

An Exploratory Study on the Use of Eye Movement Integration Therapy in Overcoming Childhood Trauma

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Eye movement integration therapy (EMI) is a relatively new therapeutic modality, based on a neurobiological model of trauma. This article advances the empirical knowledge base of EMI, by assessing its utility with a cohort of 12 adolescents, aged 14 to 16 years, in South Africa. The results indicate a reduction in a range of trauma symptoms, based on the Trauma Symptom Checklist for Children and post-EMI interviews with the children's care workers. A number of clinical practice issues regarding the utilization of EMI with children are discussed and illustrated with case material.

IMPLICATIONS FOR PRACTICE

- Further clinical research into the use of EMI with children experiencing trauma should be conducted to expand the range of cost-effective interventions in resource-constrained settings.

Children throughout the world experience, to varying degrees, trauma. These traumas can include war, disease, victimization, abuse, drugs, xenophobia, community violence, and divorce. In South Africa, for example, the conditions that appear to increase the prevalence of child abuse and neglect include poverty, patriarchy, socialized obedience, dependency, and the silencing of women and children (Richter & Dawes, 2008). Trauma refers to any experience or exposure that leaves an imprint on the child that continues to give rise to negative effects and recurrences in one or more of the sensory, emotional, or cognitive modes (Beaulieu, 2004).

In the current global economic climate, psychotherapy is an unaffordable luxury for the majority of children. In South Africa particularly, where social work has been declared a scarce skill, there is a shortage of trained professionals to attend to the mental health needs of children (Lockhart & Van Niekerk, 2000). Traumatized children are therefore often left to deal with their trauma on their own, which may result in them becoming overwhelmed with painful thoughts and feelings. Mental health problems in children generate costs for parents, government institutions, and nongovernmental organizations (Graeff-Martins et al., 2008). It is therefore important to search for affordable interventions and practices that give optimal results.

South Africa's approach to welfare has changed dramatically in recent years. During the time of apartheid, welfare focused on rendering services to individuals in need, with preference to White people. After 1994, with the transformation to a nonracial democracy, it soon became evident that this approach did not fit the needs of South African society. Welfare adopted a social develop-

ment and empowerment approach, moving away from the remedial, casework paradigm (Gray & Lombard, 2008; Lombard, 2008). Because of the high incidence of trauma in the country, however, clinical practice must still play an integral part of social welfare and social work. New methods of therapy are thus required that are simple to implement, effective, and affordable. This would reduce the number of children growing up with trauma symptoms, helping to reduce the extent of social problems these children may encounter later in life.

It is our contention that eye movement integration therapy (EMI) may be one of the methods of therapy that could play a helpful role in resource-constrained contexts such as those related to youth in South Africa. EMI is a brief therapy that uses 22 eye movements to access the trauma material that is stored in the client's modalities (senses). EMI's brevity holds benefits for social workers and for clients and their families. Clients may experience relief from their trauma symptoms in as little as one session (Beaulieu, 2004), making it a cost-effective intervention.

Although EMI is used in clinical practice, there is little research and few publications on this therapy, particularly with children. The purpose of this article is thus to explore the use of EMI as an intervention strategy in overcoming childhood trauma. We begin with a review of the neurobiology of trauma, the symptoms of childhood trauma, and the EMI technique. After explaining the research method that was used in this study, we present the results of the impact of EMI on childhood trauma and a set of clinical considerations when using EMI with children.

Childhood Trauma and EMI

Childhood trauma can be defined as a child's reaction to or experience of an event that he or she perceives as so threatening and traumatic that it can alter his or her original, pretraumatic physical and/or psychosocial functioning. An event is defined as traumatic only when it precipitates a traumatic effect. Trauma is thus defined primarily by subjective experience and not by discrete events.

Neurobiology of Trauma

Contemporary knowledge of neurobiology helps social workers to render community-based services to families that are at risk from a holistic, biopsychosocial perspective (Shapiro & Applegate, 2000). The neurobiological effects of trauma are important to understand because EMI is a neurotherapy that focuses on the integration of trauma memories. The biological systems and neurotransmitters involved when a child is confronted with a threatening situation are multiple and complex (Briere & Scott, 2006).

In brief, trauma follows a specific pathway in the brain (Solomon & Siegel, 2003). First, the information is received through the primary senses and the body. This information is sent to the *locus ceruleus*, which evaluates the information for threat content. The information is then forwarded to the *amygdala*, where it is again evaluated for emotional content. The *amygdala* sends the information to the *hippocampus*, which assigns cognitive meaning to the information and routes it to the *orbitofrontal cortex*. The *orbitofrontal cortex* then activates the *hypothalamic-pituitary-adrenal (HPA) axis*, which is the body's endocrinal (hormonal) response. Important hormones, such as cortisol and adrenaline, which are essential in stress response, are secreted. The information is also sent to the *cerebral cortex*, which organizes survival behavior.

Two categories of memory play an important role in the development of trauma memory (Inbinder, 2002; Rothschild, 2000; Van der Kolk, McFarlane, & Weisaeth, 2007). First, explicit or declarative memory is the memory of facts, ideas, concepts, and events that individuals are consciously aware of and that are closely linked to the language system. The hippocampus is responsible for processing explicit memory (Scaer, 2005). Because the hippocampus develops around the age of 2 or 3 years, people do not have explicit or declarative memories of their earliest childhood experiences. Second, implicit or non-declarative memory is stored in the *amygdala*, which is present from birth. Implicit memory bypasses language, has no narrative, and is unconscious. It can therefore be described as "speechless" (Rothschild, 2000).

Although these two memory systems are usually accurately coordinated, the hippocampus is vulnerable to stress (Teicher et al., 2003). If the *amygdala* is overstimulated, such as in the event of extreme stress, the function of the hippocampus can be suppressed. The implicit and explicit memories then become disengaged, leading to the dissociation of the sensory and affective elements from any coherent narrative memories. This results in traumatic memory that is fragmented, out of sequence, and full of gaps. These traumatic memories are saved within the modalities (senses). Even though the memories are fragmented, they continue to influence emotions and behaviors. Recovery from trauma requires the integration of the explicit memories from the hippocampus with the

implicit memories of the *amygdala* (Beaulieu, 2004; Solomon & Siegel, 2003). This integration is the goal of EMI.

Beaulieu (2004) held that although the association between eye movement and thought processing is generally accepted, it does not fully explain the neurological mechanisms of EMI. Beaulieu speculated that the effectiveness of EMI may be related to binocular rivalry and interhemispheric switching, smooth pursuit eye movements or the correlation between eye movements and sleep. Ultimately, the precise mechanism of EMI is still unknown. Ideally, there should be clear insight into the mechanisms of therapies before they are implemented. However, there is in fact limited understanding of the mechanisms of many therapies (Rajad, 2001) but social workers continue to use them because they are effective. The mechanisms of EMI are, nevertheless, the subject of ongoing research.

EMI, however, has a neurological component that normal talk therapies do not have. Beaulieu (2004) explained this by a metaphor of three glasses filled with chlorine, representing the trauma symptoms. The glasses represent the cognitive, sensory, and emotional modes of the person. If water (representing the therapy) were added to one of the glasses, the other two would be untouched. Normal talk therapy does not reach all three modes involved in situations of extreme stress. EMI, by contrast, focuses on the trauma event itself, eliciting and addressing the material across all three modes.

Symptoms of Childhood Trauma

Children who experience trauma present with various symptoms. The severity, intensity, and number of different traumas predict the severity of these symptoms (Briere, Kaltman, & Green, 2008). The Trauma Symptom Checklist for Children (TSCC) measures the presence and intensity of six different symptom domains, namely, anger, anxiety, depression, sexual concerns, posttraumatic stress, and dissociation (Briere, 1996). As the TSCC is the quantitative instrument we used for this study, these six symptoms of trauma will be briefly discussed.

Anger. The anger and rage of a traumatized child can be quite severe. Anger can be a normal way of releasing energy, after which the event that triggered it can be explored in a calmer state. Children can turn their anger either inwards (e.g., self-mutilation) or outwards (e.g., inappropriate and apparently unprovoked rage; Evertt & Gallop, 2000).

Anxiety. Anxiety is both a symptom of trauma and an indicator of the presence of trauma symptoms. Children with preexisting anxiety are more susceptible to developing posttraumatic symptoms, and traumatized children may meet the criteria for other anxiety disorders (Fong & Garralda, 2005).

Depression. Depression is a well-known symptom of trauma. It has been positively linked to child maltreatment (Corby, 2006), but is especially a risk factor when

the child has been violently injured (Pailler, Kassam-Adams, Datner, & Fein, 2007). There is also evidence that adolescents who experience depression after trauma may engage in risky behavior such as alcohol abuse and suicide attempts. In younger children, depression typically manifests as aggression, rage, and anxiety (Kagan, 2004).

Sexual concerns. Children who have been sexually abused, raped, or exploited may experience either sexual preoccupation or sexual distress (Briere, 1996). The child may associate sexual activity with good things, such as personal attention, and therefore engage in hypersexual behavior. Alternatively, the child may associate her or his sexuality with negative feelings and memories, resulting in avoidance of sexuality (Wieland, 1998). Sexual abuse may have been a physically painful experience for the child, causing feelings of distress associated with sexuality.

Posttraumatic stress. Posttraumatic stress (PTS) encompasses a collection of thoughts, feelings, reactions, and behaviors that follow the experience of a distressing incident that is usually outside the normal range of human experience. The symptoms of PTS can occur days, months, or even years after an incident. PTS is diagnosed when indicators of reexperiencing, numbing and avoidance, and excessive arousal are present (Vasterling & Brewin, 2005).

Dissociation. Dissociation is a defense mechanism in which a person experiences a feeling of detachment from a traumatic situation, often resulting in a distortion of time and perception. According to the theory of structural dissociation, the apparently normal personality (ANP) is described as the part of the personality involved in the daily management of life. It helps a person to function normally (i.e., as before the traumatic experience and in accordance with social expectations). ANP is associated with partial or complete amnesia, avoidance of the traumatic memories, or numbing. The emotional personality (EP) is the part of the personality that is stuck in the traumatic memory that fails to integrate with the narrative memory of the experience. It therefore responds to perceived threats while trapped in the past traumatic experience (Van der Hart, Nijenhuis, & Steele, 2006).

These six trauma-related symptoms do not encompass the whole impact of a traumatic experience, but they can help social workers to formulate a useful intervention plan. EMI is a method of intervention that addresses all of these symptoms by integrating the fragmented trauma memories.

Application of EMI

EMI has its roots in neurolinguistic programming. Steve and Connirae Andreas explored the possibility that eye movements might influence thought, given that it seemed that thought influenced eye movements, and they subsequently developed EMI. Beaulieu, who studied under the Andreas, developed the technique further. The EMI

protocol we used is discussed fully by Beaulieu (2004) and will be only briefly described here. Proper training in EMI is required for ethical practice.

Assessment. Before starting an EMI session, it is important to conduct a full clinical assessment. In our clinical experience, however, clients frequently process some of their trauma in the interval between assessment and the initiation of therapy. Therefore, for the purpose of this study, the therapy was conducted on the same day as the brief assessment, to reduce the potential therapeutic value of the assessment. The social worker evaluates whether the child is a suitable candidate for EMI, considering various psychological and physical conditions. For example, people with eye problems, high levels of distress, or neurological conditions such as epilepsy are usually contraindicated for EMI. On the other hand, EMI is indicated as a treatment option for chronic but not for acute trauma symptoms (Beaulieu, 2004), and at least 4 to 6 weeks must have passed since the traumatic incident.

Preparation. After determining whether the child is a suitable candidate for EMI, the clinician starts with the preparation phase by explaining the EMI process. In this study the clinician (the first author) used the following analogy of chlorine and water to explain how EMI works: “Trauma is a bit like chlorine. If you drink concentrated chlorine, you will become very sick and may even die. When diluted in a swimming pool, however, chlorine is harmless. In the same way, EMI dilutes trauma—the trauma will always be part of your life, but will not be poisonous anymore.”

After clarifying these concepts, the social worker and child together identify the principal knot of the traumatic event. The knot is the part of the event that the child finds the most traumatic. From this knot, keywords or phrases, known as verbal cues, are selected to help the child stay in touch with the event. The main criterion for identifying the verbal cues is that they must capture the essence of the principle knot and remind the child of the traumatic event. For example, one of the participants in this study witnessed the murder of a significant person in her life. The principal knot for her was that this person was murdered, decapitated, and just left on the floor on a black refuse bag. Her verbal cues were, “The night that R was murdered. She’s lying on a black bag.”

After verbal cues are chosen, the social worker determines the visual range of the client, as well as the speed of the eye movements. The visual range can be described as the frame within which a person’s eyes can comfortably follow the EMI hand movements. A focal point is also created either by holding a brightly colored object or by using the index and middle fingers. This helps the client follow the eye movements, thus entering all the areas of the visual range. The distance of the focal point from the eyes is established to ensure comfort during the movements.

The next step is to determine the areas in the visual range that elicit the least and most emotional discomfort. In EMI, areas that elicit discomfort are referred to as visual hotspots, while the area that calms is called a beneficial quadrant. The social worker identifies hotspots and beneficial areas by moving the open hand across the visual range while repeating the verbal cues. During this procedure, the worker asks the client to communicate their level of distress or comfort. It is often the case that a client finds certain areas particularly beneficial or distressing. The social worker can also observe physical responses that indicate discomfort, such as backing away. The child who witnessed the murder, for example, could physically hear the victim's screams and covered her ears when the movements entered the bottom left quadrant or corner of the visual frame.

Implementation. After these preparations, the social worker starts the therapy, with the 22 eye movements of EMI, to facilitate access to traumatic material in different sensory modalities (Beaulieu, 2004). The eye movements or segments cover at least two areas in the visual field, for example, from the top left corner to the top right corner. The EMI protocol stipulates the number, duration, and rhythm of the movements. However, the application of the movements is flexible and can be modified to fit the needs of the client. The client can also be asked if they want any other kind of patterns to be used during the therapy. During the eye movement segments, the social worker gathers information about the child's experience. Information elicited from modalities must be explored. The memory of any event or situation is encoded and stored in all the senses to some extent. The social worker would therefore ask, "Did you see any pictures? Or maybe smell or hear anything?" It is important to be attentive to the client's facial expressions and body language. For example, one respondent turned her head or covered her ears when she could hear the screaming of the murder victim during the eye movements. The therapist can use this as a cue to explore that specific modality. It is important, however, to keep in mind that EMI is not so much a psychotherapy as it is a neurotherapy. Therefore, the therapist must refrain from spending too much time on eliciting information.

After repeating the eye movement segments, the social worker may notice that the pictures the client sees have changed. For example, different areas of the visual range brought the participant who witnessed a murder into contact with various pictures about the night of the murder. At first she saw herself as the victim in a pink nightgown, lying on a black plastic bag. She also saw the murderers driving off in a white motor vehicle, as well as the paramedics lifting the body into the ambulance. She even saw the shadows of the murderers behind the garage door. After EMI therapy, her picture changed—she saw the murder victim, sitting on a bed, smiling and reading her a story. A physical response of relief was noticeable.

These changed pictures are an indication that integration of the trauma material has taken place, in other words, that the implicit and explicit memories (from the amygdala and hippocampus, respectively) have been reconnected and integrated.

Closure. After the integration, the session is closed and the social worker can spend time answering questions and explaining what to expect after the session. The clinician prepared the children during the study for the physical symptoms they might experience, such as headaches and nausea.

Methodology

The goal of this study was to explore the use of EMI as a social work intervention for treating psychosocial trauma with adolescents aged 14 to 16 years. In order to achieve our goal, we adopted an exploratory, mixed-methods design. This approach is appropriate given the lack of literature on the use of EMI with children and the tentative nature of our research question (Royse, 2008). Our approach was simultaneously to collect preliminary evidence on the effectiveness of EMI in reducing trauma and monitor the clinical implications of using EMI with adolescents. We mixed our methods in order to obtain a richer set of data and to raise the trustworthiness and rigor of our study (Brannen, 2005).

We defined the population as children aged 14 to 16 years who had experienced trauma and who presented with current symptoms of trauma that had been present for at least 4 weeks prior to baseline data collection. In addition, we included the guardian of each child, thereby studying child-guardian pairs. Using quota sampling, we selected 12 children from a local children's home, using a two-by-two sampling frame to obtain equal representation of boys and girls, Black and White. We considered this small sample to be sufficient given the exploratory nature of the study.

The ethical protection of the children was ensured through a number of mechanisms. For example, the children's home has on-site social workers who were available to provide follow-up therapy to children if required. We ensured that the children were stable and suited for EMI through in-depth discussions with each child's social worker during the recruitment phase. The clinician also remained in regular contact with Beaulieu during the data collection phase. Ethical approval for the study was obtained from the University of Johannesburg's Ethics Committee.

The clinician approached the children's legal guardians to obtain informed consent to participate in the study and subsequently approached the children to obtain their assent to participate. Each child participated in a single session of EMI. Although EMI should ordinarily be integrated into a holistic clinical relationship, for the

TABLE 1. Results of the Pre-EMI and Post-EMI Comparisons

Subscale	Pre-EMI median	Post-EMI median	Negative ranks [§]	Z	<i>p</i> (2-tailed)
Anxiety	58	48	11	-2.83	0.006*
Depression	59	45	11	-2.99	0.004*
Anger	51	45	9	-1.38	0.168
Posttraumatic stress	60	44	12	-3.07	0.002*
Dissociation	54	50	9	-2.06	0.046*
Sexual concerns	67	48	9	-2.58	0.010*

[§] Indication of the number of participants who evidenced a decrease in each trauma symptom.

* Improvement significance = $p < .05$.

purposes of this study, we chose to isolate EMI from the clinical process.

A pretest/posttest design was used to generate preliminary evidence of EMI's effectiveness with this population. Immediately before the EMI session, and 2 weeks after the session, each child completed the TSCC (Briere, 1996), which is a frequently used instrument to determine the presence and intensity of trauma symptoms among children and adolescents (Elhai, Gray, Kashdan, & Franklin, 2005). The TSCC is a 54-item self-report scale that can be used with both boys and girls in the age range 8–16 years. The TSCC measures six constructs: anxiety, depression, anger, posttraumatic stress, dissociation, and sexual concerns. Responses are rated on a 4-point scale, from 0 (never) to 3 (almost all the time). The TSCC has demonstrated good validity and reliability in a number of studies (e.g., Briere, 1996; Nilsson, Wadsby, & Svedin, 2008; Sadowski & Friedrich, 2000). The TSCC has not, however, been standardized in South Africa.

In addition to the TSCC, the clinician interviewed the children's care workers 2 weeks after the EMI session, to explore changes in the child's behavior following EMI. These interviews were conducted using a semistructured interview schedule, designed to explore the same trauma symptoms that were measured by the TSCC, so as to triangulate the results.

Finally, the clinician kept a journal concerning the experience of implementing EMI. Journaling is an important method in critically reflective research (Jasper, 2005). The journal was used to keep a record of the clinician's observations of the therapy, speculations about the responses of the children, and thoughts about possible shortcomings and advantages of the EMI method with this population. Comments made by the participants during and after EMI were recorded in the journal.

We analyzed the TSCC using the Wilcoxon Signed-Rank Test, a nonparametric test of difference between pairs of data (in this case, the 12 pairs of pre- and post-EMI data; Pett, 1997). We analyzed the qualitative data using content analysis procedures (Ezzy, 2002). Throughout the analysis, we kept the three sets of data close together to facilitate the dialogue between the multiple methods.

Findings

Impact of EMI on Trauma Symptoms

We had not expected to find significant differences between the pre- and posttest data, because of the very small sample size. Nevertheless, Table 1 indicates significant changes in all but one of the TSCC subscales. A visual inspection of the pre-EMI and post-EMI median scores shows a decrease in all scores, indicative of reduced trauma symptoms. It would appear, therefore, that there is preliminary evidence for the effectiveness of EMI as a therapeutic intervention for the resolution of childhood trauma symptoms among adolescents aged 14–16.

Anxiety. The TSCC recorded a significant decrease in anxiety. Six of the care workers indicated an observable reduction in the anxiety of their children following EMI therapy. One child reported a reduction in feelings of anxiety and another said she was sleeping better. A third child, whose care worker reported as experiencing extreme anxiety prior to the EMI therapy, experienced mild chest pains during the EMI session and a mild headache immediately after the session—Beaulieu (2004) indicates that such reactions are common. The following day, however, this child experienced a marked reduction of anxiety and 2 weeks later reported an inexplicable feeling of “lightness” and relief.

Depression. A significant reduction in depression was measured by the TSCC. Eight of the care workers reported that they noticed a decrease in depressive symptoms after the EMI therapy. One care worker reported that before EMI, her child had insomnia, wandered around the house at night, and isolated himself in his room. Following EMI, however, he began to sleep through the night and to talk more about his trauma. Another care worker reported that before EMI, her child cried frequently. When going for therapy, she would cry for the entire session, unable to speak a word. Following the EMI session, however, she seemed more contained and had shown no bouts of crying.

Anger. Although the TSCC scores for anger decreased from pre-EMI ($Mdn = 51$) to post-EMI ($Mdn = 45$), these results were not statistically significant. Seven of the care workers described the children in their care as not being

angry either before or after EMI, which could account for the muted TSCC results. Two of the children were angry on the follow-up day—one related to a school incident and the other because his iPod was stolen—which could account for their elevated post-EMI anger scores. Two care workers, who described their children as having anger outbursts prior to the study, reported that there had been no outbursts since the EMI. These results are thus inconclusive.

Posttraumatic stress. The TSCC scores for PTS decreased for all 12 children, resulting in an overall significant reduction. Six care workers reported a noticeable reduction in PTS after EMI. One child, who suffered from regular nightmares and who reported having a nightmare the night before EMI, reported no subsequent nightmares. She had also never completed a therapeutic process before, because of her avoidance of her traumatic experiences, but she did complete the EMI session. Another child described her flashbacks as “movies” in her head. Prior to EMI, she was afraid to sleep because of vivid nightmares. She would try to stay awake as long as possible or sleep in the living room. After EMI she slept in her own bed, although with the light on because she was still afraid of the dark. She reported experiencing fewer “movies” during the day, which helped her cope with school.

Dissociation. The TSCC score for dissociation decreased significantly. Care workers had difficulty reporting on changes in dissociation, because the signs are subtle. One child reported that before EMI she saw “dead people” and “ghosts.” The care worker reported that following EMI these sightings decreased significantly, which also contributed to the child’s improved sleeping patterns. The child reported seeing her dead grandmother only once after EMI. Another care worker mentioned that she avoided excessive contact with her child, because she was scared of his strange behavior. This child reported that prior to EMI he had a small man sitting on his shoulder—he said they were friends, and he avoided contact with his peer group because they interfered with his fantasy play. Although he still reported a high level of daydreaming after EMI and continued talking to the man on his shoulder, there was a decrease in dissociative symptoms according to the TSCC.

Sexual concerns. The TSCC subscale for sexual concerns decreased significantly after EMI. One of the children mentioned that after EMI, while she was still anxious when around boys, she found it less stressful to interact with them. Another child was in a specialized house for sexualized girls, as she presented with severe sexually preoccupied behavior. Following EMI, she disclosed her alleged sexual abuse, apparently for the first time, and evidenced a decrease in her TSCC score for sexual concerns. There were, however, problems in the reporting of sexual concerns by the children. For example, one child was reported to have been involved in a sex orgy at the care center, but on the TSCC reported that she

never thinks about sex. We suspect that the lack of a secure therapeutic relationship may have led to reservations about honest reporting of sexual concerns.

Clinical Considerations When Using EMI With Children

A content analysis of the clinician’s journal, in light of the findings presented above, yielded three main themes regarding the clinical utilization of EMI. This is the first time that EMI has been systematically used with children, thus these considerations may be important for future therapists and researchers.

Challenges during EMI sessions. A number of clinical challenges emerged during the therapy with these children, many of which are described by Beaulieu (2004) in her work with adults. It seems that when clients are exposed to their traumas within the therapeutic milieu, they fall back on the defense mechanisms and coping patterns that they established to manage their trauma.

A number of the children had disturbing bodily or physical experiences during EMI. One child became nauseous, and another, who had witnessed a murder, could hear the victim screaming. These are instances of an overflowing of traumatic material into somatic forms. Both of these children experienced a subsiding of the symptoms when the trauma information was integrated.

Nine of the 12 children dissociated at some point during the EMI session, a common and normal reaction when confronted with difficult trauma (Beaulieu, 2004). When clients report that they see or feel nothing, it is necessary to assess whether this is in fact so or whether they have dissociated. For example, one child said that he was not thinking about the traumatic incident even though his uneven eye tracking during certain segments indicated emotional discomfort. Another child reported that she was “not here anymore.” Right after the clinician helped her to stay in touch with the experience, she accessed the dissociated material. A third child reported at some stage that she no longer felt or experienced anything. When encouraged to stay with the experience, she experienced hearing the murder victim screaming.

Flight from therapy is a common response among EMI clients (Beaulieu, 2004). Three of the children in this study employed this defense mechanism. One child withdrew from the study after completing the TSCC, before the EMI therapy. He insisted, however, that he wanted to return an hour later to complete the therapy. We interpreted his behavior as an attempt to exert control in a life domain in which he had experienced powerlessness. Another child also withdrew prematurely from the study, but returned later that day requesting to complete the therapy. This was the first time that she completed any therapeutic intervention relating to her trauma.

Five of the participants experienced uneven eye tracking when the segments led them through their hotspots.

Beaulieu (2004) recommends that EMI therapists lead the client slowly through that area with a few structured segments, in order to bring them in contact with the material that they are avoiding, thereby overcoming the trauma more effectively. Two of the children experienced general difficulty in following the eye movements. The clinician repeatedly had to remind them to stay in contact with the experience and follow the fingers or pen. One child was unable to follow the eye movements—for example, he would look straight in front of him when the pen was in the top left corner, but would insist that he was following the pen. Another child's left eye jumped continuously during the interview and TSCC. When the clinician started with the segments, however, his eye stopped jumping and did not jump again during the second completion of the TSCC.

Resources and support. There is much literature on the importance of social supports for those who experience trauma (e.g., Ruback & Thompson, 2001). Beaulieu (2004) has also indicated that the availability of social support increases treatment efficacy. We found this to be true in our study also. Two children accessed intense material that they had dissociated from since their traumatic experiences. The clinician used different techniques to anchor both children in the present and to remind them that they were safe. One of the children, however, indicated that she did not feel safe enough to continue with the therapy and withdrew from the study. This child had recently been transferred to a new specialized house in the care center, resulting in a new social worker, new housemates, and withdrawal from regular school—her social system had recently been utterly changed. The other child remained grounded and gained confidence each time the clinician reminded her of her safety in the therapeutic frame. This child lives in a satellite house (that she referred to as her “home”) with 10 other children, attends a regular school, and has a warm relationship with her care worker. The different responses of these 2 children to therapy may have been related to the degree of social support that they experienced.

Management of strong reactions during EMI. Some clients experience strong reactions during EMI, which result from the reexperiencing of trauma in the therapeutic space (Beaulieu, 2004). Beaulieu indicates that there are three ways to manage the intensity of the EMI experience: providing support and relief, limiting the duration of the stress, and reframing the perception. All three of these were used with the second child mentioned in the previous paragraph, and they serve as exemplars of the management of strong reactions during EMI.

This child witnessed the murder of a significant person in her life when she was 8 years old, a trauma from which she had dissociated for the past 6 years. From the first segment of EMI, she presented with anxious and frightened behavior. In order to provide support and relief, the clinician placed a small chair next to her and reminded her

that the small child that went through the trauma was sitting on that chair and that she was safe. The clinician also reassured her that the distress was only temporary and that she would experience relief. Beaulieu (2004) recommends that a therapist can also bring about relief by activating the left hemisphere of the brain, which is analytical. At one stage, when the child felt anxious and short of breath, the clinician asked her to do some math—her favorite subject—which helped to relieve her anxiety.

Beaulieu (2004) notes that once the traumatic memory is activated, there is no need to repeatedly expose the client to the distressing memories. Once the traumatic material has been activated, which is the goal of the eye movements, it is unnecessary to prolong the re-experiencing of the trauma. The clinician limited the duration of the stress by doing only three to four movements per segment. She also frequently did movements in the beneficial area, thereby limiting exposure to distressing material. This child experienced the whole bottom visual area as distressing, so the clinician did movements that would touch both the hotspots at the bottom, as well as the beneficial area, which was the top visual field.

Beaulieu (2004) notes that it is helpful to reframe the client's perceptions when these become overwhelming. This child experienced intensive visual and auditory stimulation and at one stage moved her chair back about 5 meters. The clinician decided not to force her to return to her place, but rather to continue with the segments and to help her by reframing her perceptions. The clinician shrunk the visual frame within which she was making the hand movements, to reduce the visual stimulation. When the child began to hear the murder victim screaming, which she found unbearable, the clinician made her a pair of earplugs from tissue paper. The earplugs were not to be placed in the ears, but rather held in her hands, to give her a sense of control over the symptoms. Constant reminders that she had earplugs available helped her stay in touch with the experience and not break contact when she accessed this auditory memory. When she said that she felt less distressed, the clinician asked if she could move her chair closer to the child, but she declined. After a few more unproductive segments, the clinician again asked if she could move half an inch closer, to which she agreed. There was a slight increase in distress over the following two segments, followed by visible relief while moving through the bottom right area. The child then quietly moved her chair back to its original position. Shortly thereafter, full integration of the trauma memory took place and the session could be closed.

Conclusions

The positive findings reported here are supported by the changes in the trauma images reported by the children, a sample of which follows:

One child was stabbed with a knife by one of the other children in the care center. He initially saw images of how he was stabbed in his side by the offender. He saw the blood on his hands and how the offender pulled out the knife. Later his image changed to him being in a position of power. He saw himself physically attacking the offender and screaming at her, letting out the anger he felt towards her. In the end, he saw himself playing rugby.

Another child was molested by her father at a dam. She initially saw her father putting his hand on her leg and the dashboard from where she lay on the seat. After the trauma information was integrated, she ended with an image of the ducks swimming on the water while she watched her brothers playing. She never returned to the trauma images once she saw the changed visual information.

This study suggests that EMI may be helpful in reducing the trauma symptoms of children who have been exposed to a range of life traumas. In a context like South Africa, in which trauma has become almost commonplace, such an intervention is most needed. It was, however, previously stated that social work interventions are required that are “simple to implement, effective, and affordable.” Based on the results of this study, it seems likely that EMI is effective. Moreover, because significant clinical results at the individual level were obtained after just one EMI session, EMI is certainly also affordable. The criterion of being “simple to implement” is, however, more problematic, because EMI requires additional training and clinical competencies that may not readily be accessible to all social workers. If the intervention’s complexity is beyond the reach of most social workers, EMI becomes less useful in resource-constrained settings. This is thus a critical area for further investigation.

This small, exploratory study has its shortcomings. The children sampled all came from a residential care center; none were living with their families. It is well recognized that social environment influences the behavior and experiences of children. Therefore, the findings may need to be interpreted within the context of children who are in care. It is unclear whether similar results would be found among children who are living at home.

This study was not conducted under controlled conditions, and thus other variables during the two week time frame may also have influenced the results. One respondent, for example, discontinued the use of his antidepressant within this period. This may have resulted in a different response on the second TSCC, because of an altered mood. In addition, most of the participants were residing on the same campus, which opens the possibility that they may have discussed the EMI sessions and the subse-

quent results. If this was the case, it may have influenced their responses to the second TSCC.

Notwithstanding the limitations, this study does generate sufficient preliminary evidence of clinical improvement, through the TSCC results pointing to a decrease in trauma symptoms, to warrant further experimental studies of EMI. Use of a control group would be valuable, as would perhaps receiving traditional trauma debriefing based on nonneurological therapies. It could also be helpful to compare EMI with eye movement desensitization and reprocessing therapy (EMDR) to elucidate the similarities and differences in both the therapeutic processes and clinical outcomes of these two neurological therapies. Finally, there is a need to assess the utilization and efficacy of EMI with younger children, who may respond to EMI quite differently from adolescents.

Our study has provided preliminary evidence of the usefulness of EMI with adolescents who have experienced childhood trauma. The follow-up reports of the children themselves and their care workers largely support the further exploration of the use of EMI. Particularly in resource-constrained settings, such as South Africa, EMI may prove to be a cost-effective and valuable therapeutic modality for working with traumatized children.

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