

**THE BODY IN THERAPY:
experiences of Sensorimotor Psychotherapy**

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Thesis Abstract

Background: Sensorimotor Psychotherapy is an approach for working with people who have experienced trauma (e.g. post-traumatic stress disorder [PTSD]) that is based on contemporary philosophies of embodiment and the expanse of neurobiological evidence for the effect of psychological trauma on the physical body. Thus, Sensorimotor Psychotherapy places central importance on working with the body in therapy.

Method: This study explored the experiences of 10 therapists and 2 clients who have had Sensorimotor Psychotherapy, and in particular, what it was like to use the body in therapy. Semi-structured interviews were used in order to gain detailed information regarding how the using the body in therapy is experienced.

Results: An inductive thematic analysis of interview transcripts identified four main themes: 1) accessing the truth through the body, 2) dilemmas of mind and body, 3) the elusiveness of words, and 4) change occurs through and within the body. 'Accessing the truth through the body' had three further subthemes: 'access', 'truth', and 'depth'. In this theme, participants described Sensorimotor Psychotherapy as being able to access the core of a problem through its use of working with the body ('access'), and that in doing so it reaches the truth of a problem or previous traumatic experience ('truth'). In order to reach and access the truth, participants described the work as having great 'depth'. 'Dilemmas of mind and body' had two further subthemes: 'the interfering mind' and 'the telling body'. In this theme, participants described the mind and body in very different ways, suggesting a dualism of mind and body. Participants described how 'the interfering mind' can distract from dealing with the real and genuine issue (accessed through the body), and that 'the telling body' was a source of genuine and important knowledge regarding a traumatic

experience. The 'elusiveness of words' referred to how the participants found it difficult to describe their experiences in words, alluding to the elusiveness of words to describe the process of Sensorimotor Psychotherapy. Participants considered and discussed progress and change in Sensorimotor Psychotherapy as occurring through and within the body ('change occurs through and within the body').

Discussion: In conclusion, the participants in this study felt that by working primarily with the body, Sensorimotor Psychotherapy is able to deeply access the direct core of traumatic experience, and that parts of this process are difficult to describe in words. Furthermore, a dualism of mind and body was implicated by the participants, and change was considered to occur through and within the body. Other therapies for PTSD could consider including more focus on the body, and also consider acknowledging perceived dilemmas between the mind and body. The limitations of this study include possible sampling bias, and the verbal interview technique being unable to explore the nuanced bodily experience of the therapy. Future research should expand the sample to include those who had neutral or negative experiences of Sensorimotor Psychotherapy, and explore methods that can capture the bodily experience of the therapy considering the difficulty of the 'elusiveness of words'.

Acknowledgements

First and foremost I would like to thank the participants who took part in this study, sharing their experiences of Sensorimotor Psychotherapy, and the UK Association for Sensorimotor Psychotherapy for their support in getting this study off the ground. I would also like to thank Dr Rachel Sabin-Farrell and Dr Roshan das Nair for their supervision, support and encouragement throughout the process of this research. Their guidance and supervision has been invaluable. I am also eternally grateful to my partner, Ozzy, for his endless optimism, support, care, and love.

Statement of Contribution

Sharonjit Dinas was responsible for the design of the research project, applying for ethical approval, reviewing the relevant literature, recruiting the participants, data collection, data analysis, and the write-up of the project.

Dr Rachel Sabin-Farrell and Dr Roshan das Nair provided supervision throughout the research project, and were involved in reviewing the themes identified from the analysis. Additionally, Dr Rachel Sabin-Farrell liaised with the UK Association for Sensorimotor Psychotherapy to gather interest in the study from potential participants.

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SYSTEMATIC REVIEW

The prevalence of anxiety, depression and posttraumatic stress disorder in intensive care unit survivors: a systematic review¹²

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1.1. Abstract

Purpose: The psychological well-being of intensive care unit survivors has received growing attention in recent years. Follow-up clinics have been advocated to aid in the physical and psychological recovery of intensive care unit survivors due to the reported prevalence of anxiety, depression and posttraumatic stress disorder in this population. The purpose of this review was to critically review and synthesise data on the prevalence of anxiety, depression and posttraumatic stress disorder in general intensive care unit survivors.

Methods: A systematic literature review was conducted using EMBASE, Medline, Cochrane Library, CINAHL, and PsycInfo, as well as a hand-search of three journals.

Results: Of the 14069 citations reviewed, ten studies were eligible for inclusion in this systematic review. The mean point prevalence of clinically significant anxiety symptoms was found to be 29%, depression symptoms 26%, and posttraumatic stress disorder symptoms 17%.

Conclusions: The prevalence rates of clinically significant anxiety, depression and PTSD symptoms in an intensive care unit survivor population is higher than that found in the general population, indicating further need for follow-up services designed to aid in the recovery of intensive care unit survivors.

Keywords: Intensive care unit; Posttraumatic stress disorder; anxiety; depression

¹ This systematic review does not relate to the journal paper presented in this thesis as it forms a separate component of the course requirement

² Paper prepared for submission to "Intensive Care Medicine"

1.2. Introduction

It has been reported that people with a significant physical illness are twice as likely to have a psychiatric disorder compared to the general population, and that these disorders impair quality of life, reduce ability to adhere to treatment for medical conditions, and are associated with a poor outcome of treatment for physical illness [1]. The psychological well-being of intensive care unit (ICU) survivors has received growing attention in recent years, particularly with reference to the prevalence of anxiety, depression and posttraumatic stress disorder (PTSD), within ICU survivors [2-6].

Although intensive care has developed rapidly over the last few decades, the evaluation of outcomes after such care has not been adequate [7], with psychological care for ICU survivors lagging behind care for physical problems [5]. The traditional goal of intensive care has been to decrease short-term mortality, but less attention has been paid to what it means to survive intensive care for patients [8]. Two-thirds of ICU survivors experience significant problems with various aspects of physical health, work issues, or mental health, and 13% are severely limited in everyday life [9].

Individuals who are treated in ICUs are exposed to extreme stressors, including respiratory insufficiency, pain with intubation and suctioning, and delirium associated with psychotic experiences, in the context of a limited ability to communicate and reduced autonomy [10]. It has been suggested that critical illness is uniquely stressful due to factors associated with the ICU experience such as awareness during painful procedures, loss of control, and an imminent threat of death [11]. Also, many individuals treated in ICUs recall frightening ICU experiences [10], as well as amnesia for the ICU admission and treatment, and frightening delusional memories of hallucinations, paranoid delusions and nightmares [12]. ICU treatment can also result in sleep deprivation, and coupled with the profound amnesia associated with delirium, can result in further confusion [13]. The use of opiates, benzodiazepines and sedative drugs can also have a profound impact on memories of the ICU, and the withdrawal of such drugs can contribute to delirium [13]. It has been suggested that the formation of delusional memories of ICU treatment, as opposed to factual memories, is associated with the development of PTSD symptoms [14]. The use of diaries, where staff and relatives can note what has happened for the individual being

treated in ICU each day, could help to build more factual memories and perhaps guard against some of the psychological difficulties associated with a lack of factual memories [15].

A significant number of ICU survivors develop severe psychological problems relating to their hospital stay [4]. ICU follow-up clinics have been advocated to aid with the physical and psychological recovery of ICU survivors [9]. However, in a survey of ICU follow-up clinical practice in the UK, encompassing 266 ICUs, only 30% ran a follow-up clinic, and only 59% of these were funded [16]. ICU follow-up services are seen by those who have used such services as important contributors to their physical, psychological and emotional recovery [17]. Whilst the relationship between physical recovery and psychological problems is complex, helplessness, hopelessness, and avoidance undoubtedly present challenges for recovery from a critical illness [5].

In the National Psychiatric Morbidity Surveys of Great Britain, which included 10108 participants, the overall 1 week prevalence of a neurotic disorder (which includes various anxiety disorders) was 16%, as assessed using the Revised Clinical Interview Schedule, and the 1 week prevalence of depression was reported to be 2% [18]. In the 1997 Australian National Survey of Mental Health and Well-being, 10641 adults were interviewed using diagnostic interviews, and the 12 month prevalence of anxiety, depression and PTSD in the general population using DSM-IV criteria [22] was reported to be 6%, 7% and 1% respectively [19].

Prevalence rates of anxiety, depression and PTSD in ICU survivors varies between studies. This is likely to be due to a number of factors. Firstly, different studies employ different measures, and even with those that use the same measures, they may use different cut-off points for determining prevalence rates. Secondly, different studies use varying inclusion and exclusion criteria for sampling, and this may have a profound impact on the prevalence rates. Knowledge of the prevalence of anxiety, depression and PTSD in ICU survivors is important because decisions about changes in aspects of care and potential interventions for mental health problems following ICU treatment needs to be based on accurate estimates of prevalence [20].

Previous reviews

At present there have been some reviews examining prevalence rates of anxiety, depression and/or PTSD in ICU survivors. A systematic review of PTSD in ICU survivors has been published, but it did not examine other mental health problems [10], and a review that did consider other mental health problems was not systematic and did not formally assess the quality of the individual reports included in the review [5]. The available literature on the prevalence of other mental health problems (e.g. anxiety and depression) following ICU treatment is very limited, and of those that do report prevalence of anxiety and depression, most do not clarify whether anxiety or depression is the sole problem or comorbid with PTSD or another mental health problem [21].

Aims

If appropriate follow-up services are to be implemented, then a clearer picture of prevalence rates of anxiety, depression, and PTSD following ICU treatment would inform service provision. Therefore, the aim of this systematic review was to review and synthesise the prevalence rates of anxiety, depression, and PTSD in adults who have been treated in ICUs.

1.3. Methods

Searching

EMBASE (1990-2010), Medline (1990-2010), Cochrane Library (1990-2010), CINAHL (1997-2010), and PsycInfo (1990-2010) were searched as of 1st August 2010. The search strategy included the following terms mapped to the appropriate MeSH/EMTREE subject headings and 'exploded': "intensive care" AND ("anxiety disorders" OR "anxiety" OR "major depression" OR "depression" OR "posttraumatic stress disorder" OR "mental disorders"). In addition, the tables of contents of three intensive care journals were manually searched (Critical Care Medicine, Intensive Care Medicine, and Intensive and Critical Care Nursing) from January 2000 to July 2010.

Selection

Titles, abstracts and full-text articles were reviewed to select eligible studies. Studies were only included if:

- the sample age range referred to individuals aged 18 years old or over
- the individuals had been treated in critical or intensive care units
- there was an assessment of anxiety, depression or PTSD at least one month following ICU discharge, because diagnostic systems, such as the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV) stipulate that symptoms should have been present for more than one month [22]
- they were published after 1990

Studies were excluded if:

- assessment of anxiety, depression or PTSD occurred within less one month following ICU discharge
- the study population was a specialist ICU, or a sub-group of ICU patients based on specific ICU treatment aspects (e.g. those that were mechanically ventilated) rather than a general ICU, because the results might not be as generalisable
- they included people under the age of 18
- they did not refer to original data
- the participants were the same as those referred to in another published paper that is being reviewed

Data abstraction

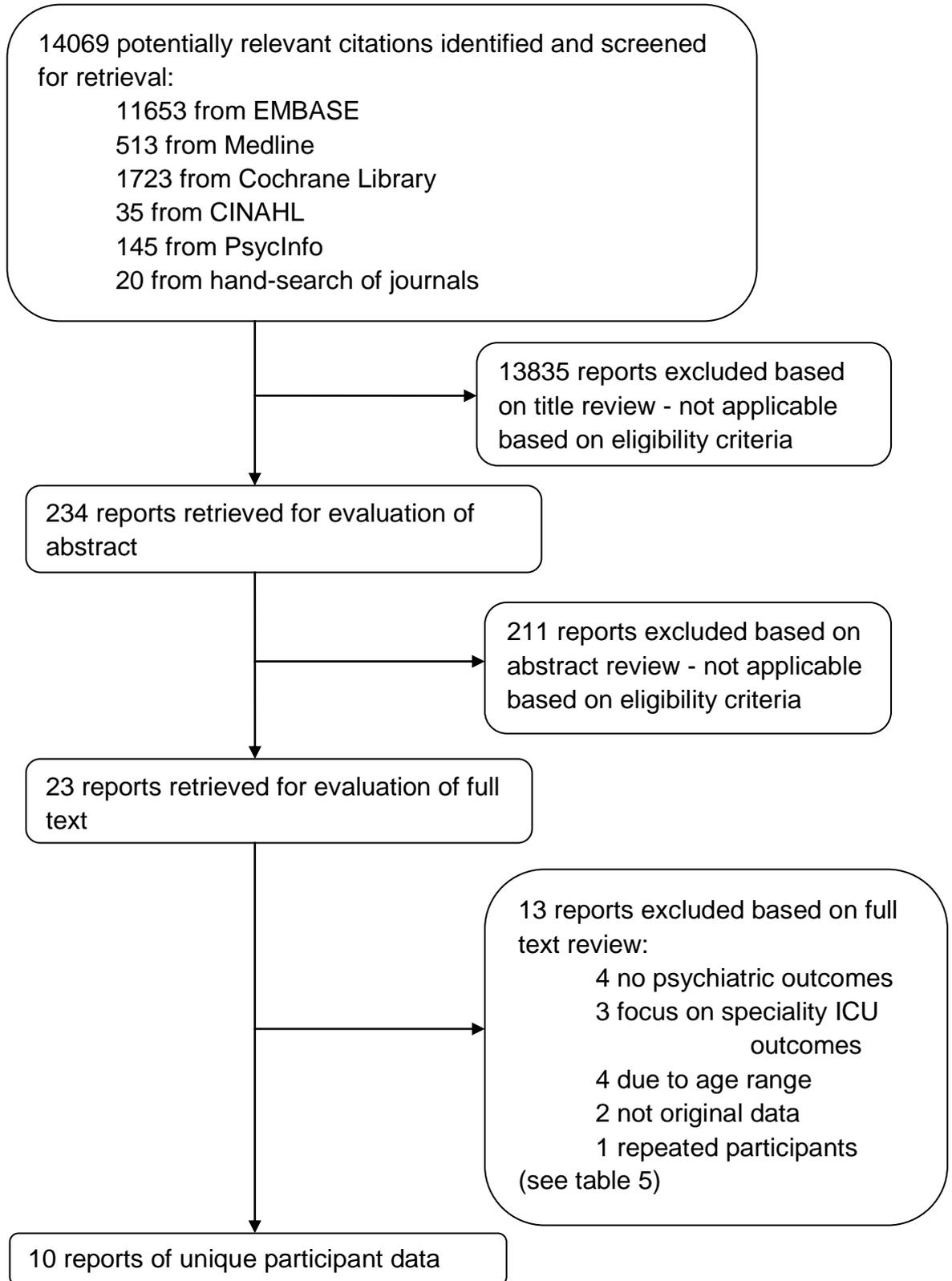
Information regarding the study type, country, follow-up time, number of participants, proportion of males and females, average age of participants, and the average number of days spent in ICU were abstracted, and this information is presented in table 1. The proportion of participants with a previous psychiatric history (or whether these individuals were excluded), the instruments used to measure symptoms of anxiety, depression and PTSD, the mean score on the measures used, the cut-off score used with the measures, and the point prevalence of clinically significant anxiety (table 2), depression (table 3), and PTSD symptoms (table 4) were abstracted for each eligible study.

1.4. Results

Search results

14069 citations, 234 abstracts and 29 full-text articles were reviewed (see figure 1). Ten articles were eligible for data abstraction.

Figure 1
Flow diagram of literature search results



Study characteristics

Table 1 shows descriptive data for the ten studies, ordered by the timing of follow-up assessment. Follow-up periods ranged from 1 to 12 months, although in one study the follow-up period was not reported [6]. The studies enrolled 1489 unique participants, with sample sizes ranging from 44 to 255. Of the ten studies reviewed, seven were prospective cohort studies [4, 23, 25, 26, 28-30], one was a case series cohort study [27], one a retrospective cohort study [6], and one was an inception cohort study [31]. Five of the studies were conducted in the UK [4, 6, 27, 29, 30], one in Sweden [23], one in Australia [25], another in The Netherlands [31], one in Portugal [28], and one in Norway [26]. Eight out of the ten studies had a higher proportion of male participants, with the proportion of male participants ranging from 43% to 75%.

Table 1

Study characteristics, ordered by follow-up time

Study	Country	Study type	Follow up in months	N	Inclusion (I) and exclusion (E) criteria	Sex (%)	Age in years Mean (standard deviation) or median (interquartile range) [absolute range]	Days in ICU Mean (standard deviation) or median (interquartile range) [absolute range]
Scragg (2001) [6]	UK	Retrospective cohort	Unclear	80	I: treated in adult intensive care E: cerebral trauma, accidental or non-accidental injury, briefly monitored on High Dependency Unit following routine operations	Male 53% Female 48%	57.1 [19-90]	3.7 (not reported)
Wallen (2008) [25]	Australia	Prospective cohort	1	100	I: >18 years, ICU stay >24 hours, speak, read and write English, no history of anxiety disorder in medical file (also were asked) E: transferred from ICU due to expected death, discharged directly to home or another health care facility, confused	Male 68% Female 32%	63.0 (18.9)	2.4 [1-31]

Study	Country	Study type	Follow up in months	N	Inclusion (I) and exclusion (E) criteria	Sex (%)	Age in years Mean (standard deviation) or median (interquartile range) [absolute range]	Days in ICU Mean (standard deviation) or median (interquartile range) [absolute range]
					state			
Myhren (2009) [26]	Norway	Prospective cohort	1-1.5	255	I: age 18-75, ICU stay >24 hours E: language difficulties, serious psychiatric problems, severe head injury, cognitive failure	Male 63% Female 37%	47.9 (15.7)	12 (not reported)
Cuthbertson (2004) [4]	UK	Prospective cohort	3	78	I: survivors of adult general ICU E: none	Male 56% Female 44%	58 [18-87]	5.6
Twigg (2008) [27]	UK	Case series cohort	3	44	I: none stated E: <18 years old, insufficient English, ICU stay <48 hours, history of dementia or learning disabilities, admission due to self-inflicted injury or overdose	Male 45% Female 55%	56 [18-74]	10.5
Granja (2008) [28]	Portugal	Prospective cohort	6	313	I: >18 years old, ICU stay >48 hours E: none stated	Male 58% Female 42%	59 (41-71)	8

Study	Country	Study type	Follow up in months	N	Inclusion (I) and exclusion (E) criteria	Sex (%)	Age in years Mean (standard deviation) or median (interquartile range) [absolute range]	Days in ICU Mean (standard deviation) or median (interquartile range) [absolute range]
Ringdal (2009) [23]	Sweden	Prospective cohort	6-18	239	I: >18 years old E: attempted suicide, not resident in Sweden, intellectual impairment, unknown address upon follow-up	Male 75% Female 25%	44.7 (17.9)	4.0 (6.1)
Sukantarat (2007) [29]	UK	Prospective cohort	9	45	I: >3 days of intensive care plus mechanical ventilation E: none stated	Male 43% Female 57%	57.4 (13.6)	16.9 (17.0)
Rattray (2005) [30]	UK	Prospective cohort	12	80	I: >18 years of age, ICU stay of >24 hours E: live >100 miles from hospital	Male 62% Female 38%	54.8 (17.1)	5.9
van der Schaaf (2009) [31]	The Netherlands	Inception cohort	12	255	I: ICU stay >48 hours E: none stated	Male 65% Female 35%	58.5 (16.6)	8.7 (10)

Table 2

Measurements of anxiety symptoms, ordered by study follow-up time

Study	Previous mental health problem	Instrument used	Follow-up in months	Number of participants at follow-up	Mean (standard deviation) or median (Interquartile range) [range] score	Cut-off score used	Point prevalence
Scragg (2001) [6]	-	HADS	Unclear	80	Not reported	8	43%
Myhren (2009) [26]	22 excluded	HADS	1-1.5	255	5.6 (not reported)	11	15%
Ringdal (2009) [23]	7 excluded (admission due to attempted suicide)	HADS	6-18	239	Not reported	8	39%
Sukantarat (2007) [29]	-	HADS	3 9	51 45	Not reported	(8) 11 (8) 11	(22%) 16% (24%) 22%
Rattray (2005) [30]	-	HADS	6 12	87 80	6.51 (4.80) 6.58 (4.29)	8 8	41% 45%
van der Schaaf (2009) [30]	-	HADS	12	255	4 [0-20]	11	11%

Table 3

Measurements of depression symptoms, ordered by study follow-up time

Study	Previous mental health problem	Instrument used	Follow-up in months	Number of participants at follow-up	Mean (standard deviation) or median (Interquartile range) [range] score	Cut-off score used	Point prevalence
Scragg (2001) [6]	-	HADS	Unclear	80	Not reported	8	43%
Myhren (2009) [26]	22 excluded	HADS	1-1.5	255	4.8 (not reported)	11	12%
Ringdal (2009) [23]	7 excluded (admission due to attempted suicide)	HADS	6-18	239	Not reported	8	31%
Sukantarat (2007) [29]	-	HADS	3 9	51 45	Not reported	(8) 11 (8) 11	(12%) 24% (16%) 31%
Rattray (2005) [30]	-	HADS	6 12	87 80	5.13 (3.56) 5.16 (4.28)	8 8	26% 27%
van der Schaaf (2009) [30]	-	HADS	12	255	3 [0-20]	11	11%

Table 4

Measurements of PTSD symptoms, ordered by study follow-up time

Study	Previous mental health problem	Instrument used	Follow-up in months	Number of participants at follow-up	Mean (standard deviation) or median (Interquartile range) [range] score	Cut-off score used	Point prevalence
Scragg (2001) [6]	2 (3%)	IES	Unclear	77	Not reported	30	16%
Wallen (2008) [25]	Excluded	IES-R	1	100	17.8 (13.4)	33	13%
Myhren (2009) [26]	22 excluded	IES	1-1.5	255	22.6 (not reported)	35	27%
Cuthbertson (2004) [4]	11 (14%)	DTS	3	78	8 [0-87]	27 40	22% 12%
Twigg (2008) [27]	Excluded	IES PDS	3	44	Not reported Not reported	8.5 (medium) 19 (high) 6 criteria met 5 criteria met	25% 23% 16% 11%
Granja (2008) [28]	-	PTSS-14	6	313	Not reported	49	18%

Rattray (2005) [30]	-	IES	12	80	Not reported	20 - intrusions 20 - avoidance	18% 20%
van der Schaaf (2009) [30]	-	IES	12	255	10 (1-29)	35	18%

Prior psychiatric history

One of the studies [26] excluded individuals who had serious psychiatric problems, however, there was no mention of how this was assessed. Two of the studies [23, 27] excluded individuals who had a self-inflicted injury, had taken an overdose or attempted suicide, although again it was not stated how this was assessed. One study [25] excluded those who had a history of anxiety disorders, which was determined by looking at the medical notes and asking potential participants directly.

Determining mean prevalence rates

In determining the mean point prevalence of clinically significant anxiety, depression and PTSD symptoms, a number of challenges were first addressed. Firstly, some studies collected data regarding anxiety or depression symptoms at more than one time point. In these instances, the longest follow-up time point value was used, because it was more likely that the symptoms would be clinically significant due to the increased time lapse from ICU discharge (i.e. symptoms are more chronic). Secondly, two of the studies reported two sets of prevalence rates of PTSD according to two different cut-off scores [4, 27]. In these instances, the higher cut-off score prevalence rate was used in determining the median point prevalence of clinically significant PTSD symptoms, because it was more likely that this would be clinically significant. Thirdly, one study [27] used two measures of PTSD symptoms, the IES and the PDS. In this instance, as the PDS is reported to be a 'gold standard' of PTSD questionnaire assessment [27], the prevalence rates according to the PDS were used. Finally, one study [30] reported the prevalence of significant levels of intrusion and significant levels of avoidance, rather than the prevalence of significant levels of PTSD symptoms as a whole. In this instance, this was not included in calculating the mean point prevalence of clinically significant PTSD symptoms.

Sampling considerations

In terms of the sampling criteria of the reviewed studies, three of the studies did not include individuals who had been treated in ICU for less than 24 hours [25, 26, 30], three did not include those who had been treated for less than 48 hours [27, 28, 31], and one did not include those who had been treated for less than three days [29]. Two of the studies also excluded those that had been discharged before they could be approached by the researchers [25, 27], and one excluded those that lived more than 100 miles from the hospital [30]. Only two of the studies examined differences between those who participated and those who did not [4, 23]. One study found that the only difference between those who participated and those who did not was that those who did not take part had shorter ICU stays [23]. Another study found that there was no significant difference in terms of illness severity, age,

sex, or length of ICU stay between those who participated and those who did not [4]. One of the studies had a small sample size of 45 participants, which could have compromised the generalisability of the reported results [29].

Prevalence of anxiety

An anxiety measure was completed by a total of 967 participants across six studies [6, 23, 26, 29-31], with 125 participants completing an anxiety measure twice [29, 30]. Four studies used a postal questionnaire [6, 23, 26, 31] and two used in-person assessments [29, 30]. All of the studies used a self-report questionnaire, the Hospital Anxiety and Depression Scale (HADS). The HADS has been found to be a valid screening instrument for assessing anxiety and depression in the general population, with good internal consistency and concurrent validity (when compared with other anxiety/depression screening questionnaires), and good sensitivity and specificity [32]. Although the HADS should not be used diagnostically, high HADS scores are of clinical importance in identifying potential cases that can then be evaluated further by clinicians [29].

The mean point prevalence of clinically significant anxiety symptoms was 29%, ranging from 11% to 43%. Notably, the studies differed in the cut-off scores used to determine clinically significant anxiety symptoms. Three of the studies used 8 as the cut-off score [6, 23, 30], two of the studies used 11 as the cut-off score [26, 31], and one used scores above 8 as indicative of 'possible' anxiety and scores above 11 as indicative of 'probable' anxiety [29]. When considering the different cut-off scores used, the mean point prevalence of anxiety symptoms in studies that used a cut-off score of 8 was 38%, but was only 16% when the cut-off score of 11 was used.

In the two studies that assessed anxiety symptoms longitudinally, there were differences in the point prevalence rates. In Sukantarat et al's study [29], where anxiety measures were taken at three and nine months following discharge from ICU, the number of 'probable' cases of anxiety (HADS anxiety score of 11 or more) increased from 16% at three months to 22% at nine months. However, the number of 'possible' cases of anxiety (HADS anxiety score 8-10) was 22% at three months and 24% at nine months. In Rattray et al's study [30], cases of anxiety were reported to be 41% at six months and 45% at twelve months, which was reported to not be significantly different.

Prevalence of depression

A depression measure was completed by a total of 967 participants across six studies [6, 23, 26, 29-31], with 125 participants completing a depression measure twice [29, 30]. Four studies used a postal questionnaire [6, 23, 26, 31], and two used in-person assessments [29,

30]. All of the studies used a self-report questionnaire, the Hospital Anxiety and Depression Scale (HADS).

The mean point prevalence of clinically significant depression symptoms was 26%, ranging from 11% to 43%. Notably, the studies differed in the cut-off scores used to determine clinically significant depression symptoms. Three of the studies used 8 as the cut-off score [6, 23, 30], two of the studies used 11 as the cut-off score [26, 31], and one used a cut-off score of 8 as an indicator of 'possible' anxiety and a cut-off score of 11 as an indicator of 'probable' anxiety [29]. When considering the different cut-off scores used, the mean point prevalence of depression symptoms in studies that used a cut-off score of 8 was 29%, but was only 18% when the cut-off score of 11 was used.

In the two studies that assessed depression symptoms longitudinally, there were differences in the point prevalence rates [29, 30]. In Sukantarat et al's study [29], where depression measures were taken at three and nine months following discharge from ICU, the number of 'probable' cases of depression (HADS depression score of 11 or more) increased from 24% at three months to 31% at nine months. However, the number of 'possible' cases of depression (HADS depression score 8-10) was 12% at three months and 16% at nine months. In Rattray et al's study [30], cases of depression were reported to be 26% at six months and 27% at twelve months, which was reported to not be significantly different.

Prevalence of PTSD

A PTSD measure was completed by a total of 1202 participants across eight studies [4, 6, 25-28, 30, 31]. Four of the studies used postal questionnaires [6, 26, 28, 31], two used in-person assessment (Wallen, Rattray) [25, 30], one used telephone assessment [4], and one used a mixture of in-person and telephone assessment [27]. Five of the studies used the Impact of Events Scale (IES) [6, 26, 27, 30, 31] one used the Impact of Events Scale - Revised (IES-R) [25], one used the Davidson Trauma Scale [4], one used the Posttraumatic Diagnostic Scale (PDS) [27], and one used the Post-Traumatic Stress Syndrome 14-Questions Inventory [28]. All of the measures used were self-report measures, with the exception of the PDS, which is a clinician-administered questionnaire that can be used diagnostically [27].

The mean point prevalence of clinically significant PTSD symptoms was 17%, ranging from 12% to 27%. Notably, the studies that used the IES differed in the cut-off scores used to determine clinically significant PTSD symptoms. One study used a cut-off score of 30 [6] and reported a prevalence rate of 16%, and two used a cut-off score of 35 [26, 31],

with a mean prevalence rate of 23%. None of the eligible studies measured PTSD symptoms longitudinally.

1.5. Discussion

This systematic review highlights that the prevalence rates of anxiety, depression and PTSD in ICU survivors is high compared to the general population, with the mean point prevalence of clinically significant symptoms being 29%, 26% and 17% respectively. This adds further weight to the need for follow-up services for ICU survivors in order to assess for such mental health problems, and to refer for treatment.

The existing literature reviewed has several important limitations. Firstly, a large proportion of the studies reviewed used postal questionnaires to determine prevalence rates, and it is possible that individuals who wish to avoid thinking about their illness may be less likely to complete and return questionnaires, thus artificially reducing the prevalence of mental health problems in the assessed sample. Future studies of anxiety, depression or PTSD in an ICU survivor population should use clinicians to conduct diagnostic interviews in person to more definitively estimate prevalence rates. Also, in terms of sampling issues, the studies reviewed included individuals with substantial differences in key characteristics such as reasons for admission, length of ICU stay, and time to follow-up assessment. ICU survivors can have very different underlying physical problems, some of which are more likely to occur in one sex [34]. Therefore, the generalisability of such findings is questionable, and the degree to which study participants are representative of the ICU survivor population is unclear. For example, ICU survivors with psychological problems might be more or less likely to participate in such studies than those without psychological problems.

Secondly, the majority of the studies reviewed did not include any assessment of previous mental health problems, and some studies excluded those individuals who were found to have a pre-existing mental health problem. Previous research has reported that pre-ICU depression is a predictor of symptoms suggestive of a diagnosis of PTSD 12 months after ICU discharge [33], suggesting that pre-ICU mental health problems are an important risk factor for mental health problems following ICU treatment. It is possible that this factor has a profound impact on the reported prevalence rates of anxiety, depression and PTSD following ICU treatment, as one study that assessed pre-existing mental health problems found that this constituted 14% of the overall study sample, and that these individuals also scored significantly higher in PTSD symptoms [4]. This limitation of the reviewed studies potentially decreases the generalisability of the reported findings to those with a previous mental health problem.

Future studies should aim to adequately assess for any previous mental health problems and examine any possible influence of this.

Thirdly, the widespread use of screening questionnaires in the reviewed studies could have resulted in inaccurate prevalence rates of anxiety, depression or PTSD. Screening questionnaires tend to have high sensitivity but lower specificity compared to diagnostic measures [6], and so the prevalence rates reported could be influenced by a higher incidence of false-positives rates. It has been suggested that symptoms of PTSD are frequently expressed in highly idiosyncratic and nuanced ways in medically ill populations, and so may not be adequately captured in self-report questionnaires [34]. The accurate identification of PTSD in time-limited research is a significant challenge, particularly because self-report measures do not lend themselves to allowing researchers to determine whether a pattern of symptoms reflect PTSD or a time-limited adjustment disorder [34]. Also, most screening tools have not been validated for use with an ICU survivor population, and results may be confounded by the experience of suffering a particular medical condition or the effects of medications [34].

Finally, the majority of the studies assessed anxiety, depression or PTSD within 6 months of ICU discharge, with the longest follow-up time in the reviewed studies being only 12 months. The timing of the assessment of mental health problems in ICU survivor populations is an important factor to consider because previous research has suggested that ICU survivors develop PTSD symptoms only after they have recovered physically [4], but this was not addressed in the reviewed studies. Also, the studies reviewed used a variety of measures to assess PTSD symptoms, and all studies varied in terms of the timing of the assessment, which impairs direct comparison of these results. The prevalence of anxiety, depression and PTSD more than 12 months after ICU discharge could not be ascertained in this review.

There are potential limitations of this systematic review. The exclusion criteria for this review meant that studies reporting prevalence rates within speciality ICUs or specific patient characteristic groups (e.g. those who have been mechanically ventilated) were not included, and it could be that these rates would be of interest in terms of prevalence rates. Also, despite a comprehensive search of 14069 citations, potentially eligible studies may have been missed due to inconsistent indexing in electronic databases.

In conclusion, the prevalence of clinically significant symptoms of anxiety, depression and PTSD in general ICU survivors is higher than that found in the general population, which adds further weight to the need for follow-up services designed to aid with the recovery of ICU

survivors. However, the prevalence rates must be interpreted with caution due to the limitations discussed above.

Table 5

Studies excluded based on a full-text review with reasons for exclusion

Study	Sample range included those aged under 18	Specialist or specific ICU subgroup	No anxiety/depression /PTSD prevalence rate	Not original data (i.e. review article)	Repeated participants
Jones (2007) [14]	Yes	No	No	No	No
Jones (2001) [13]	Yes	No	Yes	No	No
Brooks (1997) [35]	No	No	Yes	No	No
Granja (2002) [36]	No	Yes	Yes	No	No
Kress (2003) [37]	No	Yes	No	No	No
Lizana (2003) [38]	Yes	No	No	No	No
Nickel (2004) [39]	No	Yes	No	No	No
Hopkins (2010) [40]	No	No	No	Yes	No
Ringdal (2010) [24]	No	No	No	No	Yes
Girard (2002) [41]	No	No	No	No	Yes
Treggiari (2009) [42]	Yes	No	No	No	No
Sukantarat (2007) [43]	No	No	No	Yes	No
Myhren (2010) [44]	No	No	Yes	No	No

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JOURNAL PAPER

**The body in therapy:
experiences of Sensorimotor Psychotherapy³**

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2.1. Abstract

Sensorimotor Psychotherapy is an approach for working with people who have experienced trauma (e.g. post-traumatic stress disorder [PTSD]) that is based on contemporary philosophies of embodiment and the expanse of neurobiological evidence for the effect of psychological trauma on the physical body. Thus, working with the body is central in Sensorimotor Psychotherapy. This study explored the experiences of 10 therapists and 2 clients who have had Sensorimotor Psychotherapy, and in particular, how they experienced the work with the body in therapy. An inductive thematic analysis of interview transcripts identified four main themes: 1) accessing the truth through the body, 2) dilemmas of mind and body, 3) the elusiveness of words, and 4) change occurs through and within the body. In conclusion, this study found that by working primarily with the body, participants felt that Sensorimotor Psychotherapy was able to deeply access the direct core of traumatic experience, and that parts of this process were difficult to describe in words. Thus, treatments for PTSD and complex trauma could consider including aspects of attending to the body in therapy. The limitations of this study include possible sampling bias, and the verbal interview technique being unable to explore the nuanced bodily experience of the therapy. Future research should expand the sample to include therapists and clients who had neutral or negative experiences of Sensorimotor Psychotherapy, and explore methods that can capture the bodily experience of the therapy without the difficulty of the elusiveness of words.

Key Practitioner Message

- Sensorimotor Psychotherapy is an embodied talking therapy for working with trauma and PTSD that focuses on integrating bodily experience with emotion and cognition, drawing on contemporary neuroscience.
- Sensorimotor Psychotherapy accesses traumatic experience by working with the body in therapy.
- Sensorimotor Psychotherapy is described by those who have experienced it as being able to access the core of an issue by working directly with bodily experience.
- Therapies for PTSD should consider involving aspects of working with the body.

Keywords

Sensorimotor Psychotherapy, PTSD, thematic analysis, body-oriented therapy.

2.2. Introduction

Body psychotherapy asserts that Descartes was wrong: "I do not exist because I think, but because I am embodied" (Totton, 2003, p.29). Descartes asserted that the mind and body are separate, and that the mind is the essence of being (Descartes, 1637/2006). This notion of the disembodied mind has shaped the way that Western medicine approaches the study and treatment of diseases, whereby the psychological consequences of diseases in the body are usually disregarded, and the effects on the body of psychological distress usually remain unconsidered (Damasio, 2006). Descartes' error was the separation of the operations of the mind from the structure and operation of the body (Damasio, 2006). In more recent years, philosophers have been more willing to consider scientific research, which avoids the old dualisms of mind and body by finding conceptual links for conscious and unconscious, biological and social processes (Krois, Rosengren, Steidele, & Westerkamp, 2007). The brain, body and mind are inextricably linked and are only spoken about as if they constitute separate entities due to heuristic reasons (van der Kolk, 1996). (For further discussion about the mind and body in relation to trauma see extended paper sections 3.2. and 3.3.)

Body psychotherapy has been practiced since the foundations of working with the body in therapy were laid by Sigmund Freud, Wilhelm Reich, and Fritz Perls (Totton, 2003). Freud contributed to the field of embodiment by modifying various philosophical models dealing with the body-soul problem and the process of embodiment (Krois et al., 2007). For example, consider Freud's concept of 'hysteria', whereby hysterical symptoms occur when a conversion of psychic energy into physical symptoms takes place (e.g. paralysis; Freud, 1905). The psychic energy derives from unresolved conflict that causes an individual to transfer the problem to the body and, hence, to embody them (Freud, 1905). Although contemporary psychoanalysis has little to do with body psychotherapy, in 1895 Freud wrote a letter to Wilhelm Fliess describing a case where he had invented a 'strange therapy' of his own which involved physical touch (Masson, 1985). Although Freud completely dropped this later, psychoanalysis remained theoretically engaged with the body, whose 'drives' are the source of our unconscious desires, the rejection of which, in effect a rejection of the 'body' by the 'mind', is considered to be the cause of many psychological problems (Freud 1905; Totton, 2003).

To date, it would seem that the debate on consciousness and what it means to be human remains heavily under the influence of mind-body dualism thinking (Shanahan, 2010). The mind-body dualism debate has recently been challenged further by writers considering embodiment. Whereas the prevailing Cartesian view in philosophy and science has been that consciousness is

strictly correlated with the brain and central nervous system, Maiese (2011) suggests that consciousness is essentially embodied, that it is something that we do through our living bodies and our lived, bodily engagement with the world. Young (2006) asserts that when the mind and body are considered separately, they are less than one half of what makes us human, and that only when they are considered together can we begin to find some really significant answers.

Emotions can be used as an example to illustrate embodiment, because although emotions are interpreted and named by the mind, they are integrally an experience of the body (Rothschild, 2000). The evolutionary functions of emotions are associated with survival, involving the interdependence of the brain and the body (LeDoux, 1998). Damasio's (2006) somatic marker theory illustrates the links between mind and body in the context of emotion, stating that emotion is necessary for rational thought, and that emotions are cued by awareness of body sensations. Simply projecting a cognitive judgement is not enough to make a rational decision; an individual has to be able to feel (in a bodily sense) the consequences of the decision (Damasio, 2006). (For further discussion about emotions and the brain see extended paper section 3.3.)

Body psychotherapy has grown to take on many different forms today, and advancements in neuroscience have particularly supported the development of body-oriented therapies for post-traumatic stress disorder (PTSD) and traumatic experience. Rothschild (2000) argues that integrated trauma therapy must consider, and consist of tools for, identifying, understanding and treating the effect of trauma on both mind and body, and that you cannot have one without the other. In van der Kolk's (1994) seminal paper "the body keeps the score", he examines the evolving psychobiology of PTSD, and notes that research confirms that there are persistent and profound alterations in stress hormone secretion and memory processing in individuals with PTSD. Whilst body psychotherapy approaches emphasise the importance of the body, they also consider the mind and brain to be a vital part of experience. It should also be noted that the literature drawn on by body psychotherapy approaches for PTSD is propagated by a fairly small and relatively fixed number of authors. (For further discussion on other body-oriented therapies for trauma see extended paper section 3.8.)

The best predictor for something becoming traumatic seems to be when an individual cannot escape, when fighting or fleeing is no longer an option and whatever action the individual takes fails to restore a sense of safety (van der Kolk, 2006). Therefore, the treatment of traumatised individuals needs to help those individuals to regain a sense of safety in their bodies (van der Kolk & McFarlane, 1996). The rational brain is considered to have limited capacity to

deal with sensations, control emotional arousal, and change fixed action patterns; problems that traumatised individuals frequently experience (van der Kolk, 2006). Body psychotherapies believe that past experience is embodied in present physiological states and habitual action tendencies, and that the trauma is re-enacted in breath, gestures, sensory perceptions, movement, emotion, and thought (Ogden, Minton, & Pain, 2006; van der Kolk, 2006). Neurobiological research has demonstrated that the medial prefrontal cortex, suggested to be a part of the conscious brain that is capable of influencing emotional states and is involved in introspection (i.e. attending to the internal state of an organism), has decreased activation in individuals with PTSD (Lanius et al., 2002), meaning that traumatised individuals tend to have serious problems attending to their inner sensations and perceptions (van der Kolk, 2006).

Sensorimotor Psychotherapy is a body psychotherapy for trauma, and is designed to address the difficulties identified by neurobiological findings, such as the finding that trauma is stored in somatic memory (van der Kolk, 1994, 2006). Sensorimotor Psychotherapy developed from clinical practice, and has been guided by research findings and theoretical developments in the fields of attachment, trauma, and neuroscience (Fisher & Ogden, 2009). Sensorimotor Psychotherapy is not only used to treat trauma in the psychiatric sense of post-traumatic stress disorder (PTSD). It is also used in the treatment of the more complex elaborations associated with complex traumatic stress disorders, for example, disorganised and insecure attachment patterns, and disorders of the self such as dissociative identity disorder (DID; Fisher & Ogden, 2009; Totton, 2003). Sensorimotor Psychotherapy also recognises that trauma often occurs in the context of interpersonal relationships, meaning that trauma often involves boundary violations, loss of autonomous action, and loss of self-regulation (van der Kolk, 2006). In such cases as abused children or individuals trapped in domestic violence, individuals are likely to learn to respond to abuse and threats with compliance or submission, and are vulnerable to ongoing physiological dysregulation (e.g. states of extreme hypo- and hyper-arousal) along with physical immobilisation (van der Kolk, 2006). As a result, many traumatised individuals develop chronic problems initiating effective, independent action, and often learn to dissociate (van der Kolk, 2006). Sensorimotor Psychotherapy deals with dissociative symptoms that involve body sensations, movement disorders, dysregulated physiological arousal, and re-experiencing the trauma in somatosensory fragments (van der Kolk, 2006). (For further discussion on the theory and treatment of complex trauma and dissociative disorders see extended paper sections 3.5 and 3.6.)

While it is well documented that PTSD involves disturbing bodily sensations, such as flashbacks and hypervigilance, alongside a numbing of general

responsiveness in terms of affect (American Psychiatric Association, 1994), attention to the body has not commonly been central to the psychological treatment of PTSD (Rothschild, 2000). Describing traumatic experiences in conventional verbal therapy usually activates implicit memories in the form of trauma-related physical sensations, physiological dysregulation, involuntary movements, and accompanying emotions of helplessness, fear, shame, and rage, without providing the necessary resources for individuals to cope with and process these nonverbal aspects of trauma (van der Kolk, 2006). (For further discussion on PTSD see extended paper section 3.4)

In contrast to conventional therapy, Sensorimotor Psychotherapy uses the body as the primary point of intervention. aiming to integrate sensorimotor processing with cognitive and emotional processing (Ogden & Minton, 2000; Ogden, Pain, & Fisher, 2006). This 'bottom-up' approach enables the more primitive, automatic, and involuntary functions of the brain that underlie post-traumatic responses to be addressed (Ogden, Pain et al., 2006). This 'bottom-up' approach is contrasted to more 'top down' traditional therapies that have been shown to be effective in treating reactions to trauma (largely PTSD), such as cognitive behaviour therapy (CBT; Rothbaum, Meadows, Resick, & Foy, 2000). Top-down approaches involve changing an individual's thought processes alongside therapeutic re-experiencing of the event. Ogden, Pain, et al. (2006) state that although top-down therapy is effective and necessary for treating trauma, 'bottom-up' approaches that directly address the effects of traumatic experience on the body are equally necessary. (For further discussion about conventional therapies for PTSD see extended paper section 3.4.5)

Sensorimotor Psychotherapy specifically targets the processing of unassimilated sensorimotor reactions to trauma, aiming to resolve the destructive effects of these reactions on cognitive and emotional experience (Ogden & Minton, 2000). Such sensorimotor reactions consist of sequential physical and sensory patterns that seek to resolve to a point of satisfaction in the body, often accomplished during a traumatic event by successfully fighting or fleeing (Ogden & Minton, 2000). In those traumatised individuals where this does not occur, dissociated, incomplete, or ineffective sensorimotor reactions return involuntarily to the individual, in such forms as intrusive images, sounds, smells, body sensations, numbing, and the inability to modulate arousal (Ogden & Minton, 2000). Sensorimotor Psychotherapy emphasises the regulation of arousal, attempting to avoid excessive autonomic or emotional arousal that might interfere with the integration of information (Lanius, Lanius, Fisher, & Ogden, 2006).

Sensorimotor Psychotherapy training is available to a range of professionals, including psychologists, social workers, guidance counselors, and dance therapists (Sensorimotor Psychotherapy Institute, 2011). There are four levels of training, each being a prerequisite for the next (Sensorimotor Psychotherapy Institute, 2011). Level 1 and advanced level 1 of the training teaches skills for the treatment of trauma, complex trauma, and dissociative disorders (Sensorimotor Psychotherapy Institute, 2011). Level 2 covers attachment, development, and trauma, and level 3 provides advanced training to achieve certification (Sensorimotor Psychotherapy Institute, 2011). The training provides therapists with a set of skills for working with the body in the present time (Ogden, Minton, et al., 2006). Tracking and bodyreading are key foundational skills, whereby therapists observe moment-by-moment physical changes in the client (i.e. tracking), as well as persistent action tendencies, such as habitual postures (i.e. bodyreading; Ogden, Minton, et al., 2006). Sensorimotor Psychotherapists make contact statements, whereby information gathered through tracking and bodyreading is communicated to the client (Ogden, Minton, et al., 2006). Sensorimotor Psychotherapy also makes use of mindfulness, whereby present-moment experience is explored by directing attention to notice the effect of stimuli on sensations, perceptions, movements, emotions, and thoughts (Ogden, Minton, et al., 2006). Experiments are often used within Sensorimotor Psychotherapy to bring to awareness the effects of trauma, and may involve the client and/or therapist performing a physical action, or repeating a word or phrase (Ogden, Minton, et al., 2006).

These skills for working with the body are used to firstly develop somatic resources, in order to facilitate the regulation of arousal (Ogden, Minton, et al., 2006). Resources refer to any personal skills, abilities, objects, and relationships that facilitate self-regulation (Ogden, Minton, et al., 2006). Somatic resources (e.g. the ability to be able to ground oneself in the present moment) are then used to process traumatic memory in the second phase of treatment (Ogden, Minton, et al., 2006). In this phase, titrated amounts of the traumatic memory are carefully evoked, bodily expression is mindfully observed, and the client learns to have a new experience in relation to the trauma by allowing the emergence and completion of actions that were incomplete at the time of the trauma (Ogden, Minton, et al., 2006). In the final phase of Sensorimotor Psychotherapy, skills and abilities are integrated to achieve success in everyday life, producing a new sense of self which is flexible and adaptive (Ogden, Minton, et al., 2006). (For further discussion about Sensorimotor Psychotherapy see extended paper section 3.7)

Although lacking an empirical evidence base, anecdotal reports from both clients and therapists attest to the effectiveness of Sensorimotor Psychotherapy (Ogden, Pain, et al., 2006). Fisher and Ogden (2009) note that clients have

reported satisfaction with the effectiveness of sensorimotor techniques in resolving traumatic stress disorder symptoms, when either used as a stand-alone therapy or in conjunction with other traditional therapies such as CBT. Professionals practicing Sensorimotor Psychotherapy report that clients often experience a reduction in symptoms such as nightmares, panic attacks, and general hyper-arousal, and that the newly acquired ability to track body sensations helps clients to experience present reality instead of reacting as though the trauma was still occurring (Lanius et al., 2006). A pilot study of Sensorimotor Psychotherapy in a group format with ten women with a history of child abuse found a significant improvement in body awareness, dissociation, and receptivity to soothing (Langmuir, Kirsh, & Classen, 2012).

Although Sensorimotor Psychotherapy is growing in popularity in clinical circles, research in this area is limited. Using a qualitative approach, rich information can be gleaned from those who have experienced Sensorimotor Psychotherapy, which may inform future practice for therapists, guide further research, and guide those who are offered the approach in deciding whether or not they want to engage in it. This information may also pave the way for the development of specific outcome measures which may be suitable to assess treatment effectiveness in body-oriented therapies.

Aims

The aims of this study were to explore what it is like to use the body in therapy, specifically Sensorimotor Psychotherapy. (For further discussion of the rationale and aims of this study see extended paper section 3.9)

2.3. Method

Methodology

This study used a qualitative thematic analysis methodology to explore what it is like to use the body in therapy, specifically Sensorimotor Psychotherapy. Because it is not tied to a particular epistemology or theoretical position, thematic analysis is a flexible qualitative research method, yet it is able to provide a rich, detailed, and complex account of data (Braun & Clarke, 2006). It achieves this by identifying, analysing, and reporting patterns (themes) within data, and interpreting aspects of a research topic (Boyatzis, 1998; Braun & Clarke, 2006). An inductive ‘bottom-up’ thematic analysis was used in order to identify themes that were strongly linked to the data themselves (i.e. data-driven; Braun & Clarke, 2006). Semantic level themes were identified, whereby the data was analysed explicitly, whilst also offering some interpretation to theorise the significance of the patterns. (For further discussion of thematic analysis see extended paper section 4.3)

Epistemology

This study was approached from a critical realist epistemological perspective, which understands an inherent subjectivity in the production of knowledge, in that our beliefs and expectations affect the way that we perceive truth and knowledge (Madill, Jordan, & Shirley, 2000). Critical realism states that not only does the world consist of events, experiences and discourses, but also of underlying structures, powers and tendencies whether or not these can be known through experience or discourse (Patomäki & Wight, 2000). Thus, the researchers adopted a reflexive approach throughout the study in order to understand the impact of their beliefs on the study's design and findings. (For further discussion on epistemology see extended paper section 4.2)

Ethical Approval

The majority of therapists practicing Sensorimotor Psychotherapy in the UK work within private practice. Thus, NHS ethical approval was not required because NHS therapists and clients were not included. Ethical approval for the study was granted by the 'Institute of Work, Health and Organisations', at the University of Nottingham on 1st July 2011 (see appendix A), and amendments to the study protocol were approved on 19th October 2011 (see appendix B). (For further discussion on ethical considerations see extended paper section 4.8)

Participants

A purposive sample of 12 participants (3 male, 9 female) took part in the study, 10 of whom were practicing therapists. Therapists who practice Sensorimotor Psychotherapy were contacted regarding the study by the UK Association for Sensorimotor Psychotherapy, and were asked to assist in recruitment to the study by asking their clients if they would like to take part in the study, and were invited to take part in the study themselves (see appendix C). Therapists were recruited because they had experiential sessions of Sensorimotor Psychotherapy, using their own material, during their Sensorimotor Psychotherapy training. There is no consensus for how many participants are sufficient for a thematic analysis study, but a pragmatic decision was made that 12 participants were sufficient for addressing the aims of this study. (For further discussion of the sample see extended paper sections 4.4.2 and 4.4.3)

Inclusion criteria

All participants were required to:

- be 18 years of age or older
- have had experience of Sensorimotor Psychotherapy (either as a client, or as a therapist as part of their training) for trauma (this included the

full range of post-traumatic manifestations ranging from single-event PTSD to developmental trauma)

Exclusion criteria

Individuals were excluded from participation if:

- they did not speak English
- they had DID, due to potential difficulties with interpreting data from individual participants with potentially differing opinions from different parts of their personality. It was felt that studying the use of Sensorimotor Psychotherapy with individuals with DID would merit its own specific study.

(For further discussion of the inclusion and exclusion criteria see extended paper section 4.4.1)

Interviews

The lead researcher conducted semi-structured interviews, guided by an interview schedule (see appendix H). The purpose of the interview was to understand the participant's experience of Sensorimotor Psychotherapy, with particular emphasis on the body-oriented focus of the therapy.

Four of the interviews were conducted face-to-face, seven were conducted over the telephone and recorded using a telephonic recording device, and one was an audio call conducted and recorded on Skype. These varied interview methods were included in order that study recruitment could be carried out nationally. The interviews were transcribed verbatim. (For further discussion of the interview see extended paper section 4.5)

Analysis

Thematic analysis was used to analyse the data, following the technique described by Braun and Clarke (2006). Each interview transcript was read and re-read by the lead researcher, who noted initial ideas, in order to become familiarised with the data. Following this, initial codes were generated by noting interesting features of the data systematically across the entire data set, and data relevant to each code was collated. Codes were then collated into potential themes, and data relevant to each theme was collated. The themes were then reviewed by generating a 'thematic map' of the analysis. Finally, the themes were defined and named by refining their specifics. The second and third authors reviewed the process at all stages of analysis, and the final themes were identified through discussion and negotiation between the researchers. (For further discussion of the analysis see extended paper section 4.7)

2.4. Results

Sample characteristics

The sample comprised 12 participants who had experienced Sensorimotor Psychotherapy, 2 of whom were clients who had sought the therapy and 10 of whom were therapists who had undertaken the accredited training in the UK. Participants' ages ranged from 23 to 65 years, and three males and nine females took part. (For further description of the sample see extended paper section 4.4.3)

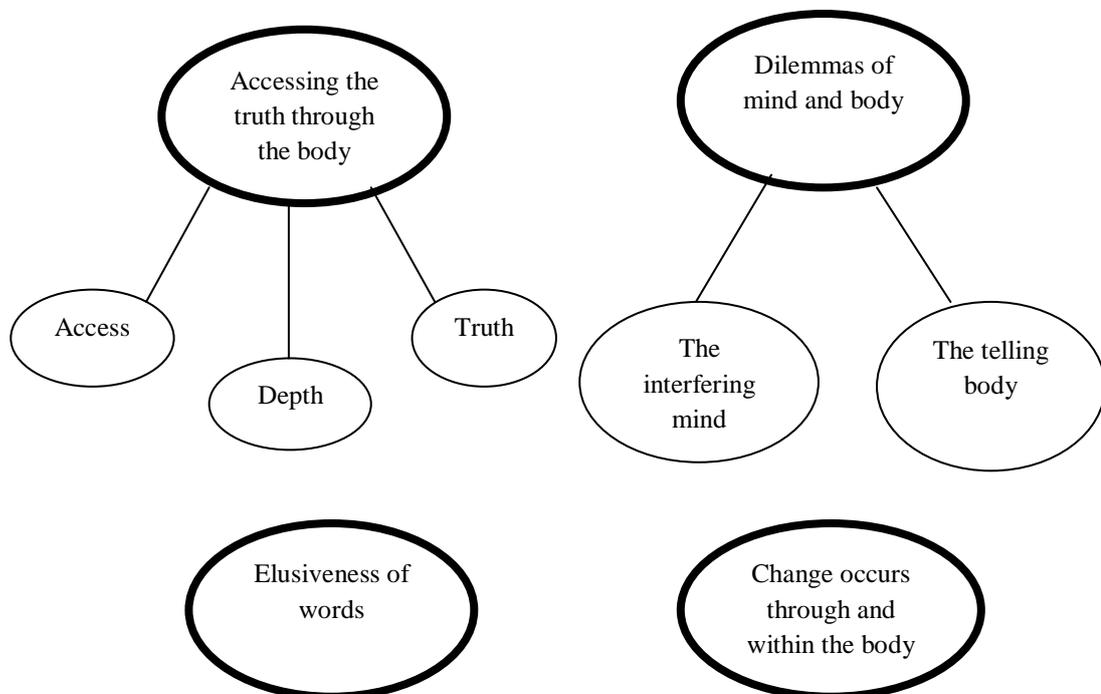
Themes

Four main themes were identified from the data:

1. Accessing the truth through the body
2. Dilemmas of mind and body
3. Elusiveness of words
4. Change occurs through and within the body

All of these themes were found throughout the dataset (see figure 2 for a map of the themes). Each theme is discussed below, expanding on subthemes where relevant, supported by direct quotes from participant data. Participants have been given pseudonyms in order to protect their anonymity.

Figure 2. Thematic map



Accessing the truth through the body

Participants felt that Sensorimotor Psychotherapy was able to access the truth through the body, with three further subthemes emerging: access, truth, and depth. Participants described Sensorimotor Psychotherapy as being able to access the core of a problem through its use of working with the body, and that in doing so it reaches the truth of a problem or previous traumatic experience. In order to reach and access the truth, participants described the work as having great depth.

I think using the body gives a much more reflective window. Somehow it opens up. (Jane)

Jane described how working through the body allows a person and their experiences to open up, and by using the analogy of a window, Jane implies that Sensorimotor Psychotherapy allows access to issues that have been hidden from full view (perhaps conscious awareness), as though behind a wall. The use of the word 'reflective' suggests that working through the body allows a more thoughtful exploration of the issue.

It's almost like I was thinking of a rabbit warren; you can go to places that you didn't know existed. (Diane)

Diane is describing how Sensorimotor Psychotherapy allows access to issues and previous experiences that an individual may not even have been aware of prior to working with the body. Working with the body was described by the participants as being able to allow access to unresolved issues that have been buried deep or never fully accessed previously. The analogy of a rabbit warren implies that there are many different avenues to explore by working through the body.

... it gets to the nub of things really fast and you kind of have this shock that somebody ... your body has been giving the message all this time and you didn't know. So it's quite revealing. (Patricia)

Patricia described Sensorimotor Psychotherapy as being able to access the core of an issue rapidly, and that this happens because the body is conveying messages that you have not previously paid attention to. In this way, Sensorimotor Psychotherapy is revealing, in the sense that the body can reveal information that you did not previously know yourself. There is an implication that issues from troubling events become stored in the body, which allows them to be ignored by everyday living (as they are not apparent in the form of thoughts or images).

Access

Participants explained how Sensorimotor Psychotherapy facilitated direct access to issues that they would not have been able to otherwise access.

So if you take away the interpretation and just say what's happening in the body, it is ... it goes right to the core of things. (Fiona)

Fiona described that just by focusing on the body whilst putting cognitive interpretation and thoughts to one side, the core of an issue can be accessed. The implication is that thoughts and interpretation may get in the way of allowing access to the core of an issue, but that by working through the body this can be avoided. However, it is not clear how this could actually be possible, because theoretically this seems unachievable, and it appears that the difference is the focus of cognitive attention rather than a lack of.

But by working with the body, it's unlocked ... the body always remembers. (Julia)

Julia talked about how the body remembers traumatic events and experiences, and that such events can be accessed by working with the body. This suggests that working with the body is key for accessing traumatic events and experiences, particularly because the body holds a memory that may not be so easily accessed cognitively. The use of the word 'unlocked' implies that traumatic events become locked within a person, and that working through the body acts as a key to unlock the experience to be accessed.

Truth

The participants spoke about the body as holding truth, that the quality of the information it stores, and hence can be accessed through working with the body, is true and genuine.

And it's almost like you can't lie; the body doesn't lie. You know, if you have ... if you feel something, it's genuine and you can't ... if you ask someone what they're thinking, they will make an interpretation with their conscious brain but the body can't do that and doesn't do that. So if something impacted me in my body, I knew where I felt it. (Fiona)

Fiona described the body as being genuine and incapable of 'lying', in the sense that the information gleaned from working with the body is true. This is described as being in contrast to thoughts and interpretation, which are not thought to be as true and genuine. In some ways, the quality of the information

provided by the body is described as genuine because it is not interfered with by cognition and emotion in the same way that the mind is considered to be.

And so there was that bit, so there was a shock factor of discovering your body had a story to tell that was different from what your head would say. (Patricia)

Patricia considered that the body has a story to tell that is not quite what an individual would be thinking. In this way the body is described as telling something true and genuine, and that this can be quite a shock when an individual is not consciously aware of what the body is telling. The implication is that the information provided by the body is truer than the information provided by the mind perhaps because of how the information is stored and accessed, in that the mind uses interpretation and meaning-making that the body is unable to. It would appear that what the participants' were describing was a change in focus of attention from the mind to the body rather than suspending cognition.

Depth

There was reference to the depth that Sensorimotor Psychotherapy reaches, in that it can allow detailed access to issues that have been out of conscious awareness for a very long time, or even forever.

And very often felt like there was really kind of quite deep accessing going on. (Stephen)

Stephen's narrative demonstrates that he experienced Sensorimotor Psychotherapy as being able to access deep into experiences, and that this was a 'felt' experience. This suggests that it was not only deep in terms of cognition and emotional experience, but also bodily experience.

For me I can describe it as looking within myself at a much deeper level. (Jane)

This quote from Jane conveys the message that Sensorimotor Psychotherapy allowed her to explore issues at a very deep level, perhaps where she could link current experience with past, historical experiences. This portrays that issues may be stored deep within a person, and that to reach such experiences, the therapy must be able to access this depth. A further implication is that depth in therapy is called for in order to access deep-seated issues.

Dilemmas of mind and body

Dilemmas between the mind and the body were prominent throughout the data, with two subthemes emerging: 'the interfering mind' and 'the telling body'. Participants often described the mind and body in very different ways, suggesting a dualism of mind and body as separate.

... but it does feel like your body sometimes has its own memory system that's not always available for ... or integrated into the cognitive bit you know because we go so fast and don't listen to it. (Sally)

Sally described a form of duality between the body and the mind, in terms of how the body and mind may have different memory systems that are not always integrated. Sally implied that the mind may play a role in reducing access to the body's memory system, because people do not usually pay enough attention ('listen') to the body, suggesting that we need to slow down in order to pay attention to the body and what it is telling us.

I used to think that's a load of codswallop, how is this going to help? And when I was in the session with him and I was feeling overwhelmed, my hand was doing that automatically. (Gary)

In reference to a session where Gary experienced distress when working on a particularly traumatic experience, he described how he automatically found his hands in the comforting position of being on his chest and stomach, which he had previously considered dubiously when it had been demonstrated during the training. Thus, the mind may lead us to believe that certain techniques and processes within this unique therapy are strange and conspicuous, but when distress is experienced the body can react in the very same way that was originally thought to be nonsense ('codswallop'). This demonstrates a duality of mind and body, and how the body can act in ways that the mind would not consciously consider. However, in making this dualistic split, participants were adopting a framework which is largely considered to be redundant by modern psychological theories, which view the mind and body as an integrated whole (e.g. van der Kolk, 2006).

The interfering mind

The conscious mind was described in two ways. Firstly, that it can get in the way of dealing with the problem.

It cuts out the thinking bit that wants to outwit you all. (Sally)

Sally considered that thoughts can distract an individual by 'outwitting' them, by outwitting the body. The use of the word 'outwit' suggests that there is a

level of competition between the mind and the body, where the mind usually wins. If the truth of an issue needs to be accessed through the body, then the mind's interference can be detrimental, and the body needs to be strengthened in order to overcome the powerful mind. Secondly, the mind can be integrated with the body and it is then much more useful. For example, Judith described how a body sensation or movement can become a conscious choice, which can then be thoughtfully considered rather than being automatic and unconscious.

So it comes from ... out of an awareness, an unconscious activity into being a conscious choiceful one. I can choose to go on doing that or I can think ... it would be different for me not to do that and I can choose to relax my arms. (Judith)

In this way, the mind and body can work together, but the body must first be understood before the mind can work in unison with it, especially because the mind so often exerts an interfering influence over the body. Once this is achieved, the mind can exert adaptive conscious control over the body, integrating the processes of the mind and body.

The telling body

Participants described the body as being independent of the mind, and that the body conveys important messages that should be attended to. Patricia considered it to be somewhat scary that the body can be giving a message when your conscious decision is not to do so.

And it's kind of scary to think your body's giving a message when you're trying not to. (Patricia)

In this way, the body is described as behaving differently to the mind, because it cannot be controlled in the same way that conscious thoughts and decisions can be. This implies that the body is separate from the mind, in that it can behave incongruently to what an individual is trying to do. Although the participants described thoughts as controllable, it is not clear how this would be possible, because evidence suggests that thoughts are very difficult to control (e.g. Clark, Ball, & Pape, 1991).

So it's like when I thought I'd dealt with a bit of it, my hand went back to the same position without me thinking and there ... it was still there. So there was more to do. (Christine)

Christine discussed an incident where her body (her hand) was informing her that she had not fully dealt with an issue, and that it behaved independently of her mind in doing so. However, due to her awareness of her hand giving her a

message, she was able to recognise that she needed to attend to the issue further. In this way, the body can apparently act independently of the mind, and initiate actions that alert to unresolved issues that had been considered to be resolved. This demonstrates how telling the body can be.

Elusiveness of words

Most of the participants found it difficult at times to describe their experiences in words, alluding to the elusiveness of words to describe the process of Sensorimotor Psychotherapy. Stephen illustrated that there are certain aspects of the experience of Sensorimotor Psychotherapy that are difficult to verbalise, that words alone are not enough.

Well it's not so much ... it's like you can put it into words but you realise that as you're doing so, that you're kind of missing something as well that's hard to convey as something. (Stephen)

This fits with the concept of Sensorimotor Psychotherapy as an embodied psychotherapy, in that it works at a bodily level as well as the emotional and cognitive levels, and that the bodily processes cannot be described adequately in words because they are a bodily experience.

But it's not ... these are just words, the experience in your body; actually experiencing being totally grounded and totally centred, breathing properly is very different from just saying the words. (Patricia)

Patricia described how experiencing bodily sensation is very different from simply using words to the same effect. In this example, Patricia is discussing how bodily experience is necessary in order to effect change, in that simply using verbal therapy techniques would miss a vital ingredient in achieving progress and change.

Change occurs through and within the body

Participants considered and discussed progress and change in Sensorimotor Psychotherapy as occurring through and within the body.

It's not just I've made cognitive changes, I actually feel the changes in my body. (Diane)

Thus, changes experienced as a result of Sensorimotor Psychotherapy are not purely cognitive changes, but also consist of felt changes in the body. It follows that by intervening at a detailed bodily level, changes will occur in a

bodily sense. Diane's quote also implies that bodily changes are a useful additional component to therapy.

And it was, it was a really extraordinary shift because what I'd noticed was that when I was sitting on the sofa, I would push myself right in the back of the sofa as if I was trying to get away from the chore. And then when I sat further forward with my feet flat on the floor, I had to prop myself up with cushions at the back, it felt so much better. I felt as if I was much more alive and engaged and I was in contact with my therapist. (Fiona)

Fiona described a specific situation where a change in her body posture and positioning transformed her engagement with her therapist. By changing her body posture and position to one where she was sat further forward and more upright, compared to being pushed back into the sofa, she was able to more fully engage in her therapy experience. This illustrates the wide-ranging impact of achieving change and progress by working through the body. (For further discussion of the themes see extended paper section 5.3)

2.5. Discussion

This study aimed to explore what it is like to use the body in therapy, specifically Sensorimotor Psychotherapy. Thematic analysis of 12 interview transcripts identified four main themes: 'accessing the truth through the body', 'dilemmas of mind and body', 'elusiveness of words', and 'change occurs through and within the body'. 'Accessing the truth through the body' refers to how participants felt that Sensorimotor Psychotherapy is able to access the true and genuine issue, and that it does so by working in great depth through the body. The three subthemes of 'access', 'truth', and 'depth' reflect this. 'Dilemmas of mind and body' were also prominent throughout the data, reflecting the participants' descriptions of dilemmas and conflicts between the mind and body, and a sense that if mind and body are fully integrated then progress can be made. The subtheme 'the interfering mind' was identified where participants described how the mind can get in the way of dealing with the real issue, but that conscious awareness of the body, through working directly with the body, can overcome this. The other subtheme of 'the telling body' reflected participants' discussions about how the body is key in the process of Sensorimotor Psychotherapy, and that it must be attended to without the mind getting in the way and distracting from the message that it is giving. The 'elusiveness of words' was a prominent feature, in that many participants noted the difficulty in expressing the bodily aspects of Sensorimotor Psychotherapy in words, and that attempting to do so misses part of the experience. In the theme 'change occurs through and within the body'

participants described how Sensorimotor Psychotherapy is an embodied therapy experience with change occurring through the body and also affecting the body. (For further discussion of the findings see extended paper section 6.2)

That the body can provide a deep access to core (true) issues is reflected in Sensorimotor Psychotherapy's position that the body holds the memory (Ogden, Minton, et al., 2006), and that this is not always available to the mind or conscious awareness. This theme also related to van der Kolk's (1994) seminal paper considering the evolving psychobiological understanding of trauma, whereby the 'body keeps the score'. Considering the literature on traumatised individuals experiencing bodily sensations as symptomatic of the re-experiencing their trauma (e.g. American Psychiatric Association, 1994), this suggests that Sensorimotor Psychotherapy, by working with the body, may be able to provide access to issues which contribute to understanding the trauma and its impact.

Considering the historical Cartesian view of mind-body dualism with the emphasis on the mind being the key to consciousness (e.g. Descartes, 1637/2006), compared to more contemporary views that assert that the mind, brain and body are inextricably linked (e.g. van der Kolk, 2006), the themes identified provide a contribution to this debate. Firstly, some of the themes appear to fit with Cartesian dualism. For example, in 'dilemmas of mind and body', participants' narratives portrayed a dualistic split between mind and body, suggesting that the mind and thoughts can actually hinder the adjustment to a traumatic experience by being more actively attended to than the body, and the body is considered to be the key to accessing traumatic experience. Also, the mind and body were discussed as being two separate entities that are not always fully integrated, and even having different memory systems, implying a duality. Secondly, some of the themes (i.e. 'truth', and 'the telling body') imply duality but contrary to Cartesian views, assert that the body is far more true and genuine, placing its importance above that of the mind. For example, in the subtheme 'the telling body', participants described how the body carries and conveys important information that should be attended to, rather than trying to work with trauma in a purely mind/thought-focused way which is not considered to be as successful. Thirdly, in the theme 'change occurs through and within the body' participants described experiencing an embodied process, in that the changes achieved happened through, and reflected in, their bodies, as well as their thoughts and emotions. This draws a parallel with contemporary literature on the links between mind and body, in that the mind and body are intertwined and mutually dependent (e.g. Damasio, 2006; van der Kolk, 1996). Finally, some of the data reflected the recognition that the mind and body working in unison is beneficial in

working with traumatic experiences (i.e. 'dilemmas of body and mind' and 'change occurs through and within the body'), which is an idea aligned with current theories of PTSD that explain the links between mind and body experience through contemporary neuroscience literature e.g. that the mind and body are inextricably linked, and that the 'body keeps the score' (van der Kolk, 1994, 1996).

The theme of 'accessing the truth through the body' links with Damasio's (2006) somatic marker theory, in that body sensations, which are considered to cue emotions, are necessary for rational thought. The concept that the true and genuine issue can only be accessed through the body supports Damasio's assertion that the body is vital for decision-making. This point is illustrated in quotes that demonstrate participants' views on the importance of the body in understanding issues, and that when the body is attended to, the mind is then able to integrate this information and make choices and decisions that fit with a person's whole experience. The data in the theme 'change occurs through and within the body' also lends experiential support to Damasio's theory, in that change that happens in working through the body in Sensorimotor Psychotherapy is an embodied change, not just a change at the emotional or cognitive level. Furthermore, the theme of the 'elusiveness of words' demonstrates that there are some aspects of Sensorimotor Psychotherapy that are difficult to portray using words alone, possibly because the bodily experience is just that, bodily, and the nuances of bodily sensation appear particularly difficult to describe.

In relation to PTSD, the data demonstrated that participants' believed that therapy needs to be able to identify, understand, and treat the effect of trauma on both the mind and the body, which Rothschild (2000) suggests that comprehensive trauma therapy needs to consider and consist of tools to achieve. According to the participants in this study, Sensorimotor Psychotherapy appears to be able to access, identify, understand, and treat the effect of trauma on the body in particular, which is then integrated with the mind. This is reflected in participants' assertions that Sensorimotor Psychotherapy allowed the information, memory, and wisdom stored in the body to emerge, even when an individual was not consciously aware of it (e.g. the shock factor of discovering that the body has an important story to tell that is different to what an individual may be consciously considering, from the 'the telling body' theme).

The idea that the mind and the brain (although necessary) are not sufficient for dealing with bodily sensations and associated difficulties with emotional arousal, a position asserted by van der Kolk (2006) in line with neurobiological research, was supported by participants' explanation of the

mind being unable to access issues and deal adequately with traumatic experience. This was described as being in contrast to the body, which was considered to be the ideal way to access the true and genuine problem, and the mind may actually get in the way of this process. However, this should be interpreted with caution considering that most of the participants in this study had experienced previous therapy and sought out training in Sensorimotor Psychotherapy due to their previous unsatisfying therapy experiences, thus potentially representing a subsection of the wider population. Furthermore, the assertions by the participants of the dualistic split between the mind and body, and that cognitive thoughts are more controllable than the body is, are not supported theoretically or experimentally (Clark et al., 1991; van der Kolk, 2006). Participants' explorations of the difficulty in attending to bodily sensations, a common problem described in traumatised individuals (van der Kolk, 2006), is demonstrated in their talk of the difficulty in truly appreciating, understanding, and working with their bodily sensations in Sensorimotor Psychotherapy. (For further discussion of the findings in the context of previous research and theory see extended paper section 6.3)

The themes identified suggest that the participants in this study felt that Sensorimotor Psychotherapy, by working primarily with and through the body, is able to deeply access the direct core of problematic and traumatic experiences. According to the participants in this study, some of the experience of Sensorimotor Psychotherapy was difficult to describe, and the elusiveness of words is perhaps due to the fact that there are not the right words to portray bodily experience when it has been accessed in such a pure and true bodily sense.

The clinical implications of the findings of this study are that the body may provide a useful resource for assessment of trauma and PTSD, and it may be useful to consider throughout the therapy process i.e. assessment and intervention. Thus, therapy approaches for the treatment of PTSD and more complex trauma could consider including some aspect of bodily awareness and change. This may allow further focus on those embodied symptoms of PTSD that are usually only considered in a top-down fashion, which is known to be difficult with traumatised individuals (van der Kolk, 2006). (For further discussion of the clinical implications see extended paper section 6.5)

There are some limitations to the present study. Firstly, the majority of the participants were therapists who had completed training in Sensorimotor Psychotherapy. Although therapists use their own experiences during their experiential sessions of Sensorimotor Psychotherapy during their training, it is likely that their levels of traumatic experience which they could draw on would be less numerous and/or intense than clients who seek the therapy,

which may have impacted on the findings. It could be that individuals who are not therapists would experience and describe Sensorimotor Psychotherapy in very different way. Secondly, a sampling bias may exist due to the recruitment strategy of advertising the study through the UK Association for Sensorimotor Psychotherapy, potentially only attracting those individuals who experienced the therapy in a positive way. There is a possibility that individuals who did not respond to the advert, or those who did not even receive it due to no longer being on the mailing list (having discontinued an interest in the approach) would have experienced the therapy very differently. It is of note that each participant in this study described Sensorimotor Psychotherapy as a very useful experience, which may indicate a sampling bias towards those individuals who found the approach helpful. Thirdly, the interviewer was not trained in Sensorimotor Psychotherapy, which may have influenced how participants felt about discussing a therapy that was so often described as escaping the usual vocabulary (i.e. 'elusiveness of words'). An interviewer who had experienced the therapy may have had some different responses and explanations from participants. Finally, the fact that most participants described the elusiveness of words to describe their experience of Sensorimotor Psychotherapy suggests that using a purely verbal interview potentially missed some of the experience being conveyed. (For further discussion of the strengths and limitations see extended paper section 6.4)

Future research should aim to further explore the experience of Sensorimotor Psychotherapy with individuals who are not therapists, in order to understand the experiences of those who have experienced the therapy but who do not necessarily draw on the theoretical background to understand and describe it. Future research should also look to discover the experiences of individuals who lost interest in practicing the therapy, or those clients who discontinued it due to finding it unhelpful, in order to examine whether their experiences identify with those found in this study. This would give a more comprehensive understanding about how acceptable and useful the therapy is considered to be by a wider, more inclusive, population. Different methods of exploring the experience of Sensorimotor Psychotherapy that incorporates the importance of the body within the research method should also be explored, and an interviewer who has trained in the therapy may be best placed to achieve this. (For further discussion on ideas for future research see extended paper section 6.6)

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EXTENDED PAPER

3. Extended Background

3.1. Section Introduction

In this section, the psychobiology of trauma and post-traumatic stress disorder (PTSD) is firstly presented, leading into theory and research about emotions and the brain, including LeDoux's (1998) emotional brain theory and Damasio's (2006) somatic marker theory. PTSD is then considered in terms of epidemiology, risk factors and comorbidity, diagnosis and clinical features, before discussion about theories of PTSD and the currently recommended psychological treatments for PTSD. The areas of complex trauma and dissociative identity disorder (DID) are then discussed. A detailed consideration of Sensorimotor Psychotherapy is then presented, before addressing other body-oriented therapies for trauma, namely somatic experiencing and somatic trauma therapy.

3.2. The psychobiology of trauma

In the course of evolution, the human brain is considered to have developed three interdependent subanalysers, each with different anatomical and neurochemical substrates: 1) the brainstem and hypothalamus, which are primarily associated with the regulation of internal homeostasis; 2) the limbic system, which maintains the balance between the internal world and external reality; and 3) the neocortex, which analyses and interacts with the external world (van der Kolk, 1996b). Trauma would be expected to have its most profound effects on neocortical functions, due to them being the most affected by environmental input, and to have the least influence on basic regulatory functions (i.e. the brainstem and hypothalamus; van der Kolk, 1996b). However, trauma seems to affect people on multiple levels of biological functioning (van der Kolk, 1996b).

Extreme stress is accompanied by the release of endogenous neurohormones (e.g. cortisol, epinephrine and norepinephrine, vasopressin, oxytocin, and endogenous opioids) which help an organism to mobilise the energy required to deal with the stress (e.g. increased glucose release and enhanced immune function; van der Kolk, 1994). In a well-functioning organism the hormonal responses produced by stress are rapid and pronounced, but chronic and persistent stress inhibits the effectiveness of the stress response (van der Kolk, 1994). Chronic stress can affect both acute and chronic adaptation, altering how an organism deals with its environment on a day-to-day basis and how it copes with subsequent acute stress, due to changes in the functioning of the hypothalamic-pituitary-adrenal (HPA)

axis (van der Kolk, 1994). Other biological abnormalities reported in people with PTSD are psychophysiological changes (e.g. nonhabituation to startle stimuli, extreme autonomic responses to stimuli reminiscent of the trauma), changes in noradrenergic, serotonergic, and endogenous opioid neurotransmitters, and changes in memory (e.g. amnesias and hypermnesias, sensorimotor rather than semantic memories; van der Kolk, 1994). Although trauma interferes with explicit memory, it is considered not inhibit implicit memory (i.e. conditioned emotional responses, skills, and habits) and bodily sensations related to experience (van der Kolk, 1994). This has been described as 'speechless terror' whereby the emotional impact of the traumatic event may interfere with the capacity to capture the experience in words (van der Kolk, 1994). Van der Kolk (1994) explains that the thalamus, amygdala, and hippocampus are all involved in the integration and interpretation of incoming sensory information, and suggests that hypermnesias for stressful events are accounted for by the high activation of the amygdala which enhances the long-term potentiation of declarative memory that is mediated by the hippocampus. Van der Kolk further suggests that excessive stimulation of the amygdala interferes with hippocampal functioning, inhibiting cognitive evaluation of experience and semantic representation, so that memories are then stored in sensorimotor modalities.

3.2.1. Critical evaluation

In a systematic review of 45 studies, conducted between 1993 and 2005, that examined the neurobiological underpinnings of PTSD discovered through neuroimaging techniques, Francati, Vermetten, and Bremner (2007) found several trends. The most recurrent findings in people with PTSD were decreased medial prefrontal cortex and increased amygdalar activation (Francati et al., 2007). Inconsistent findings include differences in the hippocampus and parahippocampal gyrus, and this inconsistency could be due to the wide variation of parameters amongst studies and of the complex nature of PTSD itself (Francati et al., 2007). The hyperactivation of the amygdala is thought to underlie the failure of extinction to fearful stimuli, a common problem in PTSD (Francati et al., 2007). The failure of cortical structures to modulate the activity of the amygdala and related subcortical structures is thought to be related to the exaggerated emotional responses seen in PTSD (Liberzon & Martis, 2006). Francati et al. concluded that it is difficult to summarise functional neuroimaging studies in PTSD due to the variation among findings, which could be due to the different research paradigms used. Methodologies included measuring resting brain activity, presenting a range of stimuli (e.g. auditory, visual, trauma

script, personal script), and using active tasks performed by participants (e.g. active recall, Stroop task, auditory performance task; Francati et al., 2007). Another relevant review has noted that there is no consensus regarding the nature of HPA axis alteration in PTSD, and that the substantial neurobiological literature base regarding PTSD is yet to translate into rationally derived pharmacological treatments, indicating the complex processes involved (Mathew, Price, & Charney, 2008). Thus, whilst it is widely acknowledged that PTSD has a neurobiological basis, further research is required in order to clarify the specific processes that contribute to the development and maintenance of PTSD.

Neurobiological research in psychology has attracted fundamental critiques regarding its inadequate accounts of data regarding psychological and biological relationships. For example, Miller (2010) states that there is often a lack of in-depth examination of causal mechanisms in research, which often leads to a state of naive biological reductionism. Thus, although the amygdala and hippocampus appear to be centrally involved in fear and memory respectively, neither can truly be considered to underlie the complex psychological phenomena observed in PTSD (Miller, 2010).

3.3. Emotions and the brain

There is a body of theory and research exploring the links between emotions and the brain, which underlies many of the assumptions in Sensorimotor Psychotherapy (Ogden, Minton, et al., 2006). This section includes a consideration of some of this work, namely LeDoux's (1998) theory about the 'emotional brain', and Damasio's (2006) somatic marker theory. The supporting empirical evidence and clinical implications are then discussed.

3.3.1. The emotional brain

LeDoux (1998) considers emotions to be biological functions of the nervous system, and points out that 'emotion' is only a label for the convenience of talking about aspects of the brain and mind. The brain systems that generate emotional behaviours are highly conserved through many levels of evolutionary history (LeDoux, 1998). All animals have to satisfy certain conditions to survive in the world and meet their biological imperative to pass on their genes to their offspring, and the neural systems of particular emotional and behavioural systems (e.g. the systems underlying fearful, sexual or feeding behaviours) are similar across species (LeDoux, 1998). When these systems function in an animal that also has the capacity of conscious awareness (such as

humans), then conscious emotional feelings occur e.g. the evolutionarily old system that produces defensive behaviours in the presence of danger results in the emotion of being afraid in a conscious brain (LeDoux, 1998). In general, however, emotional responses are generated unconsciously (LeDoux, 1998). It is suggested that we have little direct control over our emotions and that emotions can flood consciousness because, evolutionarily, the connections from the emotional systems to the cognitive systems are stronger than the connections from the cognitive systems to the emotional systems (LeDoux, 1998). According to LeDoux, emotion and cognition are best thought of as separate but interacting mental functions mediated by separate but interacting brain systems. Emotional feelings result when we become consciously aware that an emotion system of the brain is active, and emotional feelings have evolved as brain states and bodily responses, rather than as conscious feelings: “The brain states and bodily responses are the fundamental facts of an emotion, and the conscious feelings are the frills that have added icing to the emotional cake” (LeDoux, 1998, p.302).

3.3.1.1. Experimental evidence

In a positron emission tomography (PET) imaging study of 41 individuals who were asked to recall and re-experience personal life episodes marked by different emotions (e.g. sadness, happiness, anger, and fear), emotions were found to engage brain structures that are related to the representation and/or regulation of homeostasis (Damasio et al., 2000). The activated brain structures (insular cortex, secondary somatosensory cortex, cingulate cortex, brainstem, and hypothalamus) are all recipients of signals from internal bodily sensations, viscera, and the musculoskeletal frame (Damasio et al., 2000). These results demonstrate the close anatomical and physiological connection between emotion and homeostasis (Damasio et al., 2000). The neural patterns in these brain structures constitute multidimensional maps of an organism's internal state, and may form the basis for feelings, an important aspect of mental states (Damasio et al., 2000). The maps based in the brainstem and hypothalamus are not directly accessible to consciousness, whereas the more refined maps in the insula and cingulate, which receive regulatory signals from the brainstem and hypothalamus as well as direct sensory signals from the organism, are more directly accessible to consciousness (Damasio et al., 2000). This study lends some experimental support to the emotional brain theory, as it appears that emotions are strongly tied to survival mechanisms. This has implications for understanding the emotional response seen in traumatised individuals, because it suggests that

there is an adaptive function to emotions but that this may not always be accessible to conscious awareness.

3.3.2. The somatic marker theory

Emotions and feelings, central to biological regulation, provide a bridge between rational and nonrational processes, between cortical and subcortical structures (Damasio, 2006). Emotions are considered to have two features: the 'feelings' which are internal sensations, inwardly directed and private, and the 'emotions' which are the visible feature, outwardly directed and public (Damasio, 1999). Thus, internal emotional states are experienced as subjective bodily sensations and give signals to those around us about how we feel by being reflected in our outward presentation (Damasio, 1999). Damasio (2006) differentiates between primary and secondary emotions. Primary emotions are innate and based in the limbic system, particularly the amygdala and the anterior cingulate (Damasio, 2006). Secondary emotions are analysed in thought processes and activate frontal cortices which act via the amygdala, thus secondary emotions utilise the same neural pathways of primary emotions (Damasio, 2006).

3.3.2.1. The decision-making process

In line with these ideas about emotions, the somatic marker hypothesis posits that decision-making is a process that is influenced by marker signals that arise in bioregulatory processes, including those that express themselves in emotions and feelings (Bechara, Damasio, & Damasio, 2000). This influence can occur at multiple levels of operation, both consciously and non-consciously (Bechara et al., 2000). Essentially, a somatic marker is a bodily sensation that 'marks' an image, and images refer to mental patterns in any of the sensory modalities (Damasio, 1999, 2006). Somatic markers are thought to arise in the process of decision-making before one reasons towards the solution of the problem e.g. an unpleasant gut feeling is experienced due to a bad outcome being associated with a given response option coming to mind, however fleetingly (Damasio, 2006). This somatic marker forces attention to the negative outcome associated with a given action, functioning as an automated alarm signal, warning of danger (Damasio, 2006). Thus, a person is immediately able to reject the negative course of action, protecting against future losses, which allows a person to rationally choose from fewer alternatives (Damasio, 2006). Damasio (2006) notes that somatic markers are not always sufficient for decision-making because a subsequent process of reasoning will occur in many instances, but that somatic markers increase the accuracy and efficiency of the decision-making process.

Thus, the absence of somatic markers has the effect of reducing the accuracy and efficiency of the decision-making process (Damasio, 2006). Damasio suggests that somatic markers are a special instance of feelings which, through learning, have been connected with predicted future outcomes of certain scenarios, so that negative somatic markers serve as an alarm bell and positive somatic markers as an incentive (Damasio, 2006). There is a clear relationship here between apparently cognitive processes and processes usually called 'emotional' (Damasio, 2006).

3.3.2.2. The neurobiology of somatic markers

Somatic markers are thought to develop in our brains during education and socialisation by connecting specific classes of stimuli with specific classes of somatic state, and the development of adaptive somatic markers requires that both brain and culture be normal (Damasio, 2006). The neural processes required to generate somatic states are inherently biased to process signals concerning personal and social behaviour, and consist of innate regulatory dispositions aimed at ensuring survival i.e. reduction of unpleasant body states and the attainment of homeostatic ones (Damasio, 2006). Biological drives, body states, and emotions are a foundation for decision-making, and the lower levels in the neural network that are involved in decision-making are the same as those that regulate the processing of emotions and feelings, along with the homeostatic functions of the body that enable an organism to survive (Damasio, 2006). These lower levels of the neural network have direct relationships with the body itself, placing the body within the operational chain of all decision-making and reasoning (Damasio, 2006).

The evidence for Damasio's somatic marker hypothesis comes from a series of experiments conducted with individuals with frontal lobe damage, and the inherent limitations in using this approach (e.g. unknown premorbid functioning, different clinical presentation to traumatised individuals, indirect methodologies used to examine the impact of brain damage on emotional and cognitive functioning) means that this theory and its clinical implications must be interpreted with caution.

3.3.2.3. Clinical implications

Overall, Damasio views that the body provides a ground reference for the mind, that the body contributes more than life support and modulatory effects to the brain, and that the body contributes content to the mind. Thus, the mind is thought to arise out of an organism, rather

than out of a disembodied brain (Damasio, 2006). The implications of Damasio's somatic marker hypothesis for understanding trauma and the body are that emotions and bodily sensations are inextricably linked, and that when they act unconsciously and for the purposes of survival, due to previous learning experiences linking certain bodily sensations and emotions with certain actions, they can produce nonconscious decision-making that is not necessarily adaptive. Also, trauma treatment techniques that focus on increasing emotional arousal could escalate subcortically mediated autonomic activation, where traumatic symptoms are thought to arise from, and lead to hyper- or hypo-arousal (Ogden, Pain, & Fisher, 2006). Sensorimotor Psychotherapy aims to facilitate integrative capacity by separately attending to each level of processing, and the initial focus on bodily sensations without accessing the full range of the traumatic experience facilitates integrated brain functioning without escalating traumatic re-experiencing (Ogden, Pain, et al., 2006).

3.4. Post-traumatic stress disorder

In this sub-section, the epidemiology of post-traumatic stress disorder (PTSD) is discussed, followed by a consideration of identified risk factors for the development of PTSD and associated psychiatric comorbidity. The diagnostic criteria for PTSD and the clinical features are presented and evaluated. Theories of PTSD, including the emotional processing theory, the dual representation theory, and the cognitive model are then discussed. The section on PTSD concludes by exploring the current evidence-based psychological treatments for PTSD, namely cognitive behaviour therapy (CBT) and eye movement desensitisation and reprocessing (EMDR).

3.4.1. Epidemiology

A large representative European study of 21,425 participants found a 1.1% 12-month prevalence of PTSD (Darvez-Bornos et al., 2008). A Swedish (random and representative) population study of 1824 participants found a point prevalence rate for PTSD of 5.6%, with 7.4% of women and 3.6% of men reporting PTSD (Frans, Rimmö, Åberg, & Fredrikson, 2005). A review of published estimates of incidence and prevalence of PTSD from surveys conducted in different countries (USA, Canada, Germany, the Netherlands, Switzerland, Lebanon, and Australia) found the lifetime incidence of PTSD ranged from 1.3% in Germany to 12.2% in the USA, with the 12-month prevalence rate varying between 0% in Switzerland and 3.5% in the USA (Breslau, 2009). Breslau (2009) also found that women are more likely to develop PTSD following exposure to traumatic events, although the

explanation for this is uncertain. Caution should be exercised when interpreting these results because of inherent difficulties due to some of the data being based on recall, and the wide variety of research methodologies adopted and populations studied. It is also of note that there is a lack of epidemiological surveys of the prevalence of PTSD within the UK population.

3.4.2. Risk factors and comorbidity

The greatest risk factors for the development of PTSD following a traumatic event tend to be the characteristics of the trauma, peritraumatic response, and post-trauma social support (Keane, Marshall, & Taft, 2006). In contrast, pre-trauma factors have a weaker association with PTSD (Klein & Alexander, 2006). A large representative European study examined risk factors for PTSD and found that female gender was a risk factor for PTSD, and that certain potentially traumatic events were significantly associated with PTSD: being raped, being beaten up by a spouse or partner, experiencing an undisclosed private event, having a child with a serious illness, being beaten up by a caregiver, or being stalked (Darvez-Bornos et al., 2008). Furthermore, about 80% of individuals with PTSD have a comorbid mental health problem, particularly depression, anxiety disorders, and substance misuse (Klein & Alexander, 2006). It has been suggested that a focus purely on PTSD symptoms, relegating other posttraumatic sequelae and comorbidities, may interfere with a comprehensive and effective treatment approach (van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005).

3.4.2.1. Critical evaluation

The epidemiological studies reported all used measures for PTSD that were based on the criteria cited in the DSM-IV (American Psychiatric Association, 1994), which have been subject to much critical debate (this is discussed further in section 4.4.3.1). There are no published studies on the prevalence of PTSD in the general UK population, and it is clear that the published estimates from other countries vary widely, with rates in studies from the USA being higher than other countries. Some of the variance is likely to be due to differences in research method and design. Thus, the incidence and prevalence rates must be interpreted with caution, and although the finding that women have a greater chance of developing PTSD following a traumatic event appears robust, the explanations for this finding are unclear.

3.4.3. Diagnosis and clinical features

Symptoms for diagnosis according to a psychiatric diagnostic system (the Diagnostic and Statistical Manual of Mental Disorders 4th edition [DSM-IV]) fall into three categories: re-experiencing (e.g. intrusive thoughts, flashbacks), avoidance and emotional numbing (e.g. avoidance of places associated with the trauma), and increased arousal (e.g. sleep disruption, hypervigilance; American Psychiatric Association, 1994). The symptoms must also be impacting on the person's social, occupational, or other important areas of functioning (American Psychiatric Association, 1994).

PTSD is also characterised by changes in memory functioning. Firstly, there are distressing and vivid intrusive memories, alongside amnesia for the details of the event (American Psychiatric Association, 1994). Secondly, PTSD is characterised by involuntarily triggered reliving experiences or 'flashbacks', which, compared to normal autobiographical memory, are dominated by sensory detail such as vivid visual images and sounds (Brewin & Holmes, 2003). The 'reliving' of these memories is reflected in the distorted sense of time experienced, whereby the traumatic events seem to be happening in the present rather than belonging to the past (Brewin & Holmes, 2003). Dissociative problems, a common experience in traumatised individuals, have been defined as alterations in conscious awareness that arise from defensive changes in otherwise integrated thoughts, feelings, memories, and behaviour (Briere & Spinazzola, 2005). Dissociation includes emotional numbing, derealisation, depersonalisation, 'out-of-body' experiences, and dissociative identity disorder (DID; Brewin & Holmes, 2003; Briere & Spinazzola, 2005).

3.4.3.1. Critical evaluation

The diagnostic criteria for PTSD have been described as ambiguous (Breslau, 2009). PTSD is one of very few psychiatric diagnoses with embedded assumptions regarding its aetiology (Bodkin, Pope, Detke, & Hudson, 2007). DSM-IV requires a significant traumatic event as the first diagnostic criterion, criterion A (American Psychiatric Association, 1994). There have been calls to amend the criteria for PTSD in the upcoming 5th edition of the DSM, particularly to remove criterion A: that a person has experienced or witnessed an event that involved actual or threatened death or serious injury, and that the person's response involved intense fear, helplessness, or horror (Brewin, Lanius, Novac, Schnyder, & Galea, 2009). A study of 103 participants who were recruited to a randomised controlled trial for major depressive disorder found that many of the participants met the DSM-IV criteria for PTSD

(omitting criterion A), suggesting that the symptom cluster traditionally associated with PTSD may be nonspecific, and that it may frequently occur in the absence of an identifiable trauma (Bodkin et al., 2007). Thus, in individuals with PTSD, it may be hazardous to assume that the symptoms were caused by a traumatic event (Bodkin et al., 2007). Brewin et al. (2009) propose a refocus of the diagnostic criteria around the core phenomenon of re-experiencing in the present, in the form of intrusive multisensory images, in order to focus on the symptoms that are most salient to individuals with PTSD, that are the main focus of psychological treatment, and that make PTSD distinct from other anxiety disorders. There is also widespread acknowledgement that the PTSD diagnostic framework is inherently limiting, particularly for survivors of early childhood sexual and physical abuse, who display a wide range of relational and interpersonal problems (Foa, Keane, & Friedman, 2000).

3.4.4. Theories of PTSD

In this subsection, early theories of PTSD are firstly described, along with their advantages and disadvantages. Three contemporary theories of PTSD are then discussed, namely the emotional processing theory, the dual representation theory, and the cognitive model. The three considered contemporary theories have a high degree of overlap, largely varying in their accounts of how trauma impacts on memory, the processes of how memories change, and how such changes are related to recovery (Brewin & Holmes, 2003). All three theories propose that re-experiencing the trauma allows for elaboration and contextualisation of the trauma memory, which is considered beneficial for recovery (Brewin & Holmes, 2003).

3.4.4.1. Early theories

Early theories of PTSD can be divided into three main types. Firstly, social-cognitive theories focused on how trauma breaches existing mental structures and innate mechanisms for reconciling incompatible information with previous beliefs e.g. Horowitz' stress response theory (1986) and Janoff-Bulman's (1992) theory of shattered assumptions. Although social-cognitive theories provided good accounts of the range of emotions and beliefs experienced by traumatised individuals and of the adjustment process, they did not differentiate clearly between PTSD and other types of reactions to traumatic events, nor did they account for responses to trauma reminders (Brewin & Holmes, 2003). Secondly, conditioning theories explained PTSD by considering learned associations and avoidance behaviour (e.g. Keane, Zimering, & Caddell, 1985), providing a good account of how trauma cues elicit

fear and of the critical role played by avoidance in the maintenance of PTSD (Brewin & Holmes, 2003). However, conditioning theories were limited by the absence of cognitive elements to explain beliefs and perceived threat in PTSD (Brewin & Holmes, 2003). Thirdly, information-processing theories explained PTSD through the encoding, storage, and recall of fear-inducing events and their associated stimuli and responses e.g. Foa, Steketee, and Rothbaum (1989). Information-processing theories offered clear descriptions of the cognitive processes involved in the representation of a traumatic event and of the effects on attention, but were less able to account for emotions other than fear (Brewin & Holmes, 2003).

3.4.4.2. The emotional processing theory

The emotional processing theory elaborates the relationship between PTSD and knowledge available prior to, during, and after the trauma, proposing that individuals with more rigid pre-trauma views would be more vulnerable to PTSD (Rauch & Foa, 2006). These rigid views could be positive views about the self as competent and the world as safe which would be contradicted by a traumatic event, or negative views about the self as incompetent and the world as unsafe which would be confirmed by the traumatic event (Rauch & Foa, 2006). The theory also posits that negative appraisals of responses and behaviours could exacerbate perceptions of incompetence (Rauch & Foa, 2006). The emotional processing theory also suggests that exposure therapy for PTSD has a number of effects, ranging from automatic ones such as a reduction in anxiety and changes in memory structures, to more strategic ones such as positive reappraisals of actions and events (Rauch & Foa, 2006). Emotional processing theory has explanatory power and is comprehensive, and is associated with an effective treatment approach (i.e. exposure therapy).

3.4.4.3. The dual representation theory

The dual representation theory explains PTSD by referring to two separate memory systems that operate in parallel; verbally accessible memory (VAM) and situationally accessible memory (SAM; Brewin, Dalgleish, & Joseph, 1996). The VAM system refers to trauma memories that are oral or written narratives that are integrated with other autobiographical memories and can be deliberately retrieved as and when required, and are thus represented within a complete personal context comprising past, present, and future (Brewin et al., 1996). Although memories within the VAM system are available for communicating with others, the information is limited because they only record what has been consciously attended to, which is restricted

during a traumatic event due to attention being diverted to the source of threat and high levels of arousal (Brewin et al., 1996; Brewin & Holmes, 2003). The SAM system is reflected in flashbacks, in that they are triggered involuntarily by situational reminders of the trauma (Brewin et al., 1996). The information in the SAM system is obtained from the more extensive, lower level perceptual processing of the traumatic scene (e.g. sounds) that did not receive adequate conscious attention to be recorded in the VAM system (Brewin et al., 1996). The SAM system is also thought to store information about bodily responses to the trauma, resulting in flashbacks being more detailed and emotion-laden than ordinary memories (Brewin et al., 1996). Memories in the SAM system are difficult to communicate to others because they do not use a verbal code and do not get updated by other autobiographical knowledge (Brewin et al., 1996). This theory implies that PTSD involves two separate pathological processes, one incorporating negative beliefs and associated emotions and the other incorporating flashbacks, and that recovery is dependent on the outcome of both processes (Brewin & Holmes, 2003). However, the dual representation theory is not linked to a therapeutic procedure, and does not adequately explain emotional numbing or dissociative experiences (Brewin & Holmes, 2003).

3.4.4.4. The cognitive model

Ehlers and Clark's (2000) cognitive model proposes that PTSD arises when traumatic information is processed in a way that produces a sense of current threat, due to negative appraisals of the trauma and its sequelae and the nature of the trauma memory itself. The model identifies a wide range of negative appraisals, some of which are focused on the traumatic event and an overgeneralisation of danger, as well as negative appraisals of one's own actions, sequelae, other people's reactions, and life prospects (Ehlers & Clark, 2000). Thought processes during the trauma and prior beliefs and experiences are thought to affect the likelihood of negative appraisals (Ehlers & Clark, 2000). Difficulties in intentional recall, re-experiencing in the present, and the easy triggering by physically similar cues is explained by the poor elaboration of the memory for the traumatic event, incomplete temporal and contextual information, and inadequate integration with autobiographical knowledge (Ehlers & Clark, 2000). Maladaptive behavioural strategies (e.g. avoidance and safety-seeking behaviours) and certain cognitive processing styles (e.g. selective attention to threat cues, rumination) play a role in the maintenance of PTSD (Ehlers & Clark, 2000). This model provides a comprehensive account of the

maintenance and treatment of PTSD, and is linked to an evidence based treatment (i.e. CBT; Brewin & Holmes, 2003).

3.4.5. Psychological treatment

Traditional therapies that have been shown to be effective in treating reactions to trauma (largely PTSD), such as exposure therapy and CBT (Rothbaum, Meadows, Resick, & Foy, 2000), have focused largely on 'top-down' approaches. Top-down approaches involve changing an individual's thought processes alongside therapeutic re-experiencing of the event. Ogden, Pain, et al. (2006) state that although top-down therapy is effective and necessary for treating trauma, 'bottom-up' approaches that directly address the effects of traumatic experience on the body are equally necessary. CBT and EMDR are discussed below.

3.4.5.1. Cognitive behavior therapy (CBT)

The strongest evidence base in the psychological treatment of PTSD exists for CBT (Creamer & Carty, 2006). CBT for PTSD includes stabilisation and engagement, psychoeducation, anxiety management, prolonged exposure, cognitive restructuring, and relapse prevention and maintenance (Creamer & Carty, 2006). Exposure to traumatic memories (allowing habituation to occur) is the most empirically supported component of all successful PTSD treatments, but must be practiced functionally, ensuring access to the affective component of the memory (Creamer & Carty, 2006). However, it is noted that exposure can involve high levels of emotion that need to be managed carefully (Creamer & Carty, 2006).

3.4.5.2. Eye movement desensitisation and reprocessing (EMDR)

One psychological treatment for PTSD that involves some use of the body is EMDR. EMDR is an integrative treatment which involves an individual holding in mind a traumatic memory, along with an associated negative cognition and bodily sensations associated with the memory, while tracking the clinician's moving finger or similar (Chemtob, Tolin, van der Kolk, & Pitman, 2000). This is repeated until distressing aspects of the traumatic memory are reduced, and more adaptive cognitions emerge regarding the trauma (Chemtob et al., 2000). Although EMDR involves the body, it does so in a fairly fixed manner rather than working idiosyncratically with different parts of the body, and perhaps takes a middle ground between top-down and bottom-up approaches.

3.4.5.3. Evidence base

In a Cochrane review of 33 randomised controlled trials of psychological interventions for PTSD, Bisson and Andrew (2007) found evidence for the efficacy of trauma-focused CBT, EMDR, stress management, and group trauma-focused CBT, and concluded that individual trauma-focused CBT and EMDR are superior to stress management at 2 to 5 month follow-up. However, Bisson and Andrew call for caution when interpreting the results of the review due to the considerable and unexplained heterogeneity observed in the comparisons and the potential impact of publication bias. Smaller studies may report larger differences between treatment and control groups, and there was a notable absence of studies demonstrating no difference between groups or a difference in favour of control groups (Bisson & Andrew, 2007). Thus, it is possible that the difference between groups is actually smaller than the findings of the review suggested. CBT and EMDR are also the only psychological treatments currently recommended within NICE guidelines (National Institute for Clinical Excellence, 2005).

3.4.5.4. Critical evaluation

Traditional therapeutic approaches to treating PTSD have tended to address the verbally accessible components of trauma, emphasising the role of narrative and meaning-making (Brewin & Holmes, 2003; Herman, 1992). However, it is now widely recognised that in vitro and/or imaginal exposure is usually a necessary ingredient in successful trauma treatment (Foa & Rothbaum, 1998). However, exposure to past trauma in any model of therapy can exacerbate rather than resolve symptoms (Ogden, Pain, et al., 2006). As a narrative or trauma memory is retold, the somatosensory components are simultaneously activated, often leading to a re-experiencing of somatoform symptoms such as autonomic dysregulation, dissociative defenses, and involuntary movements (Ogden, Pain, et al., 2006). This can lead to a repetitive mind-body triggering cycle, thwarting desensitisation programmes and prolonging the trauma-related symptoms (Rothschild, 2000; van der Kolk, 1996a).

3.5. Complex trauma

McFarlane and de Girolamo (1996) posit that traumatic stressors can be divided into two different types. Firstly, there are time-limited events that such as an aircraft accident or a rape, which are characterised by the unpreparedness of the victim and the high intensity (McFarlane & de Girolamo, 1996). Secondly, there are stressors characterised by long-lasting exposure to threat which can evoke uncertainty and

helplessness, such as repeated intrafamilial abuse affecting attachment bonds and disrupting a basic inner sense of security (McFarlane & de Girolamo, 1996). Briere and Spinazzola (2005) further develop this idea, suggesting that reactions to stressors reside on a complexity continuum. Responses to adult-onset, single-incident, traumatic events (e.g. a road traffic accident) occurring in those with adequate childhood development and without comorbid psychological disorders form one end of the continuum (Briere & Spinazzola, 2005). Responses to early onset, multiple, and extended traumatic events, which are often of an interpersonal nature, form the other end of the continuum (Briere & Spinazzola, 2005). This latter end of the spectrum has been considered to lead to complex trauma, which has been defined by Curtois (2004) as:

“a type of trauma that occurs repeatedly and cumulatively, usually over a period of time and within specific relationships and contexts”

Complex trauma encompasses phenomena beyond that covered by the psychiatric diagnosis of PTSD, which has been viewed as limited when it comes to understanding the responses of those who have experienced extreme, repeated, or prolonged violence at the hands of others (Ehrenreich, 2003). For example, studies of women who are exposed to prolonged interpersonal violence, and children who are physically and sexually abused, consistently report a range of psychological sequelae that are not captured in PTSD diagnostic criteria (van der Kolk et al., 2005). These sequelae, which include problems with affect dysregulation, aggression against self and others, dissociative symptoms, somatisation, character pathology, and interpersonal functioning, tend to be highly interrelated (Ford, Curtois, Steele, van der Hart, & Nijenhuis, 2005; van der Kolk et al., 2005), and have been referred to as ‘disorders of extreme stress not otherwise specified’ (DESNOS; Herman, 1992). Van der Kolk et al. (2005) suggest that the phenomenological differences between DESNOS and PTSD have important treatment implications. Whereas PTSD treatment focuses on the impact of specific past events and the processing of specific traumatic memories, the treatment of DESNOS also incorporates a focus on emotion regulation, dissociation, and interpersonal problems (Ford et al., 2005; van der Kolk et al., 2005).

3.6. Dissociative Identity Disorder (DID)

The capacity to dissociate allows individuals, such as those who have been severely traumatised as children, to develop domains of

competence that can make them quite successful in some areas of life, while dissociated aspects of the self contain the memories related to the trauma (van der Kolk, 1996a). Dissociation can be an effective way to function and cope while the trauma is going on, but it often interferes with everyday functioning if it continues to be utilised after the acute trauma has passed (van der Kolk, 1996a). In extreme cases, this can lead to DID (American Psychiatric Association, 1994). Sensorimotor Psychotherapy is used to work with individuals with DID, thus the model used to understand it within Sensorimotor Psychotherapy is discussed here (Ogden, Minton, et al., 2006).

3.6.1. The structural dissociation of the personality

The coexistence of re-experiencing traumatising events and avoidance of reminders of trauma are hallmarks of PTSD (American Psychiatric Association, 1994), and this biphasic pattern has been conceptualised as a manifestation of a trauma-related structural dissociation or division of the personality, a recent conceptualisation of DID (van der Hart, Nijenhuis, & Steele, 2005). Traumatization is thought to involve a loss of pre-traumatic personality structure in adults, and interfere with the development of coherent personality structure in children (van der Hart et al., 2005). Activities of normal life (e.g. work, study, play, energy management, attachment, sociability, reproduction, and care-taking) are generally incompatible with activities of immediate defense, but there needs to be an integration between defense and other action systems (i.e. normal life) to create a cohesive personality and a continuous sense of self (van der Hart et al., 2005). Action systems can refer to emotional operating systems and functional systems, and control a range of functions, with some being more complex than others (Nijenhuis, van der Hart, & Steele, 2010). Action systems involve expressive actions and are functional in that they activate various types of affective feelings which help us identify events that are either biologically harmful or useful, and generate adaptive responses (Nijenhuis et al., 2010). The evolutionarily derived defensive system that is evoked by severe threat is associated with re-experiencing trauma, and is a complex action system that includes fight, flight, and freeze responses (Nijenhuis et al., 2010). In contrast, detachment from trauma is associated with several action systems such as those that control daily life functions and those that are involved in the survival of the species (Nijenhuis et al., 2010). The capacity to integrate these systems is strongly dependent upon 'good enough' parenting and secure attachment (Schore, 2003). Van der Hart et al. (2005) hypothesise that the integration between defensive and daily life action systems fails most readily in the context of extreme stress, and

manifests in the alternations between functioning in daily life with avoidance and numbing (daily life action systems) and re-experiencing (defense action systems). Van der Hart et al. propose that traumatisation involves a degree of dissociative division of the personality along the lines of innate action systems of daily life and defense, referred to as the 'structural dissociation of the personality'. This dissociation of the personality is thought to develop when individuals are exposed to potentially traumatising events, along with their integrative capacity being insufficient to fully integrate these experiences within a relatively coherent personality (van der Hart et al., 2005). Over time, if action systems are not coordinated they may develop into separate and habituated ways of perceiving and functioning i.e. dissociative parts of the personality (van der Hart et al., 2005).

The structural dissociation of the personality essentially leaves an individual with the 'apparently normal' personality (ANP) and the 'emotional' personality (EP), which are detached and are each associated with a different sense of self (Nijenhuis et al., 2010). The ANP refers to a traumatised individual's functioning which is largely mediated by daily life action systems, whereas the EP is when intense emotions become dominant during the re-experiencing of trauma, which is largely mediated by defense action systems (van der Hart et al., 2005). The EP involves traumatic memories, and ranges in forms from re-experiencing unintegrated aspects of trauma in cases of PTSD, to traumatised dissociative parts of the personality in DID (Nijenhuis et al., 2010). These traumatic memories in the EP are different from processed narratives in trauma, in that they are often experienced as though the once overwhelming event were happening here and now, and are involuntary experiences consisting of visual images, sensations, and motor actions (Nijenhuis et al., 2010). They may also include misinterpretations from the time of the event and exclude parts of the experience (Nijenhuis et al., 2010). Furthermore, when traumatic memories from the EP are activated, individuals tend to lose access to a range of memories that are readily available to the ANP (Nijenhuis et al., 2010). The EP also intrudes on the ANP in traumatised individuals, and the ANP may ultimately become deactivated, resulting in the ANP's amnesia for the EP's intrusion (Nijenhuis et al., 2010).

3.6.1.1. Levels of structural dissociation

There are proposed distinctions between three levels of structural dissociation. Primary structural dissociation is where the ANP and EP alternate or act in parallel, secondary structural dissociation involves

the dissociation extending to additional dividedness among two or more defensive (EP) subsystems, and tertiary structural dissociation involves the additional division of the ANP and elaboration of the EP which characterizes DID (van der Hart et al., 2005). It is conceptualized that those with complex PTSD often have several EPs in the form of attachment cry (the sad, bereft part), avoidance of social rejection (the socially submissive apparently 'happy' part), and physical and relational defense (angry, fearful, submissive parts), alongside a single complex ANP (van der Hart et al., 2005). Tertiary structural dissociation (i.e. DID) occurs when the integrative capacity of a person is too low to develop or maintain a single ANP, thus there could be a dissociative part involved in reproduction (sexual), a part that is a caregiver, and a part that goes to work (exploration; van der Hart et al., 2005). Although the dissociative parts in DID have a stronger sense of separateness, they are conceptually similar to the parts found in less complex trauma disorders that present as symptom complexes (van der Hart et al., 2005). Furthermore, tertiary structural dissociation emerges when inescapable aspects of daily life become associated with past trauma rather than occurring during the trauma (Nijenhuis et al., 2010). Thus, trauma-related dissociation is considered to involve the existence of two or more divided, but not completely unrelated, parts of the personality, each with its own sense of self, based on action systems, and having dynamic relationships with other parts (van der Hart et al., 2005). In a simple trauma disorder the EP is not active in daily life and is limited to traumatic re-experiencing, alongside a multifaceted ANP, whereas the EP may be further elaborated and autonomous with a more varied ANP that is restricted to certain daily life systems in more complex trauma disorders (van der Hart et al., 2005). Furthermore, negative dissociative symptoms of PTSD (losses of function such as amnesia for the event) generally relate to the ANP, and the positive symptoms (such as intrusion phenomena) relate to the EP (van der Hart et al., 2005).

3.6.1.2. Evidence base

Different patterns of neural activity have been found between ANP and EP activation in participants with DID, specifically that the EP provoked more activity in the insula and less activity in the medial prefrontal cortex (Reinders, Nijenhuis, Paans, Korf, Willemsen, et al., 2003). These differences between the ANP and EP were activated by participants listening to neutral autobiographical memories (ANP) and trauma memory scripts (EP) that the ANP did not regard as personal memory (Reinders et al., 2003). These findings support the concept of

a different sense of autobiographical self for ANP and EP within one brain ('one brain, two selves'; Reinders et al., 2003).

3.6.1.3. Clinical implications

Adaptive regulatory functions that stabilize affect and action are impeded by the lack of integration that causes structural dissociation (van der Hart et al., 2005). The theory of the structural dissociation of the personality suggests that the treatment of trauma-related disorders and DID should focus on the gradual integration of dissociative parts within the confines of a cohesive and coherent personality, and should begin with strengthening the ANP (van der Hart et al., 2005). Treatment should aim for the resolution of the structural dissociation of the personality by exposing the dissociative parts of the personality to each other to promote integration and preclude re-dissociation, and this needs to be done in a carefully planned manner considering an individual's current integrative capacity (Nijenhuis et al., 2010). Sensorimotor Psychotherapy, which is used to work with individuals with DID, has a large focus on strengthening integrative capacity (Ogden, Minton, & Pain, 2006).

3.7. Sensorimotor Psychotherapy

A further consideration of aspects of Sensorimotor Psychotherapy is considered in this section. Firstly, the idea of the triune brain is presented, which links with the three levels of processing considered within Sensorimotor Psychotherapy (sensorimotor, emotional, and cognitive). The concepts of the window of tolerance and the role of defensive responses are then discussed, followed by an overview of the principles of the treatment approach.

3.7.1. The Triune Brain

Ogden, Minton, and Pain (2006) describe the 'triune brain', explaining that our capacity for self-awareness, interpretation, abstract thought, and feeling exists within a developmental and hierarchical relationship to the instinctual and nonconscious responses of the body. An evolutionary and functional hierarchy of information processing described by Wilber (1996) explains that experience is organised on three levels: sensorimotor, emotional, and cognitive. MacLean (1985) has articulated a parallel understanding of this hierarchy in reference to neuropsychology, referring to the reptilian brain, the limbic brain and the neomammalian brain, describing the concept of the triune brain as "a brain within a brain within a brain". Evolutionarily, the reptilian brain is the first to develop, which governs arousal, homeostasis of the organism, and reproductive drives, and relates to the sensorimotor

level of information processing (Ogden, Minton, et al., 2006). The 'limbic brain', reportedly found in all mammals, surrounds the reptilian brain and mediates emotion, memory, and learning i.e. emotional processing (Cozolino, 2002). The neocortex (neomammalian brain as referred to by MacLean [1985]), the last to develop phylogenetically, enables cognitive information processing such as self-awareness and conscious thought (MacLean, 1985). Each of the three levels of the brain has its own way of understanding and responding to the world, and any particular level may become dominant at particular times depending on the internal and environmental conditions (Ogden, Minton, et al., 2006). Furthermore, the three levels are considered to be mutually dependent and intertwined (Damasio, 1999; LeDoux, 1998; Schore, 1994).

3.7.2. Levels of processing

Sensorimotor Psychotherapy makes a hierarchical distinction between three levels of processing, based on the concept of the triune brain: sensorimotor, emotional, and cognitive (Ogden, Minton, et al., 2006). Within this hierarchy, sensorimotor information processing is initiated primarily by lower rear portions of the brain (i.e. reptilian brain), emotional processing by more intermediate limbic parts of the brain, and cognitive processing by the frontal cortical upper parts of the brain (i.e. neocortex; Ogden & Minton, 2000). The higher levels of processing often influence and direct the lower levels. For example, we can decide (cognitive function) to ignore the sensation of hunger and not act on it, despite the physiological processes associated with hunger (e.g. secretion of saliva; Ogden & Minton, 2000). Furthermore, sensorimotor processing can be seen as foundational to other types of processing and includes more primitive forms of information processing than do its more evolved counterparts (Ogden & Minton, 2000; Ogden, Pain, et al., 2006). Based in the older brain structures, sensorimotor processing relies on a relatively higher number of fixed sequences of steps in the way it works e.g. startle reflex, fight/flight response (Ogden & Minton, 2000; Ogden, Pain, et al., 2006). The emotional and cognitive realms have much fewer fixed sequences, with more complexity and variability of response (Ogden, Pain, et al., 2006). Following a trauma, the integration of information processing across the different levels is often compromised (Ogden, Pain, et al., 2006).

3.7.2.1. Sensorimotor processing

Much adult activity is based on 'top-down' cognitive processing; the upper level of processing (cognitive) can and often does override, steer, or interrupt the lower levels by elaborating upon or interfering

with emotional and sensorimotor processing (Ogden, Pain, et al., 2006). However, for the traumatised individual, the intensity of the trauma-related emotions and sensorimotor reactions hinders the ability of top-down processing to dominate (Ogden, Pain, et al., 2006). The functioning of the higher levels of the brain and information processing is partly dependent on the adequate functioning of the lower levels (Ogden, Pain, et al., 2006). All three levels of processing need to be addressed when working with trauma, by somatically informed top-down management of symptoms, insight and understanding, being balanced with bottom-up processing of the sensations, arousal, movement, and emotions (Ogden, Pain, et al., 2006). Top-down approaches to therapy that aim to regulate overwhelming sensorimotor and affective processes are a necessary part of trauma therapy, but can hinder the resolution of traumatic responses when they attempt to overmanage, ignore, suppress, or fail to support adaptive body responses (Ogden, Minton, et al., 2006).

In Sensorimotor Psychotherapy, sensorimotor processing involves mindfully tracking the sequential sensations and movements associated with unassimilated sensorimotor reactions, which can be motor impulses, muscular tension, trembling, and changes in posture, breathing, and heart rate (Ogden & Minton, 2000). Traumatised individuals are taught to distinguish between physical sensations and trauma-based emotions by being mindfully aware of the sensations (Ogden & Minton, 2000). Sensorimotor processing is further divided into three components: inner-body sensation, five-sense perception, and movement (Ogden, Minton, et al., 2006).

3.7.2.1.1. Inner-body sensation

Inner-body sensations are physical feelings that are continually created by movement within the body (Ogden, Minton, et al., 2006). For example, a hormonal shift or a muscular spasm may be felt as an inner-body sensation (Ogden, Minton, et al., 2006). Inner-body sensations are understood as resulting from interoceptors, which are sensory nerve receptors that receive and transmit sensations from stimuli originating from the interior of the body (Ogden, Minton, et al., 2006). A variety of inner-body sensation is constantly generated through interoceptors, resulting in internal states of wellbeing or distress (Ogden, Minton, et al., 2006). Although most inner-body sensations do not reach awareness, those that do are influenced by emotion and cognition (Ogden, Minton, et al., 2006). Furthermore, the capacity for individuals to reintegrate the somatic experience of their trauma is enhanced by their capacity to sense and describe sensation

and to uncouple it from trauma-related emotions and cognitions (Ogden, Minton, et al., 2006).

3.7.2.1.2. Five sense perception

Five-sense perception refers to the sensory nerves of the five senses, which receive and transmit information from stimuli in the external environment (Ogden, Minton, et al., 2006). Sensory perceptual information is selected and filtered, and our beliefs and emotional reactions to previous similar sensory stimuli condition our relationship with current stimuli (Ogden, Minton, et al., 2006). However, this function becomes maladaptive for traumatised individuals who repeatedly notice and process sensory cues that are reminders of past trauma, whilst failing to notice other sensory cues that indicate the current reality to be safe (Ogden, Minton, et al., 2006). Sensory perception may therefore dominate a traumatised individual's capacity to think rationally (Ogden, Minton, et al., 2006).

3.7.2.1.3. Movement

Movement is a component of sensorimotor processing because of its obvious somatic component, and ranges from voluntary to involuntary and conscious to unconscious movements (Ogden, Minton, et al., 2006). Most overt movement results from sensory perception and then in turn shapes sensory perception (Ogden, Minton, et al., 2006). Repetition of the same movement time and time again ultimately moulds the body, contributing to the maintenance of cognitive and emotional tendencies by creating a position from which only certain emotions and physical actions are possible, due to how it has shaped sensory perception (Ogden, Minton, et al., 2006). Furthermore, physical action often precedes cognitive and emotional reactions in acute traumatic situations, and individuals respond with fixed action patterns that are involuntary and largely predictable (Ogden, Minton, et al., 2006).

3.7.3. The window of tolerance

Traumatised individuals are vulnerable to experiencing hyper-arousal (i.e. overactivation) and/or hypo-arousal (i.e. underactivation) and often oscillate between these two extremes (Ogden, Minton, et al., 2006; van der Kolk, 1996b). Hyper-arousal leads to difficulties with processing information effectively, and involves intrusive images, affects, and body sensations, whereas hypo-arousal refers to a dearth of emotion and sensation, leading individuals to be too distanced from the experience to be able to effectively process information (Ogden, Minton, et al., 2006). Top-down regulation is compromised in both extremes, which

may have once been adaptive in a traumatic situation but becomes maladaptive when it persists in non-threatening contexts (Ogden, Minton, et al., 2006). Thus, individuals need to process traumatic experiences in an optimal arousal zone, termed the 'window of tolerance' in Sensorimotor Psychotherapy (Ogden, Minton, et al., 2006). Working within the window of tolerance, where cortical functioning is maintained, allows integration of information received from both internal and external environments (Ogden, Minton, et al., 2006). Arousal naturally fluctuates within the optimal zone in response to environmental cues and context and an individual's internal condition (e.g. energy level, hunger; Ogden, Minton, et al., 2006). The 'width' of the window of tolerance varies between individuals; those with a wide window can cope with greater extremes of arousal and can process complex information effectively, whereas those with narrower windows experience fluctuations as unmanageable and dysregulating (Ogden, Minton, et al., 2006).

Traumatized individuals usually have a narrow window of tolerance, and Sensorimotor Psychotherapy aims to help individuals to identify the somatic signs of arousal that exceed the optimal zone, eventually expanding the width of their window of tolerance through somatic interventions (Ogden, Minton, et al., 2006). Such somatic interventions begin with helping the individual learn to recognize sensations of hyper- or hypo-arousal (e.g. heart racing, trembling) and the related physical action tendencies (e.g. muscular tension in back), before learning ways of returning their arousal levels to within the optimum zone (Ogden, Minton, et al., 2006). An example of how arousal can be returned to within the optimum zone is through the use of a grounding exercise, whereby a person learns to be aware of their feet, their weight, and their connection to the ground, which provides a feeling of both physical and psychological stability (Ogden, Minton, et al., 2006). Within optimal arousal, access to all three levels of information processing (i.e. sensorimotor, emotional, and cognitive) is maintained, ensuring integrated top-down and bottom-up processing, and integrative capacity increases alongside the increase of the width of the window of tolerance (Ogden, Minton, et al., 2006). Thus, a central task within Sensorimotor Psychotherapy is to increase integrative capacity, which is achieved by initially expanding the window of tolerance (Ogden, Minton, et al., 2006).

3.7.4. Defensive responses

Defensive responses have evolved to ensure survival, but traumatized individuals find that their defensive responses persist after the

threatening event has ceased (Ogden, Minton, et al., 2006). In a threatening situation, effective defensive actions that successfully avert danger provide a sense of relief and mastery, which is notably absent for traumatised individuals (Ogden, Minton, et al., 2006). Traumatized individuals have been observed to become stuck in repetitive defensive responses, in that they often repeat defensive actions from the original trauma even though it may have been only partially successful or unsuccessful altogether at the time of the trauma (Ogden, Minton, et al., 2006). Sensorimotor Psychotherapy considers it very important to reinstate the adaptive and flexible functioning of defensive responses (Ogden, Minton, et al., 2006). This is achieved by teaching individuals to mindfully observe their defensive responses, which often allows the discovery of previously abandoned defensive possibilities, which can then be executed and completed (Ogden, Minton, et al., 2006). Defensive responses can be split into mobilising defensive actions such as fight or flight, or immobilising actions such as the freeze response or submissive behaviours (Ogden, Minton, et al., 2006). Sensorimotor Psychotherapy contends that interrupted or ineffective defensive actions that become habitual play a powerful role in the maintenance of trauma symptoms (Ogden, Minton, et al., 2006). However, as individuals begin to mindfully explore their defensive tendencies in Sensorimotor Psychotherapy, they often find that mobilising defensive responses begin to present themselves in the body, allowing for the possibility of new responses that are flexibly adapted to the present (Ogden, Minton, et al., 2006).

3.7.5. Skills for working with the body

Sensorimotor Psychotherapy describes three phases of treatment, and the body is engaged in different ways within each phase through the use of key skills that the therapist uses (Ogden, Minton, et al., 2006). Firstly, the therapist undertakes tracking of present experience, whereby they observe the unfolding of nonverbal components of the client's immediate experience, such as movements and other physical signs of autonomic arousal or changes in body sensation (Ogden, Minton, et al., 2006). Somatic signs of emotions (e.g. changes in facial expression) and how beliefs and cognitive distortions that emerge from the client's history affect the body (e.g. the thought "I'm bad" may correlate with downcast eyes) are also tracked (Ogden, Minton, et al., 2006). A related technique is that of bodyreading, whereby the therapist observes persistent action tendencies, such as the habitual posture of lifted, tense shoulders (Ogden, Minton, et al., 2006). This helps therapists become aware of a client's chronic patterns of physical structure, movement, and posture that remain consistent over time and

are correlated with longstanding beliefs and emotional tendencies (Ogden, Minton, et al., 2006). For example, chronically lifted shoulders may correspond to the belief "I'm always in danger" and a perpetual feeling of fear (Ogden, Minton, et al., 2006).

Through tracking and bodyreading, the therapist gathers information in order to communicate relevant information to the client in the form of contact statements (Ogden, Minton, et al., 2006). Physical experiences often remain unnoticed by the client until the therapist brings attention to them through contact statements e.g. "as you say those words your hand is starting to curl up into a fist" (Ogden, Minton, et al., 2006). These contact statements are in addition to reflective statement therapists usually make regarding emotion and cognition (Ogden, Minton, et al., 2006). Contact statements are short and simple, with the intention of facilitating self-observation rather than analysis (Kurtz, 1990). Contact statements keep clients aware of present experience, and because the focus is on present experience, the therapist does not try to interpret or make meaning of the client's physical phenomena (Ogden, Minton, et al., 2006).

Sensorimotor Psychotherapy also makes use of mindfulness, whereby tracking and contact statements facilitate exploration of present-moment experience (Ogden, Minton, et al., 2006). In Sensorimotor Psychotherapy, mindfulness involves attending to present internal experience, by directing attention to thoughts, feelings, sensory perceptions, inner body sensations, muscular changes, and movement impulses as they occur in the here-and-now (Ogden, Minton, et al., 2006). The therapist teaches the client mindfulness by asking questions that require awareness of present-moment experience to answer e.g. "what do you feel in your body right now?" (Ogden, Minton, et al., 2006). Mindfulness used in this way can provide conscious access to underlying traumatic tendencies and resources, by directing attention to observe a sensation and discover more about it (Ogden, Minton, et al., 2006).

Experiments and exploration are a key skill used within Sensorimotor Psychotherapy, whereby the therapist adopts an experimental attitude in order to explore new experiences without investment in a specific outcome, which is reflected in the nature of contact statements and mindfulness questions (Ogden, Minton, et al., 2006). Experiments are used in Sensorimotor Psychotherapy in order to make discoveries about the organisation of experience, and to bring the effects of a trauma and ensuing action tendencies to awareness (Ogden, Minton,

et al., 2006). The discoveries are unforced, automatic, and spontaneous, as they arise from mindful experiments (Kurtz, 1990). Experiments can be either physical or verbal, for example, the client may sense or perform something physical and study what happens, or the therapist may repeat a phrase and the client can observe the results on their physical experience (Ogden, Minton, et al., 2006).

These techniques enable clients to learn to distinguish between physical sensations or actions and trauma-based emotions or cognitions through more focused awareness of sensations and movement (Ogden, Minton, et al., 2006). The therapist builds on this increased awareness by enabling the client to study the interplay between their thoughts, feelings, movement impulses, sense perceptions, and body sensations (Ogden, Minton, et al., 2006). The therapist directs the client's attention to how thoughts and emotions are affecting present-moment body experience by making contact statements regarding them e.g. "I notice that your jaw tightens as you talk about feeling angry" (Ogden, Minton, et al., 2006).

3.7.6. Phases of treatment

Sensorimotor Psychotherapy involves three main phases of treatment. Phase one focuses on individuals learning to maintain their arousal within their window of tolerance (Ogden, Minton, et al., 2006). In phase two, unintegrated memory fragments (i.e. physical sensations, sensory intrusions, emotions, and actions) are addressed, which involves identifying and embodying the resources that helped them cope with traumatic events and using the body to discover actions that provide a sense of mastery even when remembering traumatic events (Ogden, Minton, et al., 2006). Phase three involves focusing attention to the individual's everyday life, where the resources learned in previous phases facilitate healthy risk taking and more active engagement with the world (Ogden, Minton, et al., 2006). A number of principles prevail throughout each intervention phase, including attending to the organisation of present-moment experience, integrating top-down and bottom-up interventions, expanding the window of tolerance and integrative capacity, and allowing meaning-making to emerge from the physical experience (Ogden, Minton, et al., 2006).

3.7.6.1. Phase 1: Developing somatic resources

Phase one in Sensorimotor Psychotherapy is focused on developing somatic resources for stabilisation, where interventions are focused on facilitating physiological and psychological homeostasis, with an emphasis on building self-regulatory skills that maintain arousal within

the window of tolerance (Ogden, Minton, et al., 2006). The interventions in this phase are geared toward raising clients' integrative capacity so that adaptive functioning in daily life is increased (Ogden, Minton, et al., 2006). During this phase, through psychoeducation, recognition of their triggers, and mindful observation of their arousal and defensive subsystems, clients learn to become aware of when their arousal exceeds the window of tolerance and to implement resources that help them to stabilise at those times (Ogden, Minton, et al., 2006). There is a focus on resources, which are all the personal skills, abilities, objects, relationships, and services that facilitate self-regulation and provide a sense of competence and resilience (Ogden, Minton, et al., 2006). Clients are assisted to reinstate lost resources, learn new resources, and strengthen existing resources (Ogden, Minton, et al., 2006). Somatic resources, in particular, are abilities that emerge from physical experience yet influence psychological health, and include physical functions and capacities that support self-regulation and provide a sense of somatic and psychological well-being and competence (Ogden, Minton, et al., 2006). For example, the action of pushing away with the arms combined with the felt experience of having a right to establish personal boundaries and defend oneself integrates empowering movement with an adaptive belief (Ogden, Minton, et al., 2006). Clients learn to use the movement, sensation, and posture of the body to stabilise themselves and increase the ease of their daily life functioning (Ogden, Minton, et al., 2006). There are endless numbers of potential somatic resources, ranging from basic physiological functions (e.g. digestion), to sensory capacities (e.g. the ability to see, hear, smell, and taste), to self-regulatory abilities (e.g. the ability to ground and centre oneself; Ogden, Minton, et al., 2006).

3.7.6.2. Phase 2: Processing traumatic memory

Because trauma memories are not fully recollected by traumatised individual as a coherent, autobiographical narrative, clients are unable to deal with the effects and implications of their memories by reflecting upon, discussing, or thinking about them, which renders them to remain unintegrated (Ogden, Minton, et al., 2006). The nonverbal aspects of trauma memory, such as visual images, olfactory and auditory intrusions, intense emotions, sensations and maladaptive physical actions, are usually available no matter how much or how little narrative memory is intact, and it is the intrusive element of these that cause clients problems with the ability to function in daily life (Ogden, Minton, et al., 2006). Thus, sensorimotor processing of traumatic memory is organised to target these sensory and physical tendencies until they no longer disrupt self-regulation and cognitive-emotional processing of

current, as well as past, experience (Ogden, Minton, et al., 2006). Thus, in this phase of treatment, titrated amounts of the traumatic memory are carefully evoked to activate somatic and autonomic components at a pace that does not unduly dysregulate the client (Ogden, Minton, et al., 2006). By mindfully observing the bodily expression of the nonverbal memory, clients are facilitated to have a new experience in relationship to the trauma, in that they can use somatic resources to maintain their arousal within the window of tolerance and experience the emergence and completion of actions that were not executed or completed at the time of trauma, leaving them feeling alive and triumphant rather than numb and defeated (Ogden, Minton, et al., 2006).

3.7.6.3. Phase 3: Integration

In the third and final phase of Sensorimotor Psychotherapy, the skills learned in the previous phases are integrated and become automatic (Ogden, Minton, et al., 2006). Defensive systems that served the client in the past become integrated with the other action systems that foster an adaptive life environment (Ogden, Minton, et al., 2006). The ability to self-regulate allows the client to risk attempting social reconnection and engage in all the action systems of daily life with an expanded sense of pleasure (Ogden, Minton, et al., 2006). Through their successful mastery of skills in this phase, clients discover a new sense of self that is more flexible, adaptive, and capable of pleasure and positive affect (Ogden, Minton, et al., 2006).

3.8. Other body-oriented therapies for trauma

Two other body-oriented therapies for trauma are considered in this subsection: somatic experiencing and somatic trauma therapy.

3.8.1. Somatic experiencing

Somatic experiencing is a body-oriented therapy for trauma proposed by Levine (1997) that offers practical techniques for dissolving trauma, with the purpose of allowing the discharge of traumatic emotion without re-traumatisation (Totton, 2003). In somatic experiencing it is believed that traumatised individuals do not completely discharge the vast energies that are mobilised to protect themselves in a traumatic event (Levine, 1997). Traumatic symptoms are considered to arise from the frozen residue of energy that has not been resolved and discharged, and remains trapped in the nervous system, wreaking havoc with an individual's body (Levine, 1997). The theory postulates that blocked emotional energy is held in the body, which can be discharged through slow and careful elicitation of memory alongside close sensory tracking of the traumatised individual's bodily experience (Totton, 2003). The trauma can be discharged bit by bit by bringing an awareness to an

individual's state of aroused anxiety, as it is embodied in breathing, pulse, sweating, trembling etc (Totton, 2003). The opportunity for recovering from trauma is considered to revolve around sensation, and changes in these inner sensations should be observed rather than interpreted (Levine, 1997). These bodily sensations may induce bodily movement, but if these are suppressed then the accumulated internal energy will not be effectively discharged (Levine, 1997).

Somatic experiencing theory includes an inherent focus on strengthening an individual's capacity to manage stimuli (Totton, 2003). Somatic experiencing posits that tracking and discharging physical sensation is an end in itself, and does not aim to address cognitive or emotional processing (Ogden & Minton, 2000). There is some evidence for the effectiveness of somatic experiencing therapy. For example, a study of 150 tsunami survivors in India found that 90% of participants demonstrated significant symptom improvement at 8-month follow-up after somatic experiencing therapy (Parker, Doctor, & Selvam, 2008). A study using an early-intervention brief format of somatic experiencing therapy with 53 tsunami survivors in Thailand found that 90% of participants had complete or partial improvement in reported symptoms at 1-year follow-up (Leitch, 2007).

3.8.2. Somatic trauma therapy

Somatic trauma therapy is not drastically different from somatic experiencing, but goes further in emphasising the importance of a slow pace, of creating safety and a sense of self-management, and views the therapeutic relationship as a vital container of trauma work (Totton, 2003). Somatic trauma therapy provides resources for developing body awareness in traumatised individuals, and uses body sensations as an anchor to the here and now in order to stop individuals from being engulfed by reactivated memory (Totton, 2003). Rothschild (2000) notes that individuals with PTSD alternate between periods of frenetic energy and periods of exhaustion, and the clients' lack of capacity to focus, confront, and resolve the issues can make therapy difficult. Rothschild (2000) proposes that reducing hyper-arousal within therapy and within a client's daily life gives a client much needed relief and enables them to rest effectively. This will then afford the client with greater capacity and resources to face the traumatic past (Rothschild, 2000). Thus, the pace of therapy should be no quicker than the client can tolerate while maintaining daily functioning (Rothschild, 2000). The pace of therapy being slowed deliberately has been referred to as 'applying the brakes', which promotes a sense of safety as well as

allowing therapy to proceed at a reduced, manageable, level of arousal (Rothschild, 2000).

Rothschild (2000) suggests that the more resources that a client has, the easier the therapy and the more hopeful the prognosis, and describes five major classes of resources: functional, physical, psychological, interpersonal, and spiritual. Functional resources include practical things such as a safe place to live, and a reliable car (Rothschild, 2000). Physical resources revolve around physical strength and agility, and building these gives many individuals a greater feeling of confidence (Rothschild, 2000). Psychological resources include intelligence, a sense of humour, curiosity, creativity, and defense mechanisms (Rothschild, 2000). Interpersonal resources include a spouse or partner, family, and friends, and remembering significant people from the past that bring about positive feelings and sensations (Rothschild, 2000). Spiritual resources include following a religion, believing in a higher power and communing with nature (Rothschild, 2000). There is a notable lack of empirical evidence for somatic trauma therapy.

3.9. Extended rational and aims

The literature reviewed demonstrates the vast research base regarding the neurobiological underpinnings of trauma, and suggests that the body is an important but usually neglected part of psychological treatment for PTSD and more complex forms of trauma disorders. Sensorimotor Psychotherapy is a body-oriented therapy for trauma which has developed from clinical practice, drawing on the neuroscience literature to understand traumatised individuals. However, the evidence base for Sensorimotor Psychotherapy remains limited despite its growing popularity in clinical circles. A qualitative study would be able to glean rich and nuanced information from those who have experienced the therapy, adding an experientially described aspect to the literature on Sensorimotor Psychotherapy. This information may inform future practice in Sensorimotor Psychotherapy and other psychological therapies for trauma, as well as guiding further research in the area of using the body in therapy. The information from this qualitative study may also inform the development of specific outcome measures suitable for assessing the use of the body in therapy and the influence of this on treatment outcome. Thus, this study aimed to explore what it is like to use the body in therapy, specifically Sensorimotor Psychotherapy.

4. Extended Methodology

4.1. Section introduction

This section provides discussion on the research methodology. Firstly, the epistemological position of the researcher is explored within the context of wider epistemology. Secondly, thematic analysis is explored, followed by a consideration of alternative research methods. Thirdly, the study design is discussed, including a description of the recruitment strategy and sample. Fourth, the study procedure is described, including the interview schedule development. Fifth, the transcription of the interviews and subsequent data analysis is described. Sixth, ethical considerations are discussed. Finally, quality in qualitative research and the quality assurance methods adopted in this study are discussed.

4.2. Epistemology

Every theory of knowledge must presuppose a theory of what the world is like (ontology) for knowledge (epistemology) to be possible (Patomäki & Wight, 2000). Epistemology is an area of philosophy which focuses on aspects of knowledge, such as its nature and its sources (Howitt, 2010). Epistemology can be thought of as justification of knowledge (Carter & Little, 2007). Epistemology ranges from positivist traditions, through postpositivism and critical realist, to constructivist and social constructionist positions.

Positivism had its historical beginnings in the Enlightenment during the 18th century and considers that valid knowledge is observable using a scientific method (Howitt, 2010). Positivism is rooted in a realist ontology i.e. that a true reality exists which is driven by immutable natural laws (Guba, 1990). Positivism is embedded in the belief that scientific method is objective, thus a scientific experiment could allow a researcher to compare a theory with facts in order to reach an informed and unbiased decision about the merits of the theory (Okasha, 2002). Furthermore, facts are presumed to be claims about the world that can be directly established by careful and unprejudiced inquiry (Chalmers, 1999). Kuhn (1996) was one of the main proponents in challenging the underlying assumptions in positivist epistemology, suggesting that truth is relative to a paradigm, and that paradigms (entire scientific outlooks) so rarely change. Kuhn considers that positivist science is a highly conservative activity because it does not aim to find novelties of fact or theory and does not try to test the paradigm. The paradigm is accepted unquestioningly, thus research is conducted within the limits that it sets (Kuhn, 1996). Kuhn's work focused attention on the social context in

which science takes place, something that positivism had largely ignored (Okasha, 2002). Kuhn viewed science as an intrinsically social activity, because of the existence of scientific communities that are bound together by allegiance to a shared paradigm being a prerequisite for scientific enquiry. Furthermore, the experimental paradigm that positivist inquiry is based upon has been scrutinised by Chalmers (1998), who notes that experimental results are theory-dependent, fallible, and revisable, suggesting that there is also the possibility for a tautological argument between theory and experiment.

Two forms of a critical realist perspective can be identified: postpositivism and critical theory. Postpositivism is best described as a modified version of positivism, whereby prediction and control within scientific enquiry continue to be the main aim, with an acknowledgement that it is impossible for us to be able to truly perceive the real world due to our imperfect mechanisms for exploring it (Guba, 1990). Thus, although we can never be certain that the ultimate truth has been uncovered, reality is still considered to exist (Guba, 1990). Critical theory holds some of the same assumptions as postpositivism, but goes further in understanding the role of values in inquiry, suggesting that we enter into inquiry at choice points (Guba, 1990). Thus, the truth is accessed through a value window (Guba, 1990). Furthermore, choices of particular value systems that empower certain people and disempower others make inquiry a political act (Guba, 1990). Although critical realists adopt a realist ontology, they couple this with a subjectivist epistemology because acts of inquiry are intimately related to the values of the inquirer (Guba, 1990; Smith, 1990).

Constructivism moves even further away from positivism and realism, suggesting that such paradigms are badly flawed and must be completely replaced, citing four fundamental flaws (Guba, 1990). Firstly, constructivists suggest that reality exists in the context of a mental framework for thinking about it, and that facts are laden with theories (Guba, 1990). Secondly, reality can only be seen through a window of theory, whether explicit or implicit, and there are always a large number of theories that can explain a body of facts (Guba, 1990). Thirdly, reality is seen through a value window, thus many different constructions are possible (Guba, 1990). Finally, constructivism views objectivity as impossible, because the results of an inquiry are shaped by the interaction of the inquirer with the subject matter (Guba, 1990). Thus, knowledge is viewed as a human construction, ever changing and unable to be certified as truth (Guba, 1990). Constructivism has a

relativism view of ontology, in that there are multiple realities which exist in people's minds, and a subjective position on epistemology is considered the only means of discovering constructions held by individuals (Guba, 1990; Smith, 1990). Findings are considered to be the creation of the process of interaction between the inquirer and the inquired subject (Guba, 1990; Smith, 1990). Methodologically, the constructivist approach aims to identify the variety of constructions in existence and bring as much of a consensus to them as possible, making use of hermeneutics (depicting individual constructions as accurately as possible) and dialectics (contrasting individual constructions so that individuals confront the constructions of others and come to terms with them; Guba, 1990). An issue with the constructivism approach revolves around the issue of relativism; without some notion of truth or reality, how can we justify advocating one view over another? (Burr, 1998).

Carter and Little (2007) emphasise the importance of epistemology in shaping methodology and method in research, suggesting that methodologies have epistemic content, because methodologies justify methods, and methods produce knowledge. Epistemology shapes a researcher's conceptualisation of the participant in data collection and analysis in terms of whether they are passive within the research process or have agency in the process, acting as co-creators of the study (Carter & Little, 2007). Epistemology is seen as key to assessing the quality of data and subsequent analysis within qualitative research (Carter & Little, 2007). Epistemology also determines how a researcher communicates with their audience, and the conceptualisation of the role of the audience, the analysts, and the participants (Carter & Little, 2007). Thus, it is important for researchers to reflect on their epistemological position and the effects of this on the research process.

4.2.1. The researcher's epistemological position

The main researcher in this study approached the research from a (postpositivist) critical realist position. Critical realism is committed to ontological realism (that reality exists but is differentiated, structured, and layered) and epistemological relativism (that all beliefs are potentially fallible because they are socially constructed), but contends that it is still possible to provide justifiable grounds to prefer one theory over another (Patomäki & Wight, 2000). Thus, critical realism does not deny that there is a real world, but raises doubt about the ability of a researcher to fully reflect the real world (Howitt, 2010). Critical realism proposes that one can have rational grounds for the preference of one

theory over another based on the reasons why one theory gives a better account of reality than another (Lopez & Potter, 2005). Inherent within critical realism is the acknowledgement that although truth and knowledge cannot escape the limitations of our particular social context, that there is worth in searching for traces of truth and knowledge in the manifestations that compose the world as we conceive it (Bhaskar, 1989). Critical realism asserts that sustained rational reflection is the key to proposing and evaluating possible realities because there is not necessarily a correspondence between reality and actuality, and some real processes may never come to be manifest (Brown, Pujol, & Curt, 1998).

4.3. Qualitative research methods

Qualitative methods in psychology did not become mainstream until the 1980s, but were in existence in the beginnings of modern psychology in the late 19th century, but were essentially smothered due to psychology's positivist historical foundations (Howitt, 2010). Qualitative methodology is concerned with meaning i.e. how people make sense of the world and how they experience events (Willig, 2008). Qualitative research aims to explore the quality and texture of experiences rather than identifying cause-effect relationships, and to describe experiences rather than make predictions (Willig, 2008). Different qualitative methodologies can be differentiated by their epistemological positions, the importance placed on reflexivity, and their engagement with critical language awareness (Willig, 2008). Reflexivity refers to an awareness of the researcher's contribution to the construction of meanings throughout the research process, acknowledging that it is impossible for the researcher to remain removed from the subject matter while conducting research (Willig, 2008). Critical language awareness refers to the concept that the words we use to describe our experiences play a part in the construction of the meanings that we attribute to such experiences (Willig, 2008). However, there is a considerable overlap in terms of procedures and techniques in different qualitative approaches (Holloway & Todres, 2003). Holloway and Todres (2003) have suggested that the similarities between qualitative approaches can lead to inconsistency and a lack of coherence, whereby interchangeability dilutes the value of the integrity of a particular approach. Holloway and Todres propose that an understanding of purposes and appropriateness of different procedures reduces these problems. Thus, when used, qualitative methods should be adequately described and discussed.

4.3.1. Thematic analysis

This study used thematic analysis, which is not tied to a particular epistemological position or theoretical framework (Braun & Clarke, 2006). Thematic analysis is a flexible approach that is able to provide a rich, detailed, and complex account of data (Braun & Clarke, 2006). Thematic analysis aims to find patterns (themes) that adequately describe the data being analysed, requiring a researcher to have an intimate knowledge of their data (Howitt, 2010). Although thematic analysis is a widely used qualitative research method, it is poorly demarcated and rarely acknowledged (Braun & Clarke, 2006). Furthermore, although thematic analysis can be seen as a foundational procedure in other qualitative approaches, Braun and Clarke (2006) argue that thematic analysis is a valid method in its own right.

Braun and Clarke (2006) define a theme as capturing an important aspect of the data in relation to the research question, representing some level of patterned response within the data set. Although the relative prevalence of a theme within a data set is inherently important within thematic analysis, more instances of a theme does not necessarily mean that the theme itself is more crucial (Braun & Clarke, 2006). A thematic analysis can provide a rich description of an entire data set, or it can provide a detailed account of one particular aspect of the data (e.g. one theme; Braun & Clarke, 2006). An account of the entire data set is most useful when investigating an under-researched area or working with participants whose views on the topic are completely unknown (Braun & Clarke, 2006). Braun & Clarke differentiate between inductive (bottom-up) thematic analysis, whereby the themes are strongly linked to the data themselves, and deductive (top-down) thematic analysis, which is driven by a theoretical interest and is more explicitly analyst-driven. There is also a distinction between the levels at which themes are to be identified; a semantic or explicit level, or a latent or interpretive level (Boyatzis, 1998). Semantic themes are explicit or surface meanings of the data, not going beyond what a participant has said, but ideally offering some interpretation in order to theorise the significance of the patterns and their implications (Braun & Clarke, 2006). In contrast, latent themes identify or explore the underlying ideas, assumptions, and conceptualisations that are theorised as shaping the content of the data (Braun & Clarke, 2006).

Braun and Clarke (2006) offer a detailed account of the steps of carrying out a thematic analysis, whilst acknowledging that analysis is a recursive, rather than a linear, process. Firstly, the researcher needs to familiarise themselves with the data, achieved by transcribing, reading,

and re-reading the data (Braun & Clarke, 2006). Secondly, the researcher generates initial codes, coding features of the data systematically across the data set, and collating data relevant to each code (Braun & Clarke, 2006). Thirdly, the researcher searches for themes by collating codes into potential themes and gathering data relevant to each potential theme (Braun & Clarke, 2006). Fourth, the researcher reviews the themes, checking that the themes work in relation to the coded extracts and the entire data set (Braun & Clarke, 2006). In step five, the researcher defines and names the themes, refining the specifics of each theme and the overall story of the analysis (Braun & Clarke, 2006). Finally, a report is produced by selecting vivid extracts from the data, analysing the selected extracts, and relating the analysis back to the research question and literature (Braun & Clarke, 2006).

Common pitfalls of thematic analysis include a failure to analyse the data and simply offering a selection of extracts with little or no analytic narrative, using the data collection questions as the themes that are reported, a weak or unconvincing analysis, or a mismatch between the data and the analytic claims (Braun & Clarke, 2006).

4.3.2. Alternative qualitative approaches

In this subsection, two other qualitative methods that have similarities with thematic analysis, and hence were alternative methods to be considered in undertaking this study, are presented, with a discussion regarding why they were not used: interpretative phenomenological analysis (IPA) and grounded theory.

IPA is similar to thematic analysis in that it seeks to describe patterns within qualitative data, but, unlike thematic analysis, is theoretically bounded (Braun & Clarke, 2006). IPA is attached to a phenomenological epistemology which gives experience primacy, and aims to understand people's experiences of reality in great detail in order to gain an understanding of the phenomenon in question (Smith, Jarman, & Osborn, 1999; Smith & Osborn, 2003; McLeod, 2001). IPA draws on the concept of phenomenology, which is interested in the world as it is experienced within particular contexts and at particular times, rather than abstract statements about the world in general (Willig, 2008). IPA's roots also lie within hermeneutics (how we study and understand data) and symbolic interactionism (that the mind emerges out of social interaction; Howitt, 2010). IPA is used when the psychological experiences of people are being studied through each individual's own perspective (Howitt, 2010). In an IPA study, the

researcher is trying to make sense of these reported experiences, interpreting the interpretations of the participants (Howitt, 2010).

Grounded theory is in some ways similar to the process of thematic analysis, except that it aims to generate a theory, which thematic analysis does not (Howitt, 2010). Although grounded theory comes in different versions (Charmaz, 2002), the overall goal is to generate a plausible and useful theory of the phenomena that is grounded in the data (McLeod, 2001). The process of theory building in grounded theory analysis involves constant checking backwards and forwards between different aspects of the analysis (Howitt, 2010). Initial data is analysed in order to guide the collection of further new data (Howitt, 2010). Grounded theory places an emphasis on inductive processes during analysis and suits research questions which aim to explore people's common-sense understandings of the world (Howitt, 2010).

This study aimed to explore the experiences of using the body in therapy, approaching the question from a critical realist epistemological position. IPA was not considered the best fit for this study because of the theoretical assumptions embedded within the approach i.e. phenomenology, hermeneutics, and social interactionism. The critical realist epistemological position embedded in this study is somewhat at odds with these aspects of IPA. Grounded theory was not considered an appropriate approach for this study because this study did not aim to generate a theory of people's experience, but rather to explore and examine them in detail, identifying patterns reported by participants. Thus, thematic analysis was considered to be most appropriate for this study, given the research question and epistemological position.

4.4. Study design

In this subsection, inclusion and exclusion criteria for the study are expanded upon, followed by a description of the recruitment process and of the sample of participants who took part in this study.

4.4.1. Inclusion and exclusion criteria

All participants were required to be over the age of 18 and to have experienced Sensorimotor Psychotherapy. This experience could have been as a client seeking therapy, or as a therapist who undertook Sensorimotor Psychotherapy training. This was because therapists who undertake training in Sensorimotor Psychotherapy are required to take part in experiential exercises as part of the training, whereby they experience the therapy as though they are a 'client', working with their own specific issues.

Individuals were excluded from participating in this study if they did not speak English, due to difficulties with translation being open to interpretation and adding a third person to the interview dynamic. Individuals were also excluded if they had dissociative identity disorder (DID). This was because of potential difficulties with interpreting data from individual participants with potentially differing experiences and opinions from different parts of their personality (in line with the structural dissociation of personality model of DID; Nijenhuis et al., 2010; for further discussion on this model see extended paper section 4.6.1.). Furthermore, it was considered that exploring the use of the body in therapy, specifically Sensorimotor Psychotherapy, with individuals with DID would merit its own specific study.

4.4.2. Recruitment

Recruitment was facilitated by the UK Association for Sensorimotor Psychotherapy, who sent out emails regarding the study to all of its registered members (i.e. therapists who had trained in the approach). The email included an information sheet for therapists, describing the purpose of the study and how to get involved, inviting therapists to take part themselves, and / or to ask their relevant clients if they would like to take part in the study, along with an information sheet for the study (see appendices D & E). A snowballing sampling technique was also used, whereby participants were invited to pass on information regarding the study to other potential participants that they knew.

If therapists were interested in taking part, they contacted the lead researcher who ensured that they had read and understood the information sheet and answered any questions about taking part. Following this, dependent on the method of interview (i.e. face-to-face versus telephone or Skype interviews), two copies of a consent form were completed prior to arranging (or in the case of face-to-face interviews, conducting) the interview (see appendix F). If therapists had clients who were interested in taking part in the study, they passed on the potential participants' contact details after obtaining their consent to do so and providing them with the study information sheet, using a 'consent to pass on contact details' form (see appendix E). Following this, dependent on the method of interview (i.e. face-to-face versus telephone or Skype interviews), two copies of a consent form were completed prior to arranging (or in the case of face-to-face interviews, conducting) the interview (see appendix F). Following the completion of an interview, participants were provided with a debrief sheet (see appendix I).

4.4.3. Sample

Since there is no consensus for the number of participants required in a thematic analysis study, the researchers made a pragmatic decision to include between 10 and 15 participants. This was considered to be sufficient in order to answer the research question with thematic analysis. The overall sample comprised a total of 12 participants, 2 of whom were clients who had sought out Sensorimotor Psychotherapy, and 10 of whom were therapists who had trained in the therapy (including psychotherapists, clinical psychologists, and a family therapist). Nine females and three males took part in the study. Participants' ages ranged from 23 to 65 years, with a mean age of 54 years, and a median of 58 years.

4.5. Procedure

This study used a semi-structured interview method to collect data, which is first discussed in this subsection, followed by a description of the development of the interview schedule. The length of interviews ranged between 23 minutes and 60 minutes, with an average length of 37 minutes.

4.5.1. Semi-structured interviews

Semi-structured interviews are the most widely used data collection method in qualitative research in psychology, partly because they are amenable to several different methods of data analysis (Howitt, 2010; Willig, 2008). There is a risk of taking the interviewee's words as a direct reflection of their thoughts and feelings, so it is important to reflect on the meaning and experience of the interview (Willig, 2008). Through the questions, the interviewer seeks to elicit data that will answer the research question, striking a balance between maintaining control of the interview and allowing the interviewee the space generate novel insights for the researcher (Howitt, 2010; Willig, 2008). Because the same term may not mean the same thing to all interviewees, the researcher needs to aim to understand what the interviewee meant by what they said irrespective of how they said it (Willig, 2008).

Semi-structured interview schedules consist of a small number of open-ended questions, ideally starting with public questions and moving onto more personal questions once rapport has been established (Willig, 2008). Restating the interviewees comments and incorporating them into further questions maintains coherence and continuity, demonstrating that the interviewer is listening and allowing the

interviewer to check that they have understood correctly (Howitt, 2010; Willig, 2008). Detailed and comprehensive accounts can be achieved by encouraging the interviewee to elaborate using examples of events or experiences (Willig, 2008). The interviewer needs to act as an active listener, absorbing as much of what is being said as possible and formulating further questions in order to supplement the interviewee's responses where their account is unclear, contradictory, or too short (Howitt, 2010). Pilot interviews, where the interview is trialled, are recommended in order to practice the skill of qualitative interviewing and to ensure the adequacy of the interview schedule (Howitt, 2010).

4.5.2. Interview schedule development

An interview schedule was developed (see appendix H) and refined through a pilot interview. The open-ended questions were based on the research question in the context of an understanding of Sensorimotor Psychotherapy i.e. aiming to explore the use of the body in Sensorimotor Psychotherapy. The interview schedule included prompts for the interviewer to use to ensure that the information considered to be pertinent to answering the research question was collected, whilst remaining flexible enough to allow for novel insights to be provided by the interviewee.

4.6. Transcription

All of the interviews were audio-recorded and transcribed by a transcribing service. All interviews were transcribed verbatim and were checked for accuracy against the original audio-recording by the main researcher. This aided with the researcher's familiarisation with the data, an important step in the data analysis.

4.7. Analysis

An inductive thematic analysis was used to analyse the data, following the technique described by Braun and Clarke (2006; see extended paper section 4.3.1 for a detailed account of this technique). The second and third authors reviewed the process at all stages of analysis, and the final themes were identified through discussion and negotiation between the researchers.

4.8. Ethical considerations

Therapists who practice Sensorimotor Psychotherapy largely practice in private practice. Thus, NHS ethical approval was not required because NHS therapists and clients were not included in this study. Ethical approval for the study was granted by the 'Institute of Work, Health and Organisations', at the University of Nottingham on 1st July

2011 (see appendix A), and amendments to the study protocol were approved on 19th October 2011 (see appendix B).

The British Psychological Society's code of human research ethics was adhered to throughout the study (British Psychological Society, 2010), which are a set of general principles applicable to all research contexts. The code states that researchers should have respect and dignity for people, outlining the importance of informed and valid consent, confidentiality of identifiable information, and the participant's right to withdraw. The code also states that researchers should seek to maximise the benefits of their work and to avoid harm to research participants. Risk is defined as the potential physical or psychological harm, discomfort or stress to participants that a research project may generate (British Psychological Society, 2010). The methods that this study utilised in order to comply with the code of research ethics is outlined further below.

4.8.1. Confidentiality

Confidentiality was ensured in a number of ways. Firstly, the data was kept securely in a locked filing cabinet at the University of Nottingham, with identifiable data (e.g. consent forms) being stored in a separate filing cabinet. Secondly, all data reported in this study is anonymised, with any potentially identifiable data being removed prior to inclusion. Thirdly, pseudonyms were used to refer to participants in the study in order to ensure anonymisation. Fourth, the transcribing service agreed to abide with a confidentiality agreement.

4.8.2. Informed consent

Informed consent was achieved by ensuring that participants had enough time to read the information sheet and the opportunity to ask the researchers any questions that they may have about taking part. Participants were then asked to complete a consent form which was counter-signed by the researcher to document the process of informed consent.

4.8.3. Risk of harm

Risk of harm in this study was considered to be minimal, but a potential for distress due to the inherently personal nature of the interview discussing therapy experiences was acknowledged. In order to minimise any distress caused, a debrief sheet was provided with a list of organisations that could offer support following the interview (see appendix I). The researcher also took care in ensuring that the participants did not talk about things that they did not feel comfortable

or safe doing so, and used their clinical skills (as a trainee clinical psychologist) in order to deal with a distressed participant where this occurred.

4.9. Quality in qualitative research

One of the main criticisms of qualitative research is that 'anything goes', thus, although quality measures used with quantitative research are not always applicable to qualitative research, there are criteria for conducting good qualitative research that should be considered (Braun & Clarke, 2006). Qualitative researchers should make their epistemological positions clear, in order to conduct research consistent with that position, and present their findings in a way that allows them to be evaluated appropriately, because what constitutes quality can vary greatly amongst different epistemologies (Madill, Jordan, & Shirley, 2000).

Elliott, Fischer, and Rennie (1999) outline guidelines for assuring quality in qualitative research. Firstly, Elliott et al. consider the importance of owning one's perspective, whereby the researcher specifies their own theoretical assumptions and personal anticipations, both in advance and as they become apparent during the research process. This allows researchers to understand the role of their values, assumptions, and interests on the research process (Elliott et al., 1999). Elliott et al. also consider the importance of grounding the findings of qualitative analysis in examples, illustrating the process of analysis and the findings. This allows an appraisal of the fit between the data and the findings as well as allowing readers to conceptualise possible alternative understandings (Elliott et al., 1999). Elliott et al. also suggest that it is important to provide credibility checks of the findings, and using multiple analysts as part of the process is one way of achieving this. Finally, Elliott et al. consider the coherence of the study as important, such that the findings are represented in a way that achieves coherence and integration whilst preserving nuances in the data.

Yardley (2000) argues that it is important to have a sensitivity to context within qualitative research, which can be achieved by researchers having an extensive grounding in the philosophy of the approach adopted and of the intellectual history of the topic of interest. Reflexivity is also considered important within qualitative research, and refers to researchers acknowledging and demonstrating how their own perspectives and positions have shaped the research (Henwood &

Pidgeon, 1992). This can be supported by keeping a reflexive journal (Henwood & Pidgeon, 1992).

Considering the process of the specific method of analysis used within this study, Braun and Clarke (2006) propose a number of markers for a good quality thematic analysis. Firstly, transcription should include appropriate detail and be checked for accuracy (Braun & Clarke, 2006). Secondly, during the coding process each data item should be given equal attention, and themes should be thorough, inclusive, and comprehensive (Braun & Clarke, 2006). This can be achieved by checking themes back to the data set and collecting all relevant extracts for each theme collated (Braun & Clarke, 2006). Thirdly, the analysis should demonstrate that the data have been interpreted rather than just described, and should tell a convincing and well-organised story about the data, striking a balance between analytic narrative and illustrative extracts (Braun & Clarke, 2006). Finally, the written research report should clearly explicate any assumptions inherent within the research, demonstrating a good fit between the method and analysis, and using language and concepts consistent with the researcher's epistemological position, acknowledging the researcher's active role throughout the research process (Braun & Clarke, 2006).

4.9.1. Quality assurance

The following means were used in this study in order to promote quality:

1. The epistemological position of the researcher was clearly stated, and the influence of it on the research process was considered throughout using a reflexive diary.
2. The findings were grounded in illustrative examples in order to allow an appraisal of the fit between the data and the findings.
3. Credibility checks of the data and analysis were provided by exploring the processes with the second and third researchers.
4. A sensitivity to the context was achieved by the researcher being grounded in the philosophy of the approach and the history of the topic, by engaging in wide reading and discussions with the second and third researchers.
5. The process of analysis adhered to the markers of a good thematic analysis outlined by Braun and Clarke (2006).

5. Extended Results

5.1. Section introduction

This section includes an overview of the context of the research participants, discussed by reference to their reported awareness and interest in Sensorimotor Psychotherapy, the issues they worked on in Sensorimotor Psychotherapy and the process of this, along with their reported interest in the neuroscience behind the therapy. This is followed by further exploration of themes and subthemes with illustrative extracts.

5.2. Setting the context

Participants described their awareness of Sensorimotor Psychotherapy prior to experiencing it, and therapists described what it was about Sensorimotor Psychotherapy that drove their interest in training in it. The participants discussed the issues that they worked on in therapy, describing aspects of the process of Sensorimotor Psychotherapy. Participants also described aspects of the neuroscientific basis for Sensorimotor Psychotherapy.

5.2.1. Awareness and interest

There was a variety of ways that participants reported that they became aware of, and interested in, Sensorimotor Psychotherapy. A number of participants reported that they heard about Sensorimotor Psychotherapy at conferences or training events focused on working with PTSD or trauma, as well as hearing about it through peers and colleagues. The participants who were therapists reported a variety of reasons as to why they became interested in Sensorimotor Psychotherapy and did the training course, revolving around working with traumatised individuals. Many participants stated that they worked with traumatised individuals and felt that Sensorimotor Psychotherapy added something extra to working with these individuals, such as the concept of the window of tolerance and the emphasis on working with the body.

5.2.2. Issues and process

There were a variety of reported issues that participants worked on in Sensorimotor Psychotherapy. Some of these issues stemmed from childhood experiences, such as difficult relationships with caregivers, and sexual abuse. Other issues were to do with physical traumas, such as the aftermath of a car accident or a physical assault. Other issues included difficulties with bereavement, and difficulties with anxiety.

Thus, a range of issues were worked on through Sensorimotor Psychotherapy as reported by the participants in this study.

There were a variety of processes that participants reported as part of the Sensorimotor Psychotherapy. Many of the participants described processes that involved working with the body, and a few illustrative examples are described here, demonstrating the wide variety in how the body is used in Sensorimotor Psychotherapy. For example, Diane described focusing on the sensation in a finger.

So I remember working with a finger once and one of my fingers felt dead and frozen and the others were okay. So we just stayed with the dead frozen finger and it was amazing. And the other fingers looked after the dead ... so it had a lot of psychological historical implications for me working with something dead and frozen and the other fingers looked after it in the end. And it, and I thought I had to chop the finger off but in actual fact I didn't need to chop it off, it needed taking care of. (Diane)

Diane described the sensation she experienced in a finger and the significance of this in terms of how it related to historical experiences. In order to do this, Diane described how she was encouraged to focus on the finger and to elicit what the sensation meant to her.

In another example, Fiona described how a change in her posture affected how she felt.

And I sat up there and during the meditation, I suddenly thought ... I could feel myself like a little baby sort of almost able to sit up for the first time and look around. And it felt very good. And it was really strange because I kept sitting like that and every time I sat like that it made me feel ... it made me smile. (Fiona)

The impact of changing her posture led to Fiona feeling different, as though this was the first time she was able to sit up and look around, implying that her previous posture had led to her being in some ways closed off to her immediate environment.

Julia described an example where she experienced her body shaking for 45 minutes, a process she described as 'sequencing'.

Julia: ... I actually experienced my own body shaking for 45 minutes sequencing the trauma out that I'd held in for 20 years.

Interviewer: Mm. What do you mean though by sequencing?

Julia: Sequencing is a sensorimotor term for when shaking or trembling is allowed to happen. And you're sequencing out, which means you're allowing the trauma that's held in muscles to actually be ... you allow the body to shake it out. It comes from the term for animals, animals in a jungle and they're petrified and they freeze and they shake afterwards. So when you have a trauma, you freeze and you hold it but that memory is stored in the muscles. And most talking therapies would never ever get it out, never ever. But I actually physically shook for 45 minutes.

Julia described this process as allowing a traumatic experience that was stored within her muscles to be released, implying a great sense of relief in allowing this to happen.

Participants described the process of being focused on the body as a mindful awareness, which was achieved through slow and careful tracking of bodily sensations and feelings, with the therapist encouraging a focus on the bodily experience, as a fundamental part of the process of Sensorimotor Psychotherapy. Participants also described psychoeducation as being an important process within Sensorimotor Psychotherapy, and that developing resources (whether somatic, cognitive, or emotional) was also a useful process within the therapy e.g. breathing exercises.

5.2.3. Neuroscience

Many of the participants described their interest in, and appreciation of, the neuroscience theory and evidence that underlies Sensorimotor Psychotherapy theory and practice. They stated that the neurobiological underpinnings of trauma formed the basis for Sensorimotor Psychotherapy's theory and practice. It appeared that the neuroscientific background to Sensorimotor Psychotherapy was held as a very positive attribute, attesting to the ability of Sensorimotor Psychotherapy to work successfully with traumatised individuals. Judith summarised this by referring to how the theory is integrated with practice.

And also the neuroscience, it's putting the neuroscience together with the theory and the practice of the therapy, understanding about right brain, left brain, amygdala, hippocampus, all of that kind of thing. It's bringing that practically into the work. It's not an academic piece of learning, it's like ha, right here, right now, the amygdala has got fired up because a memory's triggered. And being able to recognise and know that and go with that. (Judith)

This was common of many of the participants, that they linked the theory and practice of Sensorimotor Psychotherapy to the neuroscience literature, and in some ways revered this aspect of the therapy. It was notable that the participants did not comment on the equivocal nature of the neuroscience literature.

5.3. Themes

Four main themes were identified from the data, with the first two themes including subthemes:

1. Accessing the truth through the body
 - a) Access
 - b) Truth
 - c) Depth
2. Dilemmas of mind and body
 - a) The interfering mind
 - b) The telling body
3. Elusiveness of words
4. Change occurs through and within the body

Each theme and subtheme is expanded on below, supported by quotes from participant data, adding further illustrative examples to those found in the journal paper.

5.3.1. Accessing the truth through the body

Participants described Sensorimotor Psychotherapy as being able to access issues directly through its use of working with the body. Fiona described this as the body holding memories, and that accessing these can allow an individual to resolve issues.

The way I'd describe it is that although we have cognitive memories, our body actually holds memories and the body had memories which go back way before we have cognitive memories because memories are held in the body. And if we can work with the memories that are held in the body, it's possible that we might be able to resolve where those memories came from and the fact that you don't need to keep having them now. (Fiona)

Fiona suggested that the body holds memories, drawing a parallel to cognitive memories whilst drawing a distinction in terms of body memories being formed before we have the capacity for cognitive memories. Fiona suggests that working with the body memories can resolve issues, implying that the cognitive memories lack a similar capacity, raising the importance of body memories above that of cognitive memories. It is not clear from Fiona's description why bodily memories would be more important when cognitive memories are also available, compared to when there is not the capacity to form cognitive memories.

5.3.1.1. Access

Participants described that Sensorimotor Psychotherapy, through working with the body, is able to access issues in a direct way. Jane described the access to issues in terms of opening windows:

... it helped open windows somehow into areas of my psychological and emotional state, going through the body that I hadn't been able to access before as well. (Jane)

Jane's use of the word 'windows' implies that Sensorimotor Psychotherapy is able to see through to issues that have not previously been discovered or seen in the same way. The way Jane describes Sensorimotor Psychotherapy as being able to 'open windows' also implies that some of the issues may have been apparent in some form previously, but that access to them was restricted (behind a 'window'), until the body was used as a way of opening the window to access them. It is not clear that the process of using the body to access issues in Sensorimotor Psychotherapy would not have been possible using other therapy approaches.

Diane referred to Sensorimotor Psychotherapy as bridging gaps.

it's almost like before where I've had gaps, it's almost like I've got a bridge across my gaps. (Diane)

Diane described Sensorimotor Psychotherapy as being able to build a bridge in order to be able to access issues. The use of the word 'bridge' implies that working with the body allows a joining up process, where issues that were previously out of reach can be reached in a direct way (rather than trying to find a longer way around to the other side).

5.3.1.2. Truth

Sensorimotor Psychotherapy was described as being able to access the truth of an issue. Fiona contrasted this to how the mind works.

The body doesn't tell lies whereas our brains ... I'm not saying that clients lie or ... but we interpret things and we make up a belief about something. (Fiona)

Although Fiona's intention was not to say that people lie, her use of the word 'lies' in relation to thoughts produced by the brain implies that the mind is not always genuine. This is contrasted to the body, which is thought to be incapable of lying. This implies that the body is fundamental and true, and that the information it provides is free from interpretation which is an activity of the mind. Thus, the body is seen as being able to reveal the truth of an issue in a pure way, which is in contrast to how the mind is described.

Patricia took this further by stating that the body has wisdom.

Well the body says ... the body has huge wisdom, so discovering that the wisdom often doesn't lie in your head, which I'm a thinker. (Patricia)

Wisdom is usually akin to being a conscious activity occurring in the mind, whereas Patricia described the body as holding wisdom. This implies that the body is able to store and consider experiences, and if they are accessed they can be used to understand experiences and plan future activity. There is also an implication that the body is able to provide a much truer version of events and experiences, hence being wiser than the mind, which is considered to be less accurate and hence less wise.

5.3.1.3. Depth

Participants described Sensorimotor Psychotherapy as having depth, in that it could reach issues that were previously difficult to access. Diane described the process of working with the body itself as being deep.

So it's not just oh yeah, where is it in your body? It's kind of like what's it like? What do you notice? Can you stay with that a bit longer? So it's much, much more depth. (Diane)

Diane described that there was a depth to working with the body, that it was not just about noticing something in the body and then moving on, but staying with the bodily sensations and movements for longer in order to process it further.

Stephen talked about Sensorimotor Psychotherapy as reaching issues that he had not previously accessed as deeply before.

And so yeah, I felt for me in Sensorimotor Psychotherapy, a lot of kind of very deep work on things that I guess I just haven't really visited that much before I first started doing it. (Stephen)

Stephen described that Sensorimotor Psychotherapy involved deep work on issues that he had previously not paid much attention to. This implies that Sensorimotor Psychotherapy allowed him to realise the importance of issues that he had previously not thought about very much, and that this was achieved by the depth that Sensorimotor Psychotherapy reaches, and that it reveals how important some of these issues really are. It is not clear whether the deep work that Sensorimotor Psychotherapy is described as implementing is due to a need for the issues to be worked on specifically in training, whether they were felt to be important or not, or whether they actually were important but not previously attended to in much detail.

5.3.2. Dilemmas of mind and body

Participants described the mind and body as being different, and there were perceived tensions between the mind and body. John described how the work with the body could appear bizarre.

And those movements can feel completely bizarre/strange/alien, that they have nothing to do with me and yet they're happening to me. And they can be quite frightening if you don't know what's happening. But if you have the right sort of support, you can allow them just to happen. (John)

John described how bodily sensations can feel alien, and this appeared to be an assertion made by the mind, which may consider that the bodily sensation is not really part of you. This implies that the mind can be confused and shocked about what the body may be suggesting, and that the mind may reject it unless you are provided with the right support to allow the body sensations and movements to occur.

Gary talked about how he had some level of scepticism regarding Sensorimotor Psychotherapy based on his previous experience.

I wasn't sceptical but I thought I can't make sense of this because you know, when you've had CBT training in the past, none of this has ever been mentioned. And so I was thinking I'm not sure about this but then when I actually experienced it, it just transformed me and I felt gosh, the experience ... there is some truth in this and I was like gosh (laughs). (Gary)

Although Gary said that he was not sceptical, he described how his initial ideas about Sensorimotor Psychotherapy were that it was something he had not previously experienced and thus he queried the utility of it. This initial uncertainty was then thwarted once he experienced the therapy process, implying that the experience was enlightening. Gary's laughter at the end of this statement implies that he was in some way amused by his reflection on how he had initially viewed Sensorimotor Psychotherapy and the subsequent change following experiencing it himself.

5.3.2.1. The interfering mind

Participants described the mind as interfering with the process of working with the genuine issue. Sally described the process of being mindfully aware of the body as a difficult process.

It's like that, slowing it down and being ... and for someone who's quite cognitive, it's very hard to be just mindful of your body because I want to jump ahead and go. (Sally)

Sally described how she wanted to cognitively 'jump ahead', which made the process of working with the body difficult at first. There is an implication that the mind can be difficult to control, in that it wants to get involved and speed things up, which is suggested as hindering the mindful awareness of the body that is required in Sensorimotor Psychotherapy.

John suggested that we usually dismiss bodily sensations.

Well it's not to amplify, it's to develop because most ... the rest of the time we're busy pushing them away because we want to stay in control. (John)

John implied that because we want to stay in control, in a cognitive sense, that we push bodily sensations to one side. In this way, the mind can interfere with us paying attention to our body. There is an implication that the mind can usually overpower the body, hence interfering with the bodily sensations and feelings that are considered to be important.

5.3.2.2. The telling body

In comparison to the interfering mind, participants described the body as being very telling, in that it was able to provide and convey important information, and even operate, without conscious decision. John described the body as knowing what is needed.

The body knows what's good for it, it's helping you to listen more to your body, so that you can bind it to yourself. (John)

John described the body as knowing what it needs to do in order to deal with an issue. Thus, Sensorimotor Psychotherapy allows this to happen, and allows some integration with the mind and the conscious self (i.e. 'bind it to yourself'). There is an implication that the body can be separate from the mind and the conscious self, but that through listening to the body it can then be integrated with the mind. There is a suggestion that this process would allow a more wholly integrated personal experience.

Gary described how his body was doing something that he had not made a conscious choice to do.

I hadn't even thought about it, it was just something my body was doing you know, I wasn't thinking I need to do this because I've learnt it earlier, my body was doing it. (Gary)

Gary implied a separation between the body and mind, with the body being able to take over and do what it felt was necessary if this was allowed. There is also a suggestion that if the conscious mind can be aware of the body's actions and movements then integration between

the mind and body can be achieved. This is illustrated in how Gary described being aware of a bodily sensation and movement which he had learned during the training, whereas previously he may not have been aware of his body doing similar things and the reasons behind this.

5.3.3. Elusiveness of words

Many participants stated how it was difficult to describe some of their bodily experiences of Sensorimotor Psychotherapy in words. Diane stated that there are subtle aspects of Sensorimotor Psychotherapy that are difficult to voice.

Because I think there are subtleties that are really difficult to voice. (Diane)

Diane's use of the word 'subtleties' implies that there are aspects of Sensorimotor Psychotherapy that are so understated that there are not adequate words for describing them. This suggests that some aspects of working with the body are indescribable. Perhaps this is because they are a bodily experience that we do not usually attend to, hence we lack the words in our vocabulary to adequately describe them.

John described bodily sensations that were not accompanied by words.

So I had a session in which I was starting from an experience, a conscious memory of my brother strangling me when I was 11 but very quickly I led that content into the feelings and the sensations and started to feel whole waves of tension that didn't ... I had a sense that these weren't accompanied by words. They came from experiences that were pre-verbal and yet they were extremely emotional and absolutely overwhelming within what I could tolerate. (John)

John suggested that some bodily experiences lack a verbal component, in that they can appear 'pre-verbal'. John described these bodily experiences as being emotionally-charged and overwhelming, implying that where non-verbal bodily sensations exist, the nature of them lacking words plays a role in the how these bodily sensations are experienced.

5.3.4. Change occurs through and within the body

Participants described how the changes they experienced through Sensorimotor Psychotherapy occurred through working with the body,

and thus engendered changes within the body as well. Diane noted that one of the most useful changes for her involved being able to notice her anxiety through her bodily sensation.

...what I've noticed is ... I really notice my anxiety, which is helpful for me. But I notice that I have a physical ... and I've never noticed this before, I notice that I have a physical pain in my chest with my anxiety. (Diane)

Diane's quote suggests that if an individual can learn more about their body (through working with the body) then it can help them better understand their emotions. This suggests that Sensorimotor Psychotherapy is able to integrate bodily and emotional experience.

Jane described how she has experienced embodied change.

Yeah, and I think I've got a sense of well-being that actually ... and an understanding of the way my body is that I recognise and lodge. But I think more or less I'm walking more upright, I'm walking more freer, I've got a stronger sense of myself which is reflected in my body. I feel more grounded, so I'm more in contact with my legs, the earth, my pelvis, in a more sustained way I think" (Jane)

Jane referred to this embodied change as a 'sense of well-being', suggesting that the changes she has experienced through Sensorimotor Psychotherapy have been reflected in her body. Jane's description of feeling more 'grounded' implies that the bodily changes she has experienced have led to her being more aware of her body, and perhaps more in control of it.

6. Extended Discussion

6.1. Section introduction

This section includes a summary of the findings of the study, which are then situated within the context of relevant previous research and theory. The strengths and limitations of this study are then discussed, followed by a consideration of the clinical implications of the findings. Finally, suggestions for future research are explored.

6.2. Summary of findings

This study aimed to explore what it is like to use the body in therapy, specifically Sensorimotor Psychotherapy. Thematic analysis of 12 interview transcripts generated four main themes: 'accessing the truth through the body', 'dilemmas of mind and body', 'elusiveness of words', and 'change occurs through and within the body'. 'Accessing the truth through the body' refers to how participants felt that Sensorimotor Psychotherapy is able to access the true and genuine issue by working in great depth through the body. The three subthemes of 'access', 'truth', and 'depth' reflect this in a finer detail. 'Access' refers to how participants described Sensorimotor Psychotherapy as being able to access issues in a direct manner through its use of working with the body. 'Truth' refers to how participants described Sensorimotor Psychotherapy as being able to access the genuine and true core of an issue by working with the body. 'Depth' refers to how participants described Sensorimotor Psychotherapy's ability to deeply access the core of issues. 'Dilemmas of mind and body' were also prominent throughout the data, reflecting reported conflicts between the mind and body, and a sense that progress can be made if the mind and body are fully integrated. The subtheme 'the interfering mind' was identified where participants described how the mind can get in the way of dealing with the real issue by overpowering the body, but that conscious awareness of the body, through working directly with the body, can overcome this. The subtheme of 'the telling body' reflected participants' discussions about how the body is key in the process of Sensorimotor Psychotherapy in providing information, and that it must be attended to without the mind getting in the way and distracting from the message it is giving. The 'elusiveness of words' was a prominent feature, in that many participants noted the difficulty in expressing the bodily aspects of Sensorimotor Psychotherapy in words, and that attempting to do so misses part of the experience. In the theme 'change occurs through and within the body' participants described how Sensorimotor Psychotherapy is an embodied therapy experience with

change occurring through the body (i.e. working with bodily sensations and movement) and also affecting the body (e.g. changes in posture).

6.3. Findings in the context of previous research and theory

The finding that traumatic experience has an impact on bodily experience resonates with van der Kolk's (1996b) assertion that trauma impacts people on multiple levels of biological functioning. It follows that therapy needs to be able to work across different levels of biological functioning in order to access all parts of the experience. The theme 'accessing the truth through the body' reflects the emphasis on the body within Sensorimotor Psychotherapy which many other top-down approaches do not routinely include. The subtheme 'the telling body' reflects how participants felt that working with the body reveals information that would be difficult to otherwise access, suggesting that it is a part of the lower levels of the brain (i.e. the brainstem, hypothalamus, and the limbic system).

The theme regarding the 'elusiveness of words' fits with van der Kolk's (1994) description of 'speechless terror', whereby the emotional impact of an experience may interfere with the capacity to capture the experience in words. This is linked to the findings that excessive stimulation of the amygdala (which is considered to be involved in the integration and interpretation of incoming sensory information) inhibits the cognitive evaluation of experience (considered to be facilitated by the hippocampus), meaning that memories are then stored in sensorimotor modalities. Thus, participants' reference to the elusiveness of words to describe traumatic experiences may reflect this neurobiological process, whereby traumatic memories are in sensorimotor modalities rather than in cognitive modalities.

The theme 'dilemmas of mind and body' relates to LeDoux's (1998) emotional brain theory, whereby emotional feelings are essentially changes in brain states and bodily responses, with conscious feelings being an added extra rather than a fundamental feature. If this is the case, then it perhaps explains why there are dilemmas between the mind and body, because if emotions cannot be understood consciously (cognitively) then this will be interpreted as problematic, because this is how we expect to understand ourselves (LeDoux, 1998). If the emotional state is reflected most strongly in the body, then this would be problematic when 'the interfering mind' overpowers this experience from being fully understood. There is also a resonance with Damasio's (2006) somatic marker theory, whereby emotions and bodily sensations are inextricably linked for evolutionarily derived survival purposes,

which is reflected in the subtheme 'the telling body'. If bodily sensations are wired up to ensure survival, then such bodily sensations could at times be overwhelming and act out of our conscious control.

The findings bear little resemblance to the emotional processing theory of PTSD proposed by Rauch and Foa (2006), or the cognitive model of PTSD proposed by Ehlers and Clark (2000), but do relate to the dual representation theory of PTSD proposed by Brewin et al. (1996). For example, the theme 'dilemmas of mind and body' relates to the concept of the two separate memory systems proposed in the dual representation theory; with 'the interfering mind' relating to verbally-accessible memory (VAM) and 'the telling body' relating to situationally-accessible memory (SAM). The links between the findings and Sensorimotor Psychotherapy are evident throughout the themes, which comes as no surprise seeing as it was the therapy of focus for this study. For example, the theme 'accessing the truth through the body' relates to Sensorimotor Psychotherapy's assertion that bodily sensations and feelings are an important part of traumatic experiences, and thus should be addressed in therapy (Ogden, Minton, et al., 2006).

Sensorimotor Psychotherapy, although increasingly practiced in clinical circles, lacks an empirical evidence base, evidenced by the dearth of empirical studies in the area and the omission of the therapy in clinical guidelines. For psychological therapies to be included in National Institute for Clinical Excellence (NICE) guidelines, the Department of Health first refers a topic for guidance and appraisal. NICE guidelines then recommend evidence-based treatments for a variety of health problems, following a hierarchy of evidence in order to make these decisions. For example, in the Department of Health's (2001) 'Treatment choice in psychological therapies and counselling' document, a hierarchical approach to identifying and interpreting evidence was adopted. The best quality evidence was considered to be found in systematic meta-analytic reviews, followed by evidence from descriptive studies such as comparative studies, correlation studies, and case-control studies. Forming the lowest quality evidence was evidence from expert committee reports or opinions. This format for evaluating evidence extends to how NICE guidelines are developed. Although such a hierarchical approach to creating evidence based clinical guidelines assures a systematic approach to evaluating evidence with minimal bias, problems such as gaps in literature, therapeutic allegiance, methodological limitations in trials, population heterogeneity, and difficulties generalising research findings to clinical populations brings an uncertainty to such guidelines. Furthermore,

forms of therapy where good quality research has not yet been commissioned is not evidence of ineffectiveness. Also, for therapies to be researched in formal randomised trials requires some standardisation of the intervention (Department of Health, 2001), which may be difficult in multi-modal and complex therapies such as Sensorimotor Psychotherapy.

There is a body of critique directed at the very idea of evidence based psychological therapies and subsequently developed clinical guidelines. Firstly, evidence based treatments are usually defined as specific therapies for specific problems (Chambless & Ollendick, 2001). The inclusion of participants who meet diagnostic criteria for certain problems is inherent in this approach, and participants are usually screened to maximise heterogeneity of diagnosis and minimise co-occurring conditions that could increase variability of treatment response (Chambless & Ollendick, 2001; Westen, Novotny, & Thompson-Brenner, 2004). Furthermore, the treatments examined in controlled trials are usually of brief and fixed duration to minimise within-group variability (Westen et al., 2004). As Sensorimotor Psychotherapy is a treatment not just for PTSD, but also for more complex elaborations of trauma which are not included in psychiatric diagnostic systems, or have problematic criteria (e.g. complex trauma, DID, attachment and developmental traumas), then gathering evidence appropriate for clinical guidelines is inherently problematic. Furthermore, clinical guidelines usually only include randomised controlled trials or similar, with no remit for qualitative research, and the findings are sometimes difficult to generalise to clinical practice (Chambless & Ollendick, 2001).

6.4. Strengths and limitations

A strength of this study is that the experiences of individuals who have experienced using the body in therapy as part of Sensorimotor Psychotherapy have been thoroughly explored. The semi-structured interviews allowed rich, detailed information regarding the use of the body in therapy to be elaborated by those who have experienced it. The thematic analysis has generated a number of themes that bring a coherent analytic narrative to the nuanced experiences discovered by those who have been involved in this fairly unique therapeutic approach. This has led to an understanding of how the findings fit with previous research and theories, and the findings themselves will pave the way for a number of different avenues for future research.

There are, however, some limitations to the present study. Firstly, the majority of the participants were therapists who had completed training in Sensorimotor Psychotherapy. Although therapists use their own material during the experiential sessions during Sensorimotor Psychotherapy training, it is likely that their traumatic experiences would not be as numerous and/or intense as those of clients who have sought out the therapy. Furthermore, the participants who were therapists were noted to use the technical language related to Sensorimotor Psychotherapy which may have impacted in the findings, although the interviewer ensured that such instances were followed up by asking the participant to provide further explanation using example and/or plainer language. Thus, there are a number of potential factors which may contribute to individuals who are not therapists experiencing and describing Sensorimotor Psychotherapy in very different way. It is also possible that there would be differences in the experiences described by therapists and clients, which was not possible to explore in this study due to the small number of clients involved. Secondly, a sampling bias may exist due to the recruitment strategy of advertising the study through the UK Association for Sensorimotor Psychotherapy, potentially only attracting those individuals who experienced the therapy in a positive way. There is a possibility that individuals who did not respond to the advert, or those who did not even receive it due to no longer being on the mailing list (having discontinued an interest in the approach) may have experienced the therapy very differently. It is of note that each participant in this study described Sensorimotor Psychotherapy as a very useful and positive experience, which may indicate a sampling bias towards those individuals who found the approach helpful. A more inclusive sample that included individuals who had a less positive experience of the therapy may have led to some different findings. Thirdly, the interviewer was not trained in Sensorimotor Psychotherapy, which may have influenced how participants felt about discussing a therapy that was so often described as escaping the usual vocabulary (i.e. 'elusiveness of words'). An interviewer who had experienced the therapy may have had some different responses and explanations from participants. Such an interviewer may also have adopted a different approach to the study as a whole (e.g. research question, epistemology, methodology) which may have led to different findings. Finally, the fact that most participants described the elusiveness of words to put their experience of Sensorimotor Psychotherapy across accurately suggests that using a purely verbal interview potentially missed some of the experience being conveyed. It is possible that a different method of data collection,

perhaps with an inclusion of bodily experience, would have added a different dimension to the findings reported here.

6.5. Clinical implications

The clinical implications of the findings are that the body may provide a useful resource for assessment of trauma and PTSD, as well as the therapy process. Thus, therapy approaches for the treatment of PTSD and complex trauma could consider including some aspect of bodily awareness and change within their approach. This may allow a further focus on those embodied symptoms of PTSD that are usually only considered in a top-down fashion, which is known to be difficult with traumatised individuals (van der Kolk, 2006).

Furthermore, psychological therapies for trauma and PTSD could aim to be aware that bodily experiences may not be easily described in words, and may seem overwhelming. Thus, psychological therapies for trauma could consider including tools for working with individuals who feel as though their bodily experiences are bizarre and strange, and hence may reject them cognitively. Therapies could also acknowledge the perceived dilemmas between the mind and body, remaining alert to the mind overpowering bodily sensations which may be useful to consider. Psychological therapies for trauma and PTSD, particularly Sensorimotor Psychotherapy and other body-oriented therapy approaches, could consider therapy process and outcome measures that assess bodily experience and change.

6.6. Future research

Future research should aim to further explore the experience of Sensorimotor Psychotherapy with individuals who are not therapists, in order to understand the experiences of those who do not necessarily draw on the theoretical background to understand and describe Sensorimotor Psychotherapy. Future research should also look to discover the experiences of individuals who lost interest in practicing the therapy, or those clients who discontinued it due to finding it unhelpful, in order to examine whether their experiences identify with those found in this study. This would give a more comprehensive understanding about how acceptable and useful the therapy is considered by a wider, more inclusive population. It would also be worth considering different methods of exploring the experience of Sensorimotor Psychotherapy that incorporates the importance of the body within the research, and an interviewer who has trained in the therapy may be best placed to achieve this. Future research should also find ways of measuring the process and outcome of body-oriented

therapies, taking the elusiveness of words for describing bodily experiences into account.

7. Reflection

7.1. Section introduction

This section offers my reflections throughout the research process. I begin by discussing my own personal orientation to the topic and the development of the research question. I follow this with an exploration of my reflections throughout the research process, from data collection to write-up. Finally, I reflectively examine my personal development as a researcher. (see appendix K for an excerpt from my reflexive diary)

7.2. Personal orientation to the topic

I have always found PTSD and trauma a fascinating area of psychology, due to the variety of ways it can be experienced and the fast-paced nature of the literature, theory, and evidence attempting to understand it. It was clear to me that PTSD and trauma can have a profound impacts on the lives of individuals, and that current recommended treatments are not always sufficient, especially with those whose experiences resonate with the concept of 'complex trauma'.

I first heard of Sensorimotor Psychotherapy during a teaching session on PTSD as part of my clinical training as a trainee clinical psychologist, incidentally delivered by from the second author (one of my research supervisors) of this study. I was struck by how different and dynamic the approach seemed. When it came to deciding upon a thesis topic, my interest in trauma drew me to finding out more about this fascinating therapy I had been briefly introduced to. As one of my research supervisors was trained in Sensorimotor Psychotherapy, I was able to supplement my reading around the topic and formulations of a research question with engaging and thoughtful discussions. On reflection, my naivety about the reality of Sensorimotor Psychotherapy was demonstrated in the supervisor spending time with me explaining the process of the therapy.

As I learned more about the therapy in the academic sense, through reading relevant literature and having discussions with my supervisor, I realised that I had begun to actually feel rather sceptical about the therapy. On reflection, this was probably due to two factors. Firstly, my own clinical preferences were aligned to CBT and behavioural approaches, which pay little direct and sustained attention to the body. Secondly, I had not worked with any individuals with PTSD in my clinical practice. Thus, I found it difficult to fully understand the radically different approach proposed by Sensorimotor Psychotherapy because

it was so different to my usual preferences, and I had not seen how CBT and other top-down approaches for PTSD had been unsuccessful. The fact that I had not seen how CBT could be insufficient in working with PTSD was opposed to how the therapists in this study described becoming interested in Sensorimotor Psychotherapy (i.e. due to working with traumatised individuals and finding that usual top-down approaches were not always sufficient).

I attended a training event focused on Sensorimotor Psychotherapy towards the end of the data collection phase of the study. This training event was an introduction to the theory and practice of Sensorimotor Psychotherapy for trauma and included some experiential exercises using the body. I entered the day fully aware of my scepticism and tried to allow myself to be involved in the process without holding back. By this point I did find the theory of Sensorimotor Psychotherapy comprehensive, coherent, and convincing, but I still had difficulties with seeing how it would work in practice. Most of the other people attending the event were therapists who worked with traumatised individuals, in contrast to me. Hearing their queries about how to apply Sensorimotor Psychotherapy to their work and the answers provided by the trainer allowed me an insight into how Sensorimotor Psychotherapy looks in practice and the potential utility of it. I found the body-oriented experiential exercises difficult to fully involve myself in and I engaged in a fairly superficial sense. On reflection, this was probably due to my allegiance with top-down therapeutic approaches and my difficulty in attending purely to bodily sensation and movement. This is mirrored in how many of the participants in this study described the process of being mindfully aware of the body as a skill that requires practice. Nonetheless, the training event allowed me to discover much more about Sensorimotor Psychotherapy in practice, which I was able to relate to the data.

7.3. Reflections throughout the research process

Reflections following interviews

Following each research interview, I reflected on the process using a reflexive diary. A theme of these reflections was that I frequently noticed how participants described Sensorimotor Psychotherapy as being hugely life-transforming, even though most participants were therapists who had engaged in experiential sessions, rather than seeking out the therapy to deal with traumatic experiences. Whilst I found this fascinating, I also found it somewhat difficult to comprehend that participants were describing a psychological therapy without any apparent critical analysis of it. It was pertinent that none of the

participants were able to describe an unhelpful aspect of the therapy even when this was directly queried. On reflection, my inclusion of this question related to my own scepticism, and this scepticism may have been portrayed to participants regardless of how curious and genuinely interested I was. This may have influenced how they referred to the Sensorimotor Psychotherapy as an entirely positive experience.

Reflections prior to analysis

I spent time familiarising myself with qualitative research methods, particularly thematic analysis, prior to starting the analysis. I focused my main learning of the technique on the method described by Braun and Clarke (2006). I considered the process to be largely linear as described in the steps outlined by Braun and Clarke, and I searched for ways of making the analytic procedure systematic. On reflection, although my tendency to approach research systematically had many advantages for ensuring I conducted a coherent and comprehensive thematic analysis, it also focused me too heavily on the process as linear method. Furthermore, my naivety about Sensorimotor Psychotherapy propelled me to ensure that I represented the experiences of participants accurately and sensitively. Thus, I searched for the best way to conduct a thematic analysis and underestimated the fluid and creative analytic process.

Reflection during analysis

I initially approached the analytic process in a fixed, linear, systematic fashion, feeling the need to retain a sense of control over the process. On reflection, this ties in with my usual research tendencies. Prior to this study, I had only ever carried out quantitative research, and I felt daunted by the process of qualitative analysis. My quantitative tendencies to find the 'right' answer in a linear, fixed manner influenced the early stages of my analysis. Although there were some advantages in this, I found that I had to encourage myself to view the data through a different, more fluid and creative lens. This was managed through discussions with research supervisors, enabling me to gain confidence in starting to look at the data in a more interpretive manner.

Reflections during the write-up

Following the analysis, I had a thematic map that visually depicted the main themes and findings, guiding the write-up and focusing me on the specific themes that I intended to portray. At this point, I was extremely familiar with the data and the task was to transfer the themes into a coherent narrative of the analysis. I recall feeling compelled to ensure that the write-up reflected each theme coherently and convincingly. On

commencing the write-up, I was aware of the challenge I faced in covering the extensive background relating to the body in therapy and sensorimotor psychotherapy itself. On reflection, whilst this was a challenging task, it allowed me to place my research in the relevant context.

7.4. Development as a researcher

Prior to this study my experience had been limited to quantitative research. The process of this research project has allowed me to see the different quality of findings discovered in qualitative research, as equally important to quantitative findings but insightful in a different way. I was also used to adopting a fairly positivist epistemological position, and the transition to a more critical realist approach was initially challenging. However, as my critical analysis skills developed throughout my clinical training, so did my affinity with the critical realist epistemological position in general. The process of conducting this research allowed me to transfer my newly considered epistemological position into a formal research process. On reflection, although this was not a simple process, it has allowed me to see the utility of qualitative research, which has impacted on my own awareness and ability to appraise qualitative literature as a psychologist.

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APPENDICES

9.1. Appendix A: Ethical approval letter

Institute of Work, Health & Organisations
<http://www.nottingham.ac.uk/iwho>



**The University of
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01/07/2011

Dear Sharonjit

I-WHO Ethics Committee Review

Thank you for submitting your proposal on "Attending to the body in therapy: exploring clients' experiences of sensorimotor psychotherapy". This proposal has now been reviewed by I-WHO's Ethics Committee to the extent that it is described in your submission.

I am happy to tell you that the Committee has found no problems with your proposal. If there are any significant changes or developments in the methods, treatment of data or debriefing of participants, then you are obliged to seek further ethical approval for these changes.

We would remind all researchers of their ethical responsibilities to research participants. The Codes of Practice setting out these responsibilities have been published by the British Psychological Society. If you have any concerns whatsoever during the conduct of your research then you should consult those Codes of Practice and contact the Ethics Committee.

You should also take note of issues relating to safety. Some information can be found in the Safety Office pages of the University web site. Particularly relevant may be:

The *Safety Handbook*, which deal with working away from the University.

<http://www.nottingham.ac.uk/safety/>

Safety circulars: Fieldwork P5/99A on

<http://www.nottingham.ac.uk/safety/publications/circulars/fieldwk.html>

Overseas travel/work P4/97A on <http://www.nottingham.ac.uk/safety/publications/circulars/overseas.html>

Risk assessment on <http://www.nottingham.ac.uk/safety/publications/circulars/risk-assessment.html>

Responsibility for compliance with the University Data Protection Policy and Guidance lies with all researchers.

Ethics Committee approval does not alter, replace or remove those responsibilities, nor does it certify that they have been met.

We would remind all researchers of their responsibilities:

- to provide feedback to participants and participant organisations whenever appropriate, and
- to publish research for which ethical approval is given in appropriate academic and professional journals.

Yours sincerely

Professor Nadina Lincoln
Chair IWHO Ethics Committee

9.2. Appendix B: Ethical approval letter for amendment

Institute of Work, Health & Organisations
<http://www.nottingham.ac.uk/iwho>



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19/10/2011

Dear Sharonjit

I-WHO Ethics Committee Review

Thank you for submitting your amendment to your study entitled 'Attending to the body in therapy: exploring clients' experiences of sensorimotor psychotherapy'. This amendment has now been reviewed by I-WHO's Ethics Committee to the extent that it is described in your submission.

The Committee has accepted your proposed changes. If there are any further significant changes or developments in the methods, treatment of data or debriefing of participants, then you are obliged to seek further ethical approval for these changes.

We would remind all researchers of their ethical responsibilities to research participants. The Codes of Practice setting out these responsibilities have been published by the British Psychological Society. If you have any concerns whatsoever during the conduct of your research then you should consult those Codes of Practice and contact the Ethics Committee.

Responsibility for compliance with the University Data Protection Policy and Guidance lies with all researchers.

Ethics Committee approval does not alter, replace or remove those responsibilities, nor does it certify that they have been met.

Yours sincerely

**Professor Nadina Lincoln
Chair IWHO Ethics Committee**

9.3. Appendix C: Invitation to therapists



INFORMATION FOR THERAPISTS

Attending to the body in therapy: experiences of sensorimotor psychotherapy

**Researchers: Sharonjit Dinas, Dr Rachel Sabin-Farrell, Dr Roshan
das Nair**

TRENT DOCTORATE IN CLINICAL PSYCHOLOGY

Who am I?

I am a Trainee Clinical Psychologist at the University of Nottingham, and this study is my Doctoral thesis. I have gained ethical approval from the Institute of Work, Health and Organisations at the University of Nottingham to undertake this study.

What am I interested in?

As you are aware, there is a dearth of research on sensorimotor psychotherapy from a client's perspective. Exploring the experiences of those who have had sessions of sensorimotor psychotherapy may shed light on the acceptability of the approach to clients, views and opinions regarding sensorimotor psychotherapy before and after the session(s), and how it has impacted on their lives subsequently. This work has not been systematically undertaken before. Using a qualitative approach, rich information can be gleaned from those who have experienced sensorimotor psychotherapy, which may inform future practice for therapists, guide further research, and guide those who are offered the approach in deciding whether or not they want to engage in it. This information may also pave the way for the development of specific outcome measures which may be suitable to assess treatment effectiveness.

What are my aims?

The aim of this study is to explore the experiences of clients and/or clinicians who have had psychological work directly with the body, specifically, sensorimotor psychotherapy.

How will I achieve this?

This study will use semi-structured interviews to explore the experience of clients and/or clinicians. Interviews will take place either face-to-face, on the telephone, or online using Skype or MSN messenger. Thematic analysis will be used to analyse the transcribed interviews.

Would you like to take part as a clinician?

We are interested in hearing about the personal experiences that clinicians had when undertaking their sensorimotor psychotherapy training. Please get in touch either by either the email address or telephone number below and I can send you an information sheet regarding the study. I can then answer any questions you might have about being a participant.

Do you have any clients that may be suitable to take part?

I would also really appreciate your help in recruiting client to participate in this study. This would involve the following:

- Giving study information packs to clients who are coming to the end of their sensorimotor psychotherapy, or those who have had it within the last year. The following criteria apply:
 - a. Inclusion criteria:* adults (age 18+) who have had sensorimotor psychotherapy.
 - b. Exclusion criteria:* Those who do not speak English. Those who have dissociative identity disorder.
- Giving me the contact details of interested potential participants who have consented for their contact details to be passed on to me, either by email or by telephone. This will be done using a 'consent to pass on contact details' form. Following this, there will be no further involvement required of you.
- I will then contact the potential participants, fully explain the study, and gain consent before arranging an interview place and time with the participant.

Potential participants whose contact details you pass on will not be under any obligation to take part in the research. If they give consent to participate, they can withdraw at any time, although they will not be able to withdraw their data once it has been analysed.

Get in touch

Contact me on the email address or telephone number below and I will explain further about your involvement if you choose to take part in the recruitment and/or the study.

SHARONJIT DINAS

email:

lwskd1@nottingham.ac.uk

Trainee Clinical Psychologist

telephone: [REDACTED]

[REDACTED]

Trent Doctorate in Clinical Psychology

9.4. Appendix D: Information sheet



Information Sheet

Attending to the body in therapy: experiences of sensorimotor psychotherapy

Researchers: Sharonjit Dinas, Dr Rachel Sabin-Farrell, Dr Roshan das Nair

TRENT DOCTORATE IN CLINICAL PSYCHOLOGY

I would like to invite you to take part in a research study. Before you decide I would like you to understand why the research is being done and what it would involve for you. This information sheet explains this, and I will also speak with you about this study on the telephone if you are interested in taking part, and answer any questions that you might have.

What is the purpose of the study?

The study's purpose is to explore the experiences of individuals who have had sensorimotor psychotherapy, because there is currently no research in this area. It is hoped that this will inform future practice for therapists, guide further research in the area, and help guide those who are offered the approach in deciding whether or not they want to engage in sensorimotor psychotherapy.

Why have I been invited?

You have been invited because I am interested in people who have had experience of sensorimotor psychotherapy.

Do I have to take part?

It is up to you to decide whether to join the study. If you decide to take part, I will ask you to sign a consent form to show that you have agreed to take part. You are free to withdraw at any time, without giving a reason. However, the data you have provided cannot be withdrawn if it has already been used in the analysis.

What will happen to me if I take part?

If you decide to take part in the study, and have signed a consent form to confirm your participation, I will contact you to arrange a mutually convenient time and place to undertake an interview with you. Depending on what is most convenient, I will either interview you face-to-face at your home, or over the telephone. If you would prefer, I can arrange to conduct the interview using Skype or MSN messenger online.

I will ask some general questions about you e.g. your age. I will then ask you a few questions about your experience of sensorimotor psychotherapy, in the form of an interview. The interview will last about an hour. For telephone, face-to-face interviews or video-Skype interview, an audio recording of the interview will be made. These interviews will be transcribed (typed out word for word) for analysis. For MSN or other text-chat interviews, I will save our chat, which will be used for analysis.

All the information you give will be identified by a participant number unique to you in the study. Information that identifies you will be kept securely and separately from the information that is used in the study.

Expenses and payments

You will not receive any payments for taking part in the study.

What are the possible disadvantages and risks of taking part?

In the unlikely event you become distressed when answering the questions in the interview, you can stop the interview at any time if you find it distressing and do not want to continue. There is a list of organisations that may be able to help you if you do become distressed, and I will provide you with this information. If you feel distressed following the interview you may also wish to talk to your GP about your psychological health.

What are the possible benefits of taking part?

Although there are no personal benefits for taking part, you will be given the opportunity to talk about your experience of sensorimotor psychotherapy, explaining your views and opinions on the therapy, and the effect it has had on your life. The information we get from this study will also help to generate further research into sensorimotor psychotherapy.

The results of the study will be reported as part of my doctoral thesis. If you wish to receive a summary of the results when the study has been completed then please let me know. I will use the contact details you give in order to send you a summary of the results in 2012.

Will my taking part in the study be kept confidential?

All information which is collected about you during the course of the research will be kept strictly confidential. Your contact details and consent form will be placed in a sealed envelope, labelled with your unique number and the date it can be destroyed. Your general information (e.g. age) and interview recording and transcription will be anonymous. All information will be kept in a locked filing cabinet at the University of Nottingham.

The transcription of the interview will be stored securely and anonymously on a computer for the researcher to analyse. Any information that has your name, address, or telephone number on it will not be accessed by anyone other than the researcher. All the data you provide will be kept for seven years after the study is complete, after which it will be destroyed securely.

I will be using direct quotes from our interviews in my reports from this study, but your identity will not be disclosed in these quotes. I will assign a different name for you in place of your real name that you choose for your statements.

What will happen if I don't want to carry on with the study?

Your participation is voluntary and you are free to withdraw at any time, without giving any reason, and without your legal rights being affected. If you withdraw after the data has been analysed then the information collected so far cannot be erased and this information may still be used in the project analysis.

What if there is a problem?

If you have a concern about any aspect of this study, you should speak to the researcher who will do their best to answer your questions. If you remain unhappy and wish to complain formally, you can do this through the University of Nottingham on 0115 8467523.

Who is organising and funding the research?

The sponsor of the study is the University of Nottingham.

Who has reviewed the study?

This study has been reviewed and given favourable ethical opinion by the Institute of Work, Health and Organisations at the University of Nottingham.

Further Information and Contact Details

If you wish to have further information then please use the contact details below for the researchers.

Primary Researcher: Sharonjit Dinas
Address: Institute of Work, Health and Organisations,
International House,
University of Nottingham,
Jubilee Campus,
Wollaton Road,
Nottingham,
NG8 1BB.

Telephone Number: [REDACTED]
E-mail: lwskd1@nottingham.ac.uk

Researcher 2: Dr Rachel Sabin-Farrell
Address: Institute of Work, Health and Organisations,
International House,
University of Nottingham,
Jubilee Campus,
Wollaton Road,
Nottingham,
NG8 1BB.

Telephone Number: [REDACTED]
E-mail: [REDACTED]

Researcher 3: Dr Roshan das Nair
Address: Institute of Work, Health and Organisations,
International House,
University of Nottingham,
Jubilee Campus,
Wollaton Road,
Nottingham,
NG8 1BB.

Telephone Number: [REDACTED]
E-mail: [REDACTED]

9.5. Appendix E: Consent to pass on contact details form



Consent to pass on contact details

Attending to the body in therapy: exploring clients' experiences of sensorimotor psychotherapy

Researchers: Sharonjit Dinas, Dr Rachel Sabin-Farrell, Dr Roshan das Nair

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I give my therapist _____ permission to pass my contact details onto the researchers for the above mentioned study.

Name of Potential Participant _____
Date _____
Signature

Name of Therapist
(taking consent) _____
Date _____
Signature

Telephone _____

Address _____

Email _____

Preferred method of contact: _____

9.6. Appendix F: Consent form



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Participant Number: _____

CONSENT FORM (Version 2: 02/10/11)

Title of Study: Attending to the body in therapy:

Name of Researchers:

Sharonjit Dinas, Dr Rachel Sabin-Farrell, Dr Roshan das Nair

Name of Participant:

Please initial box

1. I confirm that I have read and understood the information sheet version number 2 dated 02/10/11 for the above study and have had the opportunity to ask questions.
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, and without my medical care or legal rights being affected.
3. I understand that should I withdraw more than 48 hours after the interview then the information collected so far cannot be erased and that this information may still be used in the project analysis.
4. I understand that my interview will be recorded and transcribed (written word-for-word), but will not include any information which will reveal my identity.
5. I agree to take part in the study.

Name of Participant

Date

Signature

Name of Researcher
(taking consent)

Date

Signature

2 copies: 1 for participant and 1 for the project notes

9.7. Appendix G: Demographic data form



Participant Demographic Data

Attending to the body in therapy: experiences of sensorimotor psychotherapy

Researchers: Sharonjit Dinas, Dr Rachel Sabin-Farrell, Dr Roshan das Nair

TRENT DOCTORATE IN CLINICAL PSYCHOLOGY

Participant no.:

Age:

Gender:

Ethnicity: _____

When was your last session of sensorimotor psychotherapy?

When did you begin having therapy and how many sessions have you had?

9.8. Appendix H: Interview schedule



Interview Guide

Attending to the body in therapy: experiences of sensorimotor psychotherapy

Researchers: Sharonjit Dinas, Dr Rachel Sabin-Farrell, Dr Roshan das Nair

TRENT DOCTORATE IN CLINICAL PSYCHOLOGY

The following questions act as a guide for the semi-structured interview, but the interview is not limited to, nor does it strictly follow, the questions.

OPENING STATEMENT: Thank you for agreeing to be interviewed for this study. I will be asking a number of different questions and I am interested in hearing about your experience of sensorimotor psychotherapy. As we have already discussed, the entire interview will be audio-recorded so that it can be transcribed for analysis, and all of your information will be kept confidential.

Learning about and starting sensorimotor psychotherapy

1. Ok, so I'd like to start by asking about what you knew about sensorimotor psychotherapy before you started therapy (started the training) and had you heard about it before?
2. Before we move on to more specific questions, although the focus of this interview is not on why you had therapy, could you briefly, in just one or two sentences, and without going into any detail, tell me what the focus of the sensorimotor psychotherapy was? (I understand that during your training, you had some sessions where you worked on your own material as a client. In just one or two sentences, and without going into any detail, tell me what the focus of the sessions were?)
 - prompt: any previous therapy?

Sensorimotor psychotherapy and change

- 2. Working with the body is an important part of sensorimotor psychotherapy. What was this like for you?**
3. Did you notice any changes as you went through therapy (the sessions)?
- prompts: **body**, thoughts, feelings, after therapy, therapy vs therapist
4. What were the most helpful and unhelpful aspects of sensorimotor psychotherapy for you personally?
- prompts: helpful, unhelpful
5. When you think about your experience of sensorimotor psychotherapy, are there any significant elements of the process that stand out?

Endings

6. Do you consider sensorimotor psychotherapy to have had an effect on your life? - prompt: how?
7. If you were to describe sensorimotor psychotherapy to a friend who might be considering having the therapy, what would you tell them?

9.9. Appendix I: Debrief sheet



Debrief Sheet

Attending to the body in therapy: experiences of sensorimotor psychotherapy

Researchers: Sharonjit Dinas, Dr Rachel Sabin-Farrell, Dr Roshan das Nair

TRENT DOCTORATE IN CLINICAL PSYCHOLOGY

Thank you for having participated in this study. If you have any questions or comments about the study please contact the primary researcher:

Sharonjit Dinas

Institute of Work, Health and Organisations,

International House, Jubilee Campus,

Wollaton Road, NG8 1BB.

Telephone Number: [REDACTED]

Email: lwskd1@nottingham.ac.uk

If you wish to make a complaint through the University of Nottingham please contact the Institute of Work, Health and Organisations on: 0115 8467523.

If you feel distressed at any point due to your participation in the study the following are organisations that may help:

- Samaritans: 08457 909090
- NHS Direct: 0845 46 47

You may also wish to discuss your participation in the study with family, friends, or your GP.

9.10. Appendix J: Transcript excerpt with codes and themes

Data	Code	Theme
P1: It's funny, I don't know how to put it because I was trying to think, when I had the gestalt therapy because gestalt is holistic, it works cognitively, emotionally and somatically.	Sensorimotor, do not know how to put it	Words
I: Yeah.	Comparison, gestalt therapy is also holistic	Other
P1: But we're not actually trained to the depth that the sensorimotor people are somatically. I think they have a particular way of working. In fact, it's almost like ... it's almost like I was thinking of a rabbit warren; you can go to places that you didn't know existed.	Comparison, not trained to depth sensorimotor therapists are somatically	Deep
I: Mm.	Sensorimotor, have a particular way of working	Process
P1: And it's safe enough. I don't know how to put that into words. I know there's a difference and ... because I'm practising, I know the difference when I work with my clients as a gestaltist and the difference of when my sensorimotor	Sensorimotor, like a rabbit warren, can go places you did not know existed	Deep, access
	Sensorimotor, safe enough	Safe
	Sensorimotor, do not know how to put into words	Words
	Comparison, I know there is a difference	Different
	Comparison, different depth	Different, deep Deep
		Deep

<p>I:</p> <p>P1:</p>	<p>therapist works with me.</p> <p>Yeah.</p> <p>I think there's a different depth. I think that's probably the best way ... and the depth is ... it's not necessarily emotional depth, it's more of the depth of working with the body. But then that links to the depth of the emotions as well.</p>	<p>Comparison, not necessarily emotional depth, but depth of working with body</p> <p>Sensorimotor, links to emotional depth</p>	
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9.11. Appendix K: Reflective diary excerpt

Thursday 10th November 2011

My first completed transcript was returned to me on Monday. I have had a brief look through it and my initial thoughts were - "oh no, I sound so immature and ill-prepared!". Looking back, P1 did make me feel very inexperienced. She had a way about her that was "I'm such an experienced psychotherapist and you come here to ask me about things you know nothing about, child". She was very nice to me, but I did feel inferior.

So today I am going to check the transcript against the recording, then read and re-read the data, noting down any initial thoughts and ideas. I will then begin coding, line by line, trying to stay close to the data.

Mike has advised that I code line by line, because in the early stages this is what I need to do to ensure rich description.

Checking transcript, I had the following thoughts:

- She described that she was usually quite 'even' - seems an odd word to use to describe yourself emotionally?
- Sensorimotor psychotherapy described as subtle and supportive
- Said she had emotional deficits as a child
- Said that therapy is supposed to be uncomfortable else you probably wouldn't need to be there, but should also be supportive
- Using lots of metaphors - rabbit warren, bridging gaps. I found this quite annoying because it is so abstract!
- Noticing further talk of even, balance, stability
- Sounded very surprised when I said ok that's all my questions, even though prior to asking the last question I had made it clear that it was the last question!

Reading transcript, I had the following thoughts:

- Initial interest in therapy gained from reading Pat Ogden book
- Childhood issues came back in a different way - menopause and age seems significant
- Lots of going back to think to talk about
- I wonder what she really meant by emotional deficits?
- Described herself in her body as having become frozen and watchful
- Lots of the therapist noticing things and pointing them out to P1

- Taking care of self, soothing self
- Feeling changes in body

Meeting with Roshan to look at transcript

This was very helpful, as I was able to see how Roshan would code a transcript, and he advised me to take a step back from the words and lines (which is all I was looking at previously) and think "What is happening here?". This doesn't move too far from the data, which is what I was concerned about.

Coding transcript 1

I am finding it difficult to adopt Roshan's way of coding that he showed me this week. I am adopting a very methodical, line by line, coding style, and I am finding it more difficult to step back and look at the bigger picture or message. I have done it a bit, and I think it is coming naturally as I get to know the data a bit more. I think that this is probably part of my preference for quantitative data analysis coming through, as well as my reluctance to interpret data too early on in the process which may be heavily influenced by my own, and Rachel and Roshan's biases.

When I met with Roshan, he expressed how he thought it was a bit mad, and he found it hard to get his head around it all, and although I agree and feel very similar, I felt that Roshan was coding in a very sceptical way, which I think would bias the coding and hence the overall analysis at a very early stage. So, Roshan appeared to be picking holes in the participants statements about how good sensorimotor psychotherapy was, which although I can see is potentially present, I do not think that I should be coding it in such a way that I am saying 'ah-ha, you cannot form a strong enough argument about this, gotcha!'

I will continue coding in the natural style that I seem to have and then see how I feel afterwards.