

Unconscious Agendas in the Aetiology of Refractory Obesity and the Role of Hypnosis in their Identification and Resolution – A New Paradigm for Weight Management Programmes, or a Paradigm Revisited?

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Running title: Hypnosis in the Management of Obesity

ABSTRACT

Hypnosis has long been recognised as an effective tool for producing behavioural change in the eating disorders anorexia and bulimia. Despite many studies from the latter half of the last century suggesting that hypnosis might also be of value in managing obesity situations, the efficacy of the hypnotherapeutic approach for weight reduction has received surprisingly little formal research attention since 2000.

This review presents a brief history of early clinical studies in the use of hypnosis for weight reduction; and describes an hypnotherapeutic approach within which a combination of instructional/pedagogic, and exploratory therapeutic sessions can work together synergistically to maximise the potential for sustained weight loss. Hypnotic modulation of appetite and satiation associated peptides and hormones levels may yield additional physiological benefits in type-1 and type-2 diabetes.

A BRIEF HISTORY OF CLINICAL HYPNOSIS FOR OBESITY

Between 1959 and 2003 over 40 reports were published specifically describing the use of hypnosis for weight reduction (Table 1). The studies varied in size from >100 participants (Goldstein, 1981; Jupp & Collins, 1985; Bolocofsky et al, 1985; Johnson & Karkut, 1996), through smaller trials of 20-75 patients, down to those quoting individual case studies (Hanning, 1975; Davis & Dawson, 1980; Channon, 1980; White, 1980; Smith, 1986; Munro, 1989, ; Green, 1999). Amongst the earliest descriptions of use of hypnosis in a medical situation to treat obesity was Brodie (1964) who (rather contentiously) would tell his obese patients that they had the equivalent of a “fat cancer” that had been growing inside them for years and which needed removal by their learning to eat properly, through the use of his hypnotic therapy. He claimed great success with this personalised approach to treating over 525 patients, but as was the case with many of the early studies, Brodie did not employ any control group nor did he publish any numerical data to substantiate this claim, which limits severely any assessment of the true efficacy of his non-conformist approach.

Most of the authors listed in table 1 employed a sociocognitive or authoritarian approach, utilising varying combinations of suggestion, imagery, anxiety reduction, aversion, covert sensitisation and self-directed programming to facilitate changes in eating habits, usually with apparent benefit in reducing weight in their subjects. However a more analytical or exploratory approach was taken by Channon (1980), Gross (1983), Munro (1989) and Barabasz & Spiegel (1989), with evident success also. Induction approaches were predominantly progressive relaxation or eye gaze fixation, either in groups or individually, with devices such as hand levitation being used to enhance the depth of hypnosis and hence increase the benefits of the hypnosis sessions (Goldstein, 1981). Some studies additionally taught participants self-hypnosis and/or provided hypnosis tapes for home use. It is difficult to accurately evaluate the claims made by many of these reports as only 17 out of the 43 studies listed incorporated a control cohort, and in only 9 studies were patients followed-up after their hypnosis-induced weight loss to monitor for weight regain, usually for

six months or less. Exceptions to this were Bolocovsky et al (1985) and Stradling et al (1998) who were able to demonstrate maintained weight loss benefits in their hypnosis cohorts at 24 and 18 months respectively. Rarely was any formal, or informal, assessment of hypnotisability employed prior to commencing therapy, but where this was measured, there appeared to be a correlation between such measurements and subsequent weight loss (Stanton, 1975; Andersen, 1985; Jupp et al, 1986; Barabasz & Spiegel, 1989; Mewes et al, 2003), an exception to this being that of Deyoub (1979) who found little correlation between weight loss and the Harvard Scale assessment. Irrespective of the parameters used to assess the resulting success of hypnotherapy sessions, or the length of follow-up post-hypnosis or post-weight-loss, 33 out of 43 (77%) of the papers referenced in table 1 deemed hypnosis to have been efficacious in enhancing weight loss in their obese patients.

Between 1976 and 2000 at least nine reviews were published examining or summarising the benefits of reports and trials such as those above (Leon, 1976; Mott and Roberts, 1979; Wadden and Anderton, 1982; Heap, 1982; Spiegel, 1983; Cochrane, 1992; Levitt, 1993; Vanderlinden and Vandereycken, 1994; Allison and Faith, 1996; Schoenberger, 2000). Whilst all accepted that there was some benefit from the use of hypnosis in weight reduction programmes, some common themes running through these reviews were the need for more rigorous research with larger cohorts of subjects, and the need for selectivity in subject recruitment in order to personalise hypnotic approaches to suit individuals and to maximise the response. Clinical trials of hypnosis for various problems, including obesity, were reviewed by Kirsch and colleagues in two meta-analyses (1995, 1996) which reported that the addition of hypnosis to cognitive behavioural psychotherapy (CBT) substantially enhanced outcomes for many clinical conditions including obesity (Kirsch *et al*, 1995). In their later meta-analysis Kirsch *et al* (1996), using recalculated data, demonstrated even larger benefits for obesity treatment, with weight reduction often continuing beyond the end of the treatment period, although other reviews demonstrate the methodological difficulties in

using the data from some of these early trials (Allison and Faith, 1996; Schoenberger, 2000).

Several other more recent reviews have confirmed the efficacy of using hypnosis, in particular as an adjunct to cognitive behavioural therapy in weight reduction programmes, including Allison et al (2001), Hutchinson-Phillips and Gow (2005), and Pittler and Ernst (2005). This same conclusion was reached by Byrom (2009) in a study comparing CBT alone with CBT plus hypnosis, whilst Prag (2007) in her single case study found this combination useful also for improving self- and body image, even in the absence of significant weight loss. Holt, Warren & Wallace (2006), Barabasz (2007) and Kothian (2009) all make the case for the usefulness of hypnosis for weight reduction although, the paucity of recent published trials means that their opinions are still based on those trials undertaken over 15 years previously. Even the most recent reviews by Hartman (2010), Wickramasekera (2010) Montgomery, Schnur & David (2011), whilst concluding that hypnosis has potential as a weight management tool, express concern about the problems of small cohort numbers, variations in procedure, different measures of response measurement, and lack of long term follow-up. A 2006 Cochrane collaboration review of obesity interventions for adults contains reference to only one study using hypnotherapy as a stand-alone therapy (Shaw et al, 2006), and despite the evidence that hypnosis can be beneficial and efficacious for many childhood and teenage problems (Olness, 2008; Kohen, 2011; Kaiser, 2011), a 2009 Cochrane collaboration paper on obesity interventions with children by Oude Luttikuis et al (2009) was unable to find any use of hypnotherapy for this purpose.

Two textbooks by Ernst and colleagues published in 2001 and 2006 provided substantial and systematic literature reviews on the perceived efficacy of a wide range of mind-body therapies, including hypnotherapy, for an equally wide range of medical and psychological problems (Ernst, Pittler, Stevinson & White, 2001; Ernst, Pittler & Wider, 2006). The editors of these books subsequently proceeded to use the data collected during the preparation of

their publications, in an attempt to quantify the efficacy of three of these therapies (hypnotherapy, autogenic training and relaxation therapy), and to monitor any apparent changes in their effectiveness between 2000 and 2005 (Ernst, Pittler, Wider & Boddy, 2007). The authors derived their “weight of evidence” index based upon the various criteria seen as determining the quality of reported clinical trials, these included whether the report was of a single trial or a meta-analysis, the number of participants in the trial, and the “blinded-ness” of the assessment. For the majority of the clinical conditions examined, all three therapies showed an apparent improvement in their effectiveness between 2000 and 2005, the marked exceptions being alcohol and smoking dependences, where the benefits of hypnotherapy appear not to have improved over the years. There were no figures in the 2000 survey for hypnotherapy being used to treat obesity but the 2005 index indicated a high weight of evidence for the efficacy of the technique in obesity management (ibid). A major review of confidence intervals for obesity and hypnotisability correlations by Sapp et al (2007) appears to add weight to the contention that hypnosis either alone or in combination with other therapies is effective in producing weight reduction, but that the connection between this weight loss and hypnotisability is still not fully established. This conclusion is in general agreement with that expressed by Flammer and Bongartz (2003) with regard to other, non-obesity hypnotherapy programmes.

The relationship between hypnotisability (what was previously referred to as suggestibility), and quality of response in clinical trials including weight reduction programmes, has been the source of much conjecture and opinion. Few of the pre-2000 trials investigated the correlation between hypnotisability and weight loss, and the small numbers of participants in many historical trials would have rendered such correlations of doubtful significance, as a recent paper by Montgomery, Schnur and David (2011) would seem to indicate (see discussion below). Notwithstanding the views of Sapp et al (2007), there appears to be some evidence accrued attesting to a degree of correlation between hypnotisability and weight loss (Allison, 2001; Mewes et al, 2003; Barabasz, 2007), as well as hypnotisability

having a significant relationship with a number of behavioural and cognitive eating-associated characteristics such as weight, shape and dissociation (Hutchinson-Phillips et al, 2007), and playing a role in body self-image malleability (Frasquilho et al, 1998). Publications such as Lynn & Shindler (2002) and Milling et al (2010) have provided further evidence of such correlations, and Lynn, Meyer & Shindler (2004) have emphasised the value of assessing hypnotisability in some (if not all) clinical environments. This is discussed in more detail below.

OBESITY AND ITS CURRENT CLINICAL MANAGEMENT

Obesity has become a growing problem over the past two decades, throughout the Western hemisphere especially, but increasingly also within developing countries. The fears of a global epidemic of obesity and how this might be prevented, were highlighted by the World Health Organisation (WHO) in 2000 in their lengthy Technical Report No. 894 (World Health Organisation, 2000), and these fears have been echoed and amplified by the subsequent wealth of national and world statistics, and of publications, all attesting to the scale of the growth rate in obesity. The WHO estimated that in 2004 1.6 billion people worldwide would be overweight and at least 400 million would be obese, and these figures were predicted to rise to 2.3 billion and 700 million respectively by 2015 (ibid). The 2011 prevalence of adult overweight (BMI 25-29.9) in the United States was estimated at around 40%, with a further 30% of the population being obese, i.e. BMI>30 (Hurt et al 2011), whilst figures for the UK showed an increase in male obesity from 13.6% to 24.0% between 1993 and 2004, and a rise in the incidence for women from 16.9% to 24.4% over the same period (Zaninotto et al, 2009). The latest UK statistics for 2011 from The Information Centre for Health and Social Care (ICHSC) show that the proportion of adults who were overweight including obese, increased from 58 per cent to 65 per cent in men and from 49 per cent to 58 per cent in women between 1993 and 2011, and this is predicted to continue to rise (ICHSC, 2013), despite the Department of Health's urgent "...*call to action on obesity in England*" of the same year (Department of Health, 2011).

These figures give some idea of the scale of the problem and of the need for research into approaches that will maximise the benefits of current weight reduction programmes. It is widely accepted that this worldwide increase in the incidence of refractory overweight and obesity arising from an inability to adhere to diet and exercise regimes, or from weight regain following previous successful weight loss, are all consequential to a multi-factorial situation involving genetic, epigenetic, prenatal, nurtural, biochemical/hormonal, psychological, psycho-social and environmental. Obesogenic genes, an obesogenic uterine environment, an obesogenic upbringing, an obesogenic lifestyle and the free availability of an obesogenic diet, have all been shown to contribute to varying degrees to the likelihood of becoming an overweight or obese child, and in turn, an obese adult with major biochemical and physiological disorders requiring long term medical and social support (Spruijt-Metz, 2011; Freeman, 2010). Most of these obesogenic factors have been, or are becoming, clearly identifiable and mapped (Vandenbroeck, Goosens & Clemens, 2007), and their impact quantifiable, if not always acknowledged or avoidable (Shawky & Sadik, 2012; Hruschka & Brewis, 2012; Levine, 2011; Zimmerman, 2011). Less well understood however are the emotional, psychological and psychodynamic concomitants which influence eating behaviour and weight maintenance, necessitating a behavioural approach in their management (Fitzgibbon, Blackman & Avellone, 2000; Allison & Baskin, 2009; Wilson, 2010; Chivers, 2011; Pettigrew, Pescud & Donovan, 2012), and for which an intervention such as hypnotherapy would appear to be the most appropriate route to their modulation and amelioration.

Current efforts to address society's increasing problem of overweight and obesity through weight reduction programmes, both in the commercial sector and in primary care and National Health Service (NHS) settings, continue to focus predominantly and quite rightly on diet and exercise regimens. Only scant attention may be directed towards emotional support and behavioural modification, and as a result perhaps, such programmes rarely achieve the long-term success that the organisers of such weight reduction programmes would wish

(Lehnert et al, 2012; Chambers & Swanson, 2012; Stubbs & Lavin, 2013). Increasingly therefore, such programmes are incorporating behavioural techniques such as motivational interviewing, relaxation and meditation, CBT and mindfulness into the structure of such programmes as a means of enhancing motivation, and Wing et al (2008) and Spahn et al (2010) have explored some of the behavioural factors which appear to mediate long-term maintenance of weight loss. However, although such factors may be relevant in helping to make attending weight management programmes more efficacious by reducing anxiety, and in rallying participants' enthusiasm to change their lifestyles, as Cooper et al (2012) has suggested, rarely do they have much long-term benefit with regard to the maintenance of long-term weight loss: nor do these therapies appear to have easily identifiable influences on motivating for behavioural change towards a healthy lifestyle (Papandonatos et al, 2012). Furthermore, none of these approaches would appear to have the capability or the power to detect and to change intrinsically obesogenic unconscious motivational patterns. Nor do they have the ability to explore for subconscious barriers and agendas which might be acting to inhibit weight loss, and promote weight regain after the cessation of an apparently successful weight reducing programme, as Byrom (2009) and others (Cooper et al, 2010; Barte et al, 2010; Moldovan & David, 2011) have shown. Such simple cognitive or *pedagogic* approaches are clearly not of sufficient power to influence those subconscious mechanisms which may be influencing or impeding weight loss and long-term weight management.

This is supported by evidence from a recent focus group study of an NHS weight management programme undertaken by one of the authors (Webb et al, 2012, unpublished study), which demonstrated that, even after completing a well-designed and orchestrated weight management programme incorporating aspects of behavioural advice and support, many overweight or obese individuals still lacked the insight, and the degree of motivational impetus and subconscious facility necessary to successfully manage the "energy in versus energy out" equation which will determine their future weight and health. Despite having

acquired new knowledge about food selection, quality, cooking and apportioning; practical advice on the benefits of physical activity; and a considerable degree of ego-enhancement from peer group support; participants demonstrated only limited evidence for their having acquired any emotional intelligence or new psychological strengths which would enable them to move with confidence from their immediate post-programme euphoria into the harsh reality of the outside world. As a result most expressed fears about not being able to maintain an appropriate level of healthy life-style beyond the end of the programme. All participants had experienced failure or only limited success, with previous weight reduction attempts, but appeared to have gained little new insight as to why this was (ibid). Clearly therefore there is a need for the inclusion of a therapeutic approach powerful enough to be able to help participants to identify and modulate unhelpful subconscious patterns of thinking concerning body weight, size and shape.

In many areas of medicine and psychology it has become apparent that unconscious agendas and decisions, usually based upon past traumas and developmental events, can engender disease and discomfort states, as well as impairing movement in the direction of the restoration of health (Lynn & Kirsch, 2006; Nash & Barnier, 2008; Heap, 2012; Brann, Owens & Williamson, 2012). There is no reason therefore, to assume that refractory obesity is exempt from having aetiologies derived from such hidden unconscious barriers. With its long and respectable history of utility in many health and medical arenas, and, notwithstanding the limitations highlighted above, hypnotherapy's apparent ability to demonstrate a substantial degree of efficacy in the treatment of obesity in many of the trials between 1960 and 2000 (Table 1), this is a technique which would seem to have the facility to maximise weight loss and reduce subsequent weight regain if employed in current weight management programmes.

HYPNOTHERAPY - THE UNIVERSAL SOLUTION TO OBESITY?

A conventional internet search for information on weight loss through hypnosis produces in excess of 12 million pages, including over 100,000 entries for hypnotic gastric banding and 1,500 books on hypnosis or self-hypnosis for weight management. New books advocating hypnosis for weight reduction and other health problems, intended for popular lay use, also continue to appear, with over 20 between 2010 and 2012. This all presents the picture that problems with obesity and overweight are an obvious and easy target for hypnosis and hypnotherapists to deal with, precisely the impression that those practitioners and clinics providing private hypnotherapy services would wish to engender, whether or not this picture truly reflects the efficacy of hypnotherapy in alleviating weight and obesity problems. However in looking for justification for this encouraging picture, a more formal and robust search for academic publications reporting weight loss trials of hypnosis over the last 40 years, leads to less than 1,500 entries, of which around 60 report genuine scientific or medical accounts of hypnosis being used in obesity situations (as reviewed above). Some of these are small scale or anecdotal reports from 15 or more years ago, whilst others are reviews or citations of earlier papers usually reporting positive or encouraging results for the efficacy of hypnotherapy in obesity and weight management. Furthermore a search for more recent academic publications from the past five years yields only twelve papers, of which only three are scholarly papers reporting current studies on hypnosis and obesity during 2010-2012. This all suggests that hypnosis is not perceived by the scientific and medical community as any sort of magic bullet for alleviating the current obesity avalanche.

This marked dichotomy of opinion, a flourishing of commercial weight-directed hypnotherapy services, contrasted with a dearth of contemporaneous scientific and clinical research interest, would seem to arise from four distinct factors. Firstly there is the increasing popularity of commercial hypnotherapy amongst the lay population - on the one hand seen by those disillusioned by the NHS and formal medical services, as a therapy for all medical and emotional ills, and on the other hand as an available career option in current times of

economic crisis and low employment availability – as any cursory internet search will demonstrate. Recent surveys by Hunt et al (2010) and Harris et al (2012) have demonstrated that increasing numbers of the population are exploring complementary and alternative medical services, including hypnotherapy, for their physical and emotional problems, and that there are many others therefore prepared to provide this service. Secondly there is the growing problem of obesity, evidenced by Nguyen and El-Serag (2010), Hurt et al (2011), Zimmerman (2011) and many others, amongst all ages and all social levels of the population, many of whom have experienced the rigours of other, more conventional, diet and exercise based programmes, and who are aware of the low success for these in achieving long term sustainable weight loss benefits (Stubbs & Lavin, 2013; Barte et al, 2010). Many of these weight-troubled individuals may turn to hypnosis either as an “easy” option to their problems, or in a last, desperate attempt to find a weight loss method that will work for them.

The important third factor which undoubtedly contributes to the lack of recent scientific and medical trials of hypnosis, as Askay, Patterson & Sharar (2009) have pointed out, is the very nature of hypnotherapy treatment itself, which requires time, facilities and specialist training. This tends to make hypnosis less suitable and not cost-effective enough, for large scale group therapy, and more relevant therefore to individual, one-to-one settings such as are provided by private therapists and many commercial agencies and clinics. A fourth and final factor might be the reputation that hypnosis has had in the past for many scientists and clinicians, for whom, as Upshaw (2006) has suggested, hypnosis has always been a “dirty word”.

However the increasing number of clinical textbooks and papers attesting to the validity and efficacy of the hypnotherapeutic approach for many physical and emotional disorders is evidence of a “sea change” in attitude which is tending towards giving hypnosis a more respectable and accepted image (Lynn & Kirsch, 2006; Barabasz, Olness & Boland, 2009; Heap, 2012; Brann, Owens and Williamson, 2012). Nevertheless, as Hunt and Ernst (2009)

have indicated, there still remains a significant absence of valid scientific evidence offered as to the efficacy of hypnotherapy for weight control. This is the case even amongst those alternative medicine societies and professionals who frequently oversee and underpin the commercial and lay promulgation, propagation, and presumably uptake, of hypnosis by a general public, attempting to manage their weight and obesity problems - and whom these authors accuse of exhibiting “double standards” (ibid). In the face of this discrepancy there is clearly a need for further robust scientific research to help clarify the situation, and hopefully establish hypnotherapy as a respectable, evidenced treatment for obesity. This paper is offered as a plea for such research to be undertaken, and the authors present themselves as advocates for serious concern to be devoted towards reclaiming hypnosis as a valuable tool in the management of an increasingly urgent medical and social problem.

THEORETICAL BASIS FOR HYPNOSIS IN OBESITY TREATMENT

What is being proposed in this paper is that hypnosis can work in two ways to change eating behaviour, enhance and maintain long-term weight reduction, and hopefully bring about concomitant physiological and biochemical change which would reduce the risk of obesity's frequent comorbidities such as type-2 diabetes and CVD. Firstly, via sociocognitive mechanisms, collusion between the subject and the authoritarian personality of the hypnotist during trance can be used to facilitate the delivery of repeated and deep-seated hypnotic instructions (Kirsch & Lynn, 1998; Pekela et al, 2010). Through cognitive mechanisms such as suggestion, visualisation, ego-enhancement and similar, such instructions about leading a healthy lifestyle, eating sensibly and exercising regularly, can become a powerful and constant reminder, an inner voice or “pseudo conscience”, prompting individuals each time they feel an inappropriate desire to eat too much, or of the wrong sort of food. This approach would be most effective where the overweight problem is of a relatively short term nature, or the result of a change in circumstances such as a prolonged period of enforced

inactivity, or retirement from active working, where the diet:physical activity ratio has become unhealthily skewed. Similarly the pedagogic nature of the non-state hypnosis approach should prove effective where there is evidence to suggest that the obesity is the result of habitual or addictive over-eating, a phenomenon the existence of which is still a subject of great debate (see Gibson, 2006; Gearhardt, Corbin & Brownell, 2009; Gold et al, 2009; Wilson, 2010). Using hypnotherapy to change behaviour and habits in this way is likely to benefit a high percentage of those individuals with short to moderate term overweight problems, who experience difficulties in maintaining their attendance at programmes or in becoming motivated towards healthy eating and exercise.

The second and perhaps most radical approach towards bringing about behavioural change through the application of a hypnotherapeutic approach comes from the perspective of the dissociation or alternate state hypothesis (Hilgard, 1991), as exemplified by the seminal clinical work of Hartland (1971), Erickson (1980) and Rossi & Cheek (1988), where refractory overweight and obesity can be perceived as resulting from some inner unconscious agenda or barrier, against losing weight, or against any significant change in body size or shape. In this scenario unconscious controls are posited as acting to maintain the *status quo* weight, body size and self-perceived body shape by inhibiting diet and exercise planning and commitment, thus thwarting weight reduction attempts. This in the face of these same obese individuals' conscious awareness of the non-ideality and aesthetically unsatisfactory nature of their physical appearance, and their conscious desire to change this; and in defiance of the clear health risks attached to their excessive body weight and fat. For these individuals, in addition to the above overt genetic, biochemical and environmental factors acting to increase weight and maintain an overweight status, there are other more covert and unconscious factors operating, which may prove to be even more potently obesogenic. It is the author's (PAE) contention that such subconscious barriers can become part of an individual's defence mechanisms and as such, a protection from perceived harm. They are the result of internal, executive decisions made on the basis of

subconscious agendas about the need to preserve weight or body size or self-image, decisions which have been generated as a result of traumas, unpleasant experiences or inappropriate decision making, during early childhood through to adolescence.

Weight, size and shape, and body self-image, can all become variously and unconsciously linked to painful events in earlier life as Sack, Boroske-Leiner & Lahmann (2010), Feusner et al (2010) and others have pointed out. Such events may be perceived by the individual as having been dealt with at that time, and any emotional links with their weight or self-image has subsequently become forgotten. These events, however, may have triggered decisions about how to handle future situations which are (or are perceived as) of the same nature or affording the same threat as the original and long-forgotten traumatic events. It has been observed that, childhood physical and sexual abuse, in women especially, is often associated with refractory obesity and metabolic syndrome (Williamson et al, 2002; Noll et al (2007); Midei et al (2013), and can result in adverse reactions to bariatric surgery (Mamun et al, 2007; Steinig et al, 2012). A review by Vámosi, Heitmann & Kyvik (2010) has highlighted that fact that stress, abuse and emotional trauma during childhood appear to predispose towards adult obesity, not least because of the learned use of eating as a comfort response, which then continues into adulthood; and a similar picture was found in a brief survey by Brooke & Mussap (2013).

Where such a subconscious repository of inner agendas is present, it will be active right from the start of commencing each and any weight reducing programme, and its contained emotional *cul-de-sacs* may act to impede all conscious efforts to do what is necessary to lose weight. Past emotional history and the associated subconscious connections can also engender unrealistic future life expectations and attainments which will result from weight loss or a new body image (Teicher et al, 2010). These inner histories and body narratives, by becoming an integral part of the mind-body relationship, come to constitute the “storied bodies and storied selves” described by Sparkes (1999); narratives which may raise expectations that weight loss or change in body shape or size will lead an exciting new

career, a new partner, job promotion or a glamorous media opportunity – “if I can gain a new slim body my whole life will change”. When weight loss does not prove as life-changing as expected nor opens such doors as were unconsciously envisaged would be opened, then the benefits of losing weight may feel hollow and meaningless, and old eating habits and a sedentary lifestyle return, as does the weight previously lost.

Societal and cultural norms about body shape and size can also become similarly embedded and act as subconscious imperatives which may be refractory to simple cognitive behavioural modulation. Images of idealised body size and shape have varied greatly over the history of civilisation, from the 17th century “plumpness” of the Rubenesque to the 1920’s androgyny of “the Flapper” (Entwistle, 2000; Brown, 2012), and still do vary across cultures and communities (Fitzgibbon, Blackman & Avellone (2000); McCabe et al (2013). Such internalisation of societal ideals can establish a further hurdle to easy weight-orientated behavioural change. In all of these various circumstances, excessive weight or aberrant body image can come to serve a defence or adaptive function (Faden et al, 2012), which a pedagogic sociocognitive hypnosis approach may be relatively ineffectual in fully resolving. However working from a “state” or “dissociation” perspective of hypnosis, it is possible to explore these hidden stories using imagery and regression sessions, which can be instrumental for many patients in bringing such potentially deleterious psychological undercurrents to the surface, where they can be examined and processed in a safe environment.

One of the authors (PAE) has worked with hypnotherapy for over 25 years in several clinical areas most notably that of infertility, and has become aware of how often, hitherto unexplained, infertility is linked, to the patient’s complete surprise, to a past, and often totally unremembered event. For some infertile patients, hypnotic regression revealing how emotions concerning past relationship problems, previous miscarriages, abortions, or adoptions, thought to have been resolved, have continued to impact on their current emotional fertility, comes as a surprise, but the connections and linkages once brought into

conscious awareness, appear logical and obvious. For others however, the revelation that, as young children, they have internalised an interpretation of an early childhood mother/daughter problem, the birth of a sibling, the death of parent or sibling, or even some relatively innocuous event, as a subconscious justification for their never having their own children, can prove astonishing to the now adult patient desperately trying to conceive (Entwistle, 1988a; 1988b; 1990).

A CASE STUDY

A brief vignette may help to illustrate the principle and the practice of using hypnotherapy in obesity treatment. Some years ago a patient was referred to one of the authors (PAE), seeking help with her overweight problem. This 38 year old female teacher with two children had been overweight since the birth of her first child 12 years earlier, and presented with a BMI of 34, and a history of repeated attempts to lose weight using conventional diet and exercise programmes having proved unsuccessful in reducing this. As a child and a teenager she was of normal weight and slim shape, and had never needed to worry about her eating habits or undertake any programmed exercise. Only with the birth of her first child did her weight begin inexorably to increase. On the assumption that her weight gain was simply the result of changes in eating habits and daily routine since ceasing work and becoming a mother, a simple programme of relaxation sessions coupled with hypnotherapy incorporating visualisations directed at healthy eating, exercise and a healthy lifestyle; the standard motivational, pedagogic approach of the sociocognitive hypnotist, was initiated. Quite quickly however it became apparent that there was more to this situation than merely poor eating and exercise habits. Despite insisting that she was anxious to lose weight and that she was enjoying her sessions, the young woman repeatedly forgot her appointments or cancelled them at the last minute on vague health grounds, such as headaches or stomach upsets. She also mislaid several copies of her self-hypnosis tapes provided for her to use between sessions. As a result there were often long gaps between her attendances, during which

time her husband would contact the practice to apologise on her behalf and to urge the practice not to give up on her.

This was all highly suggestive of unconscious mechanisms generating an avoidance of behavioural change, it was felt, and at a case review it was explained that it might be time to move to a more exploratory approach with hypnosis sessions using age regression, to investigate whether there was some inner, unrevealed motivation for her inability to respond to simple "instructional" hypnosis. With the patient's agreement these were commenced and by the third session she was able to regress spontaneously to a previously unremembered episode when, at 6 years old, she had a bad fall at school necessitated her attending hospital for examination and suturing. The school were unable to contact her mother to accompany her, but fortunately had an emergency contact phone number for a neighbour, the mother of a classmate, who came over to the school, went with the child to the hospital, and then comforted the distressed little girl until her mother returned from work totally unaware of what had happened to her daughter. As luck would have it, this kindly and motherly neighbour was an obese woman, in contrast to the little girl's own mother, who was of normal weight and slim. As a result the little girl came to the (fallacious) conclusion that "fat" mums are always around to look after you when you need them, whereas "slim" mums are not; and that "when I am grown up and have my own children I am going to be a "fat" mum who looks after her children and is always there when they need her". Had she been able, at the time, to verbalise this childish conclusion, to her mother, to the neighbour or to another adult, it would have been countered and would never become a future problem. But as this did not happen, the need to be fat once you become a mother, became embedded into her psyche, remaining un-recalled in her unconscious mind for 20 years, to emerge as an imperative once she had her first child. Subsequent to these sessions and their revelation, the patient was able to quickly and easily lose weight down to a BMI consistently below 23, and at the last time of contact, six years later, she had continued to maintain this weight effortlessly and confidently.

DISCUSSION

Whichever theory of hypnosis, the “State” or the “Non-state”, or something in between (Kirsch & Lynn, 1998; Kirsch, 2011; Lynn & Green, 2011), ultimately comes to most closely approximate to the “true” explanation for the hypnotic phenomenon, this will not invalidate the premise suggested above, as these two hypnotic approaches are not mutually exclusive and work well in tandem together. Clinical hypnotherapy is alive and well, as Lynn et al (2000), Barabasz & Perez (2007), Mende (2009), Brann, Owens & Williamson (2012), Heap (2012) and Lynn et al (2012) have all demonstrated, even if, as Heap (2011, 2012, 2013) has suggested, the clinical application of hypnosis has continued doggedly to follow the historical traditions of Erickson and Hartland, in the face of the vast amount of knowledge being accrued about the theoretical, psychological, biochemical and neurophysiological basis of the hypnotic phenomenon. Current clinical practice continues to employ a combination of instructional/pedagogic hypnotherapy sessions, and exploratory therapeutic sessions, according to the perceived clinical need and symptomology. This approach appears to provide clear and evidenced based proof that the two modalities can work together synergistically to maximise the benefits of a hypnotherapeutic treatment designed to ensure that the conscious and the subconscious minds are working efficiently together towards a more healthy lifestyle.

In addition to weight loss, other, physiological benefits, may accrue from this hypnosis approach such as improvements in lipid and glucose metabolism, reducing medication needs for type-1 and type-2 diabetics (Xu & Cardeña, 2007), and the modulation of appetite and satiation associated peptides and hormones levels (Dimsdale & Herd, 1982). Such changes may arise indirectly from the reduction in body weight and adipose tissue, but may also be generated more directly through psychoneuroimmuno- and psychoneuroendocrine-mechanisms in ways implied in publications by Hildebrandt et al (2000), Barber (2008), Hall, Stanton & Schultheiss (2010), Messina et al (2011), Pence et al (2012), and Fang et al (2012). Independently of any such physical and biochemical parameters of response to

hypnosis (or even to non-hypnosis behavioural) mediated changes, are the emotional and psychological benefits that have been reported, even in the absence of substantial formal weight loss (Jupp et al, 1983; Friedman et al, 2002; Prag, 2007; Appleton, 2012; Wright et al, 2012). Such changes come presumably from an acceptance of body size, shape and self-image as a result of the resolution of subconscious pressures and ambiguities, leading perhaps to a decision to remain “healthily overweight” as Vanderlinden (2001) and Grave et al (2012) have discussed.

Early studies and subsequent reviews have highlighted the deficiencies of uncontrolled trials of obesity in weight loss management. The design of research projects utilising hypnosis requires careful consideration regarding experimental design and in the choice of selection and eligibility criteria for hypnosis (Iphofen, Corrin & Ringwood-Walker, 2005), and this is especially the case in the management of any control groups. Hypnosis is not for everyone, and cannot be made mandatory – one cannot be forced into being hypnotised, as this could be perceived as “brain-washing”. Becoming involved in a hypnotherapy programme has always to be voluntary, and all hypnotherapy participants, whether in the laboratory, in the clinic or on stage in the theatre, being self-selected, constitute a different psychological cohort from those who choose not to volunteer. Indeed this need to volunteer or seek out hypnotherapy can often be an important signifier of a subconscious need for therapy (or to be in the limelight!). Ideally therefore, control or non-intervention groups in hypnotherapy trials, irrespective of the clinical modality being investigated, should be chosen from within the volunteer group as there may be significant differences between the psychodynamic makeup and receptivity of volunteers and non-volunteers in any participant group. This difference can increase further during the preliminary assessment stages of participants in a proposed hypnosis programme due to the phenomenon of “waking hypnosis” where information is absorbed and processed outside of the formal trance induction setting (Capafons, 2004; Wark, 2011). As Crabtree (2012) puts it:

...the demand characteristics to which the hypnotic subject is responsive are not only those that occur in the laboratory or the consulting room. They are at work forming the individual's expectations long before he or she becomes part of those situations.

However, with the above provisos born in mind, non-volunteers can be a useful group to study in their own right as part of a hypnotic trial.

Populations of individuals can express a wide range of hypnotisability during both socio-cognitive and dissociative hypnosis sessions, which might influence the acceptability and potency of suggestions for behavioural change, and the ease with which inner and unaware psychodynamics can be unravelled and processed. Consequently a compendium of different scales has been devised for the assessment and quantitation of hypnotisability in the clinical and laboratory arenas (Spiegel & Spiegel, 1978; Wilson & Barber, 1978; Hilgard & Hilgard, 1979; Barnes, Lynn & Pekela, 2009; Kumar & Farley, 2009; Elkins, Fisher & Johnson, 2012), all with their various advocates, as reviewed by Barnier & McConkey (2004). Opinions differ widely as to the relevance of, and the necessity for, pre-hypnosis screening of participants undergoing therapeutic hypnosis; as well as about the degree of correlation obtainable between measured hypnotisability and subsequent observed or subjective improvements in symptomology and clinical response.

Montgomery, Schnur & David (2011) in their meta-analysis of hypnosis obesity trials concluded that hypnotisability accounted overall for only 6% of variance, and that larger values were only found in small and medium trials or in those trials on children, which tended to bias the apparent benefits of suggestibility testing. These authors questioned therefore both the need for, and the value of, pre-testing for hypnotisability in clinical contexts, feeling that this could be counter-productive as such testing could take more time than the therapy, patients may become irritated or concerned about some of the items in testing procedures, and "poor" responders may be put off and try less well. From an analysis of the impact of

sample numbers on effect size in the ten hypnotherapy studies, the authors concluded that good validity in hypnosis trials requires a minimum of 132 participants per trial, a requirement that was not met by many of the older reported trials (Ibid). Lynn and Shindler (2002) however suggest that hypnotisability screening, despite its methodological limitations, can still provide clinicians with a wealth of valuable information, and they counsel for some degree of hypnotisability screening to become routine. Part of the problem may be that hypnotisability remains an elusive concept, within the clinical arena as much as in the laboratory, being variously associated with (but not always correlated with) absorption (Tellegen & Atkinson, 1974; Kirsch & Braffman, 1999), suggestibility both non-hypnotic and hypnotic (Kirsch & Braffman, 1999, 2001; Raz et al, 2006; Dienes, et al, 2009; Milling et al, 2010; Santarpia et al, 2012; Wagstaff, 2012; Kirsch et al, 2011; Meyer & Lynn, 2011; Raz, 2011; Schweiger Gallo, Pfau & Gollwitzer (2012), expectancy (Kirsch & Braffman, 1999; Lynn & Shindler, 2002; Pekela et al, 2010; Meyer & Lynn, 2011; Schweiger Gallo, Pfau & Gollwitzer 2012; Koep, 2012), depth of hypnotic trance (Pekela et al, 2010; Wagstaff, 2012) and dissociation (Cardeña & Weiner, 2004; Bell et al, 2011; Fassler, Knox & Lynn, 2006).

Additionally the depth of the hypnotic state can vary from occasion to occasion within the same individual as induct-ability tends to move in and out of ease for quite long periods of time over a prolonged series of sessions, for reasons relating to changes in subjects' life circumstances, health or emotional state. There is often a time and a tide for subconscious change to take place which cannot always be influenced by the subject's or the therapist's *conscious* minds, nor even by the therapist's use of the *magic* word "hypnosis" (Gandhi & Oakley, 2005). All of these individual factors together will influence strongly, which individuals chose a hypnotherapy route in any weight management group, at any particular time, and how successful this proves to be.

CONCLUDING REMARKS

Influencing a person to change their behaviour is notoriously difficult, as it requires changing covert internal motivations and agendas in an unconscious mind which can at times be as recalcitrant and recidivist as can the conscious mind. The authors of this paper suggest that hypnotherapy, when used as an adjunct in obesity treatment, may be an approach with sufficient power and efficacy to achieve these necessary subconscious motivational changes, and that the incorporation of regular hypnosis sessions into weight management programmes could yield clear benefits for the participants involved, both in maximising their motivation to remain in these programmes, and in their making full use of the skills and efforts of the health professionals involved. Motivation for change in obesity management however is not just about change in diet and/or exercise modalities but also about recognising what else needs to change, and having the courage to change this. This might entail reviewing every aspect of daily life in order to make room for the new lifestyle pattern needed for effective weight loss or maintenance, as the effective management of family, work and leisure is often an essential prerequisite for managing one's weight.

The increasing public visibility of overweight and obesity over the past two decades, despite the increasing awareness of the health problems that accrue from carrying around too much body fat, demonstrates that health and appearance are not always the most potent forces for determining body shape and size. For many individuals with particular obesity problems not readily responsive to standard educative approaches, there may be an inner, psychological drive which is not responsive to simple pedagogy and common sense formulas, but which necessitates a hypnotherapeutic approach to elucidate. Without appropriate therapeutic help, this deleterious psychological "undertow" is likely to remain in the unconscious realm of many individuals with refractory obesity, and these individuals are likely to perpetuate their repeated cycles of weight loss and weight regain. One therapeutic approach which would appear to have the facility and the power both to identify and to resolve such unconscious barriers and agendas would seem to be hypnotherapy. There is an urgent need therefore to

capitalise on the wealth of early clinical studies from 15 years ago and more which appear to be validating hypnosis as an effective tool for the treatment of obesity, through the institution of robust research programmes re-examining hypnosis in the light of more recent knowledge about the hypnotherapeutic process and its psychological, neurological and physiological concomitants. Only then perhaps can hypnotherapy begin to assume a respectable and an accepted place in the armamentarium of interventions for weight and obesity management.

CONFIDENTIAL

REFERENCES

- Aja, J. H. (1977). Brief Group Treatment of Obesity through Ancillary Self-Hypnosis. *American Journal of Clinical Hypnosis*, 19, 231-234.
- Allison, D. B. & Baskin, M. L. (Eds) (2009). *Handbook of assessment methods for eating behaviors and weight-related problems: Measures, theory and research*. (2nd ed.) Los Angeles: Sage.
- Allison, D. B. & Faith, M. S. (1996). Hypnosis as an Adjunct to Cognitive-Behavioral Psychotherapy for Obesity: A Meta-Analytic Reappraisal. *Journal of Consulting and Clinical Psychology*, 64, 513-516.
- Allison, D. B. Fontaine, K. R., Heshka, S., Mentore, J. L. & Heymsfield, S. B. (2001). Alternative Treatments for Weight Loss: A Critical Review. *Critical Reviews in Food Science and Nutrition*, 41, 1–28.
- Andersen, M. S (1985). Hypnotizability as a Factor in the Hypnotic Treatment of Obesity. *International Journal of Clinical and Experimental Hypnosis*, 33, 150-159.
- Appleton, K. M. (2013). 6 x 40 mins exercise improves body image, even though body weight and shape do not change. *Journal of Health Psychology*, 18, pp.110-120.
- Askay, S. W., Patterson, D. R. & Sharar, S. R. (2009). Virtual Reality Hypnosis. *Contemporary Hypnosis*, 26, 40–47.
- Barabasz, A. F. Olness, K. & Boland, R. (2009) *Medical hypnosis primer: Clinical and research evidence*. Hove: Routledge.
- Barabasz, A. F. & Perez, N. (2007). Salient findings: Hypnotizability as core construct and the clinical utility of hypnosis. *International Journal of Clinical and Experimental Hypnosis*, 55, 372-379.

- Barabasz, M. (2007). Efficacy of Hypnotherapy in the Treatment of Eating Disorders. *International Journal of Clinical and Experimental Hypnosis*, 55, 318-335.
- Barabasz, M. (2012). Cognitive Hypnotherapy With Bulimia. *American Journal of Clinical Hypnosis*, 54, 353-364.
- Barabasz, M. & Spiegel, D. (1989). Hypnotizability and Weight Loss in Obese Subjects. *International Journal of Eating Disorders*, 8, 335-341.
- Barber, J. (2008). Reclaiming the cognitive unconscious: hypnotic methods and cognitive-behavioral. In M. R. Nash, & A. J. Barnier (Eds.), *The Oxford Handbook of Hypnosis: Theory, Research, and Practice* (pp. 457-465). Oxon: Oxford University Press.
- Barnes, S. M., Lynn, S. J. & Pekala, R. J. (2009). Not all group hypnotic suggestibility scales are created equal: Individual differences in behavioral and subjective responses. *Consciousness and Cognition*, 18, 255–265.
- Barnier, A. M. & McConkey, K. M. (2004). Defining and identifying the highly hypnotizable person. In M. Heap, R. J. Brown, & D. A. Oakley (Eds.), *High Hypnotisability: Theoretical, Experimental and Clinical Issues* (pp. 30-60). London: Brunner-Routledge.
- Barte, J. C. M., ter Bogt, N. C. W., Bogers, R. P., Teixeira, P. J., Blissmer, B., Mori, T. A. & Bemelmans, W. J. E. (2010). Maintenance of weight loss after lifestyle interventions for overweight and obesity, a systematic review. *Obesity*, 11, 899-906.
- Bell, V., Oakley, D. A., Halligan, P. W. & Deeley, Q. (2011). Dissociation in hysteria and hypnosis: evidence from cognitive neuroscience. *Journal of Neurology, Neurosurgery & Psychiatry*, 82, 332-339.
- Bolocofsky, D. N., Spinler, D. & Coulthard-Morris, L. (1985). Effectiveness of hypnosis as an adjunct to behavioral weight management. *Journal of Clinical Psychology*, 41, 35-41.

- Bornstein, P. H. & Devine, D. A. (1980). Covert Modelling-Hypnosis in the Treatment of Obesity. *Psychotherapy: Theory, Research and Practice*, 17, 272-276.
- Brann, L., Owens, J. & Williamson, A. (Eds.) (2012). *The Handbook of Contemporary Clinical Hypnosis Theory and Practice*. Oxford: Wiley-Blackwell.
- Brodie, E. I. (1964). A Hypnotherapeutic Approach to Obesity. *American Journal of Clinical Hypnosis*, 6, 211-215.
- Brooke, L. & Mussap, A. J. (2013) Brief report: Maltreatment in childhood and body concerns in adulthood. *Journal Health Psychology*, 18, 620-626.
- Brown, E. H. (2012). From Artist's Model to the 'Natural Girl': Containing Sexuality in Early-Twentieth-Century Modelling. in: J. Entwistle. & E. Wissinger (Eds.) *Fashioning Models: Image, Text and Industry*. (pp. 37-55). London: Berg.
- Byom, T. K. (2009). A Comparison of the Effectiveness of Three Group Treatments for Weight Loss. Ph.D. Dissertation, The University of Wisconsin – Milwaukee
- Capafons, A. (2004). Clinical applications of 'waking' hypnosis from a cognitive-behavioural perspective: from efficacy to efficiency. *Contemporary Hypnosis*, 21, 187–201.
- Cardeña, E. & Weiner, L. A. (2004). Evaluation of dissociation throughout the lifespan. *Psychotherapy: Theory, Research, Practice, Training*, 41, 496-508.
- Cautela, J. R. (1967). Covert Sensitization. *Psychological Reports*, 20, 459-468.
- Chambers, J. A. & Swanson, V. (2012). Stories of weight management: Factors associated with successful and unsuccessful weight maintenance. *British Journal of Health Psychology*, 17, 223-243.
- Channon, L. D. (1980). Hypnosis in a self-control behaviour modification programme for weight reduction. *Australian Journal of Clinical & Experimental Hypnosis*, 8, 31-36.

- Chivers, P. T. (2011). Individual, behavioural and environmental pathways to adolescent obesity. Doctoral thesis. University of Notre Dame. Australia, Fremantle, WA.
- Cochrane, G. J. (1987). Hypnotherapy in Weight-Loss Treatment: Case Illustrations. *American Journal of Clinical Hypnosis*, 30, 20-27.
- Cochrane, G. J. (1992). Hypnosis and Weight Reduction: Which is the Cart and Which is the Horse? *American Journal of Clinical Hypnosis*, 35, 109-118.
- Cochrane, G. & Friesen, J. (1986). Hypnotherapy in Weight Loss Treatment. *Journal of Consulting and Clinical Psychology*, 54, 489-492.
- Cooper, Z., Doll, H. A., Hawker, D. M., Byrne, S., Bonner, G., Eeley, E., O'Connor, M. E. & Fairburn, C. G. (2010). Testing a new cognitive behavioural treatment for obesity: A randomized controlled trial with three-year follow-up. *Behaviour Research and Therapy*, 48, 706–713.
- Crabtree, A. (2012). Hypnosis Reconsidered, Resituated, and Redefined. *Journal of Scientific Exploration*, 26, 297-327.
- Davis, S. & Dawson, J. G. (1980). Hypnotherapy for weight control. *Psychological Reports*, 46, 311-314.
- Department of Health (2011). *Healthy lives, healthy people: a call to action on obesity in England*. Retrieved March 1st 2013 from:
http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_130487.pdf
- Deyoub, P. L. (1979). Hypnotizability and Obesity. *Psychological Reports*, 45, 974.
- Deyoub, P. L. & Wilkie, R. (1980). Suggestion with and without hypnotic induction in a weight reduction program. *International Journal of Clinical and Experimental Hypnosis*, 28, 333-340.

- Dienes, Z., Brown, E., Hutton, S., Kirsch, I. Mazzoni, G. & Wright, D. B. (2009). Hypnotic suggestibility, cognitive inhibition, and dissociation. *Consciousness and Cognition*, 18, 837–847.
- Dimsdale, J. E. & Herd, J. A. (1982). Variability of plasma lipids in response to emotional arousal. *Psychosomatic Medicine*, 44, 413-430.
- Douglas Ringrose, C. A. (1979). The Use of Hypnosis as an Adjunct to Curb Obesity. *Public Health*, 93, 252-257.
- Elkins, G., Fisher, W. & Johnson, A. (2012). Assessment of hypnotizability in clinical research: development, reliability, and validation of the Elkins Hynotizability Scale. *BMC Complementary and Alternative Medicine*, 12, P86.
- Entwistle, J. (2000). *The Fashioned Body*. Cambridge: Polity Press.
- Entwistle, P. A. (1988a). *Hypnosis in the Treatment of Infertility*, Womens Hour, BBC4, September 1988.
- Entwistle, P. A. (1988b). *The Fertile Mind*. In Good Housekeeping Magazine, February 1988.
- Entwistle, P. A. (1990). Cited in: N. Bradford, *The Well Woman's Self Help Handbook*. London: Sidgwick & Jackson.
- Erickson, M. (1980). *The collected papers of Milton H. Erickson on hypnosis (4 volumes)* E. Rossi, (Ed.), New York: Irvington.
- Ernst, E., Pittler, M. H., Stevinson, C. & White, A. (2001). *The Desktop Guide to Complementary and Alternative medicine: an evidence-based approach*. London: Mosby International.
- Ernst, E., Pittler, M. H. & Wider, B. (2006). *The Desktop Guide to Complementary and Alternative Medicine: An Evidence-based Approach*. (2nd ed.). Kidlington, U.K: Elsevier Health Sciences.

- Ernst, E., Pittler, M. H., Wider, B. & Boddy, K. (2007). Mind-body therapies: are the trial data getting stronger? *Alternative Therapies*, 13, 62-64.
- Faden, J., Leonarda, D., O'Reardona, J. & Hanson, R. (2012). Obesity as a defense mechanism. *International Journal of Surgery Case Reports*, 4, 127–129.
- Fang, C. Y., Reibel, D. K. Longacre, M. L., Rosenzweig, S., Campbell, D. E. & Douglas, S. D. (2012). Enhanced Psychosocial Well-Being Following Participation in a Mindfulness-Based Stress Reduction Program Is Associated with Increased Natural Killer Cell Activity. *Journal of Alternative & Complement Medicine*, 16, 531–53.
- Fassler, O., Knox, j. & Lynn, S. J. (2006). The Iowa Sleep Experiences Survey: Hypnotizability, absorption, and dissociation. *Personality and Individual Differences*, 41, 675–684.
- Fawzy, F. I., Pasnau, R. O., Wellisch, D. K., Ellsworth, R. G., Dornfeld, L., & Maxwell, M. (1983). A comprehensive psychological approach to obesity. *Psychiatric medicine*, 1, 257-273.
- Feusner, J. D., Neziroglu, F., Wilhelm, S., Mancusi, L., & Bohon, C. (2010). What Causes BDD. *Psychiatric Annals*, 40, 349-355.
- Fitzgibbon, M. L., Blackman, L. R. & Avellone, M. E. (2000). The Relationship Between Body Image Discrepancy and Body Mass Index Across Ethnic Groups. *Obesity Research*, 8, 582-589.
- Flammer, E. & Bongartz, W. (2003). On the efficacy of hypnosis: a meta-analytic study. *Contemporary Hypnosis*, 20, 179 – 197.
- Flood, A. O. (1960). Slimming under hypnosis; the obese adolescent. *Medical World*, 93, 310-312.

- Frasquilho, F., Oakley, D. & Ross-Anderson, D. (1998). Hypnotizability and Body Image Malleability in Restrained and Non-Restrained Eaters. *Contemporary Hypnosis*, 15, 84–93.
- Freeman, D. J. (2010). Effects of maternal obesity on fetal growth and body composition: implications for programming and future health. *Seminars in Fetal & Neonatal Medicine*, 15, 113–118
- Friedman, K. E., Reichmann, S. K., Costanzo, P. R. & Musante, G. J. (2002). Body Image Partially Mediates the Relationship between Obesity and Psychological Distress. *Obesity Research*, 10, 33-41.
- Gandhi, B. & Oakley, D. A. (2005). Does hypnosis by any other name smell as sweet? The efficacy of hypnotic inductions depends on the label hypnosis. *Consciousness and Cognition*, 14, 304–315.
- Gearhardt, A. N., Corbin, W. R. & Brownell, K. D. (2009). Food Addiction: An Examination of the Diagnostic Criteria for Dependence. *Journal of Addiction Medicine*. 3, 1-7.
- Gibson, E. L. (2006). Mood, Emotions and Food Choice. In R. Shepherd, & M. Raats (Eds.), *The Psychology of Food Choice* (pp. 113-140). Oxon: CABI Press.
- Gold, M. S., Graham, N. A., Cocores, J. A. & Nixon, S. J. (2009). Food Addiction? *Journal of Addiction Medicine*, 3, 42-45.
- Goldstein, Y. (1981). The effect of demonstrating to a subject that she is in a hypnotic trance as a variable in hypnotic interventions with obese women. *International Journal of Clinical and Experimental Hypnosis*, 29, 15-23.
- Grave, R., Calugi, S., Molinari, E., Petroni, M. L., Bondi, M., Compare, A., & Marchesini, G. (2012). Weight loss expectations in obese patients and treatment attrition: an observational multicenter study. *Obesity Research*, 13, 1961-1969.

- Green, J. P. (1999) Hypnosis and the treatment of smoking cessation and weight loss. In I. Kirsch, A. Capafons, E. Cardeña-Buelna, & S. Amigó (Eds.), *Clinical hypnosis and self-regulation: Cognitive-behavioral perspectives* (pp. 249-276). Washington: American Psychological Association.
- Gross, M. (1983). Correcting perceptual abnormalities, anorexia nervosa and obesity by the use of hypnosis. *Journal of the American Society of Psychosomatic Dentistry and Medicine*, 30, 142-150.
- Hall, J. L., Stanton, S. J., & Schultheiss, O. C. (2010). Biopsychological and neural processes of implicit motivation. In O.C. Schultheiss, & J.C. Brunstein (Eds.), *Implicit Motives* (pp. 279-307). Oxon: Oxford University Press.
- Hanning, P. J. (1975). Hypnosis and group process in weight reduction. *Australian Journal of Clinical and Experimental Hypnosis*, 16, 22-27.
- Harris, M. B. (1969). Self-directed program for weight control: A pilot study. *Journal of Abnormal Psychology*, 74, 263-270.
- Harris, P. E., Cooper, K. L., Relton, C., & Thomas, K. J. (2012). Prevalence of complementary and alternative medicine (CAM) use by the general population: a systematic review and update. *International Journal of Clinical Practice*, 66, 924-939.
- Hartland, J. (1971). *Medical and Dental Hypnosis and its Clinical Applications*. London: Baillier Tindall.
- Hartman, D. (2010). Hypnosis & Hypnotherapy Citations. *Journal of Heart-Centered Therapies*, 13, 3-142.
- Heap, M. (1982). Summary of papers on clinical hypnosis (1979–1981). *Bulletin of the British Society of Experimental & Clinical Hypnosis*, No. 5, 46-50.

- Heap, M. (2011). Does Clinical Hypnosis Have Anything to Do with Experimental Hypnosis? *The Journal of Mind-Body Regulation*, 1, 17-30.
- Heap, M (Ed.) (2012). *Hypnotherapy: A Handbook*. (2nd ed.). Maidenhead: McGraw-Hill.
- Heap, M (2013). Hypnosis from a clinical perspective. Seminar on *Understanding hypnosis: Will the latest findings impact therapeutic techniques?* Royal Society of Medicine, London. 4th March 2013. Available at www.rsmvideos.com
- Hildebrandt, M., Reutter, W., Arck, P., Rose, M. & Klapp, B. F. (2000). A guardian angel: the involvement of dipeptidyl peptidase IV in psychoneuroendocrine function, nutrition and immune defence. *Clinical Science*, 99, 93-104.
- Hilgard, E. R. (1991). A neodissociation interpretation of hypnosis. In S.J., Lynn, & J.W. Rhue, (Eds.), *Theories of hypnosis: Current models and perspectives* (pp. 83-104), Guilford: New York.
- Hilgard, J. R. & Hilgard, E. R. (1979). Assessing hypnotic responsiveness in a clinical setting: A multi-item clinical scale and its advantages over single-item scales. *International Journal of Clinical and Experimental Hypnosis*, 27, 134-150.
- Holt, J., Warren, L. & Wallace, R. (2006). What behavioral interventions are safe and effective for treating obesity? *Clinical Inquiries*, 56, 536-538.
- Hruschka, D. J. & Brewis, A. A. (2012). Absolute wealth and world region strongly predict overweight among women (ages 18–49) in 360 populations across 36 developing countries. *Economics and Human Biology*. Retrieved April 14th 2012 from: <http://www.sciencedirect.com/science/article/pii/S1570677X12000020>
- Hunt, K. J., Coelho, H. F., Wider, B., Perry, R., Hung, S. K., Terry, R. & Ernst, E. (2010). Complementary and alternative medicine use in England: results from a national survey. *International Journal of Clinical Practice*, 64, 1496-1502.

- Hunt, K. J. & Ernst, E. (2009). Evidence-based practice in British complementary and alternative medicine: double standards? *Journal of Health Services Research & Policy*, 14, 219-223.
- Hutchinson-Phillips, S. & Gow, K. (2005). Hypnosis as an Adjunct to CBT: Treating Self-Defeating Eaters. *Journal Of Cognitive and Behavioral Psychotherapies*, 5, 113-138.
- Hutchinson-Phillips, S., Gow, K. & Jamieson, G. J. (2007). Hypnotizability, Eating Behaviors, Attitudes, and Concerns: A Literature Survey. *International Journal of Clinical and Experimental Hypnosis*, 55, 84-113.
- Hurt, R. T., Frazier, T. H., McClave, S. A. & Kaplan, L. M., (2011). Obesity Epidemic: Overview, Pathophysiology, and the Intensive Care Unit Conundrum. *Journal of Parenteral and Enteral Nutrition*, 35, 4S-13S.
- Information Centre for Health and Social Care: NHS (2013). *Statistics on Obesity, Physical Activity and Diet - England, 2013*. Retrieved March 1st 2013 from: <http://www.ic.nhs.uk/catalogue/PUB10364>.
- Iphofen, R., Corrin, A. & Ringwood - Walker, C. (2005). Design issues in hypnotherapeutic research. *Focus on Alternative and Complementary Therapies*, 6, 7-8.
- Janda, L. H. & Rimm, D. C. (1972). Covert sensitization in the treatment of obesity. *Journal of Abnormal Psychology*, 80, 37-42.
- Johnson, D. L., & Brinker, G. D. (2001). A Comparative Study of Multi-component Weight Loss Treatments: A Replication and Exploratory Look at Female Smokers, Nonsmokers, and Participant BMIs. *North American Journal of Psychology*, 3, 13-31.
- Johnson, D. L. & Karkut, R. T. (1996). Participation in multicomponent hypnosis treatment programs for women's weight loss with and without overt aversion. *Psychological Reports*, 79, 659-668.

- Jupp, J. J., & Collins, J. K. (1985). Hypnotic responsiveness and depth in a clinical population. *Australian Journal of Clinical and Experimental Hypnosis*, 13, 37-47
- Jupp, J. J., Collins, J. K., McCabe, M. P., Walker, W., & Diment, A. D. (1983). Change in Unconscious Concern with Body Image Following Treatment for Obesity. *Journal of Personality Assessment*, 47, 483-489.
- Jupp, J., Collins, J., McCabe, M. Walker, W. (1986). Hypnotic susceptibility and depth: Predictors of outcome in a weight control therapy. *Australian Journal of Clinical and Experimental Hypnosis*, 14, 31-40.
- Kaiser, P. (2011). Childhood Anxiety, Worry, and Fear: Individualizing Hypnosis Goals and Suggestions for Self-Regulation. *American Journal of Clinical Hypnosis*, 54, 16-31.
- Kirsch, I. (1996). Hypnotic Enhancement of Cognitive-Behavioral Weight Loss Treatments—Another Meta-Reanalysis. *Journal of Consulting and Clinical Psychology*, 64, 517-519.
- Kirsch, I. (2011). The Altered State Issue: Dead or Alive? *International Journal of Clinical and Experimental Hypnosis*, 59, 350-362.
- Kirsch, I. & Braffman, W. (1999). Correlates of hypnotizability: the first empirical study. *Contemporary Hypnosis*, 16, 224–230,
- Kirsch, I. & Braffman, W. (2001). Imaginative Suggestibility and Hypnotizability. *Current Directions in Psychological Science*, 10, 57-61.
- Kirsch, I., Cardena, E., Derbyshire, S., Dienes, Z., Heap, M., Kallio, S. & Whalley, M. (2011). Definitions of Hypnosis and Hypnotizability and their Relation to Suggestion and Suggestibility: A Consensus Statement. *Contemporary Hypnosis & Integrative Therapy*, 28, 107-115.

- Kirsch, I. & Lynn, S. J. (1998). Social-Cognitive Alternatives to Dissociation Theories of Hypnotic Involuntariness. *Review of General Psychology*, 2, 66-80.
- Kirsch, I., Montgomery, G. & Sapirstein, G. (1995). Hypnosis as an Adjunct to Cognitive-Behavioral Psychotherapy: A Meta-Analysis. *Journal of Consulting and Clinical Psychology*, 61, 214-220.
- Koep, L. L. (2012). Investigation of the relationships between hypnotizability, psychological mindedness, attitudes toward hypnosis and expectancy. Ph.D. dissertation. Baylor University.
- Kohen, D. P. (2011). Chronic Daily Headache: Helping Adolescents Help Themselves With Self-Hypnosis. *American Journal of Clinical Hypnosis*, 54, 32-46.
- Koithan, M. (2009). Mind-Body Solutions for Obesity. *Journal of Nurse Practitioner*, 5, 536–537.
- Kumar, V. K. & Farley, F. (2009). Structural Aspects of Three Hypnotizability Scales. *International Journal of Clinical and Experimental Hypnosis*, 57, 343-365.
- Lehnert, T., Sonntag, D., Konnopka, A., Riedel-Heller, S. & König, H.H. (2012). The long-term cost-effectiveness of obesity prevention interventions: systematic literature review. *Obesity Reviews*, 13, 537–553.
- Leon, G.R. (1976). Current Directions in the Treatment of Obesity. *Psychological Bulletin*, 83, 557-578.
- Levine, J.A. (2011). Poverty and Obesity in the U.S. *Diabetes*, 60, 2667-2668.
- Levitt, E. E. (1993). Hypnosis in the Treatment of Obesity. In Rhue, J.W., Lynn, S.J. & Kirsch, I. (Eds.), *Handbook of Clinical Hypnosis* (pp. 533-553). Washington, DC: American Psychological Association.

- Lick, J. & Bootzin, R. (1971). Covert Sensitization for the Treatment of Obesity. Paper presented at the Midwestern Psychological Association Convention in Detroit, Michigan, May 6-8, 1971.
- Long, R. F. & Kreykes, G. (1965). The relative effectiveness of membership in a weight reduction club and group hypnosis on weight loss in female psychiatric patients and normal females. *Current Conclusions No. 3*.
- Lynn, S. J. & Green, J. P. (2011). The Sociocognitive and Dissociation Theories of Hypnosis: Towards a Rapprochement. *International Journal of Clinical and Experimental Hypnosis, 59*, 277-293
- Lynn, S. J. & Kirsch, I. (2006). *Essentials of clinical hypnosis: An evidence-based approach*. Washington, DC: American Psychological Association.
- Lynn, S. J., Kirsch, I., Barabasz, A., Cardeña, E. & Patterson, D. (2000). Hypnosis as an empirically supported clinical intervention: The state of the evidence and a look to the future. *International Journal of Clinical and Experimental Hypnosis, 48*, 239-259
- Lynn, S. J., Malaktaris, A., Maxwell, R., Mellinger, D. I. & van der Kloet, D. (2012). Do Hypnosis and Mindfulness Practices Inhabit a Common Domain? Implications for Research, Clinical Practice, and Forensic Science. *The Journal of Mind–Body Regulation, 2*, 12-26.
- Lynn, S. J., Meyer, E., & Shindler, K. (2004). Clinical correlates of high hypnotizability. In M. Heap, M, R.J. Brown, & D.A. Oakley (Eds.), *The Highly Hypnotisable Person* (pp.187-212), Hove: Routledge.
- Lynn, S. J. & Shindler, K. (2002). The Role of Hypnotizability Assessment in Treatment. *American Journal of Clinical Hypnosis, 44*, 85-197.

- Mamun, A. A., Lawlor, D. A., O'Callaghan, M. J., Bor, W., Williams, G. M. & Najman, J. M. (2007). Does childhood sexual abuse predict young adult's BMI? A birth cohort study. *Obesity*, 15, 2103–2110.
- McCabe, M. P., Jupp, J. J. & Collins, J. K. (1985) Influence of age and body proportions on weight loss of obese women after treatment. *Psychological Reports*, 56, 707-710.
- McCabe, M. P., Waqa, G., Dev, A., Cama, T. and Swinburn, B. A. (2013). The role of cultural values and religion on views of body size and eating practices among adolescents from Fiji, Tonga, and Australia. *British Journal of Health Psychology*, 18, 383–394
- Mende, M. (2009). Hypnosis: State of the Art and Perspectives for the Twenty-First Century. *Contemporary Hypnosis*, 26, 79-184.
- Messina, G., Anania, S., Bonomo, C., Veneroni, L., Andreoli, A., Mameli, F., et al & Moja, E. (2011). The importance of spirituality in supportive care. *International journal of yoga*, 4, 33-38.
- Mewes, I., Stich, A., Habermüller, M. S. & Revenstorf, D (2003). Weight Reduction by Hypnosis and behaviour Therapy. *Verhaltenstherapie und Verhaltensmedizin*, 24, 499-512.
- Meyer, E.C. & Lynn, S.J. (2011). Responding to Hypnotic and Nonhypnotic Suggestions: Performance Standards, Imaginative Suggestibility, and Response Expectancies." *International Journal of Clinical and Experimental Hypnosis*, 59, 327-349.
- Midei, A. J., Matthews, K. A., Chang, Y., & Bromberger, J. T. (2013). Childhood physical abuse is associated with incident metabolic syndrome in mid-life women. *Health Psychology*, 32, 121-127.
- Miller, M.M. (1976). Hypnoaversion Treatment in Alcoholism, Nicotinism and Weight Control. *Journal of the National Medical Association*, 68, 129-130.

- Milling, L. S., Coursen, E. L., Shores, J. S., & Waszkiewicz, J. A. (2010). The predictive utility of hypnotizability: The change in suggestibility produced by hypnosis. *Journal of Consulting and Clinical Psychology, 78*, 126-130.
- Moldovan, A. R. & David, D. (2011). Effect of obesity treatments on eating behavior: Psychosocial interventions versus surgical interventions. A systematic review. *Eating Behaviors, 12*, 161-167.
- Montgomery, G. H., Schnur, J. B. & David, D. (2011). The Impact of Hypnotic Suggestibility In Clinical Care Settings. *International Journal of Clinical and Experimental Hypnosis, 59*, 293-309.
- Mott Jr. T. & Roberts J. (1979). Obesity and Hypnosis: A Review of the Literature. *American Journal of Clinical Hypnosis, 22*, 3-7.
- Munro, M. (1989). Hypnosis and weight reduction: Making it easy. *Australian Journal of Clinical Hypnotherapy and Hypnosis, 10*, 9-15.
- Nash, M.R. & Barnier, A.J. (2008). *The Oxford Handbook of Hypnosis: Theory, Research and Practice*. Oxon: Oxford University Press.
- The Epidemiology of Obesity. *Gastroenterology Clinics of North America, 39*, 1-7
- Noll, J. G., Zeller, M. H., Trickett, P. K. & Putnam, F. W. (2007). Obesity Risk for Female Victims of Childhood Sexual Abuse: A Prospective Study. *Pediatrics, 120*, e61-e67.
- Olness, K. (2008). Helping children and adults with hypnosis and biofeedback. *Cleveland Clinic Journal of Medicine, 75*, S39-43.
- Oude Luttikhuis, H., Baur, L., Jansen, H., Shrewsbury, V. A., O'Malley, C., Stolk, R P. & Summerbell, C. D. (2009). Interventions for treating obesity in children. Cochrane Database of Systematic Reviews 2009, Issue 1. Art. No.: CD001872. Retrieved July

11th,

2012

from:

<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD001872.pub2/pdf>

- Papandonatos, G.D., Williams, D.M., Jennings, E. G., Napolitano, M.A., Bock, B.C., Dunsiger, S. & Marcus, B.H. (2012) Mediators of physical activity behavior change: Findings from a 12-month randomized controlled trial. *Health Psychology*, Vol. 31 (4), pp. 512-520
- Pekela, R. J., Kumar, V.K., Maurer, R., Elliott-Carter, N., Moon, E. & Mullen, K. (2010). Suggestibility, Expectancy, Trance State Effects, and Hypnotic Depth: 1. Implications for Understanding Hypnotism. *American Journal of Clinical Hypnosis*, 52, 275-290.
- Pence, B. W., Mugavero, M. J., Carter, T. J., Leserman, J., Thielman, N. M., Raper, J. L., et al & Whetten, K. (2012). Childhood trauma and health outcomes in HIV-infected patients: an exploration of causal pathways. *Journal of Acquired Immune Deficiency Syndromes*, 59, 409-416
- Pettigrew, S., Pescud, M. & Donovan, R. J. (2012). Older people's diet-related beliefs and behaviours: Intervention implications. *Nutrition & Dietetics*, 69, 260–264.
- Pittler, M. H. & Ernst, E. (2005). Complementary therapies for reducing body weight: a systematic review. *International Journal of Obesity*, 29, 1030–1038.
- Platt, R. W. (1995). A brief paper on the biopsychological aspects of overweight and obesity and the relevance of these to hypnotherapeutic techniques seeking to achieve sustainable weight reduction. *Australian Journal of Clinical Hypnotherapy and Hypnosis*, 16, 13-20.
- Prag, A. (2007). Cognitive behavioural hypnotherapy and Obesity: A Single Case Study. M.A, Dissertation, University of Stellenbosch.

- Raz, A. (2011). Does Neuroimaging of Suggestion Elucidate Hypnotic Trance? *International Journal of Clinical and Experimental Hypnosis*, 59, 363-377.
- Raz, A., Kirsch, I., Pollard, J., Nitkin-Kaner, Y. (2006). Suggestion Reduces the Stroop Effect. *Psychological Science*, 17, 91-95.
- Rossi, E. L. & Cheek, D. B. (1988). *Mind-Body Therapy: Ideomatic Healing in Hypnosis*. London: W.W.Norton.
- Sack, M., Boroske-Leiner, K. & Lahmann, C. (2010). Association of nonsexual and sexual traumatizations with body image and psychosomatic symptoms in psychosomatic outpatients. *General Hospital Psychiatry*, 32, 315-320.
- Santarpia, A., Blanchet, A., Mininni, G., Andrasi, F., Kwiatkowski, F. & Lambert, J.F. (2010). Effects of Weight-Related Literal and Metaphorical Suggestions About the Forearms During Hypnosis. *International Journal of Clinical and Experimental Hypnosis*, 58, 350-365.
- Sapp, M., Obiakor, F.E., Scholze, S. & Gregas, A.J. (2007). Confidence Intervals and Hypnosis in the Treatment of Obesity. *Redorbit.com*. Retrieved July 5th, 2012 from:
[http://www.redorbit.com/news/health/1163574/confidence
intervals_and_hypnosis_in_the_treatment_of_obesity](http://www.redorbit.com/news/health/1163574/confidence_intervals_and_hypnosis_in_the_treatment_of_obesity)
- Schaumberg, L. L., Patsdaughter, C. A., Selder, F. E. & Napholz, L. (1995). Hypnosis as a clinical intervention for weight reduction and self-esteem improvement in young adult women. *International journal of psychiatric nursing research*, 9, 99-107.
- Schoenberger, N. E. (2000). Research on hypnosis as an adjunct to cognitive-behavioral psychotherapy. *International Journal of Clinical and Experimental Hypnosis*, 48, 154-169.

- Schramm, A. T. (1981). Predictors of successful weight reduction: A hypnotherapeutic approach. *Dissertation Abstracts International*, 42, (2-B).
- Schweiger Gallo, I., Pfau, F. & Gollwitzer, P. M. (2012). Furnishing hypnotic instructions with implementation intentions enhances hypnotic responsiveness. *Consciousness and Cognition*, 21, 1023–1030.
- Shaw, K., O'Rourke, P., Del Mar, C. & Kenardy, I. (2006). Psychological interventions for overweight or obesity (Review), *Cochrane Database of Systematic Reviews* 2009 Issue 1 CD 003818. Retrieved March 11th, 2012, from: <http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD003818.pub2/full>
- Shawky, R. M. & Sadik, D. I. (2012). Genetics of obesity. *Egyptian Journal of Medical Human Genetics*, 13, 11–17.
- Smith, G. (1986). When hypnosis can be useful therapy. *Pulse*, Jan 1st.
- Spahn, J. M., Reeves, R. S., Keim, K. S., Laquatra, I., Kellogg, M., Jortberg, B. & Clark, N. A. (2010). State of the Evidence Regarding Behavior Change Theories and Strategies in Nutrition Counseling to Facilitate Health and Food Behavior Change. *Journal of the American Dietetic Association*, 110, 879-891.
- Sparkes AC. (1999). Exploring Body Narratives. *Sport Education and Society*, 4, 17-30.
- Speigel, D. (1983). Hypnosis with Medical/Surgical Patients. *General Hospital Psychiatry*, 5, 265-277.
- Spiegel, H. & Spiegel, D (1978). *Trance and treatment: Clinical uses of hypnosis*. New York: Basic Books.
- Spruijt-Metz, D. (2011). Etiology, Treatment, and Prevention of Obesity in Childhood and Adolescence: A Decade in Review. *Journal of Research on Adolescence*, 21, 129 – 152.

- Stanton, H.E. (1975). Weight Loss through Hypnosis. *American Journal of Clinical Hypnosis*, 18, 34-38.
- Steinig, J., Wagner, B., Shang, E., Dölemeyer, R. & Kersting, A. (2012). Sexual abuse in bariatric surgery candidates – impact on weight loss after surgery: a systematic review. *Obesity Reviews*, 13, 892–901.
- Stradling, J., Roberts, D., Wilson, A. & Lovelock, F. (1998). Controlled trial of hypnotherapy for weight loss in patients with obstructive sleep apnoea. *International Journal of Obesity*, 28, 278-281.
- Stubbs, R.J. & Lavin, J.H. (2013). The challenges of implementing behaviour changes that lead to sustained weight management. *Nutrition Bulletin*, 38, 5–22.
- Teicher, M. H., Rabi, K., Sheu, Y. S., Seraphin, S. B., Andersen, S. L., Anderson, C., Choi, J. & Tomoda, A. (2010). Neurobiology of childhood trauma and adversity. In R.A Lanius, E. Vermettin, & C. Pain, (Eds.), *The impact of early life trauma on health and disease: The hidden epidemic* (pp.112-122). Cambridge: Cambridge University Press.
- Tellegen, A. & Atkinson, G. (1974). Openness to Absorbing and Self-Altering Experiences (“Absorption”), A Trait Related to Hypnotic Susceptibility. *Journal of Abnormal Psychology*, 83, 268-277.
- Túry, F., Wildmann, M. & Szentes, A, (2011). Tandem hypnosis with identical bulimic twins: Case report. *American Journal of Clinical Hypnosis*, 53, 265-275.
- Upshaw, W. N. (2006). Hypnosis: Medicine's Dirty Word. *American Journal of Clinical Hypnosis*, 49, 113-122.

Vámosi, M., Heitmann, B. L., & Kyvik, K. O. (2010). The relation between an adverse psychological and social environment in childhood and the development of adult obesity: a systematic literature review. *Obesity Reviews*, 11, 177-184.

Vandenbroeck IP, Goossens J & Clemens M (2007) Foresight tackling obesities: future choices – obesity system atlas.

<http://www.foresight.gov.uk/Obesity/11.pdf> [accessed 15th June 2013]

Vanderlinden, J. (2001). Hypnotherapy in Obesity. In G.D. Burrows, R.O. Stanley, R.O. & P.P. Bloom (Eds.), *International Handbook of Clinical Hypnosis* (pp. 221-232). Chichester, UK: Wiley. Vanderlinden, J. & Vandereycken, W. (1994). The (limited) possibilities of hypnotherapy in the treatment of obesity. *American Journal of Clinical Hypnosis*, 36, 248-257.

Wadden, T.A & Anderton, C.H. (1982). The Clinical Use of Hypnosis. *Psychological Bulletin*, 91, 215-243.

Wadden, T. A. & Flaxman, J. (1981). Hypnosis and weight loss: A preliminary study. *International Journal of Clinical and Experimental Hypnosis*, 29, 162-173.

Wagstaff, G. F (2012). Hypnosis and the Relationship between Trance, Suggestion, Expectancy and Depth: Some Semantic and Conceptual Issues. *American Journal of Clinical Hypnosis*, 53, 47-59.

Wark, D.M. (2011). Traditional and Alert Hypnosis for Education: A Literature Review. *American Journal of Clinical Hypnosis*, 54, 96-106.

Webb R. J., Davies I. G., Johnson B. & Abayomi J. C. (2013). Qualitative Evaluation of an NHS Weight Management Programme for Obese Patients in Liverpool. Unpublished results.

- White, D. M. (1980). Ericksonian hypnotherapeutic approaches: A case study of the treatment of obesity using indirect forms of suggestion. *Dissertation Abstracts International*, 41 (5-B).
- Wickramasekera, I, (2010). Review of the International Literature. *American Journal of Clinical Hypnosis*, 52, 357-361.
- Williamson, D., Thompson, T., Anda, R., Dietz, W. & Felitti, V. (2002). Body weight and obesity in adults and self-reported abuse in childhood. *International Journal of Obesity & Related Metabolic Disorders*, 26, 1075-1082.
- Wilson, G. T. (2010). Eating disorders, obesity and addiction. *European Eating Disorders Review*, 18, 341-351.
- Wilson, S. C. & Barber, T.X. (1978). The Creative Imagination Scale as a Measure of Hypnotic Responsiveness: Applications to Experimental and Clinical Hypnosis. *American Journal of Clinical Hypnosis*, 20, 235-249.
- Wing, R. R., Fava, J. L., Phelan, S., McCaffrey, J., Papandonatos, G., Gorin, A. A. & Tate, D. F. (2008). Maintaining Large Weight Losses: The Role of Behavioral and Psychological Factors. *Journal of Consulting and Clinical Psychology*, 76, 1015-1021.
- Winkelstein, L. B. (1959). Hypnosis, diet, and weight reduction. *New York State Journal of Medicine*, 59, 751-756.
- Wollman, L. (1962). Hypnosis in Weight Control. *American Journal of Clinical Hypnosis*, 4, 177-180.
- World Health Organisation (2000). Obesity: Preventing and managing the global epidemic. *WHO Technical Report Series 894*.

- Wright, F. E., Boyle, S., Baxter, K., Gilchrist, L., Nellaney, J., Greenlaw, N., & Forde, L. (2012). Understanding the relationship between weight loss, emotional well-being and health-related quality of life in patients attending a specialist obesity weight management service. *Journal of Health Psychology, 18*, 574-586.
- Xu, Y. & Cardeña, E. (2007). Hypnosis as an adjunct therapy in the management of diabetes. *International Journal of Clinical and Experimental Hypnosis, 56*, 63–72.
- Zaninotto, P., Head, J., Wardle, H. & Mindell, J. (2009). Trends in obesity among adults in England from 1993 to 2004 by age and social class and projections of prevalence to 2012. *Journal of Epidemiology and Community Health, 63*, 140-146.
- Zimmerman, F. J. (2011). Using Marketing Muscle to Sell Fat: The Rise of Obesity in the Modern Economy. *Annual Reviews of Public Health, 32*, 285-306.

Table 1: Some early trials of hypnosis for obesity management

Authors	Date
Winkelstein, L.B.	1959
Flood, A. O.	1960
Wollman, L.	1962
Brodie, E.I.	1964
Long, R. F. & Kreykes, G.	1965
Cautela, J.R.	1967
Harris, M.B.	1969
Lick, J. & Bootzin, R.	1971
Janda, L.H. & Rimm, D.C.	1972
Hanning, P.J.	1975
Stanton, H.E.	1975
Miller, M.M.	1976
Leon, G.R.	1976
Aja, J.H.	1977
Douglas Ringrose, C.A.	1979
Deyoub, P.L.	1979
Deyoub, P.L. & Wilkie, R.	1980
Davis, S. & Dawson, J.G.	1980
Channon, L.D.	1980
White, D.M.	1980
Bornstein, P.H. & Devine, D.A.	1980
Wadden, T.A. & Flaxman, J.	1981
Schramm, A.T. (1981	1981
Goldstein, Y.	1981
Gross, M.	1983
Fawzy, F., Pasnau, R., Wellisch, D., Ellsworth, R., Dornfeld, L. & Maxwell, M.	1983
McCabe, M. P., Jupp, J. J., & Collins, J. K	1985
Jupp, J.J., & Collins, J.K.	1985
Bolocofsky, D.N., Spinler, D. & Coulthard-Morris, L.	1985
Andersen, M.S.	1885
Jupp, J., Collins, J., McCabe, M., Walker, W.	1986
Cochrane, G. & Friesen, J.	1986
Smith, G.	1986
Cochrane, G. J.	1987
Munro, M.	1989
Barabasz, M & Spiegel, D.	1989
Vanderlinden, J. & Vandereycken, W.	1994
Schaumberg, L.L., Patsdaughter, C.A., Selder, F.E., & Napholz, L.	1995
Platt, R. W.	1995
Johnson, D.L. & Karkut, R.T.	1996
Stradling, J., Roberts, D., Wilson, A. & Lovelock, F.	1998
Green, J.P.	1999
Johnson, D. L., & Brinker, G. D.	2001
Mewes, I., Stich, A., Habermüller, M.S. & Revenstorf, D	2003