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NEW DIRECTIONS IN FORENSIC HYPNOSIS: FACILITATING MEMORY WITH A FOCUSED MEDITATION TECHNIQUE

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Abstract

In the late 1970s and early 1980s considerable publicity was given to the use of hypnosis as a technique to facilitate witness' memory in police investigations. As empirical evidence mounted, however, a number of limitations and disadvantages emerged with regard to the use of hypnosis in this role. As a consequence, hypnosis as an aid in forensic investigations is now treated with considerable caution and scepticism by many authorities, including the police. However, the present paper re-examines some of the procedures employed in hypnotic interviewing that might still be useful in the development of brief memory facilitation procedures. In particular, a brief focused breathing meditation (FM) technique is described that uses elements common to hypnotic induction, but divorced from the context label of 'hypnosis'. An experiment is described using this technique to aid face identification. As in other recent studies conducted by the authors, this procedure showed a memory facilitation effect, though without the increase in false positive errors familiar to more traditional hypnosis techniques; indeed, the trends were for FM to produce fewer false positive errors. Implications are discussed.

Key words: confidence and accuracy, forensic hypnosis, interviewing, meditation, memory facilitation

Introduction

In the late 1970s and early 1980s a number of books and papers were published proposing the use of hypnosis as a memory enhancement procedure for use by the police (e.g. Kleinhauz, Horowitz and Tobin, 1977; Haward and Ashworth, 1980; Reiser, 1980; Hibbard and Worring, 1981) and until a decade or so ago there were reports that it was used quite extensively (Haward, 1988). Advocates of hypnosis as a memory enhancement procedure have based their argument on two sources of evidence, experimental studies of hypnosis and memory facilitation, including age regression and forensic analogues, and anecdotal case studies.

Experimental laboratory studies of hypnosis and memory

Although a number of older studies purported to show that hypnotic suggestions for age regression had a special capacity to reinstate childhood responses (for example, True,

1949; Walker, Garratt and Wallace, 1976) these have been criticized on methodological grounds (Barber, 1969; Barber, Spanos and Chaves, 1974; Wagstaff, 1981b). Moreover, O'Connell, Shor and Orne (1970) showed that simulators performed as well as 'reals' on a variety of age regression tasks. Indeed, some have identified a failure to respond fully to age regression suggestions as a feature identified with high hypnotic susceptibility (Nogrady, McConkey, Laurence and Perry, 1983).

Other laboratory studies have purported to demonstrate hypermnesia with hypnosis for more recently learned materials. However, these studies have also been criticized on a number of grounds. For example, it could be the case that asking people to remember information in a context defined as 'hypnosis' simply motivates them to try harder; so it is 'motivation' that is the key variable rather than a special state or dissociative process. There are also problems associated with testing the same subjects with and without hypnosis procedures. It is well known, for example, that, in accordance with experimental demands, subjects can sometimes 'hold back' their responses in the non-hypnotic condition so that their performance when they are supposedly 'hypnotized' will look better. A number of earlier studies have been criticized for these reasons (Sheehan and Perry, 1976; Wagstaff, 1981b, 1984; Wagstaff and Mercer, 1993).

With the adoption of appropriate controls, there now seems to be a fairly overwhelming body of experimental evidence to indicate that hypnotic procedures do not improve the accuracy of memory to a level above that achievable in motivated non-hypnotic conditions (for reviews see Wagstaff, 1981a, 1982b, 1983, 1984, 1985, 1989; Smith, 1983; Erdelyi, 1994; Steblay and Bothwell, 1994; McConkey and Sheehan, 1996; Kebbell and Wagstaff, 1998; Steblay and Bothwell, 1999a, 1999b and for examples see Appendix A). It is important to stress here that by accuracy, researchers are not referring only to correct responses. For example, in his overview of the relevant literature, Erdelyi (1994) found that, in some cases, hypnosis did result in increases in correct responses; however, when they occurred, increases in correct responses with hypnosis were more or less confined to situations that require free recall of high-sense materials (filmed crimes, staged incidents, etc.). Moreover, in such cases, overall accuracy as determined by the proportion of correct to incorrect responses was not improved; in fact, sometimes it deteriorated (see, for example, Dywan and Bowers, 1983; Dinges, Whitehouse, Orne, Powell, Orne and Erdelyi, 1992). Research also suggests that hypnosis may encourage witnesses to incorporate more misleading information into their reports, and to be more confident in their reports generally – including their reports of incorrect information – resulting in a 'false confidence' effect (Wagstaff, 1989; Wagstaff and Mercer, 1993; McConkey and Sheehan, 1996; Scoboria, Mazzoni, Kirsch and Milling, 2002).

If we view hypnosis in terms of normal social and cognitive processes, it is not difficult to see why hypnotic procedures might enhance both accurate and distorted testimony in this manner.

Given the popular conception of the powers of hypnosis, it is fairly obvious that 'hypnotic' procedures are expected to enhance accurate memory (indeed, in many experiments explicit instructions are given to this effect). In one study, for example, we found that participants simulating jurors were more likely to believe testimony if they were told it had been elicited under hypnosis (Wagstaff, Vella and Perfect, 1992). Interviewees may, therefore, attempt to fulfil this requirement by giving some additional details about which they were previously unsure (that is, adopt a lax criterion for report), resulting in increases in both correct and incorrect information. In addition, because of a belief that hypnosis improves memory, some interviewees may report vague details or imaginings as

confident memories, believing that, because they are created in the hypnotic context, they must be accurate.

As a response to findings of this kind there has been a tendency for some authorities to change their emphasis. Hence, instead of viewing hypnosis as a potentially valuable tool for uncovering accurate memories, they consider it to be a liability in that it increases the probability of inaccurate reporting (Orne, 1979; Perry, Orne, London and Orne, 1996; Perry, 1997; Diamond, 1980). In fact, it was as a result of expert evidence on this subject that a number of states in the USA enacted the per se exclusion rule, and banned victims and witnesses who had been interviewed with 'hypnosis' from giving evidence in court. However, it has since been found necessary to exclude defendants from this ban, as this would affect the defendant's constitutional right to testify and call witnesses on his or her behalf (Laurence and Perry, 1988; Perry and Laurence, 1990).

Anecdotal evidence

Despite these considerations, some experts on forensic hypnosis have continued to argue that hypnosis can usefully improve memory, and police in a number of countries have continued to use hypnosis for memory enhancement purposes (see, for example, Vingoe, 1995; McConkey and Sheehan, 1996; Wagstaff, 1999a,1999b). The main reason for this is that, the experimental literature apart, anecdotal cases have purportedly shown it to be effective. Indeed, in the UK the Association of Chief Police Officers has alluded to cases in which hypnosis has been useful, and has suggested that hypnosis might be applicable in some serious cases where leads are few, a view obviously endorsed by some other professionals including McConkey and Sheehan (1996), and those interviewed by Vingoe (1995). So why should 'case studies' of the effects of hypnotic interviewing look so much more impressive than the experimental research findings?

One possible explanation for this is that whilst, in controlled studies, memory enhancement instructions delivered in the context of hypnosis do not reliably improve memory accuracy in comparison with non-hypnotic memory enhancement procedures, in the field, they may sometimes work better than no memory enhancement instructions at all (see, for example, Geiselman, Fisher, MacKinnon, and Holland, 1985; Wagstaff and Mercer, 1993). Indeed, in the field there are a number of techniques that hypnoinvestigators have employed in forensic investigations that might produce better results than routine police interrogation. Techniques used by hypnoinvestigators have included using sympathetic non-authoritarian interrogators who establish trust and rapport; repeated testing; and techniques to provide memory retrieval cues, such as role-playing, picture drawing, recalling in different orders, and context reinstatement (i.e. reporting everything including thoughts and feelings). Context reinstatement, in particular, has long been established as a valuable retrieval aid (Malpass and Devine, 1981; Wagstaff, 1982c).

In addition, hypnoinvestigators have tended to be more skilled at avoiding problems associated with standard police interviewing. For example, police interviewers frequently interrupt the witness, thus breaking the latter's concentration. Such interruptions may impair the ability to remember information and result in short responses that may exclude important details. Most police interviewers also rely heavily on the use of closed questions (such as, 'what colour was his shirt?') rather than open-ended ones (such as, 'describe your attacker'). Closed questions tend to result in short, truncated answers and the only information elicited is that which is requested (Hibbard and Worring, 1981; Wagstaff, 1982b, 1999a, 1999b; Kebbell and Wagstaff, 1998).

Because of this, attempts have been made to direct the police toward non-hypnotic means of memory enhancement that utilize some of the techniques developed by hypnoinvestigators (Wagstaff, 1982c, 1988). The most popular of these is the cognitive interview, which uses techniques such as rapport building, 'report everything' instructions, focused attention and context reinstatement (Fisher, Geiselman, Raymond, Jurkewich and Warhaftig, 1987; Fisher, Geiselman and Amador, 1989; Fisher and Geiselman, 1992). Studies that have compared cognitive interview techniques with hypnosis indicate that performance on them is similar (Geiselman et al., 1985; Kebbell and Wagstaff, 1997). However, unlike hypnosis, the majority of the evidence suggests that, in adults, the cognitive interview does not unduly affect accuracy rates, susceptibility to leading questions, or disrupt confidence accuracy relationships (Geiselman et al., 1985; Geiselman, Fisher, MacKinnon and Holland, 1986; Memon and Bull, 1991; Memon and Kohnken, 1992; Bekerian and Dennett, 1993; Memon, Holley, Milne, Kohnken and Bull, 1994; Geiselman, 1996; Kebbell and Wagstaff, 1999). As a consequence, in the UK and USA, the cognitive interview has displaced hypnosis as the preferred mode of memory facilitation in police investigations.

Recent evidence suggests, however, that cognitive interviewing is time consuming, not only in terms of time spent interviewing the witness, but also in training the police interviewers. Moreover, because of their complexity, officers often do not adhere to the specified procedures (Kebbell and Wagstaff, 1999; Kebbell, Milne and Wagstaff, 1999). Given these problems, we decided to revisit hypnotic interviewing to see if there are any additional techniques used in hypnosis procedures that could potentially be used by themselves, or as part of more brief but effective investigative memory facilitation techniques. As a useful starting point, the present authors reconsidered the use of hypnosis to aid face identification.

Hypnosis and face recognition

Although some early studies found that hypnosis did not facilitate face recognition (Wagstaff, 1982a; Wagstaff, Traverse and Milner, 1982), one study by Ready, Bothwell and Brigham (1997) found that, even without context reinstatement instructions, hypnosis in the form of a standard induction procedure facilitated face identification without increasing confidence in incorrect identifications.

Although it has been known for some time that context reinstatement in particular may be effective in facilitating face recognition (Malpass and Devine, 1981; Cutler, Penrod and Martens, 1987) and hypnoinvestigators typically use context reinstatement instructions (Hibbard and Worring, 1981; Kebbell and Wagstaff, 1998), there are other possible reasons why standard hypnosis procedures might help in face identification that do not obviously involve factors such as context reinstatement. One possibility is that relaxation and other instructions that invite participants to focus attention away from external sources onto internal experiences, encourage a more 'holistic' or 'global' mode of information processing (Wagstaff, 1998); a number of investigators have associated hypnosis with nonverbal, holistic, appositional thinking (for example, Gur and Gur, 1974). This may be significant, in that some recent research suggests that face recognition can be facilitated by experience on a task that encourages the adoption of a perceptual set to retrieve material in a global fashion (Macrae and Lewis, 2002; see also Tanaka and Farah, 1993). Alongside this, Gruzelier and his colleagues have reported that, in the absence of specific suggestions (such as for hallucinations and analgesia), hypnotized subjects show a shift from executive

left frontal processing to right hemisphere processing as the hypnotic induction ritual proceeds (Gruzelier, 1988; Gruzelier and Warren, 1993; McCormack and Gruzelier, 1993). This may also be important, as a variety of evidence has associated face identification with the right hemisphere, at least for identification that does not involve the fine analysis of features (for example, Sergent, 1985; Kim, Andreasen, O'Leary, Wiser, Ponto, Watkins and Hichwa, 1999).

With these considerations in mind, we looked at the efficacy of a simple brief audiotaped hypnosis procedure, used by an experimenter untrained in hypnosis or any other kind of interviewing, and administered to a small sample of naïve participants unselected for hypnotic susceptibility (see Wagstaff, Brunas-Wagstaff, Knapton, Winterbottom, Crean, Cole and Wheatcroft, 2003).

On the basis of the study by Ready et al. (1997), we predicted that hypnosis would improve face identification; it was also anticipated that in the absence of specific suggestions for memory facilitation, this would be accomplished without false confidence effects. Our results showed a small effect in favour of hypnosis. However, participants in the hypnosis condition were significantly more likely to show confidence in incorrect responses than those in the control condition.

These results suggest that, in the absence of memory facilitation instructions, hypnosis may have a small facilitatory effect on face identification, however, relative to controls, the positive effects of hypnosis are accompanied by significantly increased confidence in incorrect responses as shown in the wider literature (Sheehan and Tilden, 1983; Nogrady, McConkey, and Perry, 1985; Spanos, Quigley, Gwynn, Glatt and Perlini, 1991). Clearly then, there may still be problems associated with the use of hypnosis as an investigative tool, even in this shorter form that contains no suggestions for memory facilitation. Nevertheless, there may be advantages to further breaking down the basic hypnotic induction technique into its basic components and divorcing them from the context of 'hypnosis'.

Changing the context: the focused meditation technique

A number of studies point to the possibility that many of the problems in the use of hypnosis as an investigative tool may arise because of the demand characteristics created by the hypnosis context, i.e. to fulfil expectations participants spuriously report more information and express greater confidence in their reports (Spanos and McLean, 1983; Spanos, Gwynn, Comer, Baltruweit, and de Groh, 1989; Spanos, et al., 1991; Murrey, Cross and Whipple, 1992; Wagstaff and Frost, 1996; Wagstaff, 1999a, 1999b). Consequently, the reporting biases associated with hypnotic memory facilitation procedures may be significantly reduced if the procedures involved are divorced from the context of 'hypnosis'. We, therefore, looked for a technique that is not defined as 'hypnosis' but shares many of the basic features of standard hypnotic induction procedures.

A number of researchers have noted the similarities between the effects produced by standard relaxed hypnotic induction procedures and other procedures such as systematic relaxation, autogenic training and meditation (Barber et al., 1974; Benson and Klipper, 1976; Morse, Martin, Furst and Dubin, 1977; Edmonston, 1991). Typically, according to Benson and Klipper (1976), these procedures share in common the adoption of a relaxed, passive mode of thinking, brought about by focusing of attention on some neutral target or set of targets such as parts of the body or breathing, whilst ignoring distracting thoughts. This state of mind has variously been referred to as the 'relaxation response' (Benson and Klipper, 1975), 'neutral hypnosis' (Edmonston, 1977) and 'anesis'

(Edmonston, 1991). It is notable how some of the physiological correlates of standard relaxation hypnotic induction procedures are also to be found using relaxation and meditation techniques (Morse, Martin, Furst and Dubin, 1977; Edmonston, 1991). Wagstaff and Mercer (1993) further found that hypnosis and relaxation had similar effects on memory, both improving memory for 'shallow processed' verbal stimuli to a level greater than achieved in an untreated control condition. If the 'relaxation response' is also in some way responsible for the facilitation of face recognition by hypnosis (by, for example, encouraging global processing), yet it is the placing of this response in the context of hypnosis that elevates confidence in incorrect responses, then by using a simple meditation procedure in a context not defined as hypnosis it should be possible to improve face recognition without a confidence bias effect. This was the aim of the following experiment. It was predicted that a simple meditation procedure, not defined as hypnosis at any stage, would facilitate face recognition in the absence of an increase in confidence in incorrect responses.

Method

Participants

The participants were 44 undergraduate students from the University of Liverpool from various disciplines (M age = 23.55, range 18–55; SD = 8.20).

Materials and procedure

All participants were invited to take part in a psychological experiment on face recognition. They were randomly assigned to two conditions, 'meditation' and 'control', 22 in each. Each participant was presented with five faces displayed in the form of passport size black and white photographs, and was told to study them for 30 seconds (these procedures varied from the first experiment to make the task more difficult and reduce the possibility of ceiling effects). All participants were then given a 10-minute interval during which they were asked to respond to a questionnaire filler task. After the 10 minutes, participants in the meditation condition were administered a 1.5 minute long audio tape of a focused breathing meditation procedure modified from Willcox, Willcox and Suzuki (2001, see Appendix A). They were told to continue their breathing exercises and continue to focus their attention throughout the task that followed. They were then presented with a sheet containing 30 black and white passport sized photographs of faces and asked to identify all of the five faces they had seen previously. All five faces were included in the display. They were to pick out each person, and then rate their confidence in their judgement on a scale of 0–100% (where 0 means pure guess, and 100 means totally confident). No time limit was given for this task, and participants were told they could select the faces in any order. Participants were then told that they could stop the meditation exercise.

Participants in the control condition were treated in the same way except that that they received no meditation procedure and were given 1.5 minutes free time instead.

Results and discussion

All participants picked out five faces. As there is some evidence for age differences in identification accuracy (Searcy, Bartlett and Memon, 1999), in the following *F* test analyses the effects of age were controlled for by including age as a covariate. Although

the effect was not large, as predicted, participants in the meditation condition selected significantly more correct faces (M = 3.95, SD = 0.89) than those in the control condition (M = 3.41, SD = 1.30), F(1,37) = 4.46, p <0.042.

Between subjects confidence-accuracy correlations were computed using each participant's mean face recognition score and mean confidence score. The C-A correlation within the meditation condition was highly significant (0.72, p <0.001) whereas that for the control just failed to reach significance (0.42, p <0.052). Further one-way ANOVA analyses showed that the differences between the meditation and control conditions in terms of confidence in correct responses (M = 81.20, SD = 22.95 and M = 71.03, SD = 28.57, respectively) did not approach significance ($p > 0.45$). Also, confidence in incorrect responses did not differ significantly between the meditation and control conditions (M = 62.07, SD = 25.45, and M = 51.39, SD = 24.60, respectively, $p > 0.53$).

To summarize, these results showed a small but significant facilitatory effect for the FM technique on face recognition in unselected participants. Moreover, the meditation focused technique used in the present experiment, which divorced the procedure from the context of 'hypnosis', produced no clear false confidence effects, in fact, only the C-A correlation for FM was significant, indicating that meditation may improve confidence accuracy calibration, a factor that is very desirable in real-life forensic investigations.

Focused meditation and memory for events

Having established an effect for face identification, we turned our attention to memory for events. As noted earlier, an obvious explanation for the concurrent increase in correct and incorrect free recall responses with hypnosis found in the literature is that the context of hypnosis encourages a lax criterion for report (Wagstaff, 1999a, 1999b). However, whilst such an interpretation might account in part for such findings, other factors might be involved. For example, also as suggested earlier, it could be that both hypnosis relaxation and meditation instructions facilitate right hemisphere processing; this may be significant not only for face recognition but for free recall of emotionally salient events, because recent research suggests that the latter has also been related to right hemisphere processing (Ali and Cimino, 1997; Nagae and Moscovitch, 2002).

Another potentially influential variable is eye closure. Eye closure is common to most hypnotic procedures, and although eye closure does not appear to influence hypnotic suggestibility (Barber, 1969), previous pilot work suggests that eye closure at retrieval may be a useful memory aid in its own right (Wagstaff, 1982c). There are a number of possible reasons for this; it could be that eye closure simply cuts out visual interference and aids concentration. Alternately, or additionally, it is known that eye closure increases EEG alpha, and increased alpha activity has been associated with improvements in memory, including visual memory (Kikuchi, Wada, Nanbu, Nakajima, Tachibana, Takeda, and Hashimoto, 1999; Alvarez, Lombardi, Corzo, Perez, Pichel, Laredo, Hernandez, Freixeiro, Sampedro, Lonrenzo, Alcaraz, Windisch and Cacabelos, 2000). There could, therefore, be a common mechanism mediating alpha production, eye closure and memory improvement.

In another experiment, therefore, we used the brief meditation procedure to facilitate memory for a high-sense emotionally salient event, Princess Diana's funeral (for details see Wagstaff et al., 2003). In this study we assigned participants to two conditions, control and brief meditation; with each group half of the participants had their eyes open, and half closed. Our results showed a highly significant tendency for those in the meditation condition to freely recall more than the control condition, and a significant

tendency for those with eyes closed to recall more than those with eyes open, i.e. the effects were additive. Moreover, those in the meditation condition recalled fewer incorrect details than those in the control condition. However, analyses of the participants' total scores on closed questions (i.e. questions requiring a specific answer) showed no effects approaching significance.

Conclusions regarding focused meditation

In sum, our results suggest that brief audiotaped hypnosis and meditation techniques may have some value in aiding face recognition and free recall of an emotional event without an increase in false confidence effects. Indeed, meditation seemed to improve the C-A relationship. The evidence, both from here and the literature on hypnosis, suggests, however, that neither technique is likely to be effective with closed questions requiring specific answers (Erdelyi, 1994; Ready et al., 1997).

Whilst the present results regarding FM are encouraging in some respects, it is important to determine how the FM technique fares when compared to, and as an addition to, more conventional hypnosis and cognitive interview procedures, as well as other brief techniques such as context reinstatement alone (Malpass and Devine, 1981; Wagstaff et al., 1982; Cutler et al., 1987; Ready et al., 1997). If our results turn out to be reliable, we also need to find out more about the psychological processes that underlie them. The general idea that FM technique might facilitate free recall of emotionally salient stimuli by encouraging a more global, holistic mode of information processing may be a promising avenue for investigation. Moreover, perhaps eye closure further facilitates this effect, cutting out extraneous visual input thereby aiding visualization (which might also account for some of the findings relating improvements in visual memory to increased EEG alpha activity). It would also be useful to know, therefore, whether FM is less effective (as one might predict) with memory for more emotionally neutral events, and whether FM is more effective for identification of faces from incidentally presented materials that are more likely to be processed globally. Such an interpretation may also account for the failure of hypnosis and meditation to facilitate correct answers to closed questions that require a more localized, fine search.

However, although one of the main points of the present paper is to argue that there may still be much to be gained by looking at the procedures used by those performing hypnotic interviews, the emphasis has been placed on divorcing them from the context of hypnosis. But does this mean that there is no place for the explicit labelling of a procedure as 'hypnosis' in forensic investigations? Not necessarily.

Hypnosis as a face-saving device

One of the reasons why case studies of hypnosis may look impressive is that any new testimony may reflect a lifting of restraints on reporting rather than actual memory enhancement. It is not uncommon for witnesses to claim that they cannot remember details of an event, when in fact they remember perfectly well what happened. Reasons for not providing information initially can include fear of reprisals for telling the police, reluctance to talk about abhorrent acts, or the fact that the witness feels partly responsible for the crime committed. In these situations, some witnesses may subsequently wish to change their testimony and provide details. However, to do so would mean admitting to having lied previously about their inability to remember details of an event, or having to justify why they did not volunteer the information earlier. When this happens, hypnosis

procedures, explicitly described as such, might conceivably act as a 'face-saving' device to explain the sudden recall of information; thus, in the guise of a special memory facilitation technique, hypnosis could be construed as providing 'permission' to report previously undisclosed information. Whilst information gained in this way would presumably be treated with scepticism by the courts, if it provides the police with details that can be supported by other forensic evidence (such as finding the body of a murder victim), the advantages are obvious.

General conclusion

In the 1980s a number of proponents of the use of hypnosis as a memory enhancement procedure argued that by rejecting the use of hypnosis outright 'the baby was being thrown out with the bathwater'. According to the view expressed in this paper, these advocates might have had a point. However, it is ironical that one of the most significant features of hypnosis responsible for its efficacy in clinical situations, that is, belief in its 'special properties', has perhaps been the main cause of its downfall as a forensic tool. Nevertheless, by viewing the techniques developed by hypnoinvestigators as a rich source of ideas, and incorporating hypnosis within the realm of more mainstream psychological theorizing, there may still be much we can learn that may be of benefit in forensic interviewing.

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Appendix A

Studies on hypnosis and memory facilitation

Baker, Haynes and Patrick, 1983; Buckhout, Eugenio, Eugenio, Licitra, Oliver, and Kramer, 1981; Dywan and Bowers, 1983; Gregg and Mingay, 1987; Kebbell and Wagstaff, 1997; Mingay, 1986; Nogrady, McConkey and Perry, 1985; Orne, Whitehouse, Dinges and Orne, 1988; Putnam, 1979; Register and Kihlstrom, 1987; Sanders and Simmons, 1983; Scoboria, Mazzoni, Kirsch and Milling, 2002; Spanos, Gwynn, Comer, Baltruweit and de Groh, 1989; Spanos, Quigley, Gwynn, Glatt, and Perlini, 1991; Wagstaff and Ovenden, 1979; Wagstaff and Sykes, 1983; Wagstaff, Traverse and Milner, 1982; Whitehouse, Dinges, Orne and Orne, 1988; Yuille and McEwan, 1985; Zelig and Beidleman, 1981).

Appendix B

Focused meditation instruction

This is a very simple focused breathing exercise designed to help you relax and concentrate. So sit comfortably; keep your spine straight; keep your back straight and focus your attention now on your breathing. As you breathe in and out in a natural manner, focus on your breathing; breathing in and out in a natural manner. Take a few deep conscious breaths but don't strain. Just focus on your breathing, breathing in and out in a natural manner. Let the flow of your breath settle into its own natural rhythm; keep focused and

aware during the whole process but concentrate on your breathing, breathing in and out in a natural manner. Allow your attention to focus on the changing rhythms of your breathing; and if your attention begins to wander, gently but firmly bring it back to your breathing. Now keep focusing on your breathing as you listen to the following instructions. Throughout the following instructions continue focusing on your breathing, breathing in and out in a natural rhythm.

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