

Expressive Writing and Well-Being

The efficacy of intentionally Off Loading through writing

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¹ Plus some initial suggestions by Sloan et al on PTSD

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This paper is based on the research of James W. Pennebaker during the last twenty five years or so, including his recent paper (Pennebaker & Chung 2011).

1. Preamble

Schultz, who developed Autogenic Training during the 1930s in Berlin, focused specifically on the Autogenic Standard Exercises, Personal & Motivational [& Physical] Formulae, and Meditative type exercises (Luthe 1973 p 402 & 405). Later, his one time student Luthe, emigrated to North America and developed what we now know as the *Intentional* Off Loading Exercises (Luthe 1983; Ross 2010 pp 16-19). These *Intentional* Off Loading Exercises have become standard teaching in the British Autogenic Society approach to Autogenic Training.

A related way of Off Loading distressing affect / emotion is through Expressive Writing, which is now sometimes included in Autogenic Therapists' approach to the Luthe Off Loading Exercises. This paper looks at Expressive Writing – which as far as I am aware Luthe had not researched.

2. Introduction

Writing as a method of Off Loading stress and emotional distress has been well researched (e.g. Pennebaker 1990 / 1997; Pennebaker & Chung 2011; Batten et al 2002). In many situations it has been found to be of significant value, as Pennebaker and Chung comment in their chapter (Expressive Writing) of a recently published book.

A central premise of this chapter is that when people transform their feelings and thoughts about personally upsetting experiences into language, their physical and mental health often improves. The links to PTSD² are still tenuous. However, an increasing number of studies indicated that having people write about emotional upheavals can result in healthy improvements in social, psychological, behavioural, and biological functioning.

Pennebaker & Chung 2011 p 3³
(in the internet downloadable version)

This expressive writing approach was subtly different from the Luthe *i*-OLE in that the focus was on the upsetting experience rather than a specific unresolved emotion. In practice, this may of course amount to more or less the same thing, as the subjects were also encouraged to write about how they felt (i.e. their feelings) about the experience in addition to the event itself. Some of the later studies included writing more specifically about emotions. Note that it is the “translation” of the thoughts and feelings into language (on the written page) that Pennebaker & Chung imply is one of the significant therapeutic factors. This clearly overlaps with the verbalisation (i.e. saying *out loud* in words) in the *i*-LOE, and to Affect Labelling (B12).

² PTSD: *Post Traumatic Stress Disorder – IR added.*

³ i.e. page 3 in the internet downloadable version from ScienceDirect – with a fee)

3. Traumatic events have different effects on different people

Some people seem to be very resilient to severe stressors / trauma. In a study carried out over two decades ago, it was found that 50% or more of people who had experienced traumas such as the death of a spouse or child did not have a major psychological problem in terms of depression, grief or on-going anxiety (Wortman & Silver 1989; also see Wortman & Boerner 2007).

What makes some of us resilient, and some not, is complex. It may have something to do with being able to enter the “experiential state” when we are stressed, as suggested by Dobbin (Dobbin & Ross 2012); also Meditative states facilitate our ability to switch from a negative ruminative-type state into the experiential-type state (see also web-pages B10 & B11).

The research by Holmes and Rahe on the effects of various stressors on our subsequent health (Holmes & Rahe 1967; also for a summary see Ross 2010 page 76 Figure 2-24) was ground breaking at the time⁴, yet it did not ask certain vital questions. The stressors analysed by Holmes & Rahe were to do with “socially acceptable” stressors such as the death of a spouse or “trouble with in-laws”. Pennebaker & Chung comment:

By the mid-1980s, investigators started to notice that upheavals that were kept secret were more likely to result in health problems than those that could be spoken about. For example, individuals who were victims of violence and who had kept this experience secret were significantly more likely to have adverse health effects than those who openly talked about it (Pennebaker & Susman 1988).

Pennebaker & Chung 2011 p 3⁵
(in the internet downloadable version)

If we have a good social network, then we may of course be able to share a “socially unacceptable” trauma more easily with someone in the network. But note that “keeping a trauma secret from an intact social network is more unhealthy than not having a social network to begin with” (Pennebaker & Chung 2011 p 3). This may partly be because not sharing, or consciously repressing a trauma / distress with someone close to⁶ us with whom we are talking, affects not only our own physiology, but, significantly, their physiology – e.g. elevations in *their* blood pressure (Butler 2003; also see Ross 2010 pp 257-258). So they may feel uncomfortable with us, and yet not know why: it is because of what we could call an unconscious physiological transfer (from our physiological state to theirs). Jung was well aware of this:

Emotions are contagious because they are deeply rooted in the sympathetic system; hence the word “sympatheticus”. Any process of an emotional kind immediately arouses a similar process in others. When you are in a crowd which is moved by emotion, you cannot fail to be roused by the same emotion....

Jung, C.G. 1935/1976; page 138; para 318-319.

This all implies that it may be very helpful to develop ways of dealing with feelings of loss, shame, and guilt, particularly if we have kept these secret. Expressive writing has been shown to be one way of affectively dealing with such distress.

⁴ Depending upon the number and severity of stressors during the previous twelve months, the research indicates the risk of becoming ill during the following twelve months. For example, scores of over 300 were associated with an 80% risk of significant illness within the next year.

⁵ i.e. page 3 in the internet downloadable version from ScienceDirect – with a fee)

⁶ At least in western cultures; subsequent research indicates that there may be cultural differences (Butler 2009).

4. An example of the type of instruction given in the research into “Expressive Writing”

In the early studies, subjects were asked to write about either major traumas (the experimental group), or trivial subjects (the control group), for periods varying between around 10 and 30 minutes a day for three to five consecutive days. In these initial studies, once the subjects had accepted the criteria, they were normally phoned the day before to let them know that they might be asked to write about a personally traumatic event – and preferably one that they had not divulged to anyone. The experimental group were typically given the following type of instructions.

4.1 Typical instructions given to the subjects were:

Example of instructions given in the research context

For the next three days, I would like you to write about your deepest thoughts and feelings about the most traumatic experience of your entire life. In your writing, I'd like you to really let go and explore your very deepest emotions and thoughts. You might tie this trauma to your childhood, your relationships with others, including parents, lovers, friends, or relatives. You may also link this event to your past, your present, or your future, or to who you have been, who you would like to be, or who you are now.

You may write about the same general issues or experiences on all days of writing or on different topics each day⁷. Not everyone has had a single trauma but all of us have had major conflicts or stressors – you can write about these as well. All of your writing will be completely confidential. Don't worry about spelling, sentence structure, or grammar. The only rule is that once you begin writing, continue to do so until your time is up.

Pennebaker & Chung 2011 p 3
(in the internet downloadable version)

So the instructions are clear and can obviously allow the subject to explore various different paths. Perhaps the phrasing of the final sentence could have been a little less terminal!

4.2 Post Traumatic Stress Disorder, Expressive Writing, and “Written Exposure Therapy” [Sloan 2012]

Caution should be exercised in this method when the subject is known to be suffering from PTSD, or is known to have suffered sexual abuse as a child. In both of these areas research findings are equivocal (e.g. Batten et al 2002; Pennebaker & Chung 2011).

However, the recent research by Denise Sloan (Sloan et al 2012), cited in 5.c below, suggests that by appropriately modifying the method of Expressive Writing to what Sloan calls “Written Exposure Therapy”, this approach can be remarkably efficacious for those suffering from PTSD.

5. Research findings regarding health and social outcomes

5.a Early studies and their results

Pennebaker gives a very good overview of the research in this matter up to 1990 /1997 in his book “Opening Up”; and more recently in his chapter with Cindy Chung: “Expressive writing: *Connections to Physical and Mental Health*” (Pennebaker & Chung 2011). Butler, in reviewing the literature, comments:

⁷ Sloan & Marx suggest that we should stick to the same trauma for each of the three consecutive Expressive Writing sessions – in their research on college students suffering from Post Traumatic Stress *Symptoms* (i.e. not a formal diagnosis of PTSD).

The first studies found that undergraduate students who wrote about past traumas subsequently experience long term decreases in physical symptoms and health centre visits (Pennebaker & Beall 1986; Pennebaker, Colder & Sharp 1990; Pennebaker & Francis 1996).

In addition, writing about stressful events, such as coming to college, resulted in maintained or increased grade point averages (Pennebaker et al 1990; Pennebaker & Francis).

Batten et al 2002 p 108

The inference of the reduced number of health centre visits was that the physical and / or psychological health of the subjects had improved.

5.b Later research / meta-analysis

Subsequently, a lot of research was carried out in this area – and in due course led to some meta-analysis studies. Some of the earlier ones of these were somewhat equivocal, and that by Harris concludes that expressive writing was only effective for healthy individuals (Harris 2006). Frattaroli, in the largest meta-analysis published, found an overall effect size of $d=.15$ (equivalent to $r = .075$) which she felt was significant in view of a number of unpublished studies which she had included (because these “tend to contribute to much lower average effect sizes” – Pennebaker & Chung 2011 p 6). Pennebaker & Chung go on to say: “She (Frattaroli) also noted that the effect size was important given that expressive writing is time and cost effective, perceived by participants to be helpful, and easy to administer” (op cit. p 6).

5. c Post Traumatic Stress Disorder (PTSD)

As already mentioned, until recently research suggested that expressive writing did not appear to be effective per se in subjects suffering from Post Traumatic Stress Disorder – but please see post script to this section. Batten et al conclude their paper thus:

In sum, while a significant literature exists to point to the beneficial effects of writing disclosure, and many effective treatments of trauma survivors include a trauma component, the current results do not support the generalisation of these results to adult CSA (Childhood Sexual Abuse) survivors, and possibly not to the survivors of significant traumas in general. As written disclosure does not appear to be sufficient to improve physical and psychological functioning in more traumatised populations, modifications to the tasks of adjunct interventions may need to be added for such groups. However, we believe that written disclosure of trauma survivors remains an important area for future research, and there are many potential directions yet to be explored.

Batten et al 2002 p 120

Batten et al go on to suggest that directions for such future research should include:

- Longer durations of writing about the trauma – i.e. the time scale for writing may be too short for such people (this would be a bit like terminating an *i*-OLE prematurely). So, for example, rather than writing for fifteen minutes we would need to see what the effect was for writing for, say, 35 or 40 minutes.
- More days of writing.
- Increasing the intervals between writing (e.g. once a week).

Batten’s suggestions have actually been taken up by Sloan et al (though Batten is not mentioned in the 2012 Sloan article – see post script to this section [5 d]).

In addition, the effects of some forms of mental training (meditative-type exercises) concurrently with the expressive writing would be a good area for research. Note that the development of dispositional mindfulness is correlated with increased effectiveness of Affect Labelling (Creswell et al 2007; and B12).

5d Post Script to PTSD and Expressive Writing

While proof reading this article in November 2012, I received one of James Hawkins' excellent and informative periodic blogs [Hawkins 2012] which referred in some detail to a recent paper by Sloan et al (Sloan et al 2012) on Written Exposure Therapy for PTSD. This recent paper casts new light on the potential efficacy of Expressive Writing in PTSD, and further details of this are given in Section 10.6 below.

6. Other Research findings

6.a Use of negative and positive emotion words in Expressive Writing

- The more positive emotion words used, the better the health outcome. [Note that this was a finding of the analysis of the writings given the typical instructions which do not comment on the use of positive emotions. If subjects are advised to use positive words where possible, this could actually alter the whole dynamic and efficacy of the writing. The point is to get down on paper how we feel about the distressing event at this moment without "top down" cognitive influences.]
- However, negative emotion word usage was not linearly related to health outcomes, but rather curvilinearly. That is, those who used a moderate number of negative emotion words "in their writing about upsetting topics evidenced the greatest drop in physician visits after writing" (Pennebaker & Chung 2011 p 18).

The implication of this is that expressing negative affect in writing, if this occurs spontaneously, has the potential to change our whole body-mind-neuro-physiological state, and it is this that results in improved outcomes.

6.b Expressive Writing and psycho-metric markers

Sloan's study of college students with Post Traumatic Stress Symptoms [PTSS]⁸ (Sloan et al 2007) compared Expressive Writing⁹ with writing based more on Insight and Cognitive Assimilation¹⁰ (and a control group writing about a trivial topic). The students wrote for twenty minutes daily for three days. At one month post treatment, there were significant decreases in PTSS for those in the Expressive Writing group compared with those in the Insight and Cognitive Assimilation group and the control group. The Expressive writing group also has a significant decrease in depression rating (on BDI-II) compared to the control group (and a greater reduction than the Insight and Cognitive Assimilation group).

6.c Writing a coherent story about the events / trauma¹¹

- The ability to develop a coherent story (from an initial incoherent story¹²) about past traumas seems to be important in realising a positive outcome (e.g. Smythe, True, & Sotto 2001).
- Also note /

⁸ Not Post Traumatic Stress Disorder (PTSD) per se.

⁹ This group were asked to write about the traumatic experience "with as much emotion as possible in each writing session" (Sloan et al 2007).

¹⁰ This group were expressly asked to write about the trauma episode in terms of "how the experience had affected their lives and what it meant to them (insight and cognitive assimilation condition)" (Sloan et al 2007 p 157).

¹¹ This section mainly from Pennebaker & Chung 2011 unless otherwise stated.

¹² Those whose story is already coherent at the start of the writing studies do not seem to benefit much from the exercise (Pennebaker & Chung 2011 p 20).

- Also note that, from a psycho-therapeutic-mindfulness perspective, Siegel has this to say about developing a coherent life narrative:

The best predictor of a child’s security of attachment is not what happened to his parents as children, but rather how his parents *made sense* of those childhood experiences.

Siegel 2010 p 171
Italics in original
 (also C9)

- This ability to develop a coherent narrative overlaps with Siegel’s view that Well Being comes about when we integrate our various emotional states; mental distress is often associated with a feeling of disintegration (Siegel 2009; see also C6 in this web series).
- Those who have a brooding and ruminative disposition were those found to benefit most from expressive writing (Pennebaker & Chung 2011 p 19). This is of particular significance, as those people who go under the umbrella term of “Medically Unexplained Symptoms” are just those people who tend to be troubled with negative ruminations (Dobbin & Ross 2012; and see B10 and B11). As discussed by Dobbin & Ross, meditative type states facilitate a switch from the ruminative to the more “experiential” mode. [Actually, the basic form of meditation (sometimes called Calm Abiding) is experiential per se (Kabat Zinn 1990; Tulku 1998; and C10 in this web series).]
- Developing a coherent story during the writing sessions seems to be interlinked with developing insight and understanding. Pennebaker & Chung have this to say about the matter:

.....people whose health improves, who get higher grades, and who find jobs after writing go from using relatively few causal and insight words to using a high rate of them by the last day of writing. In reading the essays of people who show this pattern of language use, judges¹³ often perceive the construction of a story over time (Graybeal et al 2002). Building narrative, then, may be critical in reaching an understanding or knowledge.

Pennebaker & Chung 2011 p 20
 (in the internet downloadable version)

6d. Expressive writing and Immune function.

Expressive writing has been shown to boost our Immune function (op cit p 6). This includes increased “antibody response to Epstein-Barr virus, and antibody response to hepatitis B vaccine” – in addition to a positive response to t-helper cell growth (Pennebaker & Chung 2011 p 6).

6e. Expressive writing about traumatic events and cortisol levels:

- Cortisol levels increase during the first writing session in the trauma group, but not in the controls (i.e. the superficial topic group). “The initial elevation in cortisol from the first writing session predicted improved psychological but not physical health at one month follow-up” (op cit p 6; based on Sloan & Marx 2004). In subsequent expressive writing sessions, the physiological activation levels dropped to those of the control group.
- Cortisol levels are known to rise as a result of stressors, and this effect has been described as the Type II Stress Response (Hypothalamic-Pituitary-Adrenal cortex axis), to differentiate it from the Type 1 (adrenalin / nor-adrenaline) response (see Ross 2005 pp 50-52).

¹³ “Judges”: i.e. those who were assessing the content of the written material in the research project.

6f. Expressive talking about traumatic events, skin conductance, & blood pressure:

- Skin conductance levels fall during expressive talking regarding traumatic events, but not when talking about superficial events. Reduced skin conduction correlates with being less stressed (Pennebaker, Hughes & O’Heeron 1987)¹⁴.
- Blood Pressure increases during expressive disclosure (into a microphone) about traumatic events – which then drops to below base line levels after the talking. This blood pressure effect did not occur when talking about trivial topics. Figure 1 reveals the effect on systolic & diastolic blood pressure during expressive talking in those who appeared to be uninhibited in their expressive talking (i.e. the “high disclosures”). The blood pressure of the “low disclosures” also rose, but less so.

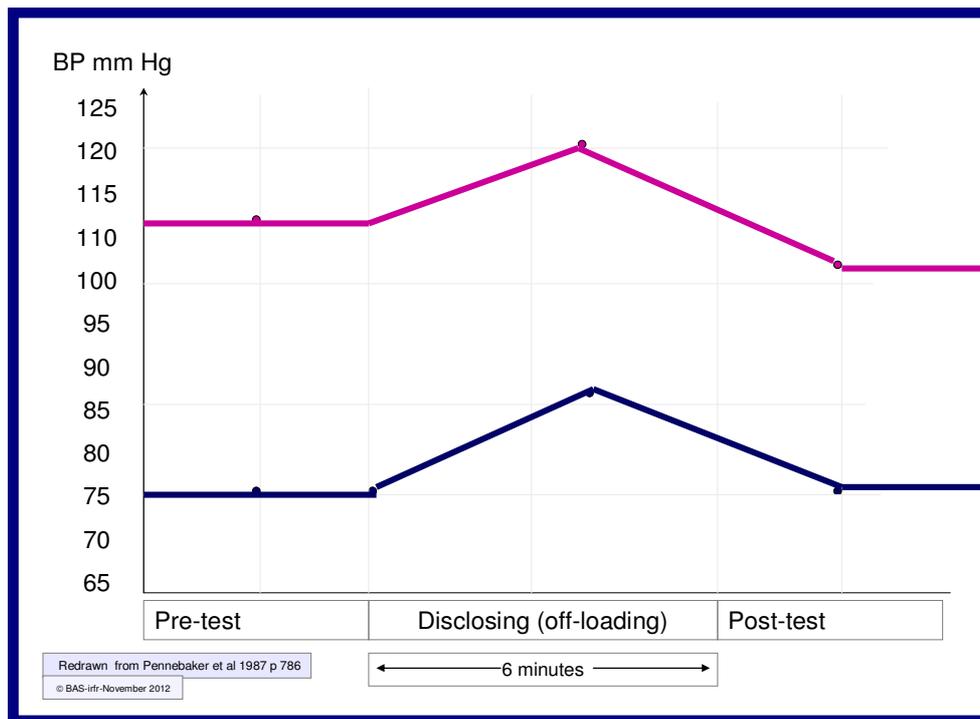


Figure 1

Systolic (pink) and diastolic (blue) Blood Pressure during Expressive Talking about a previous stressor in the “high disclosure” group

Schematic illustration of the effect of disclosing for 6 minutes on Blood Pressure (from Pennebaker, Hughes & O’Heeron 1987; and see Pennebaker 1990 / 1997 pp 50-52 for an interesting discussion on these 1987 results)

Comment on Figure 1

- Expressive talking into a microphone is physiologically stressful in both the high disclosure group (illustrated in Figure 1) and the low disclosure group (not shown in Figure 1).
- Note that after disclosure in this “high disclosure” group the systolic blood pressure drops to below the pre-test level [c 113 to 105 mm Hg].
- This suggests that the expressive “off loading” has resulted in an improved physiological state.

Chronic stressors and unresolved emotional issues may over time give rise to elevated cortisol levels and blood pressure – and ultimately lead to allostatic load and ill health (McEwen 1998; 2003; 2004; also Ross 2010 pp 43-96; especially pp 53-54). In such situations we may, much of the time, be in a highly charged or hyper-vigilant state (Dobbin 2012; see also B10 & B11). It is not surprising that in

¹⁴ Increased skin conductance (in the hands and feet) is associated with inhibition of feelings / emotions; reduced skin conductance is associated with no inhibition – i.e. expressing our feelings. (See Pennebaker 1990 / 1997 pp 47-48 for some helpful background information re such electro-dermal activity).

discharging these pent-up feelings through expressive talking / writing / i-OLE, some physiological parameters may temporarily increase. One measure of the effectiveness of such off loading of emotional tension is an improved physiological state.

7. Overlaps between Expressive Writing / Talking, and the *Intentional* Off Loading Exercises

7.1: Introduction

The blood pressure and skin conductance findings are of particular interest in connection with the *Intentional* Off Loading Exercises (*i*-OLE), as these occurred in the expressive talking¹⁵ research – which mimics the standard *i*-OLE more closely than writing (in the case of the cortisol study).

In a student paper submitted to the British Autogenic Society in 1997, it was suggested that the *i*-OLE (e.g. anxiety /anger off loading) is likely to increase various physiological markers (e.g. SNS activation) during the off loading (Ross 1997 p 39 Figure 6.3). This original figure is reproduced as Figure 2 below.

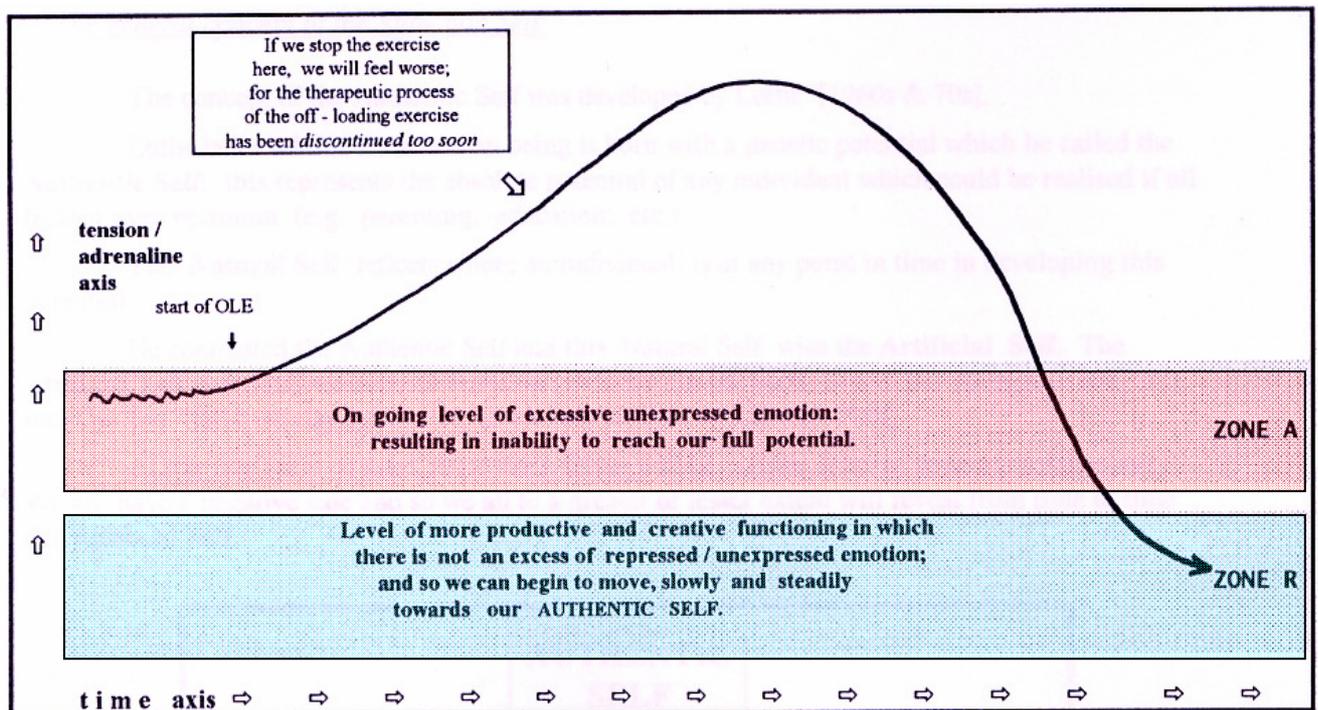


figure 6.3:

A DIAGRAMMATIC (simplified) REPRESENTATION OF OFF LOADING EXERCISES (Anxiety; Anger; Grief)
AT: OLE2GRPH; after discussion with MPHV; © Ian R.F. Ross; 23.08.96; 24.08.96

Figure 2

Theoretical and highly schematic model for physiological effects during initial *intentional* Off Loading Exercise of Anger and / or Anxiety and / or for 'Crying Need Symptoms'
[Original Figure 6.3 from Concerning the Psycho-Physiological Shift (Ross 1997); coloured zones enhanced 2012]

Comments on Figure 2

- The model shows the physiological effects in general terms of an initial increase in tension / adrenaline during an *intentional* Off Loading Exercise (*i*-OLE).
- Extrapolating from the research of Pennebaker in Expressive Writing, we could now add to these (increased tension and adrenaline) increased Cortisol and Blood Pressure, in addition to Heart Rate¹⁶ (Pennebaker & Chung 2011; Sloan & Marx 2004).
- The novice to AT may have a backlog of unresolved emotional issues and so a background level of "tension" depicted by Zone A. This is not dissimilar to the concept of the hyper-vigilant state in those suffering from Medically Unexplained Symptoms (Dobbin 2012; and see web-pages B10 & B11).
- As we start the *i*-OLE, the various physiological parameters increase – then gradually plateau – before descending. Clearly, if the exercise is stopped prematurely, then we will be left feeling worse as bodily arousal will be increased.
- It is /

¹⁵ In which the subjects expressively talk about a traumatic event into a microphone (on their own).

Comments on Figure 2 continued

- It is not suggested that one single *i*-OLE of (say) Anxiety will result in us reaching Zone R. Rather, repeated application of the anger *i*-OLE will allow the individual to become “habituated” to the anxiety¹⁷ – and thus its potency and affective distress gradually reduces (see Figure 3 below).
- Zone R indicates a level of functioning in which the individual no longer has a backlog of significant unresolved emotional distress – and so is more able to become his or her Authentic Self (Luthe 1977 – pp 22-28).
- Part of the reason for this is that as the hyper-vigilant state subsides: the feedback from organs and muscles in the body lets the brain know that:

Everything in the periphery is quiet

Wallnöfer 2000
- As this settled body and brain state develops, amygdala activation reduces, and thus the FEAR and RAGE circuits (Panksepp 1998) become less active.

7.2 Physiological effects of arousal in Expressive Writing settle by third writing session

Pennebaker’s research model for expressive writing and expressive talking is generally built on the subjects being giving three sessions of fifteen to twenty minutes each – either for three consecutive days or spaced out at weekly intervals. Research shows that there is the most physiological reactivity during the first writing session, and that this then gradually decreases to nearly zero by the third writing session. Below we mention four (physiological) effects:

- i. As mentioned above, in his 1987 paper (Pennebaker, Hughes, & O’Heeron 1987) Pennebaker showed that cortisol levels rise during the first episode of expressive writing, but much less subsequently.
- ii. Changes in Heart Rate have been shown to be at their maximum during the first writing session compared with the second and third sessions (Epstein et al 2005 – e.g. Figure 1 on page 417; Sloan et al 2007 – page 161 especially Figure 1).
- iii. Expressive writers in the first session experience significantly more “unpleasantness” than “pleasantness” compared to controls – and the unpleasantness reduces to more or less base line by session 3. [Insight and Cognitive Assimilation group results were between the expressive writing and control group]. (Sloan et al 2007 – page 161 especially Figure 2.)
- iv. Similar results were found for a subjective feeling of arousal (as compared to feeling calm). That is, in the expressive writing group there was significantly more arousal in the first writing session, and then this reduced towards calmness by session 3. The control group showed little arousal in all three sessions. The Insight group’s results were again middling between the other two (Sloan et al 2007 – page 161 especially Figure 2).

Figure 3 below illustrates schematically these trends in the Expressive Writing group from session 1 to session 3. Note the overlap in concept compared to Figure 2.

¹⁶ Despite Schultz and Luthe’s detailed research (in the context of the times that they lived – e.g. Luthe 1970 vol IV) on the Standard Exercise of Autogenic Training), I am not aware of any specific research on the *i*-OLE in terms of physiology or long term follow up.

¹⁷ Here I am referring primarily to everyday anxieties that we may suffer, such as a forthcoming interview or feeling nervous before a badminton or football game. Some fears / anxieties originate from childhood traumas, for which I do not feel the Luthe OLE are normally appropriate.

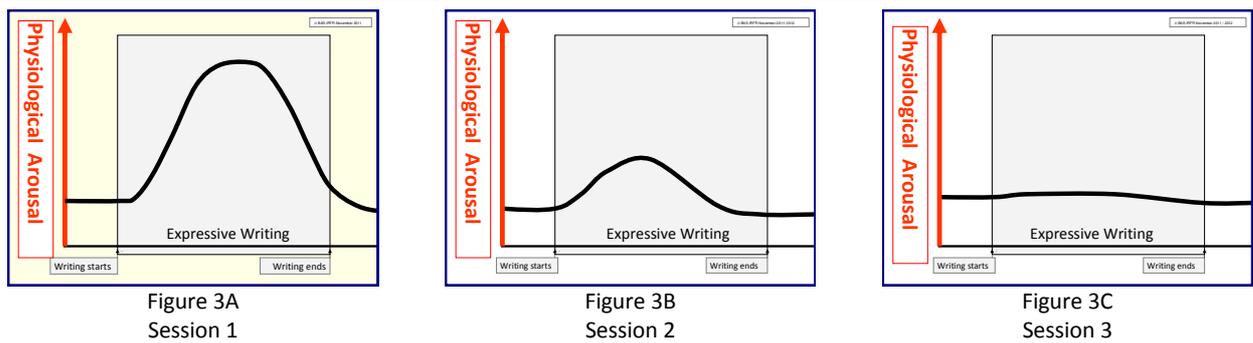


Figure 3
Physiological effects in terms of arousal in sequential “off-loading” through Expressive Writing sessions¹⁸

Comments on Figure 3

Physiological arousal parameters include increase in heart rate and cortisol levels during the expressive writing.

- It will be seen that the physiological arousal is greatest in the first session and then gradually falls off.
- By Session 3 there is virtually no arousal.
- This implies that by the third session, even during the expressive writing, “everything in the periphery is quiet”.
- This message (from the periphery) is crucial for the brain – as it lets the brain know that the periphery is settled – and that there is no longer a hyper-vigilant state.
- As a result, Pre Frontal Cortex messages can now cascade to down-regulate the amygdala, and so reduce activity in the anxiety / FEAR circuits.
- It is suggested that the same pattern can occur with the intentional Off Loading exercises by doing at least three sessions for each particular emotional issue.

8. Neuro-physiological correlates of expressive writing

An interesting paper was published in 2000 by Hariri et al which indicated that a picture of an angry or frightened face results in *increased* activity of our (left and right) amygdala in terms of regional blood flow (Hariri et al 2000). The implication of this is that faces showing negative affect induce in us, for example, the fight (RAGE) or flight (FEAR) circuits at an unconscious level.

However, if instead of just looking at the face, we put the facial expression into words (e.g. anger, fear) then this *reduces* the regional blood flow to the amygdala. At the same time, in the case of labelling the seen affect in this way, the regional blood flow to the right Pre Frontal Cortex (rPFC) increases. Furthermore, this increased activity of the rPFC precedes, in time, the deactivation of the amygdala. So this research suggested a possible mechanism by which conscious cognitive approaches can modulate affect via the right Pre Frontal Cortex.

Several years later, Lieberman – in a somewhat more sophisticated research study – confirmed Hariri’s findings (Lieberman et al 2007). Once again, naming the facial expression (for angry faces and fearful faces) reduced amygdala activity compared with just looking at the face. This was correlated with increased activity in the right ventro lateral Pre Frontal Cortex (rvl-PFC). Furthermore, those whose reduction in amygdala activity was greatest during the affect labelling (putting the feeling into words) showed the greatest increase in rvl-PFC activity (Lieberman et al 2007 p 425; see also web-page B12).

Previous research had indicated that there are no direct pathways between the rvl-PFC and the amygdala. Other research has suggested that there are, however, direct pathways from the medial PFC

¹⁸ Physiological Arousal in terms of e.g. Heart Rate and Cortisol levels during intentional Off Loading Exercise (extrapolated from Pennebaker et al 1987 and Sloan et al 2007)

to the amygdala. Lieberman's research study suggests that affect labelling activates the rvl-PFC, which then sends messages to the medial PFC, which in turn relays on the messages to the amygdala and thus reduces amygdala activity. These dynamics are summarised in Figure 4.

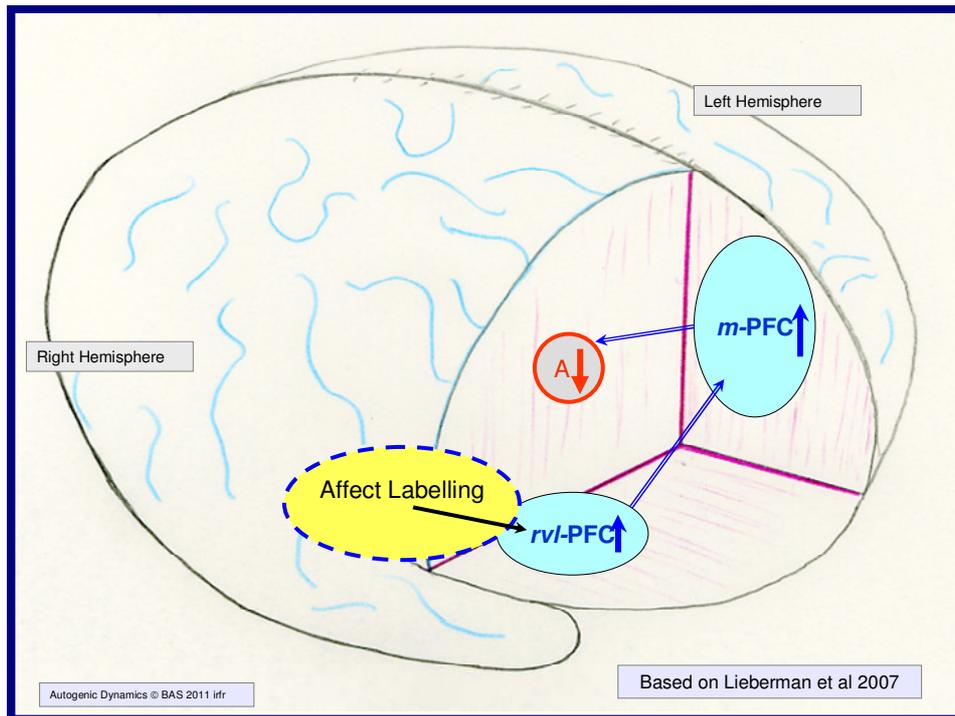


Figure 4

The effect of Affect Labelling of (negative / angry / fearful) facial expressions
on amygdala activity
(after Hariri 2000; Lieberman 2007)

Legend:

- rvl-PFC: right ventro lateral Pre Frontal Cortex.
- m-PFC: middle Pre Frontal Cortex.
- A: amygdala.

Note that this research is based on the effects on our physiology and amygdala activity when we mentally label an affect depicted in the image of a face – such as an angry or fearful face. There is a commonly used mindfulness practice in which if we feel a negative affect arising within us, we simply put that feeling into words – accepting the feeling per se without judgement. We can then observe it and see what happens. The work by Hariri and Lieberman suggests a neuro-physiological mechanism by which this may work.

Expressive writing (and affect labelling in general) may be more effective in those who regularly practise some form of Mental Training / Mindfulness. Increases in “dispositional Mindfulness” through mental training appear to be associated with an increased ability to down-regulate the amygdala through affect labelling.

Specifically, the present findings showed that dispositional mindfulness was associated with greater widespread PFC activation and attenuated amygdala responses during affect labelling. We also observed that participants high in mindfulness had strong inverse relationships between activity in these PFC regions and the right amygdala, whereas participants low in mindfulness did not show these effects.

Creswell et al 2007 p 562

In other words, dispositional mindfulness is associated with increased PFC activation, and subsequent reduced (right) amygdala activity, and thus reduced fear [FEAR] and anger [RAGE] (Panksepp 1998). Autogenic Therapy may enhance the efficacy of such expressive writing on the basis that, over time, it can increase dispositional mindfulness.

9. Why is expressive writing effective?

There seems to be no single answer to this question. The effect of expressive writing “ultimately sets off a cascade of effects” (Pennebaker and Chung 2011 p 22), no single one of which is entirely responsible for the benefits. The following, based on Pennebaker & Chung 2011, are thought to be of relevance:

- i. Not talking about stressors or emotional upsets can itself lead to further stress (i.e. both physiological and psychological). It may lead to:
 - A reduction in the individual’s social network.
 - Reduced working memory.
 - Sleep disruption.
 - Increased risk of further stressors.
 - Drug (e.g. alcohol) abuse.
- ii. On the other hand, “When individuals write or talk about personally upsetting experiences in the laboratory, consistent and significant health improvements are found” (op cit p 13).
- iii. For some, the expressive writing improves working memory – and reduces negative and intruding thoughts (op cit p 20; Boals & Klein 2005; Klein & Boals 2001).
- iv. The actual practice of writing about the stressor and our feelings about the stressor can lead to re-appraisal / reframing. The reframing itself can give the individual more inner confidence, and as a result they may be more likely to consolidate their own social network.
- v. The process involves Affect Labelling (B12), which has separately been shown to be effective in reducing amygdala activity and negative affect – see Section 8 above.
- vi. In addition, recent evidence suggests that such expressive writing can:
 - Improve sleep – this will facilitate memory storage
 - Boost our immune function
 - Reduce alcohol consumptions.

op cit p 23

(Pennebaker and Chung 2011 p 22-23),

Pennebaker & Chung conclude that expressive writing is no panacea, but that it can at times be effective – although they add that the effect size is “modest at best” (Pennebaker & Chung 2011 p 23).

Despite these limitations, it is perhaps pertinent to put such modest effect size in the context of pharmacology:

Overall, studies examining expressive writing demonstrate some beneficial effects in physical and / or psychological health. Although the empirical findings are at times equivocal and further research is required to clarify populations for whom writing is clearly effective, there is sufficient evidence for clinicians to begin applying expressive writing in therapeutic settings with caution. Indeed, Spiegel(1999) noted that a drug intervention reporting medium effect sizes similar to those found for expressive writing (Smyth, 1998) would be regarded as a major medical advance.

Baikie & Wilhelm 2005

Note also that, as with other forms of treatment, our hopes and expectations for the therapy are important, and can account for as much as 15% of a positive outcome (Dobbin 2012; Drisko 2004; Lambert 1992). This is not surprising; if we are convinced that a treatment is useless, it is less likely to work for us even if it is efficacious. The implications of this are that our pre-treatment orientation and outlook can significantly affect outcome.

When expressive writing is undertaken in the context of meditative practices such as Autogenic Training, it may be even more effective. For example, meditation has been shown to increase “dispositional mindfulness”; and such mindfulness is associated with an increase in the efficacy of Affect Labelling (see Section 8 above; and Creswell et al 2007; also B12).

10. A brief summary of Pennebaker’s suggestions for expressive writing.

Preamble to summary

It is not advisable to use this method for (say) at least three months after the trauma / emotional upset¹⁸. This method is usually used for significant traumas / emotional upsets that have occurred some time previously and that we feel are still unresolved.

The research into expressive writing is complex as there are a great number of potential variables, and the research itself is sometimes ambiguous. Individuals respond to severe traumas in different ways. There does not appear to be one method of dealing effectively with such traumas that suits everyone.

However, there are certain principles and suggestions that have emerged from the literature, which are discussed below.

10.1 Specific instructions given regarding the actual writing

- i. The subject matter can be any significant traumatic event from the past. This may be the most traumatic event the individual has ever experienced.
 - However, some caution is advised if the subject has a history, or suspected history, of having suffered from Childhood Sexual Abuse (see for example Batten et al 2002).
- ii. The writing should include both the details of the event and our feelings and emotions about the event, whatever these feelings are.
- iii. We are writing in the present moment and it is important that the writing reflects how we are feeling in this present moment. Whatever the feeling, we accept it and put it down on paper.
- iv. Typical written instructions for subjects are given in Section 4 above (page 4) under:

“Typical instructions given to the subjects were:”
- v. The writing is private in that no one else is going to read it²⁰: it is suggested that we write it just as it comes out, without censorship or concern for grammar or spelling.

¹⁹ This is because research suggests that it is highly debatable as to whether explicitly and consciously deciding to express our feelings after a major trauma is wise. There is no good evidence that “Critical Incident Stress Management” in the context of trauma is efficacious; indeed it may do more harm than good (Pennebaker & Chung 2011 p 10; McNally, Bryant & Ehlers 2003). In addition, in the early days and weeks following a trauma (e.g. bereavement), denial may actually be an appropriate defence mechanism from the overwhelming trauma. “Considering the current evidence, it is likely that defences such as denial, detachment, distraction, and distancing may, in fact, be quite healthy in the hours and days after upheaval” (Pennebaker & Chung 2011 p 11).

²⁰ See 10.3 below.

10.2 Duration of writing and frequency of writing

- i. There is no single fixed duration that seems best. Different research studies have used different durations.
- ii. Based on Pennebaker, I would suggest writing for fifteen to twenty minutes' duration**:
- iii. Either once daily for three days, (i.e. three writing sessions);
- iv. Or once a week for three weeks (i.e. three writing sessions).

**Writing for up to sixty minutes' duration is acceptable. Research does not particularly suggest that this is superior to writing for just fifteen minutes. [But see also 10.6 below.]

- One study had subjects write for just two minutes on two consecutive days. Pennebaker comments that this may have been effective as it was sufficient time for the subjects to become aware of the nature of their "unfinished business", and so after the writing sessions they began to process the material (Pennebaker & Chung 2011 p 11).

10.3 Fate of the written material

- i. In the Pennebaker studies, the written material was handed in after the writing session, and the subjects never saw it again²¹.
- ii. Furthermore, there was no feedback on the written document. Commenting on this area of the research, Pennebaker and Chung say:

..... "The benefits of writing, then, occur without explicit social feedback."

Pennebaker & Chung 2011 p 10-11

It is arguable that if we are expecting feedback this may alter what we write, either consciously or unconsciously.

- iii. It is sometimes suggested that we read out loud the expressive writing within 24 hours, before we destroy it. This is acceptable. Some therapists use the technique of the un-mailed letter, in which we write a letter (that is never sent) to the someone who has caused us particular distress / pain²². This seems to me to be an effective alternative to Pennebaker's suggestions. It can be helpful to then read the letter out aloud before it is destroyed. Whether this is also read to a close confidante (or in the context of therapy to the therapist seems a moot point, for, as indicated above, this may alter what we write.

10.4 Limiting the total number of times the writing exercise is undertaken.

There is no good evidence that keeping on writing helps. Indeed, it may become counter productive, and lead to negative ruminations (see B10 & B11). We should see expressive writing in terms of a short term strategy for dealing with past traumas / unresolved emotional issues, not as a long term project.

It is possible that writing too much can also be unhealthy. I generally recommend that people write for three or four times only. If they don't find any benefit from writing at that point, then they should stop and try something else..... On occasions, I've seen people who turn their writing into a journal where they relate the same stories over and over in a ruminative way – without finding insight or improvements in their conditions.

Pennebaker 2010

²¹ The documents were analysed by the researchers to work out which forms of writing appeared to have the best outcomes (compared to the control groups who wrote about trivial topics).

²² This can be done even if the person has since died – when it can be particularly effective.

10.5 Contra indications / precautions regarding expressive writing

- i. Childhood Sexual Abuse (CSA) survivors. Research findings are equivocal. Batten (Batten et al 2002), referring to their research, state:

The results indicate that writing about CSA history alone is not sufficient to provide psychological or physical health benefits.

Batten et al 2002

This is not surprising. Expressive writing, in this context, should be seen as just one part of the treatment, if it is used.

- ii. Research suggests that it may not be helpful during the first three months or so following a major trauma – as mentioned in the “preamble to summary” [see also Pennebaker & Chung 2011 p 11].
- iii. The efficacy of expressive writing in Post Traumatic Stress Disorder remains equivocal (Pennebaker & Chung 2011 p 3) – but see 10. 6 below and the recent research by Sloan.
- iv. Studies suggest that when expressive writing is used in the context of a heterosexual relationship, “approved relationship outcomes” result when the writing is assigned to the man (and not the woman – Pennebaker & Chung 2011). Pennebaker & Chung go on to wryly comment:

Taken together, the results corroborate what women have known for centuries: when it comes to relationships, men need to talk (or rather write**) about their feelings more.

Pennebaker & Chung 2011

**i.e. in the context of the expressive writing literature.

10.6 A summary of recent research by Denise Sloan on Written Exposure Therapy in PTSD (Sloan et al 2012)

This research was based on those who suffered from PTSD following Road Traffic Accidents [RTA – notated as MVA (Motor Vehicle Accident) by Sloan et al], and compared with a Waiting List control. The Written Exposure Therapy [WET] was found to be very effective [see e.g. Figure 2 on page 632 of the Sloan et al 2012 article.] The authors accept that having a Waiting List control was not ideal, but they argue that to have had the control group write about inconsequential matters would not have been regarded by the participants as a credible treatment strategy²³. [This was especially the case as in the pre WET sessions participants were given some of the basic rationale for WET – which included the importance of not avoiding the trauma memories – i.e. that these trauma memories need to be confronted for successful treatment (op cit p 633)].

The Institute of Medicine [USA] has commented that all the Evidence Based Treatments for PTSD involve “repeated confrontation of feared memories, images and situations by the affected individual (i.e. exposure) [Sloan et al 2012 p 627]. So in this research, Sloan et al decided that it might be more efficacious in using Written Exposure Therapy for those suffering from PTSD to have more and longer writing sessions than those recommended by Pennebaker for non PTSD conditions. With this in mind, the Sloan et al 2012 study included the following:

- Weekly Written /

²³ see also Dobbin 2012 on expectancy

- i. Weekly Written Exposure sessions for 5 weeks.
- ii. Session 1: 25 minutes' contact with therapist; this included "PTSD psycho-education information and the WET treatment rationale" and "the importance of confronting trauma memories and reminders through writing" (Sloan et al 2012 p 631);
 - Participants were given a printed copy of this psycho-education and treatment rationale.
- iii. Thereafter (for sessions 2 to 5) 10 minutes' contact with therapist [explaining protocol again etc].
- iv. Participants (for session 1-5) were then given general instructions regarding the WET – e.g. "to focus on the writing without concern for grammar, spelling etc." and told that it was important to delve into "their deepest emotions and thoughts at the time of the RTA....and to describe what they "saw, heard, and smelled" (Sloan et al 2012 p 631).
- v. In each WET session, the participants wrote for 30 minutes.
- vi. In sessions 2 – 5 they were instructed to write about the same RTA event as in session 1.
- vii. At the end of each WET session, participants were reminded that the events were "being recounted, not relived" (op cit p 631).
- viii. After each 30 minute WET session, the therapist returned to the room for a short debriefing – which included instructions to the participants to:
 - "allow him / herself to experience any trauma related memories, images, thoughts or feelings, whatever they might be, in the week between sessions." (op cit p 631)

This study is of interest. However, it should not be assumed that PTSD following a RTA is comparable with say PTSD following war or childhood abuse. Of general relevance is the reminder that the experience is being "being recounted", and not "re-lived" (point vii); this in itself is a type of re-frame.

11. Expressive writing in the context of Autogenic Training

11.1 Preamble

Expressive writing – or Off Loading through writing – has been used by a number of Autogenic Therapists for a number of years, although, as far as I am aware, it was not studied by Luthe. It is suggested that in AT it is normally only used for emotional distress issues of a general nature – *not for PTSD which should be specifically Therapist-supervised along the lines described in 10.6.*

My experience is that many of us may be unaware, or only partially aware, of unresolved anger issues within us. In order to start to become aware of these issues, I have found time spent on completing the "Things that make me angry" is time well spent (see Appendix A on page 19). This can be of great value both as a preparation for Expressive Writing and for the *Intentional Anger Off Loading Exercise*.

11.2 Expressive writing in AT

In the context of Autogenic Training, it is suggested that the written material is kept for perhaps 24 hours, and then destroyed²⁴ – e.g. letting it go by symbolic burning (if we have a safe fire place – if not, we can simply tear it up). Some counsellors / psychotherapists suggest that before destroying it we read it over. This may be helpful – but I have been unable to find any research relating to the efficacy of reading through the expressive writing. Certainly, in Pennebaker's research, this was not done.

Furthermore, in the context of the writing being done between Autogenic Training sessions, it is quite possible that the AT itself will be altering the effect of the writing as a result of changes in the medial Pre Frontal Cortex and other brain dynamics (see Schlamann 2009). For example, the AT may be

²⁴ In a typical Autogenic group that I take, two or three of the students will usually find this exercise particularly helpful; they (normally) destroy it after twenty four hours, having re-read it.

increasing the efficacy of the affect labelling component in reducing amygdala activity (cf Creswell et al 2007).

Note that the actual experience of expressive writing may in itself be upsetting. This should be seen in the overall context of the exercise:

Self reports (during the clinical studies – IR) also suggest that writing about upsetting experiences, although painful in the days of writing, produces long-term improvements in mood and indicators of well-being compared to controls. Although some studies have failed to find clear mood or self reported distress effects, Smyth’s (1998) meta-analysis on written disclosure studies indicates that, in general, writing about emotional topics is associated with significant reductions in distress.

Pennebaker & Chung 2011

There may well be a link between the physiological upset caused by the expressive writing²⁵ (see Figure 3A on page 11) and the healing process – and this would link in with Bromberg’s approach and understanding of psychotherapy (Bromberg 2011).

12. Some concluding remarks

Emotional distress can be very exhausting and lead to a feeling of disintegration (C6). One of the best researched ways of dealing with such distress when we are on our own is by Expressive Writing. This web-article has summarised some of the scientific literature on the subject, and in the Appendix B – on page 21 – there is a summary of the key aspects of Expressive Writing, which you may wish to print out for personal use.

Other approaches, which are not mutually exclusive, for dealing with distressing feelings such as loss include: music that has a particular affinity with us (see, for example B16 page 6, and footnote 25 below); having a chat (heart to heart) with a close friend; one to one counselling in which a sympathetic resonance develops between ourselves and the counsellor – and vice versa (e.g. Bromberg 2011); and being in nature (C6 again). All of these approaches can lead us towards integration, healing, and Well Being.

Appendix A: “Things that make me angry” /

²⁵ It has long been known that music can have a profound and healing effect on those suffering from loss / grief. Some months ago when I had been feeling quite low (in relation to the devastating effect Alzheimer’s disease is having on Maggie, my wife), I listened on two occasions within a week to a CD of Schubert’s String Quintet (D 956), written in the last year of his short life. I was profoundly moved – and at the time, deeply upset with on-going sobbing – for forty minutes or so. About a week later, I realised that I was changed; a transformation had occurred within me. Schubert in some miraculous way, through his own suffering and awareness of his own mortality, was able to put deep feelings into music, that is at the same time profoundly painful and yet beautiful; and this then had a profound and healing effect on my own Being (Schubert 1828).

This implies that the physiological arousal while listening to the music was comparable with the physiological arousal shown in Figure 3a and 3b on page 11. Without the arousal (and the accompanying upset) there may be no healing. Note also that it may take a few days / a week or so for the benefits of these approaches to manifest themselves.

Appendix A

During the third or fourth session of AT, I hand this sheet (two sides) out. It can help to focus the mind on unresolved anger issues; simply documenting them can be of value. This can then form the basis for Expressive Writing on anger issues, or for the Intentional Verbalisation of Anger Off Loading Exercise.

☾ * ☾ *	Autogenic Training and Therapy – Affect Regulation Things that make me angry	E-6A V-03BHR
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Negative emotional states can adversely affect our well being. This sheet is an aid to helping us to review what makes us angry – and what may have triggered the anger.

1. Please list below anything that has made you irritated / angry in the last twenty four hours.

•	
•	
•	
•	
•	

2. Now list anything that has made you angry / irritated in the last few weeks / months.

•	
•	
•	
•	
•	
•	
•	
•	

3. Please list any other matters from the past that still makes you feel angry or irritated. This could be, for example, something that occurred many years ago, such as: in early childhood; at home; at school; at work etc. This may relate to someone who is now dead; if so, include this in your list.

•	
•	
•	

Please turn over



Appendix A continued

You may also wish to reflect on the following if they have not been adequately covered on the previous page:

What are you most angry about in your life?

Who are you most angry with in your life?

What effect is this anger having on your being?

Remember to bring this sheet with you for the next Session.....

Thank you.

Post-script: A flowing model of emotions

Anger is in itself a normal and healthy human emotion – for example, the anger a mother may feel if her child is threatened. However, other forms of anger – such as neo-cortically elaborated forms that include hatred and ill-will towards others – are toxic mind states.

Many of us in childhood may have learned, inappropriately, that anger is an unacceptable emotion. In this case, as we grow up we may either not express our angry feelings (i.e. we suppress them); or, and probably worse still, we become unaware of them (a form of denial). Un-expressed anger, or denial of our anger, can lead to non-specific feelings of ‘upset’, and / or depression.

We can see emotions in terms of *e*-motion, where the ‘*e*’ stands for energy, and the ‘*motion*’ for movement. This means that healthy emotions involve flows of energy. In depression, our emotions can become blocked – so that we become *emotion-less* – and our energy ceases to flow.

Appendix B
Specific instructions for expressive writing

1. Each writing session lasts 15 minutes²⁶.
2. We write on three occasions:
 - Either once a day for three days, or
 - Once a week for three weeks.
3. The content includes:
 - The context of the event / upset; i.e. the situation that gave rise to the distress;
 - The actual feelings we have about this; these may well contain raw / gut feelings.....
 - Express them all freely and honestly....just as a small un-inhibited child would.
 - “You may also link this event to your past, your present, or your future, or to who you have been, who you would like to be, or who you are now”²⁷.
4. Grammar and punctuation are not important; best to just get down onto paper our feelings. Let everything out – whatever it is; this is *Expressive Writing*.
5. The more we let out, the better the result.
6. Especially during the first writing session, we may become upset / emotional; this is part of the therapy and healing process.
7. We destroy what we have written within 24 hours – this is important as it means we are no longer holding onto our distress / upset.
 - We may like to read what we have written after the fifteen minutes – or on the next day; do whatever feels right for you.
 - In any event, we ensure we have destroyed the writing within 24 hours.

The whole exercise is being done in an accepting and non-judging way.

We simply get down on paper the feelings, whatever they are.

In this way, we can become
 “Free to Be me”

²⁶ If we feel the need, this can be extended to 30 minutes per expressive writing session.

²⁷ Direct quote from: Pennebaker & Chung 2011 p 3 (in the internet downloadable version)

[Linked themes in this Autogenic Dynamics section](#)

A3	Towards a concept of Happiness and Well-Being [Zz-36]
B1	Bears, Imagination, and Well Being
B3	Emotional Operating Neuro Circuits – <i>a brief introduction to Panksepp’s model</i>
B4	Emotional Triggers and the Refractory Period
B5	Emotions, Frontal Lobe Dynamics, and Meditation
B6	Perceptions, flowers, and reality
B7	The Effects of Positive Imagination on Anxiety and Affect
B10	Snakes, Conditional Stimuli, and Equanimity – <i>approaches to treating mind-body disturbances</i>
B11	Transforming Distressing Mind-Body-States – <i>from Negative Ruminations towards Well-Being</i>
B12	Affect Labelling, Autogenic Training, and reducing Emotional Distress
B16	Antidotes to Threats our Minds Create – <i>the Soothing and Contentment System</i>
C6-A	Integration and Well Being – <i>original 3 page version</i>
C6-B	Integration and Well Being – <i>expanded 17 page version (2013)</i>
C7	Being in touch with our feelings – Hemispheric Integration
C10	Autogenic Training, Insight Meditation and Mindful Awareness
D1	Reflections on foundations for mindful living (after Kabat-Zinn)

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Lambert /

²⁸ No relation to Ian Ross

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