concern that there would be a repeat of the armed robbery was fuelled by the reality that such robberies were often reported at filling stations.

There was evidence that, as a result of his avoidant coping including his withdrawal from others, the memory of the event, with its associated appraisals, had not been integrated into autobiographical memory. This coping style is common following trauma and is responsible for the overgeneralized perception of threat and involuntary triggering of flashbacks with the associated hypervigilance and insomnia (Clark & Ehlers, 2005; Ehlers & Clark, 2000; Foa & Kozak, 1986). This meant that treatment would need to help him diminish his avoidant coping so that he could relive the episode and so review the memory and identify the appraisals he had made at the time and subsequently. The aim was to actively target these appraisals with selected cognitive restructuring strategies and behavioural assignments (Ehlers & Clark, 2000; Ehlers, Hackmann, & Michael, 2004; Foa et al, 2005). Psychoeducation aimed at normalizing symptoms and providing an understanding of the rationale for treatment and the treatment process itself would precede such intervention.

**Treatment and Impact on Symptoms**

**Session 2: Psychoeducation, treatment contract, and preparation.** John reported that he was on vacation and that his symptoms had reduced, because he did not have to go to the site of the trauma. However, he scored 28 on the PDS, which is in the moderate to severe range. After gathering some further assessment information, BD provided the rationale for treatment. He explained that the PTSD was caused by conditioning, and that it was "a memory problem" so that "it's the memory that we have to help you with." The goal of therapy was to help "teach his brain" that the images associated with the trauma reminders themselves were no longer dangerous within today's context, even though they may have been associated with danger peri-traumatically. He also explained that his shame and guilt were based on appraisals which could be unrealistic and that these emotions could be addressed with CT if they persisted after his anxiety ratings had subsided in response to PIE. All this made sense to John who was able to summarize this rationale himself so the clinician knew he understood it. This motivated him to engage with the treatment and would enable him to tolerate the emotional distress that the reliving of the trauma would evoke, something John was understandably apprehensive about.

**Session 3: Imaginal exposure.** John reported that the psycho-education of the previous session had made him feel better. However, he had continued to experience intrusive memories and anxiety in response to reminders of the trauma throughout the week despite the fact that he was still on vacation, and his PDS of 26 was only marginally lower than before. The clinician showed John how to rate his anxiety using a Subjective Units of Distress (SUDS) scale (Foa et al., 2007), and how to practise corrective breathing which would help him when anxiety was triggered. During the last 60 minutes, the clinician guided him through PIE during which he relived the trauma memory three times, while the clinician recorded the details of the entire episode. Eight critical events (CEs) at which John experienced heightened distress were identified and numbered. These are summarized in Table 2.

***Trauma narrative.*** After the three men in the white Fiat Uno leave the garage, John feels relieved, returns to the shop, meets some bread delivery men and then walks through to his office at the back of the building. He puts some personal belongings on his desk before returning to assist with the bread delivery. Then he notices the perpetrators approaching and then entering the shop [CE1]. He thinks, "We are about to be robbed" and "Maybe they'll shoot me." Two perpetrators enter the building. One stands behind John and the other in front of him, between himself and the cashier. John feels the "cold steel" of the firearms being pressed against him by both robbers. The man in front commands him to "come!" John realizes that they really are being robbed and knocks over some dried sausage on the counter beside him. He thinks, "I must be careful to not give them a fright" [CE2]. The man behind John is now pointing his gun at the cashier and the third perpetrator enters the shop. The man in front of John again orders him to "Come, come!" John walks toward the back office, passing the bread delivery men and knocking the bread bin [CE3]. At that point, he observes, "A calmness then came over me."

At his office, he is asked, "Where's the money?" He opens two cupboards and shows them where the safe is. As he bends down to open it, thoughts about his family run through his mind and he reminds himself that he needs to cooperate [CE4]. He recalls stories of similar robberies told to him by work colleagues and thinks about the best way to respond to the situation. Then he feels angry and guilty, with the appraisals that "This shouldn't have happened to me… I could've prevented it." Next he is asked if he has a gun and puts his hands in the air and allows the robber to body search him. The second perpetrator is "peeping into the room." John becomes concerned that the safe is usually difficult to open, and this might provoke the robbers. To his relief, it opens easily. A robber asks what is inside, to which John replies, "Money." The robber looks into the safe, then takes John's bag and hands it to him, instructing him to put the money in. John is afraid that his wallet is still in the bag and

Table 2

*Session 3: Critical Events (CEs) in the Trauma Narrative*

| Number | Event |
|---|---|
| CE 1 | John notices the perpetrators approaching and entering the shop and thinks "We are about to be robbed" and "Maybe they'll shoot me" |
| CE 2 | John knocks over some dried sausage on the counter beside him and thinks "I must be careful to not give them a fright" |
| CE 3 | John passes the bread delivery men and knocks the bread bin |
| CE 4 | Thinks about his family and reminds himself that he needs to cooperate |
| CE 5 | He notices his own firearm deep within the safe and hopes the robber won't see it |
| CE 6 | John is ordered to lead the perpetrator back into the shop and thinks "What if he's going to shoot me?" "What if he uses me as a shield" |
| CE 7 | A customer asks to pay for an item. John responds, "No, we've been robbed." |
| CE 8 | John feels safer and more relaxed when the police arrive |

this might identify him and put him at risk later. But the perpetrator is standing over John, who is on his knees, packing money into the bag, so he cannot remove his wallet. He is asked where the other safes are and John opens a second safe alongside the first and starts transferring cash float bags into the bag. Noticing his own firearm [CE5] deep within the safe, he hopes the robber won't see it. He continues transferring the cash bags. One robber asks about the video surveillance monitor and John helps him dismantle it. He also asks about the closed-circuit television camera, which he takes with him.

John is then commanded to lead the perpetrator back into the shop. He thinks, "What if he's going to shoot me?" [CE6]. He also worries that the perpetrator might "Use me as a shield." As they re-enter the shop, they pass the bread delivery men. The perpetrators then escape in their vehicle parked at one of the pumps. John tells customers standing in the shop that, "We've just been robbed." The bread delivery men run outside and stand alongside their empty crates. The cashier has pressed the panic button that alerts a security company. A customer asks to pay for an item but John responds, "No, we've been robbed." The phone rings and the cashier answers it. John tells him to "Tell the security company that we've just been robbed" [CE7]. He then instructs his staff to stop serving customers and takes steps to empty the shop, cordon off the area, and lock the front door. He feels safer and more relaxed when the police arrive soon after, followed in a while by the security company [CE8].

Figure 1 shows the SUDS ratings associated with each CE over the three trials. There was a progressive reduction in distress as John moved from the first to the third reliving. In the first, ratings were particularly high for CEs 3-7, in the second these were all somewhat lower, and by the third, ratings were markedly reduced. John said he "felt more detached from the memory the third time … as though it was just a story." The therapist suggested that his brain was beginning to "see the images and memory as just images and a memory." This encouraged John, strengthened the therapeutic alliance, and motivated him to continue with the treatment. Finally, for homework, John agreed to go out to the local shops and look out for Black men and white Fiat Unos. His task was to ask himself "Are these really dangerous or is this just my trauma memory that may make me think this way?" He was also encouraged to watch others interacting with people with Fiat Unos (if he saw any) and Black men and observe their reactions from a distance. John agreed to undertake these tasks.

**Session 4: Cognitive restructuring and further PIE.** Two days later, John reported that he had gone to the shops on one occasion and seen at least two white Fiat Unos. He had watched others interacting with Black men from a distance and observed that they all appeared quite relaxed. This had helped him to "see that not all white Fiat Uno's and Black men are dangerous." The clinician praised John and reminded him that "thinking better" was the first step toward "feeling better," and that this was an important step in his brain beginning to recognize that such triggers do not necessarily carry the degree of threat as they did on the day of the trauma. However, the impact of the previous session had been to increase his intrusive cognitions and nocturnal anxiety. His sleep was disturbed by worrying that the perpetrators might look for him at home because his wallet with identifying information was in the bag they took. The clinician initiated a systematic cognitive restructuring during which he wrote out a worksheet based on the ABCD acronym originally described by Ellis (1973). The Activating event was being at home at bed time, the Beliefs/thoughts were that they had taken his wallet and there was a good chance they might use the information about where he lived to come and rob him at home. The emotional and cognitive Consequences were anxiety, and worry respectively and a delay in going to sleep.

The clinician pointed out that his appraisal that "they may come back for me…to my house" was typical of the thoughts of people with PTSD and was central in maintaining his anxiety. First, he focused John on how probabilities are overestimated following trauma, and how one can arrive at more realistic appraisals of threat in a new situation. Second, he helped John examine the robbers' motivation. The fact that they did not actually assault or shoot anyone suggested that their aim was purely financial: "These guys are after big money … that's why they went for the safe." They had no interest in hurting or killing for its own sake. He recalled that during training with the petroleum company, he had been told that professional thieves "often don't commit murder if people cooperate." Third, the clinician pointed out that the robbers were assisted by being able to surprise him, something that would not be the case if they came to

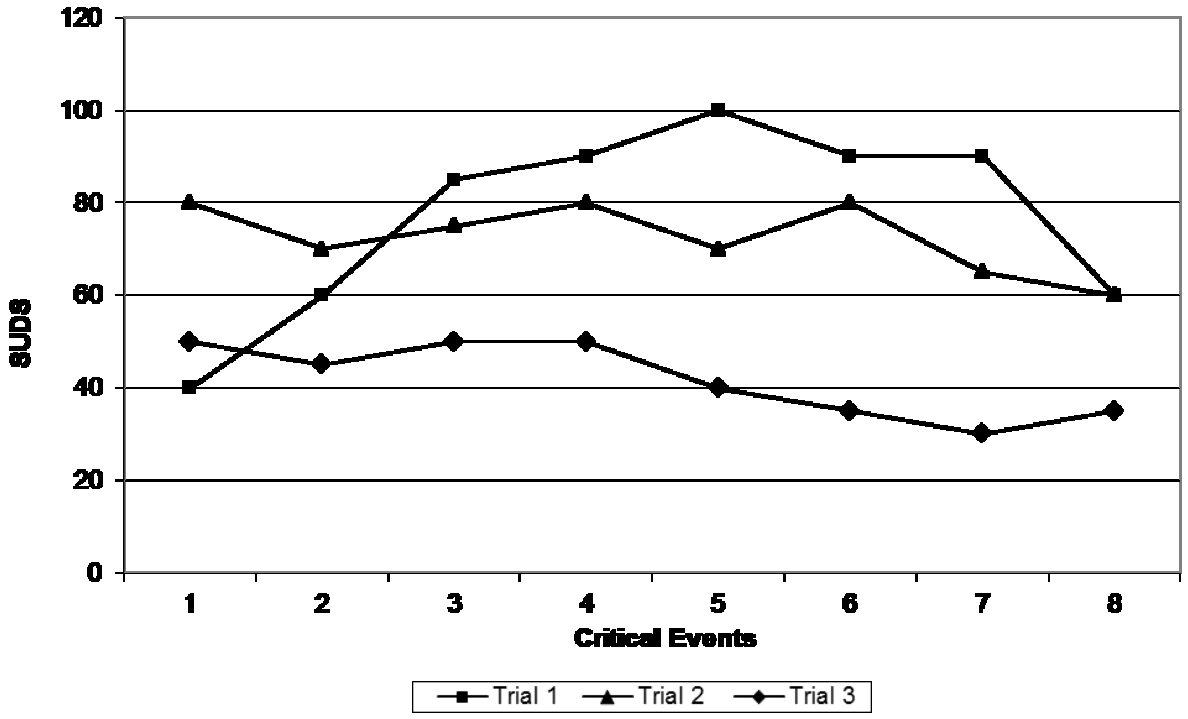


Figure 1: John's SUDS ratings over three trials during first imaginal exposure

his home to rob or assault him. These points were summarised on the worksheet as Disputing thoughts which provided an alternative explanation: "While it's possible that they may come to my house, it's not likely because: These guys are professional thieves and they are after serious money. They would probably not benefit substantially from robbing me. The element of surprise is important in any robbery, and they no longer have that with me – I would be a bad choice for them. They were non-violent in their operation, and most professional thieves are probably more interested in the financial benefits of their operations than in killing people."

Next, John went through four more PIE trials. His SUDS ratings during the first were similar to those for the first trial in session 3, but there was a greater reduction than before for the second reliving. Six new details emerged: (1) He had deactivated the alarm when he first entered his office; (2) when he re-entered the shop, before the perpetrators entered, he went to the cashier to ask her how the previous evening had been; (3) one of the robbers was wearing a dark green T-shirt; (4) the white Fiat Uno had reversed on the forecourt until it was in line with pump number 9; (5) he recalled "the shock that went through my body" when he realized they were about to be robbed; (6) whilst standing between the two robbers in front of the cashier, he had thought, "I'm going to die."

At the end, John expressed his surprise and satisfaction at the degree of reduction in distress during the session. For homework, he was asked to use the alternative explanations from the ABCD worksheet in response to any thought that the perpetrators might come to his house. He also agreed to continue to make trips to the shops and, every second day, to set aside 45 minutes to do the PIE by himself.

**Session 5: Further reliving and addressing guilt and anger**. A week later, John was back at work where, he said, "things are almost back to normal." He was sleeping well at night, making less use of hypnotic medication, was less hypervigilant, less easily startled by the sound of motor-vehicles arriving on the forecourt, and having fewer intrusive trauma recollections. If he saw a white Fiat Uno he was able to remind himself that "this is not the same as when the robbery took place" and feel minimal anxiety. This was reflected in a score of 15 on the PDS. He had set time aside for PIE on alternate days and found that, while difficult at first, it had become substantially easier as the week progressed. Although he still felt some apprehension that the robbers might come to his house, he had used the coping statements from the previous session, which were "making it much easier now."

The therapist had John continue with PIE during the session. His SUDS peaked at a maximum of 40 during the first reliving and remained at 20 and below during his second and third trials. Two further details were recalled: the perpetrator had warned, "Don't try anything" while standing behind him in the shop before John led him through to the office at the back of the building; and the robber who ordered him to move toward the back office "was screaming" when asking where the money was so that the bread delivery men must have overheard him.

Next, attention was paid to John's belief that he "should have been able to prevent this." This kind of counterfactual thinking is a common feature of PTSD (Ehlers & Clark, 2000; Kubany & Watson, 2003). The clinician acknowledged that John would have preferred to have been able to prevent something as traumatic as this happening to himself, his staff, and his employer's business. However, drawing on Ellis' REBT theory (Walen, DiGiuseppe, & Dryden, 1992), he challenged the absolutistic evaluative demand that he absolutely should have been able to prevent it and questioned the validity of the appraisal that one "should know" what one "doesn't know." John

was able to see the dysfunctional nature of his expectation that he should exhibit "hindsight as foresight." Through guided discussion, the clinician helped John recognize that, while retrospectively it was easy to find clues that might have warned him about the impending robbery, the fact the he did not attend to them at the time did not mean he was negligent or that he should have been able to do foresee what was going to happen.

John's homework was: to continue with PIE at home for 45 minutes every second day; to use the coping statements written down during the session, reminding himself that "I am not able to tell the future and could never have had hindsight as foresight, even though it may have been great if I could have with my crystal ball!"

**Session 6: Focus on shame and anger**. Before session 6, one week later, the clinician spoke telephonically to John's employer (with John's permission) who confirmed that John was functioning well at work. The clinician had motivated him to continue financial assistance to enable John to complete treatment. John reported marked reduction of symptoms: he had experienced no significant anxiety or intrusive recollections and was blaming himself less. The clinician focused attention on an appraisal John previously verbalized that "they humiliated me and I couldn't do anything to protect myself". This was still associated with a significant degree of anger. John's belief that he was not able to protect himself was contributing significantly toward his anxiety and shame. John's intermediate assumption was, "If I was able to protect myself, then that shouldn't have happened, and so I was therefore unable to protect myself". The clinician used inference chaining to draw out the implication that he was weak because he could not protect himself from such an invasion. He suggested an alternative view, namely that the manner in which John had responded, by cooperating, responding to the robbers' requests, staying calm and trying to avoid provoking them, had served to protect himself and his colleagues from harm. Any attempts to prevent the robbery from occurring would most probably have had more disastrous implications and it was important that John was able to understand and consider this. John was able to accept this reappraisal and realized that it would have the effect of reducing his anxiety and his shame. The clinician then focused on his conclusion that he was a weak person because he "was not strong enough" to fight off three armed men. He pointed out that this is typical of the way many people think about such events. John could see at once that this was irrational and that he was not a weak person for having been overpowered by three armed men.

John's homework was to use these reappraisals written down as coping statements, to stop avoiding going to church, and to initiate conversations with Black people again at church and at work. This behavioural experiment would allow him to test his prediction that interacting with Black people was dangerous and that he would "never feel completely comfortable with Black people again."

**Sessions 7-9: Consolidation.** At session 7 (PDS = 12), John described his reaction to seeing eight black men loitering at the filling station perimeter. He was pleasantly surprised at his lack of anxiety. He had responded by phoning the security company who had responded timeously. The clinician used this to discuss the appropriateness of concern and anxiety when there is evidence of meaningful threat. John reported that he had not been troubled by anger, guilt, or shame, and he no longer perceived going to church as threatening. He was still doing the PIE, but it was decided to terminate this, as his maximum SUDS ratings were no greater than 15. John was about to go on his summer vacation, so the remainder of the session was used to review the important aspects of the treatment and prepare him to consolidate his gains at home, during the break, by continuing to use his coping statements and doing behavioural experiments.

At session 8 (PDS = 9), a month later, John reported that he had experienced recollections of the event without significant anxiety. Two events, seeing a man "with white gloves" in the shop at the filling station, and coming across three black men at the local café, had precipitated some anxiety, but he had not responded with avoidance and had used his coping statements effectively. He was functioning well at work, feeling comfortable at church, and interacting socially in a variety of contexts. However, he reported sleeping more than usual and reported a loss of libido. The clinician suggested that he increase his physical activity levels, as these had waned somewhat over the previous two months.

These difficulties had improved at session 9 (PDS = 10), three weeks later, but a new problem was troubling him: he was avoiding people out of mistrust, an experience fuelled by the thought that one of his staff might have tipped off the perpetrators. The thought "I don't know who I can and who I can't trust" was associated with ruminative worrying. He had expressed his concerns to the filling station owner and the police, so the matter was now out of his hands. Socratic questioning and inference chaining helped John recognize his expectation that he should be able to know with absolute certainty, who can be trusted and who cannot. He saw this as necessary in preventing such an event from reoccurring and in order for him to begin to interact with his staff and others within his work context again. The clinician addressed this intolerance of uncertainty using another ABCD worksheet. At B, his beliefs were: "Now I don't know who I can trust and who I can't … How can I work with people if I can't trust them… I need to know for sure that I can trust these people before I interact openly with them again." At C, were his anxiety, avoidance and rumination. The therapist worked with him to write the following alternative beliefs at D: "While it would be nice to have absolute certainty about who is and isn't trustworthy, I guess I don't need it in order to start interacting with people again at work… While it's normal to feel slightly apprehensive in response to this uncertainty, I guess it's the demand that I absolutely need it that will keep me anxious about this 'what if' question… Since I can't gain absolute trust with everyone at work at the moment, it may be better to focus on trusting in myself to be able to handle such an event if it were to reoccur in the future... Not interacting with people at work is not necessarily going to assist in preventing anything other than a better atmosphere at work… I can rather interact with people as though they are trustworthy and focus on improving the security of the place at the same time… Just because some people may not be trustworthy doesn't mean that no one is."

**Sessions 10-12: Relapse prevention.** Two weeks later, at session 10 (PDS = 7), John was interacting more comfortably with people at work. He was still finding it difficult to "not know whether people are trustworthy or not," but the coping statements from the ABCD worksheet were helping him. Risk of further robberies at work had been reduced by the installation of a "no cash on site" safe. There was further consolidation of alternative perspectives to help with his intolerance of uncertainty. A month later, at session 11 (PDS = 5) it was decided to terminate therapy and the focus was on consolidation and relapse prevention.

However, a month later, John phoned for another appointment (session 12). He had spotted the robbers at a filling station nearby and felt a marked shock. He had experienced increased anxiety, had been having difficulty concentrating, and had become more vigilant at work by monitoring the surveillance cameras. He was worried that they might have recognized him and might come after him. His PDS was 12. He had called the police who sent a vehicle and increased their presence within the area. The security company was doing the same. John was disappointed by the intensity of his reaction and the clinician focused on normalizing this. He encouraged John to utilize the same tools that he had developed during therapy to evaluate his thoughts and predictions and "not just buy into them." It was agreed that if John continued to experience these symptoms, he would come for a further appointment. However, if he were coping well, he would just phone to report this to the clinician. Two weeks later he phoned the therapist to indicate he did not need a further appointment and communicated to the therapist that he was functioning well.

**Follow-up.** 15 months later, the clinician phoned John to ask for permission to write up the case for publication and John came for a follow-up meeting. His PDS of 1 was consistent with his report that he had been coping well in the interim. When asked, "What do you think was most useful for you in therapy?" John highlighted the role of both the reliving and cognitive restructuring components to intervention. He recalled that imaginal exposure was "really difficult at the start – it felt like it was happening again" but recognized that it had played a major role in his recovery. He specifically recalled the cognitive restructuring work associated with his probability overestimation regarding "them returning specifically for me," and the positive impact of examining how "I couldn't really have done much to prevent it." When asked which had been more helpful, "the opportunity to talk about what had happened in a supportive environment" or "the specific learning that took place during therapy," John emphasized the latter. He would, he said, strongly recommend such an intervention to a friend or family member suffering with PTSD.

### Evaluation of Outcome

A systematic case study requires careful evaluation. One way of achieving this is to examine the outcome based on quantified scores on self-report scales and information from the treatment narrative. The first question is whether John's symptoms improved. There is very strong evidence for this from the PDS scores displayed in Figure 2, which show that he moved from the Moderate to severe range to the Moderate range by session 5, and into the Mild range (=10) by session 8. A qualitative review of his self-report shows that, by session 6, although his symptoms had not completely remitted, he no longer met DSM-IV criteria for PTSD. Despite the raised PDS score in response to seeing the perpetrators again (S12), this did not signal a return of serious symptoms as indicated by the fact that he did not call to make a further appointment. The follow-up score of 1 provides evidence that his remission was sustained.

The second question concerns whether there is evidence that remission of symptoms was caused by the treatment or by some other factors. Elliott (2002) has summarized the kinds of evidence that can be found in single case studies to support the conclusion that it was the treatment that caused the remission of symptoms. He emphasises the value of regular quantitative monitoring of symptoms and of a rich case record, both of which are available here, in determining this. Because John was referred about a month post-trauma, there is not a long baseline, and many individuals with PTSD do improve spontaneously without treatment, so the data do not provide evidence on that

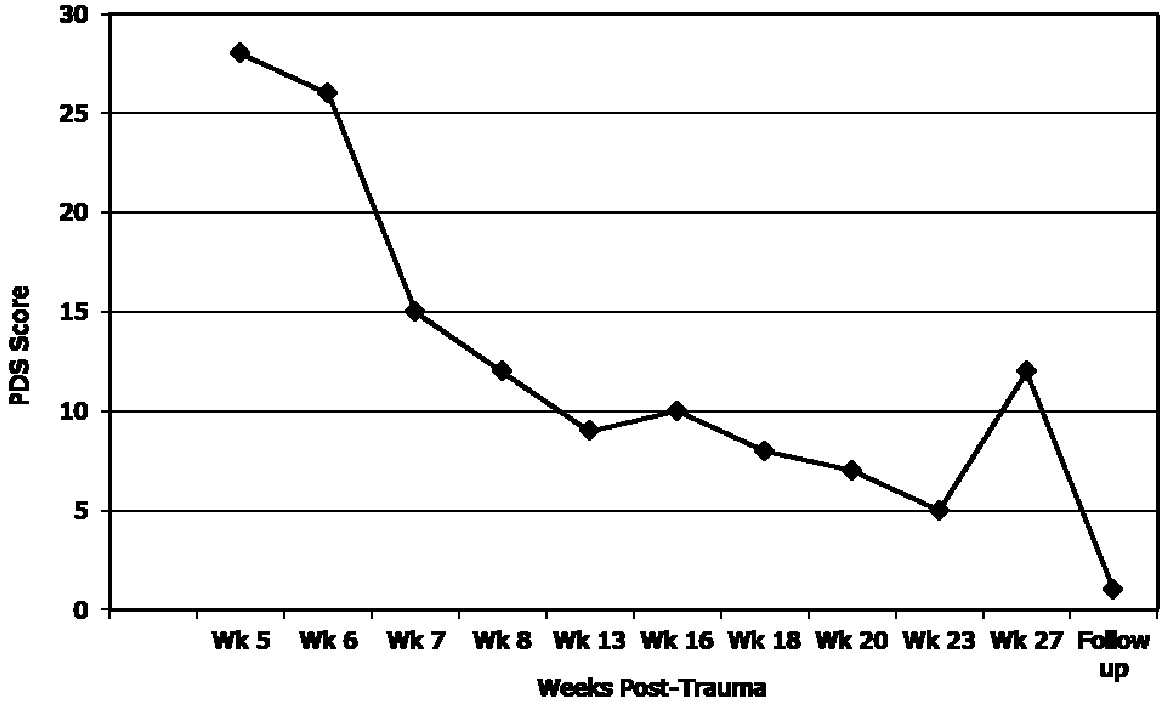


Figure 2: John's PDS scores

score. However, there is no evidence that some extra-therapy event led to the change. On the contrary, the case record provides a great deal of evidence that positive changes were the result of specific interventions. Several features of John's behaviour at assessment would have predisposed him to chronic PTSD: his cognitive, emotional, and behavioural avoidance; his need to be strong; and his social withdrawal all made it unlikely that he would think and talk about the traumatic events in the way that would be needed for the memory to become integrated into autobiographical memory. Avoidances were actively targeted throughout the therapy, and John responded by confronting them as recommended by the therapist.

The use of the SUDS measures also provides evidence that repetitive telling of the story contributed to habituation of some emotional responses, while others such as shame, guilt, and worry responded to targeted restructuring interventions. There is thus considerable evidence that, without the treatment, John would not have improved and certainly would not have improved so rapidly. Finally, Elliott (2002) emphasises that the client's own experience and attributions about the causes of change are relevant. John not only believed that the therapy had helped him, he was also clear that it was specific interventions such as the repeated reliving and the alternate consideration of hidden assumptions through cognitive restructuring that had led to the changes. It was not just the opportunity to talk to a supportive person. In terms of Elliott's criteria, then, there is a fair amount of evidence for the effectiveness of the treatment in the present case.

## Discussion

What is most striking in the case material is the similarity between John's responses to the trauma and those reported in the extensive literature from the USA and UK. Several critics have complained that "Eurocentric" diagnoses and therapies may not be appropriate for African people (Edwards, 2005a). The case material provides further clear evidence that this argument is fallacious with respect to those like John who, despite limited education, are making their way within the contemporary urban South African environment. The phenomenology of John's responses fits with the descriptions of PTSD responses described, for example, by Ehlers and Clark (2000), Ehlers, Hackmann, and Michael (2004) and Holmes, Grey, and Young (2004). John's cognitions underlying his feelings of shame and guilt, as well as other aspects of his experience, are remarkably similar to those of a white South African hijacking survivor reported by Smith (2006). Furthermore, the TF-CBT interventions widely used overseas required no significant adjustment to cater for cultural factors.

Psychoeducation about the rationale for treatment and the evidence-based framework within which it was presented made the treatment approach credible and acceptable to John. Although he did not relish the prospect of revisiting the memory of the traumatic events in detail, as is typically the case, he understood why this was likely to help him overcome his PTSD, and this motivated him to engage with the treatment and retrospectively perceive it as relevant and effective.

The interventions used drew on evidence-based therapies that are well established in the literature. However they highlighted the existence of two paradigms within the TF-CBT literature, one which is essentially a "behavioural" treatment and the other which primarily utilizes cognitive restructuring. A discourse in terms of "exposure" arises from the first, and it is expected that effectively delivered exposure (PIE and in-vivo) designed to enhance emotional processing of trauma memories, thereby targeting specific misappraisals about the self, the world or PTSD symptoms, will lead to contextually appropriate learning and subsequent habituation of intense emotional responses (Foa, Hembree, & Rothbaum, 2007). This is the rationale behind Foa's widely used "prolonged exposure" treatment. A cognitive approach such as that of Ehlers and Clark (2000) is based on the view that specific personal meanings are associated with intense distress and that therapy needs to focus on changing the personal meaning, a process which may or may not require prolonged reliving of the trauma memory.

In John's treatment, in accordance with the CT approach, several cognitive restructuring interventions were used to target specific beliefs and assumptions, as documented above. There is also evidence from the case material that repeated PIE did enhance emotional processing and contribute to the remission of intrusive, anxiogenic recollections. While there is empirical evidence in support of the efficacy of the exclusive use of either approach, this case demonstrates the effectiveness of different aspects of each model flexibly applied by the clinician within this context. Despite the perception that prolonged exposure for PTSD results in higher attrition rates (Leahy, 2007), a review by Hembree et al. (2003) suggests that attrition rates for prolonged exposure treatments for PTSD (20.6%) are not significantly higher than attrition rates for prolonged exposure combined with cognitive restructuring or anxiety management (26%) or Eye Movement Desensitization and Reprocessing (18.9%) and are lower than attritions rates for pharmacological treatments (Hembree & Cahill, 2007). Olatunji, Deacon, and Abramowitz (2009) suggest that the success and tolerability of exposure-based treatment is largely dependent upon the therapist's ability to create an adequately safe and professional context and that the reservations of therapists are not commonly held by recipients of prolonged exposure. The present case study supports this position, as do the very low attrition rates reported by Ehlers et al. (2005), as their CT treatment manual places a great deal of emphasis on therapist responsiveness and establishing treatment credibility.

Although based on the PIE treatment manual, John's treatment was planned using the kind of flexible approach advocated by Ehlers and Clark, which is based on therapeutic principles rather than session-by-session prescription, and the therapist was responsive to John's experiences as they unfolded over time in the manner advocated by Edwards (2009, 2010). The approach used here could easily be supplemented by restructuring within reliving techniques (Grey, Young, & Holmes, 2002) which actively target problematic appraisals associated with guilt, shame, and anger during the reliving process. Arntz, Tiesema, and Kindt (2007) found that the addition of imagery rescripting to imaginal exposure had a greater impact on anger and guilt (and to some extent shame) than exposure alone and was more palatable to patients and therapists. Grunert, Weis, Smucker, and Christianson (2007) also argue that emotions such as shame, guilt, disgust, and anger do not automatically self-modify in response to PIE and use a case study to show how imagery rescripting can be used to address this limitation.

John's experience with trauma debriefing serves as a warning about the limitations of such interventions. We have no detailed information about the nature and quality of the intervention he received, but organizations that provide first-line support following trauma usually evaluate those affected with respect to whether they are at risk for development of PTSD (van Wyk & Edwards, 2005). However, predicting who will develop PTSD in the aftermath of trauma is not an exact science, and the possi-

bility of a delayed onset should be considered and catered for (Fuglsang, Moergeli, & Schnyder, 2004; Schnyder & Moergeli, 2003). In John's case, though, there is evidence that he was not closely evaluated, because he describes how he concealed his emotional responses from the counsellor conducting the debriefing session. It seems possible that a more comprehensive clinical interview might have detected his vulnerability.

Finally, this case study is one of several which show that evidence-based treatments for PTSD, developed and tested overseas, are effective in South African conditions. Given the frequency of traumatizing events in South Africa, as documented above, and the disabling nature of the condition (Seedat, Lochner, Vythilingum, & Stein, 2006) there is a need to make treatment more widely available. While many individuals with PTSD in South Africa have a history of multiple traumas going back to childhood and may need a more extended treatment that can address complex trauma (Courtois & Ford, 2009; Edwards, 2009; van der Kolk, 2005), there are likely to be many others, who, like John, can obtain complete remission with a relatively brief treatment.

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## Author Notes

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