

**Self-Defeating Eating: The role of Hypnotizability and its Correlates in its Aetiology  
and Treatment**

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## **Abstract**

Dietary habits which seriously erode health and quality of life are widespread. Effective clinical strategies for overweight, obese and eating disordered individuals are needed. Such treatment options are usually based on constructs generated by theoretical models of causation and maintenance. Underpinning the current enquiry, the Hypno-socio-cultural model hypothesises links between the aetiology of dysfunctional eating behaviours and higher levels of hypnotic susceptibility, fantasy ability and dissociative capacity, as well as acknowledging the social genesis of the self-defeating approach to diet. Empirical evidence has supported the socio-cognitive theory of causation and remediation, on which this research is based. The literature has suggested that hypnotic, imaginative and dissociative strategies have contributed to clinical efficacy, and that aetiology and maintenance of such self-defeating eating might be linked to higher than average hypnotic susceptibility, imaginative ability and dissociative capacity. Generalization of research findings across studies is limited by the uncertainty introduced by the variety of measuring instruments utilized, and gender and age differences which have emerged. As well, possible individual preferences for specificity of hypnotic suggestions, which may affect responsivity levels, could dictate a need for reinterpretation of the results of relevant research.

As an initial step in exploration of these issues, a group of University students responded to a number of assessment instruments, designed to tap self-perceptions in relation to weight, shape and size concerns, eating behaviours, and use of imaginative, dissociative and hypnotic capacities, as well as responding to hypnotic suggestions embedded in a formal assessment thereof.

In this current research, expected relationships between elements of the Hypno-socio-cultural model were probably affected by a complex array of factors, which are difficult to measure using current instruments. Case studies drawn from the participants in this study have further elucidated the possible connections underlying the proposed Hypno-Socio-Cultural model, as well as highlighting the complexity of the relationships of all

the factors involved. The Phenomenology of Consciousness Inventory, which was used to access the subjective experience of the individual's responsivity to hypnotic suggestion, and which also tapped imaginative and dissociative experiences in relation to same, appears to have unique potential for further exploration of issues related to the connections highlighted in this study

Findings in the current study suggested that some widely used assessments were not measuring the same constructs. Because of such factors, results which suggested links between weight, shape and eating measures, and those assessing hypnotic susceptibility, fantasy-proneness and dissociative capacity, although in the expected direction, were not as strong as was expected. In light of the anecdotal evidence of effective clinical use of imaginative, dissociative and hypnotic techniques with self-defeating eaters, the results were reassessed. It seemed feasible to interpret these results as suggesting that higher reliance on self-protective and defensive modes of using imaginative and dissociative capacities may mark the self-defeating eater. A modified Hypno-Socio-Cultural model, incorporating such a possibility, has been proposed as the basis for further study.

It is recommended that such research be undertaken, employing a variety of relevant measures, with a larger group of participants of both genders with DSM-IV criterion diagnosed self-defeating eating. The importance to clinical work of investigating the proposed model as a basis for treatment remains paramount in this field of self-defeating eating.

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Effie: young, underweight, female

Zach: young, underweight, male

Molly: older, underweight, female  
Kat: middle-aged, underweight, female

Ally: normal weight range, high scores on eating behaviour inventories  
Barb: normal weight range, high scores on eating behaviour inventories  
Zoe: normal body weight, high scores on eating behaviour inventories  
Myrna: normal weight, high scores on eating behaviour inventories

Susan: obese, middle-aged, female  
Kan: obese, middle-aged, female  
Cora: young, overweight, female  
Anton: younger, overweight, male

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## **Statement of Original Authorship**

The work contained in this thesis has not been previously submitted for a degree or diploma at any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

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## **Chapter 1**

### **Self-defeating Eating: a Serious Social Issue**

#### **Introduction**

High incidence rates of non-healthy or self-defeating eating, the serious health consequences of such eating, and the paucity or inadequacy of existing health services offered to dysfunctional eaters, all suggest that more research is needed in relation to its causes, especially as they impact on possible treatment options. While aetiology and maintenance are generally agreed to be multi-factorial, there are many questions that currently remain unanswered about the interactions of these factors and their precise contributions to self-defeating eating. Treatment protocols using a Cognitive Behavioral Approach, as well as others which employ hypnosis to supplement the chosen therapy, have proved successful with self-defeating eating. This has provoked exploration of the possible involvement of hypnotizability, and of its correlates, dissociative capacity and imaginative ability (or fantasy-proneness), in the aetiology and maintenance of dysfunctional eating, and in the concern with weight and size which appears to be integral to most attempts to “diet.”

It may also be that some of those with higher hypnotic susceptibility levels, as well as greater imaginative and dissociative tendencies, are more vulnerable to particular manifestations of self-defeating eating, and may therefore benefit more from specific hypnotic therapeutic strategies. A review of the relevant literature suggested that a model which incorporated these elements into the widely used socio-cognitive understanding of self-defeating eating, could be useful to clinicians who work with dysfunctional eaters. At this stage of research, it seemed warranted to conduct a study which incorporated many of the measurement tools used in the previous research, in an effort to validate the various findings in the literature and to establish their generalizability. Even more useful, would be to combine with such research, an investigation of the possible contribution of

hypnotic susceptibility, fantasy proneness and dissociative capacity to the development and maintenance of concerns with weight, shape and size, and with eating behaviour. Theories of causality have played a major role in dictating treatment programs in all areas of mental health. Research evidence supporting such theoretical constructs provides a basis for empirically validated clinical interventions.

## **Contextualising the Importance of the Current Study**

### **Healthy Eating: Definition Difficult**

Maintaining a healthy body involves balancing input and output of energy. That is, food intake should be sufficient to supply the organism's requirements in terms of physical and metabolic activity. Eating which denies the body sufficient energy, or which provides well in excess of what is needed to fuel daily energy requirements, can be labeled self-defeating, because of the health risks entailed in pursuing either extreme.

This apparently simple and logical ideal of balancing energy output and input is much more complex in its execution than it seems in theory. One complication results from the current methods of assessing a healthy body weight. The most popular method is the Body Mass Index, calculated from an individual's height and weight. Body Mass Index (BMI) is computed by calculating weight (in kilograms) and height (in meters), then dividing weight by the square of the height. This computation is then compared to ranges of Body Mass Indices that have been designated as healthy or unhealthy. A BMI of below 20 is usually regarded as below an appropriate weight, while a BMI of 25 and over is designated as overweight. If the BMI is over 30, this is considered as being in the obese range. Other means of deciding on the appropriateness or otherwise of a person's weight involve the consultation of tables with healthy weight range for height and build, that are based on scales devised by Health Insurance Companies. Both methods have their critics.

A more recent approach, that reflects such disenchantment with the general inefficacy of rigid dietary regimes, is set point theory, which maintains that the body resists weight alterations from a physiologically optimal range of weight. The set point is the result of genetic influences, which determines the individual range of healthy weight for an individual. Diet and lifestyle result in the weight attained within that possible spread. According to this viewpoint, a healthy weight range can be achieved by eating according to the hunger and satiety needs dictated by the body and by balancing this with moderate activity levels suited to personal preferences (for example, Kaufman, 1998).

While this strategy has been useful for some, the Western world is still beset by an upsurge in overweight and obesity, as well as by higher numbers of people who are afflicted by eating disorders. Weight management programs are billion dollar industries (American figures of \$33 billion are indicative, Thone, 1997), and while weight loss in the short term is achievable for a small number of people, long-term weight reduction is virtually unattainable using the schemes advocated by such agencies. In fact, many clinicians and researchers (for example, Garner & Wooley, 1991) in the area contend that the yo-yo dieting, which is the result of the programs offered by this industry, result in further weight gain in a vicious ever increasing cycle. They believe that this is the result of the metabolic reaction to hunger, determined by survival needs. The body metabolism slows down to accommodate a time of food deprivation, then, when normal eating which satisfies bodily hunger is resumed, the body stores more fat to prepare for further deprivation. Often the result of depriving the body of its “natural” complement of food requirements can lead to binge eating, which itself may beget vomiting or laxative and, or, diuretic abuse as a compensatory habit.

However, a satisfactory measure incorporating the ideal of set point theory can only be computed individually, and at this stage there have been no guidelines developed which could be utilized as the basis of research. Reference to individual Body Mass Indices, as well as taking into account an individual’s adult ranges of weight and expressed concerns with shape, weight and diet, may be a compromise which can be adopted in the research

setting. It might be argued that for those with only small fluctuations over a number of years, that perhaps a set-point has been established. Given the pervasiveness of female dietary restriction as an habitual eating mode, such assumptions would be premature, especially when applied to younger adult females.

Recommendation of a means of eating that will fulfil any of the previously mentioned criteria for a healthy diet, is further complicated by the plethora of eating regimes which are touted as the “right” method of healthy energy intake. Fad diets are legion, often promoted by high circulation glossy magazines or television programs aimed at a female readership. Predominantly, there is little research evidence to support the adoption of one method of eating in preference to another. In fact, quite often, analytical results offered to legitimize one approach are contradicted by the scientific support which is purported to demonstrate the efficacy of another diet regime. In addition, medical authorities often equate healthy eating with a diet that ensures a person remains thin, which approach reflects social and media messages about what constitutes the right weight and size. The current ideal of “health” is the long, lean frame, especially for the female, and is often illustrated by using models whose weight (BMI) is anything up to 25% under the healthy weight for their height and body-build. For males, the well-muscled upper body, tapering to narrow hips, is the model of the ideal masculine physique. Additionally, fast food outlets whose food is poor in nutritional value, are very highly profiled in the advertising media. The “befuddled” consumer is bombarded with competing messages about how to look, what to eat and what type of physical activity is preferable.

As well as encountering difficulties in endeavors to establish some criteria to identify healthy weight for body type and to outline a reasonable approach to a healthy diet, the issue is even further complicated by the manner in which individuals react to all of the foregoing. A wide range of factors have to be considered in any program that endeavors to establish healthy eating patterns, or to rectify self-defeating eating behaviour. Relevant forces which impinge on eating behaviour can include a range of social, psychological, emotional, cognitive, physiological, familial and other influences. The

impact of the attitudes of media, family and peers to weight, shape and diet are important. Cognitions relating to beliefs about self in comparison to social ideals, as well as the negative feelings these may engender, also make significant contributions. It is possible that genetic susceptibility may play some part in the development of specific dietary and weight related behaviours and issues. Food may even be used as a means to escape the negative emotions and anxiety associated with family and relationship problems. Often, low self-esteem, and depressive and anxious feelings, may contribute markedly to the conditions which have been identified as serious deviations from eating which is healthy and life-sustaining. The nature of the health risks involved is another factor arguing for the kind of research undertaken herein.

### **Types of Self-defeating Eating**

The unhealthy syndromes resultant from inadequate nutrition have led to criterion classification of several diagnostic categories in the *Diagnostic and Statistical Manual for Mental Disorders (DSM-IV)* (1994) including Anorexia Nervosa, Bulimia Nervosa and Eating Disorders Not Otherwise Specified, which includes Binge Eating Disorder, for which preliminary criteria have been suggested. Obesity is not included therein, but can be appended on Axis III as a medical complication impinging on a mental disorder.

The criteria for Anorexia Nervosa include

- Body weight below 85% age appropriate
- Intense fear of gaining weight
- Distorted perception of own body
- Amenorrhea in postmenarcheal females

Two types of Anorexia Nervosa (An) are specified

- restricting type (no bingeing or purging), and purging type, using vomiting, laxatives or diuretics or bingeing

Bulimia Nervosa is identified by

- Repeated binge eating
- Repeated attempts to control weight by inappropriate means such as fasting, self-induced vomiting, excessive exercise or abuse of laxatives, diuretics, etcetera.
- Such behaviours to have occurred twice per month for 3 consecutive months
- Weight and body shape affect self-evaluation
- Symptoms do not solely occur during episodes of Anorexia

Two types of Bulimia Nervosa (Bn) are specified

- Purging, with misuse of diuretics and laxatives
- Non-purging, using fasting or exercise.

Eating Disorder Not Otherwise Specified

- Includes those with problems related to appetite, eating and weight who do not meet the criteria for Anorexia or Bulimia, for example, Anorexia with normal menses; Bulimia with infrequent binges or without swallowing
- Inappropriate weight control, normal weight or binge-eating disorder.

Binge Eating Disorder can be recognized by

- Recurrent episodes of binge eating, accompanied by a sense of lack of control
- During such episodes eating more rapidly, larger amounts and alone, but feeling disgusted with self
- Bingeing at least twice a week for a 6 month period
- Distress regarding same
- Does not occur during the course of bulimia nervosa or anorexia nervosa.

Obesity, while not having a DSM-IV classification, can be identified by

- Weight greater than 20% over ideal body weight based on published charts calculated by height and frame size, or BMI of 25-30.
- Morbid obesity more than 100 lbs (45.36kg) overweight; or BMI over 30.

### **The Magnitude of the Problem**

Research has suggested that the incidence of self-defeating eating is increasing, even among children as young as six or seven years of age. In particular, overweight and obesity is rising in primary school aged children. For example, Dr Louise Baur from Westmead Hospital in Sydney (Waters & Baur, 2003) noted that probably 25% of Australian children between seven and twelve years are overweight or obese. A slightly higher figure (28% for girls, 26% for boys) was found in a study by Goodman, Lewis, Dixon and Travers (2002). Such children generally become overweight or obese adults. Obesity and overweight is also high among adults, with figures of 68% for men and 47% for women being typical (Medicine Australia, 2003). The American Obesity Association (2000) categorized 55% of adult Americans as overweight or obese.

Hesketh (2000) reported that 19% of children in Australia were overweight, while 7% were obese, with a prevalence of children with excess weight in urban areas. According to Baur (2001), this figure has shown a twofold increase since 1985. Magarey, Daniels and Boulton (2001) concluded from a national survey that childhood fitness levels had declined, while Body Mass Indices, time spent in sedentary activities, as well as dietary and energy intakes, have increased. Burry (1999) estimated that in the Australian population 48% of men and 30% of women are overweight or obese, with significant increases during the 1990's. As with much recent research, the Body Mass Index has been used to compute the weights on which these figures are based.

Research by Thompson, Corwen and Sargent (1997) has indicated that eating attitudes of even quite young children are already evidencing the kind of concern with body image that may well develop into self-defeating eating patterns later in life. Similar findings

have been published in studies with adolescents. Button, Loan Davies and Sonuga-Barke (1997), studying a sample of 609 schoolgirls (age range 15-16 years) found that 56% felt too fat and had used some form of weight control. In a South Australian study (Williamson & Delin, 1998) of 195 children between five to ten years of age, girls as young as five were showing a decided preference for smaller body sizes and greater body image dissatisfaction than were boys. Research conducted in the Sydney suburban Catholic school system by Rolland, Farnill and Griffiths (1996, 1997, 1998) established that 14% of girls and 8% of boys in their sample of 244 children from Grades 3-6 were above the threshold for potential anorexia according to the ChEAT (Children's Eating Attitude Test). Studies from the laboratory of Williamson, Stewart, White and York-Crowe (2002) have suggested that children as young as eight are concerned with their body size and have cognitive biases related to body size and shape. Levine and Smolak (2002) reported that 50-80% of adolescent girls would like to be thinner, and 20-60% have reported dieting behaviours. Social, media and peer pressure will doubtless ensure that these young people continue to adulthood with such attitudes.

Supporting this contention is the fact that Polivy and Herman (1987) noted that dieting has become normal eating for North American women. Many westernized females, in an effort to attain an unnaturally and unrealistically slim body, are displaying characteristics of eating disordered pathology, although their eating habits are considered "normal". Levine and Smolak (2002) have emphasized that the normal changes of puberty for females, which involves an increase of between 30 to 50 pounds in body weight, makes it virtually impossible for most adult females of European descent to ever attain the dominant ideal body shape. Attempts to attain thinness by limiting food intake have some potentially grave risks.

There is a considerable amount of research indicating that dietary restraint is a fairly common route to life-threatening disorders such as anorexia nervosa, bulimia and binge eating disorder. For example, Patton, Selzer, Coffey, Carlin and Wolfe (1999) have demonstrated that extreme dieters among Australian adolescent girls are eighteen times more likely than non-dieters to develop eating disorder symptomatology. Other risk

factors include early onset of puberty, perfectionism, low self-esteem, exposure to media influences promoting a thin ideal and sport/activities which likewise promoted this ideal such as ballet or gymnastics (Williamson, Stewart, White & York-Crowe, 2002). Paxton (2000) emphasized that the strongest risk for body dissatisfaction and disordered eating is being female.

Women in Australia constitute around 90% of the eating disordered population (Saunders, Gaskill & Gwynne, 2000). This is conservatively considered to be around 2% to 3% of women, the higher estimate of 5% being a more likely figure (Paxton, 2002). Such figures are consistent with incidence rates in most Westernized countries. However, Pike's (1995) contention that the sub-clinical manifestations of eating disordered behaviour were very common among adolescents, was borne out by a study conducted by Paxton and colleagues (Paxton, Wertheim, Gibbons, Szmulker, Hillier & Petrovich, 1991). Between 4% and 5% of the respondents in their sample of 341 female and 221 male Victorian secondary school students, used extreme dieting measures such as smoking, laxative use, vomiting and diet pills on a regular basis. A survey by Cosmopolitan Magazine, and an Australian Women's Longitudinal Health Survey, likewise found quite widespread use of these extreme dieting measures in young Australian women aged 18-22 years (Saunders, Gaskill & Gwynne, 2000).

While the number of men suffering from eating disorders is generally placed at around 10% of the eating disordered population, Saunders, Gaskill and Gwynne (2000) have suggested that media pressures on men to conform to the male model image which is strong and muscular, and which is associated with steroid use and over-exercising, may well be influencing men towards other health problems. It is among homosexual men that the incidence of eating disorders appears to be increasing.

### **Serious Health Risks associated with Self-defeating eating**

The long-term consequence of the kind of eating which does not maintain the previously mentioned balance between energy input and output is poor health. Symptoms range

from life-threatening cardiovascular disease to quality-of-life impairing osteoporosis and diabetes. In terms of life satisfaction, health and longevity, such forms of eating are decidedly self-defeating.

Eating disorders, such as Anorexia Nervosa (An) and Bulimia Nervosa (Bn), may result in fluid and electrolyte abnormalities, dehydration and metabolic imbalances, gastrointestinal complications, cardiovascular irregularities, deficiencies in metabolism, skeletomuscular problems, poor renal functioning, endocrine disturbances and haematological problems which can range from mild to very severe depending on the duration of the abnormal eating behaviours (Szmukler, Dare & Treasure, 1995). Obesity has been associated with arthritis, cancer, cardiovascular disease, carpal tunnel syndrome, chronic venous insufficiency, daytime sleepiness, deep vein thrombosis, end stage renal disease, gallbladder disease, gout, heart disorders, hypertension, impaired immune response, impaired respiratory function, infections following wounds, infertility, liver disease, lower back pain, obstetric and gynaecological complications, pain, severe acute biliary and alcoholic pancreatitis, sleep apnea, stroke, surgical complications, traumatic injuries to teeth, type-2 diabetes, urinary stress and incontinence. (American Obesity Association, 2000). However, causal connections have not been established, and authorities in the field (for example, Garner & Wooley, 1991) have suggested that research in this area may be complicated by issues other than overweight and overeating, and that the cardiovascular and other risks of yo-yo dieting must be taken into account.

The outcome for fifty percent of bulimia sufferers is full recovery, while about twenty percent have very poor treatment outcomes. The remaining thirty percent have various stages of partial recovery (Keel & Mitchell, 1997). For Binge Eaters, the recovery rate is slightly higher, at around sixty percent if treatment is continued for one year (Wilfley, 2000).

According to Beumont (2000), a number of studies from various countries have placed the mortality rates for Anorexia at about 20% at 20 years. He further pointed out that the average age of onset is 17 years, and that the overall mortality rate is five times greater

than for the same aged population in general. The causes of such deaths are often from suicide, the rate of which is 32 times that expected for this age group. As well, death results from natural causes such as cardiac arrhythmia or infection, the incidence of which is four times greater for anorexics than it is for normal young people. To highlight the seriousness of the situation in relation to this disease, Beumont has compared it with the prevalence of other serious conditions, and found that, along with **obesity** and asthma, it is the most common serious illness in the 15-24 year age group of females, and is more deadly than any of the other problems encountered by the medical profession in this age group.

His discussion of this eating disorder, because it is written from a medical perspective as well as from the viewpoint of his lengthy clinical involvement in the field, is both enlightening and frightening. He emphasized its persistent psychiatric morbidity, especially dysthymia, major depression and obsessive compulsive disorder, as well as its contribution to brain atrophy and a myelination disorder which can have ongoing effects on cognition. Its social effects include impairment in physical functioning, as well as interference with education or work training, adaptation to peer relationships, sexual relationships and inclusion in the normal family routines. Growth retardation may result from early onset of Anorexia. Infertility can be a consequence, or at the least, individuals may experience complications in pregnancy which can lead to premature birth and poor neonatal functioning. Chronic illness is usually involved for 25% of sufferers. Another 25% will maintain chronic morbid preoccupations with food and weight. Post-menopause there is a definite risk of osteoporosis as the result of deficits in accumulation of sufficient bone density in youth.

Psychological correlates of Anorexia Nervosa include depression, loss of concentration, anxiety, mood lability, irritability, hypersensitivity to noise, increased perfectionism, social withdrawal, poor sleep, compulsive behaviours, low self-esteem and suicidal ideation.

While the results for Bulimia Nervosa and Binge Eating Disorder are not usually as potentially life-threatening as those from Anorexia, nevertheless the health risks are considerable and the negative social and psychological effects are similar. The consequences of overweight and obesity, similarly, may not be as severe, but the social ostracism resultant from this society's obsession with the thin ideal can have devastating effects on the person. Social pressure to be thin embraces the notion that choice is involved in remaining overweight, and that people who have not the supposed control or will power to reduce their weight are regarded as lazy, stupid, unmotivated, and generally poor recipients of social interaction. In fact, a recent study among children regarding choice between companions who had physical disabilities and other disfigurements or those who were overweight, saw the overweight companions rated as least desirable. Such negative social reaction leads to the desire to be rid of the unwanted "flab", and often to a preoccupation with weight, which leads to life-long trials of every new fad diet which becomes fashionable, thus inviting the risks attendant on such yo-yo dieting.

The claim that considerably overweight and obese people are particularly at risk for cardiovascular disease, as well as for developing skeleto-muscular disease, obstetric and gynecological complications and impaired immune response has been disputed (Polivy & Herman, 1983). Recent opinion (Garner & Wooley, 1991; Rosen, 1996) has suggested that the greatest risk of cardiovascular problems may be caused by the yo-yo syndrome, the tendency to lose and regain weight. Thus, the overweight and obese eater may be the subject of risks from both the overeating and the attempts to reduce the overweight by the onset of yo-yo dieting and its attendant health risks.

For women, particularly, the need to develop effective and healthy eating habits is essential. Any person whose life revolves around any variant of self-defeating eating experiences very serious social, physical, emotional, cognitive and psychological effects of such "diets" or eating regimes. Although some seek help, those who end up in effective treatment are relatively small in number. Medical practitioners, who are usually the first to be consulted in such cases, are often ignorant of the signs of self-defeating eating. The attitude of many members of the profession to demanding weight loss when

women present for other problems (Thone, 1997) often results in women's refusal to consider treatment when early intervention could be helpful. Effective management programs are often low priorities in already overworked health systems, and eating disordered patients are often the least liked in the health system because of the entrenched nature of the conditions (Sanders, Gaskill & Gwynne, 2000). Women and men whose self-defeating eating has reached clinical proportions are often embarrassed and secretive about their problems and do not seek professional help. Available treatment options are either limited or inadequate. Research which connects such eating to specific abilities, such as the ones proposed herein, may ultimately reduce the stigma associated with self-defeating eating, encouraging earlier reporting of such problems to competent therapists.

### **Paucity of Treatment Programs for Self-defeating Eating**

According to Sanders, Gaskill and Gwynne (2000) there have been very few comprehensive evaluations of outcomes of the treatment services offered to people with eating issues. They identified a lack of consensus about best treatment methods among the practitioners in the field as part of this dearth of evaluative data, as well as the scarcity of specialist services available in Australia. While Cognitive Behavioural methods are argued to be the most successful for bulimia sufferers, there is much more confusion about the best treatment for Anorexia. One of the few studies of efficacy of treatments for Anorexia was by Strober, Freeman and Morell (1997), who found that 70% of the 95 Anorexia patients in their longitudinal study, treated with hospitalisation and multimodal therapy in a specialized University unit, had fully recovered after a 10-15 year follow-up.

As in the United States of America, the diet industry in Australia is a multi-million dollar affair, with programs such as those offered by Jenny Craig and Weight Watchers attracting a huge part of the income generated. However, success with such programs, although often quite significant in the short term, is much less certain long-term, some figures suggesting that about 2% of those who embark on such commercial programs actually maintain their post program weight loss long-term (Cooke, 1994). This author

proposed that only about 20% actually reach their goal or target weight. The most usual result is that such dieters attain a somewhat heavier weight after each diet because of the metabolic reactions to food deprivation. Often they succumb to a Binge-eating or Bulimic lifestyle as a result of their dietary restriction. Overall, the self-defeating eater has little reason for optimism regarding the outcomes of treatments currently available.

### **Reasons for the Inefficacy of Treatment Programs**

Treatment for any condition is usually determined by the beliefs held by the practitioners about its causes. Herein lies the difficulty with self-defeating eating. The general literature emphasized the multicausality of eating behaviour that diverges in either direction from healthy food consumption levels (Campbell, 1995; Halmi, 1995; Hsu, 1990; Kaye, 1999; Stice, 1994; Walsh & Devlin, 1998; Yapko, 1986). Physiological, biological and genetic factors (Fichter & Pirke, 1995; Pieri & Campbell, 1999; Robinson & McHugh, 1995; Treasure & Holland, 1995); social and family pressures (Dare & Eisler, 1995; Eisler, 1995; Lyon, Chatoor, Atkins, Silber, Mosimann & Gray, 1997; O’Kearney, 1996; Stice, Schupak-Neuberg, Shaw & Stein, 1994; Thompson, Heinberg & Stormer, 1995); developmental issues (Hsu, 1990); emotional and psychological stressors (Button, Sonuga-Barke, Davies & Thompson, 1996; Stice, Akutagawa, Gaggar & Agras, 2000; Stice, Shaw & Nemeroff, 1998) are all involved in the process. Development of self-defeating behaviour seems determined by the unique and individual history and psycho-biological makeup of each person.

It is generally recognised that factors which influence the process of engaging in such behaviours include, seemingly uncritical internalization of social ideals regarding body size; possible childhood trauma; specific personality traits; family situations; the presence of some crisis as an activating event; and various negative affects and cognitive distortions around body image and self-worth.

Therapies with those people whose eating is dysfunctional have found numerous points of entry to the vicious cycle that seems to surround such eating. Such a cycle could be

visualized as outlined in the following diagram (Figure 1), devised by this author to clarify these issues.

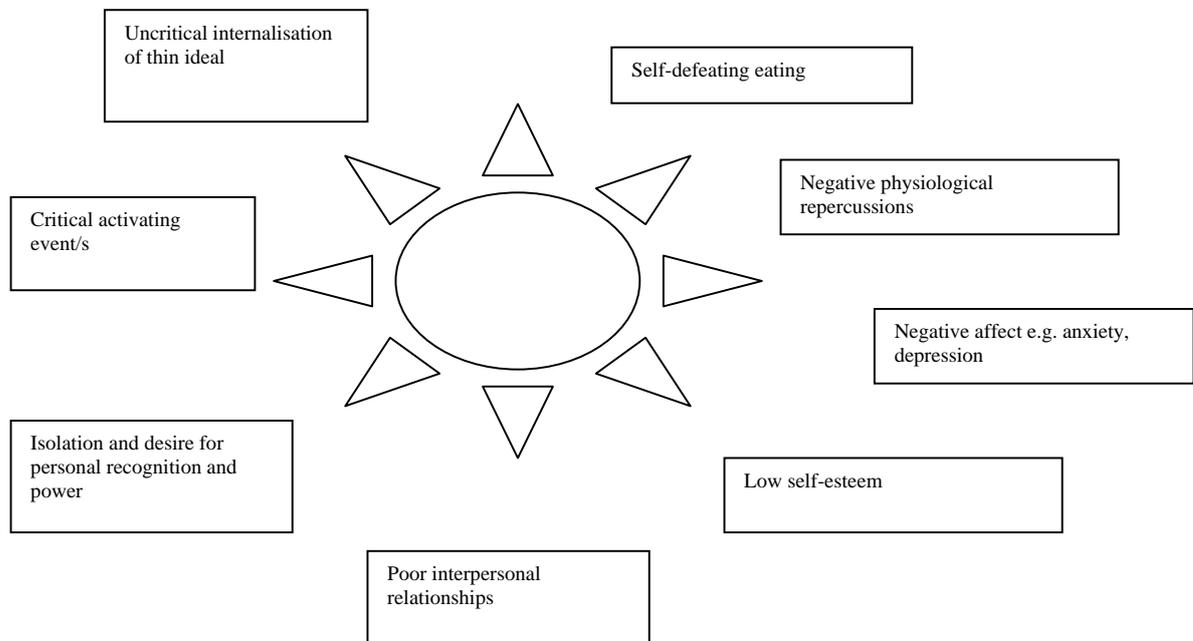


Figure 1. Points of entry in the treatment of the vicious cycle of self-defeating eating.

Therapies with such self-defeating eaters are usually multi-pronged, and can include focussing on relationships and social skills, or attempting to change faulty cognitions and behaviours. Re-feeding in cases of severe under-eating or using medication to restore nutritional and psychological balance may be used in cases of severe emaciation. Educational input regarding nutrition and exercise are usually components of most approaches. Other therapies are directed at negative affect and low self-esteem, and often have an experiential focus. For overweight and obese persons, medical intervention is often directed at changing the digestive system by such procedures as stomach stapling, as well as using therapies which emphasize cognitive behavioural techniques.

For eating behaviour that has resulted in weight which deviates markedly in either direction from a healthy size, the prognosis for a successful outcome, regardless of the type of therapy offered, is not encouraging (Dalton, 1997; Eisler, Dare, Russell,

Szmukler, le Grange & Dodge, 1997; Garner & Wooley, 1991; Hsu, 1980, 1990; Treasure & Schmidt, 1999; Walsh & Devlin, 1998; Wilson, 1999). One attempt to quantify the success of these therapeutic enterprises by Degun-Mather (1997) suggested that it is around 50-60%, with a fairly high dropout rate of around 30-40%. Overall, the literature has suggested that cognitive behaviour therapy may be the most effective, and that the research in this area is the most methodologically sound (Bulik, Sullivan, Carter, McIntosh & Joyce, 1999; Compas, Haage, Keefe, Leitenberg & Williams, 1998; Garner & Vitousek, 1997; Mitchell, Hoberman, Peterson, Mussell & Pyle, 1996; Peterson & Mitchell, 1999; Wilson, Loeb, Walsh, Labouvie, Petkova, Liu & Watermaux, 1999).

## **Cognitive Behavioural Therapy: Theoretical Basis of the Study**

### **Approaches to Treatment of Self-defeating Eating**

While results from various approaches to the treatment of self-defeating eating are relevant to the overall model developed herein, two specific remedial methods are fundamental in its elaboration. Those procedures which form the basis of Cognitive Behaviour Therapy, and the use of hypnosis allied to the clinical strategies employed by that model, underlie the Hypno-socio-cultural model which is presented and elaborated in Chapter Two. An exploration of Cognitive Behavioural Therapy, the approach with the best empirical validation, in respect to self-defeating eating, is a necessary precursor to an understanding of the development of that model.

### **Overview of the Cognitive Behavioural Approach to Self-defeating Eating**

According to the Cognitive Behavioural approach, individual, familial and cultural factors predispose an individual to self-defeating eating. Precipitation of long-term dysfunctional eating patterns, centers around body image dissatisfaction and the resultant restriction of food intake, with a view to decreasing weight and increasing feelings of self-worth, competence and control. The major issues which help to perpetuate the self-defeating eating, according to this approach, are the result of this dislike of one's own

body shape and size and the rigorous dietary limitations imposed, to attempt to remedy the problem. Firstly, there are the starvation symptoms which lead either to satisfaction with one's willpower in maintaining the diet, or alternatively to binge eating, as the bodily hunger resulting from near starvation, defeats the cognitive restraint imposed on the body. Another maintenance factor is the favorable reaction to self-imposed dietary restraint and weight loss from those in the immediate environment. A summary diagram of this viewpoint highlights the centrality to this view of the internalization of the thin ideal, the fear of fat and the related desire to be rid of any unwanted fat by means of severe dietary restriction.

Table 1. Summary of CBT view of factors involved in self-defeating eating.

Interpersonal and personal factors	Core Symptoms	Corollary Symptoms	Consequences
Societal Messages re shape, nutrition and exercise  Family situations including interpersonal relationships, trauma and crises  Individual factors including genetic and biological predispositions, personality and appearance	Fear of fat → Desire to be thin → Dietary restriction →	Starvation Bingeing Purging Vomiting Over-exercising	Pride re subjugation of body OR Anxiety  Depression  Low self-esteem  Feelings of being ineffectual  Feelings of incompetence

In this approach, negative body image and fear of fat is given primacy in the development of the dieting behaviour. While the contributions of social, familial and cultural pressures, as well as the individual biological, genetic and personality factors are acknowledged, the negative schemas around body image are the focus of treatment from a cognitive behavioural perspective. Starvation may lead to bingeing, the reaction to which may involve vomiting, purging or over-exercising to dispose of the extra caloric intake. The emotional price of starvation, whether maintained (as in An) or contravened by the binge-purge cycle (as in Bn or Binge Eating Disorder, BED), is increased anxiety, depression, poor self-concept and feelings of being ineffectual and powerless.

## **Centrality of Body Image to the Cognitive Behavioural Viewpoint**

An understanding of the cognitive behavioural perspective on Body Image, and the factors which influence its development, are likewise important in understanding this approach and its implications for aetiology as well as treatment. Cash (2002), a recognized expert in this area, argued that the development of Body Image is connected to cultural socialization, interpersonal experiences, one's own physical characteristics and unique personality attributes. He proposed that Body Image is composed of a number of schemas and attitudes, the nature of which results in the amount of investment one places in appearance and weight related concerns. He hypothesized that it also included the positive or negative evaluation a person made of her own image of her body. According to this model, activating events lead to internal dialogues or thoughts, in which one interprets the input through the filter of the existing schema, using such interpretations to reach conclusions about the meaning of the event. Emotions related to Body Image are evoked by such processing, and adjustive or self-regulatory strategies and behaviours are then set in motion.

Stice (1994) developed a Socio-cultural model of the development of Bulimia, in which the implications of negative body image are further elaborated. His model emphasized the centrality of appearance to females, and the importance of the thin ideal and its association with success and self-efficacy. These social ideals are the result of family, peer and media influences, all of which are internalized in susceptible individuals. Such susceptibility is determined by level of self-esteem, success in dealing with identity issues, weight and shape. The more problematic these areas are for any individual, the higher the possibility that the pressures to conform to the thin ideal will result in its effective internalization and the development of a negative body image. Such objectification of the body will lead to restrained eating influenced by family and peer models and by the general level of coping skills. The following diagrammatic representation of these ideas has been elaborated by the addition of some Feminist concepts which are covered in the section on aetiology. Further it is hypothesized that the pathway to Anorexia, Binge Eating Disorder and Overweight or Obesity which leads

to attempts to manage weight by dietary restriction, have followed similar developmental pathways. Such a model, derived from socio-cognitive theories, has important implications for practice which is based on a link between aetiology and treatment.

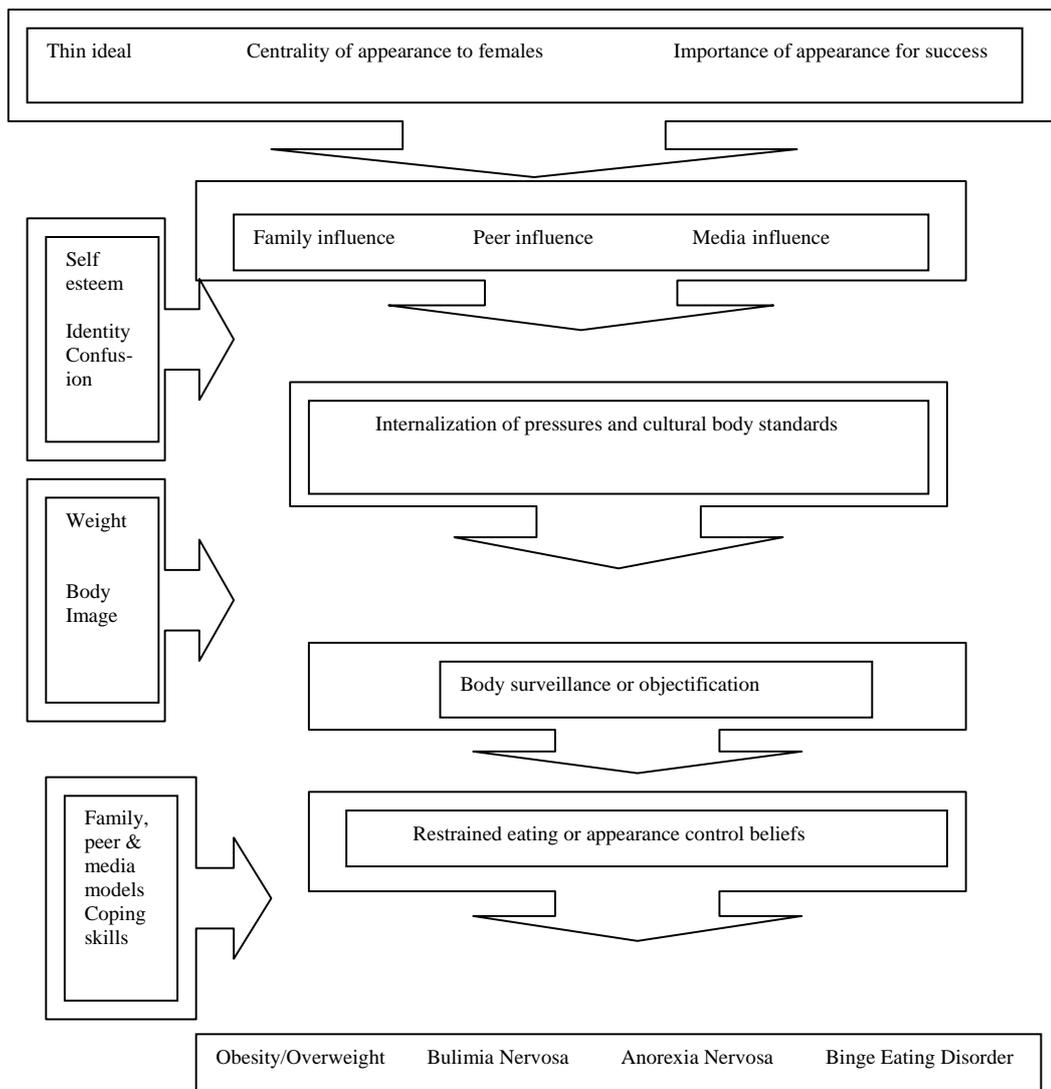


Figure 2. Summary diagram of the socio-cultural model of self-defeating eating.

For the purposes of the current research, as well as tracing the pathway to self-defeating eating delineated by the socio-cognitive model, there is value in noting its implications for healthy eating. All westernised individuals are subject to similar social influences in

relation to cultural body ideals. However, many individuals do not succumb to Self-Defeating eating patterns. Rather, their self-regulatory actions assume a different form to those whose internal schemas demand body surveillance and objectification, and appearance control activities. It is in this area of self-perception and self regulation that the current research is particularly interested, because of its implications for assistance to self-defeating eaters.

### **Aetiological Implications of this Model**

Between the implications of set point weight theory and the pubescent changes to the female body, it would seem that most women are biologically incapable of attaining the socially prescribed ideal thinness by any means that are healthy. Body type may be as much as 70% genetically determined, which leaves only 30% of an individual's shape and weight which is influenced by diet, exercise and other lifestyle activities. Despite this probability, the stereotypes offered in most advertising, even of the fat-laden fast foods which have appeared to assist in the rise of obesity and overweight, are of women who either possess a genetic tendency to a very lean physique, or who have starved their bodies into that condition. Considerable empirical evidence exists which has demonstrated the links between images presented in the media and the negative body experience of most women (Tiggeman, 2002). In fact, research cited by Tiggeman (Field, Camargo, Taylor, Berkey, Roberts & Colditz, 2001) which involved 12,000 children of nine to fourteen years, demonstrated that media involvement actually preceded the development of weight concerns.

Feminist and Social Constructivist perspectives likewise support this idea of the media manipulation of feminine attitudes towards their own bodies, McKinley (2002, 55-62) hypothesized an *objectified body consciousness* in most women and girls. This hypothetical entity includes *body surveillance* or watching oneself as though one was the observer not the observed, *internalization of cultural body standards* and a belief that if enough effort is invested in the attempt, women can achieve the standards set by society in relation to body shape and weight. This latter she termed *appearance control beliefs*.

Her research has indicated that the greater the internalization of the culturally expected standards regarding the unattainable thin body, the higher the shame and body surveillance, and the lower the body satisfaction, psychological well-being and desire to eat in a healthy manner. Higher appearance control beliefs have been correlated with increased frequency of dietary restriction and other eating problems.

Body type, then, is predominantly genetically determined, and the cultural ideal is antithetical to positive body image. Much literature has been devoted to the effects of the media, strongly influenced by commercial interests selling “beauty aids” for women, on this promotion of an impossible ideal of feminine beauty (Cooke, 1994; Tebbel, 2000; Thone, 1997). Likewise, research has increasingly identified this internalisation of social standards of attractiveness as one of the major risk factors for body image disturbance and for eating pathology (Thompson & Stice, 2001). Such pressure is internalized by most women and men to some degree, so that family and peer pressure, as well as media pressure is brought to bear on girls, particularly, from very early childhood. Because body awareness is an integral part of a person's developing sense of self, body esteem is usually fairly highly correlated with general self esteem (Smolak, 2002). As previously noted, children as young as six years of age often express dissatisfaction with weight and shape, so it would seem that self-esteem will also be negatively affected from an early age. Low self-esteem can lead to social anxiety and a tendency to compare self with others, and such social anxiety and social comparison have also been linked with poorer body esteem (Smolak, 2002).

Psychodynamic theories have hypothesized developmental disruptions as contributing to poor body image. Krueger (2002), has suggested three different types of pathological parent-child interactions, two of which may lead to problems ranging from poor sense of self to the absence of a coherent, accurate and organized body image. Over intrusiveness may lead to developmental arrest, typical of anorexia. Impulsive or addictive behaviours, typical of bulimia, may result from empathic unavailability and non-responsiveness from parents. The interaction of such persons with the dominant cultural ethic regarding

appearance must surely lead to psychological stresses around body image, in addition to the hypothesized unconscious reactions to inadequacies in the parent-child relationship.

From several theoretical standpoints, therefore, it would seem that interaction with the dominant cultural ideals, particularly regarding feminine beauty and acceptability may well be a very crucial factor in the development of negative body image and consequent self-defeating eating.

Research seems to support such a contention (Paxton, 2002). Tiggeman's (2002) assertion that most females are exposed to enormous numbers of idealized images of thinness or beauty, but that most do not develop extreme preoccupation with weight or any form of clinically diagnosable eating disorder, is of interest in this regard. She postulated "appearance schematicity" in the minority of individuals who are most susceptible to these idealized media images. This refers to cognitive structures that organize the processing of information of relevance to the self with regard to weight, shape and size in comparison to others. For such people, appearance is integral to self-concept, and changes in such ideas about self are probably a key component in any attempt to assist those with dysfunctional eating behaviour. Investigation of possible causes of their susceptibility to these idealized models is central to the current inquiry.

### **Implications of the Cognitive Behavioural Model for Treatment**

In addressing the issues around self-defeating eating, clinicians who subscribe to the cognitive behavioural perspective have taken much that is useful from therapeutic strategies which owe their genesis to other theoretical approaches. However, central to their treatment are techniques which help to identify and to change thoughts which contribute to the continuation of the non-healthy eating. These thoughts may concern appearance and weight, as well as those related to food, such as deciding that certain foods are intrinsically "good" or "bad". Additionally, reinforcement schedules are used to change eating and activity patterns so that a more balanced diet is implemented. In

effect, a major cognitive restructuring around what is desirable and undesirable in relation to body weight, health and food is attempted.

Changes in a positive direction in body image appear to be correlated with more successful outcomes with self-defeating eaters (Foster & Matz, 2002; Rosen, Orosan & Reiter, 1995). Therefore, the strategies used to achieve such outcomes are of major interest. Cash and Strachan (2002) reported the major components of Body Image change as involving:

- psychoeducation around body image problems,
- assessment of key facets of body image,
- investigation of the historical and developmental attitudinal factors,
- mastery of relaxation, breathing techniques, mental imagery and positive self-talk to manage emotional responses to negative body imagery so that desensitization exercises can be helpful
- identification of daily dysfunctional appearance assumptions so they can be questioned and refuted
- identification of cognitive distortions in Private Body Talk
- ability to learn specific behavioural strategies for altering avoidant behaviours related to body image
- use of body image affirmations to develop a positive relationship with one's body as well as using activities that provide physical pleasure and bodily mastery
- acknowledgement of change as assessed by body image assessments.

A combination of cognitive restructuring, education about body image, weight and shape, use of imagery for desensitization and future-paced behaviour changes, and proof that the changes have really happened, are the basics of this approach. However it is difficult to isolate the specifics relevant to such interventions which are the keys to success.

### **Factors contributing to the relative success of CBT for Self-defeating Eating**

Despite the fact that Cognitive Behavioural interventions appear to have research support in terms of their success with self-defeating eaters, there is a lot of clinical and anecdotal evidence that interventions based on other premises can also be successful. For example, experiential therapies (Rice, Hardenbergh & Hornyak, 1989; Hornyak, 2000) and techniques which employ imagery (Hirshmann & Hunter, 1995; Hutchinson, 1985) have been quite extensively used in working with those whose diets are unbalanced, especially in relation to making positive changes in Body Image. Dance, music, art, drama, creative visualization and imagery are all components of these approaches, many of which are based on the Psychodynamic premise that the genesis of poor (or good) body image often resides in childhood when verbal and conceptual proficiency was minimal. Feelings and the primacy of visual images mark these developmental stages in children, and verbal therapies are unable to tap the unconscious wellsprings of women's painful experiences around their bodies, according to this viewpoint. For example, Hutchinson (1985) found that women with poor body images who completed her Transforming Body Image workshops, had significantly improved their attitudes to their bodies and their overall self-image at the end of the seven week course, as well as at a six month follow-up. This course was based on exercises using imagination.

Therapies that have been advocated as successful, both in the research literature and in anecdotal reports, have employed imagery of various kinds to assist in the successful outcomes (for example, Cash, 1997). Unfortunately, while the efficacy of treatment research is fairly limited, studies that pinpoint exactly which are the useful strategies employed in helping self-defeating eaters are virtually non-existent. Therefore it is difficult to identify what mechanisms might be responsible for improvement in either body image or in dietary practices. However, recent research into the benefits of the use of hypnosis with self-defeating eaters might provide some insights into the dilemma.

## **Hypnotic strategies: Contributory to Cognitive Behavioural Therapy**

### **Hypnosis: Useful adjunct to CBT**

Hornyak's (2000) account of procedures that she has found clinically useful with Anorexics and Bulimics, included brief outlines of her use of hypnosis to augment CBT strategies, as well as the use of imagery and relaxation. Clinical claims that hypnosis has been useful in such therapy have been made since Janet's work with Anorexics at the turn of the nineteenth century. Throughout the twentieth century, well-known clinicians such as Herbert and David Spiegel, Michael Yapko, Steven Lynn, Judith Rhue, Lynn Hornyak, Moshe Torem, Michael Nash, Ellen Baker and Johan Vanderlinden, have all testified to the usefulness of hypnotic strategies with all types of self-defeating eaters. There is some clinical research that provides support for their stance (Barabasz & Spiegel, 1989; Nash & Baker, 1993) as well as reports that behaviour therapy effects may be enhanced by the addition of hypnosis (Bolocofsky, Spinler & Coulthard-Morris, 1985).

Hypnosis is not a therapy, but an adjunct to other types of therapies, for example, the previously mentioned Cognitive Behaviour Therapy. Hypnotic phenomena such as hallucination, ideodynamic changes, time distortion, age regression, and amnesia, can be strategically used to facilitate therapeutic input from very different theoretical approaches. There is some evidence that treatments aimed at every manifestation of self-defeating eating may be more effective when hypnosis is added to the treatment protocol. Weight management programs for those with significant problems from overweight or obesity, have successfully used hypnotic strategies. Likewise, those suffering from binge eating, bulimic or anorexic dietary problems, have found hypnotic techniques beneficial.

### **Hypnosis and Weight Management**

Mott and Roberts (1979), Wadden and Anderton (1982), Cochrane (1992), Levitt (1993), Vanderlinden and Vandereycken (1994), and Coman and Evans (1995) have all reviewed the literature which has examined the effects of hypnosis on treatment of overeating and

obesity. Kirsch, Montgomery and Sapirstein (1995), Allison and Faith (1996) and Kirsch (1996) meta-analysed and re-meta-analyzed recent relevant research. Many of these authors have recommended changes which would give more scientific credence to the research, such as better definitions of obesity; more specific detail of what constitutes a successful outcome; more rigorous methodology; greater detail of treatment strategies; follow-up evaluation; screening for psychopathology; and better delineation of subject variables. However, clinical reports have continued to maintain its utility.

Case reports and treatment guidelines have formed a substantial part of the literature (Aja, 1977; Bellanti, 1997; Channon, 1980; Cochrane, 1987; Collins, Jupp & Krass, 1981; Crasilneck & Hall, 1985; Davis & Dawson, 1980; Hanley, 1967, cited in Levitt, 1993; Hartmann, 1969; Hershmann, 1955; Inglis, 1997; Jupp, Collins, McCabe & Walker, 1986; Kroger & Fezler, 1976; Mann, 1950, cited in Levitt, 1993; O, Connell, 1990; Pratt, Wood & Allman, 1988; Rossi, 1996; Shum, 1993; Stanton, 1975, 1976, 1989; Walker, Collins & Krass, 1981). Recommended usage has included self-hypnosis, imagery and reframing, for example, eating like a gourmet (Wollman, 1962) and likening fat to a cancer (Brodie, 1964). Treatment duration has ranged from six weeks to several months. Weight losses of one and a half to three pounds (per week) in the early reports reduced to more realistic weight losses (1-1½ pounds) during the last two decades of the last century. Female adults comprised the subjects in most reports, one exception being the description of hypnotic work with adolescents by Haber, Nitkin and Shenker (1979) who catalogued negative sequelae of hypnosis with these young people.

Typical of these approaches is the work of Spiegel and Spiegel (1978), who described their brief work. They recommended short interventions of one or two sessions if the individual concerned was less than 15% overweight, while those who were more overweight needed longer therapeutic input. Their treatment involved reframing overeating as a poison which affected one's body, and connoted eating sensibly as a means of respecting and protecting the body. They routinely used the Hypnotic Induction Profile (HIP) to assess hypnotizability and adopted their strategies to the Apollonian (low), Odyssean (medium) and Dionysian (high) response styles identified by the HIP in

their patients. According to the Spiegels, the Apollonians responded best to an exploratory and confrontative style, emphasizing cognitive aspects of the situation. Dionysians, on the other hand, were prone to spontaneous trance and comfortable with logical incongruity. They responded best to guidance, persuasion and emotional therapy. The Odyssean fluctuated between these two extremes.

Indicative of more recent research conclusions, Vanderlinden and Vandereycken (1994) described *the (limited) possibilities of hypnotherapy in the treatment of obesity*. These authors recommended a multidimensional approach which included relaxation training, increase of self control and physical exercise, promoting changes in self-esteem and body image, and generally exploring motivational issues, including any ambivalence each person may have about the enormous changes required to effectively lose weight and maintain the loss. They emphasized the provision of intensive aftercare as the cornerstone of long-term efficacy in the treatment of obesity.

On the whole, anecdotal sources have supported the (limited) benefits of hypnosis in weight management therapy. However details of hypnotic strategies, though clinically relevant, are lacking. Research reports have generally supported the likelihood that the clinical successes have some basis in fact, although specificity of hypnotic techniques has still been difficult to identify.

In a number of research reports it has been concluded that hypnosis plus behavioural strategies were significantly more likely to result in greater weight loss than was a behavioural program on its own. Bornstein and Devine (1980), using a control group, found that behaviour modification plus hypnosis resulted in more weight loss than did behaviour modification alone, and that both conditions resulted in significantly more weight losses than in a control group. Davis and Dawson (1980) found modest but significant loss with hypnosis plus behaviour modification, as did Channon (1980).

Goldstein (1981) found that subjects exposed to hypnosis plus behaviour modification, and who were given proof of their hypnotic trance state (an arm levitation), lost

significantly more weight than did a group which received the same treatment without reinforcement of their hypnotic state. They also lost more weight than a group treated with behaviour modification alone.

Wadden and Flaxman (1981) likewise found behaviour modification with hypnosis was more effective than behaviour therapy on its own. Their group of subjects, who were overweight by ten percent or more, scored an average 9.05 on the Stanford Hypnotic Susceptibility Scale:Form A (high medium range). Similar findings resulted from the research of Bolocofsky, Spinler and Coulthard-Morris (1985). Their subjects ( $n = 109$ ) were randomly assigned to behaviour management or behaviour management plus hypnosis, over nine weekly sessions. The same behavioural components were used with both groups, including weight diary, stimulus control, programmed relaxation, and reinforcement for following the program. Hypnosis included individualized suggestions and daily self-hypnosis prior to meals. At the end of the program both groups had lost nine pounds. However, at follow-up (at eight months, and then at two years) the hypnosis group had continued to lose weight. Jupp, Collins, McCabe and Walker (1986) also demonstrated that hypnosis added to behaviour modification was an effective weight loss therapy. Research by Barabasz and Spiegel (1989) likewise supported the proposition that hypnosis plus self-management therapy was more effective than the therapy alone.

Kirsch, Montgomery and Sapirstein (1995), Allison and Faith (1996) and Kirsch (1996) engaged in an interesting battle of meta-analyses which eventually centred around the studies of Bornstein and Devine (1980), Deyoub and Wilkie (1980), Goldstein (1980\1), Wadden and Flaxman (1981), Bolocofsky, Spinler and Coulthard-Morris (1985) and Barabasz and Spiegel (1989). The contention of Kirsch and his colleagues was that results from meta-analyses of eighteen studies (which included the six obesity studies) established that cognitive behavioural therapy, combined with hypnosis, had a significantly better therapeutic outcome than did cognitive behaviour therapy by itself. This significant benefit was especially evident in the long term. Allison and Faith in re-analysis of the data as it applied to weight loss studies, maintained that this effect was

only very small. Kirsch (1996) obtained further data from some authors and corrected computational inaccuracies targeted by Allison and Faith, and concluded that

*Averaged across post-treatment and follow-up assessment periods, the mean weight loss was 6.00 pounds (2.72 kg) without hypnosis and 11.83 pounds (5.37 kg) with hypnosis. The mean effect size of this difference was 0.66 SD. At the last assessment period, the mean weight loss was 6.03 pounds (2.74 kg) without hypnosis and 14.88 pounds (6.75 kg) with hypnosis. The effect size for this difference was 0.98 SD. Correlational analyses indicated that the benefits of hypnosis increased substantially over time ( $r = .74$ ). (p. 517).*

Effectively Kirsch found that the improvement in those who received the hypnotic treatment surpassed that of 78% of clients who received cognitive behavioural therapy alone. While these are impressive results compared with other therapies, it needs to be noted that obesity, as currently defined, involves a BMI of greater than 30. An hypothetical female of average height (1.65 meters) would weigh approximately 81 kilograms (almost 180 pounds ). The loss of 7kg (15 pounds) from such a frame would reduce the weight to 74 kg (165 pounds) which still amounts to considerable overweight (BMI = 27.5).

Evidence indicates that hypnosis contributes significantly to the effectiveness of behaviour management therapy, especially long-term. Claims made in the clinical reports and general literature, that hypnotic techniques are efficacious, have been shown to have substance. However more specificity in hypnotic strategies may further improve outcomes, and careful targeting of body image concerns, may be important components of weight management programs.

Recent weight management literature (for example, Berg, 1999; Ernberger & Kolitsky, 1999; Miller, 1999; Rosen, 1996) has described the type of multi-component program advocated by Vanderlinden and Vandereycken (1995). The focus is not on losing weight per se, but on establishing healthy habits and especially focussing on body image concerns. Aspects targetted by such programs include reframing of negative ideas about

shape, weight and size, as well as refocusing on positive attributes and qualities. Dissatisfaction with one's body appears to be associated with weight regain following initial weight loss. Discussion has focussed on the issues of who should lose weight, the optimum amount any individual should lose, how best to do this and the most effective methods of maintaining such loss. However, the hypnosis literature has not explored this area to date.

Body image concerns must be of paramount importance to many overweight people given the fat-is-bad-thin-is-good message purveyed by Western culture, the association of "fat" with weakness of will, and the teasing and social ostracism that is the lot of many overweight individuals. Such negative messages may well be internalized in a self-hypnotic self-reproach and self-denigration that may be the key to therapeutic interventions that can improve the quality of life of the chronically overeating, overweight individual. Eating may be an escape-avoidant coping mechanism or "comforter", as well as the source of guilt, anxiety and depression. That hypnosis, added to cognitive and behavioural strategies, can significantly increase the amount of weight lost augurs well for its application to body image, self-care and self-esteem concerns. The specificity of the strategies used, however, may be of vital importance to therapeutic effectiveness.

### **Hypnosis and Eating Disorders: Anorexia**

Case studies and recommendations for treatment have been the major source of information in relation to the efficacy of the use of hypnosis with Anorexia (Baker & Nash, 1987; Brenman & Gill, 1947; Davies, 1961, as cited in Crasilneck & Hall, 1985; Kroger, 1970; Thakur, 1980; Torem, 1986, 1987, 1990; Vanderlinden & Vandereycken, 1988). Self-hypnosis and hypno-analysis, (Crasilneck & Hall, 1975) as well as behaviour management and recall of past hunger, (Kroger & Fezler, 1976) have been advocated.

Spiegel and Spiegel (1978) recommended their reframing technique, which suggested to the patient that one's body was essential to life, and that it should receive the care

commensurate with its importance to continued existence. Their recommendations for successful therapy involved exploring alternative choices with the Anorexic, and then ensuring that the person felt powerful enough to act on her own wishes. They believed that persuasive rather than rational explanations were far more effective with this patient population. Developing awareness of, and expertise in, using the capacity for dissociation was also encouraged in the service of long-term goals, rather than in the short-term ability to maintain self-starvation. Clarification of core values was used to assist in making important decisions and judgments. Awareness of the ability to take metaphorical admonitions literally was carefully exploited, and supportive guidance was advocated as the best therapeutic approach.

Kaffman (1981) believed that the incessant repetition of disturbing mono-ideistic thoughts was the major symptom of the disorder. He therefore recommended the centrality to treatment of hypnosis, including bodily relaxation, ensuring the reduction of sensory input, and the administration of single, monotonous and repetitive ego-syntonic suggestions encouraging behavioural change.

Gross (1983) claimed 80% success (defined as no relapse in 18 months) with fifty cases of adolescent (15-20 year old) anorexic females. On the theorized basis that the anorexic tends to separate feelings from thoughts, hypnotic procedures were tailored to the individual. Six core symptoms – hyperactivity, defects in interoceptive awareness; family enmeshment; self esteem and assertion issues; repressed traumatic events; and resistance to therapy – were addressed around the major concept of hypnosis as a means to control (as opposed to gaining) weight.

Yapko (1986) outlined his intervention approach for cases where direct suggestions are ineffective. He identified the four dynamics most commonly associated with anorexia – family enmeshment, delay of maturity, poor self-esteem and distorted body image – and described various indirect suggestions or metaphors, paradoxical prescriptions and cognitive reframing which he utilized in each of the four specified areas.

Lynn, Rhue, Kvaal and Mare (1993) offered guidelines based on their treatment program which was of six to nine months' duration. They believed that the main issues included autonomy, identity and interpersonal conflict, and that many feelings and thoughts were split off from awareness. Hypnosis was presented as a means of self-control which allowed development of the ability for relaxation, encouragement to view conflict from different perspectives, visualization of different and successful outcomes, and the reeducation of awareness of sensory cues through age regression.

Hornyak (1996) outlined some of the general principles and methodology of treatment of anorexia using the case of a 22-year old female, who at a three-year follow-up was leading a successful, relatively symptom free life. The therapy included working with what was identified as the frustrated and defeated part, as well as establishing mastery and control of tension states, successfully identifying affective conditions and managing symptoms. Autonomy and separation concerns were also addressed. Rushford (1997) provided a brief coverage of the treatment modalities used in working with anorexics, emphasizing the multi-faceted nature of the condition, the importance of a strong therapist-client bond and the pre-eminence of cognitive behavioural and brief psychodynamic therapies in working with this population of problem eaters.

### **Hypnosis and Eating Disorders: Bulimia**

Studies investigating the efficacy of hypnosis in assisting Bulimics, have been executed by Griffiths and colleagues in New South Wales. Using a Hypnobehavioural treatment manual, developed by Griffiths (1995), this approach was compared with regular Cognitive Behaviour Therapy (CBT) and was found to be comparable to, but with no apparent advantage over, such Cognitive Behaviour Therapy (Griffiths, Channon-Little & Hadzi-Pavlovic, 1995; Griffiths, Hadzi-Pavlovic & Channon-Little, 1994; Griffiths, Hadzi-Pavlovic & Channon-Little, 1996). The general findings suggest that hypnosis usually heightens the benefits of CBT (Kirsch, 1990, pp48-50). Based on figures published by Smith, Glass and Miller (1980, cited in Kirsch, 1990), Kirsch placed the effect size of hypnotherapy (1.82) as greater than that of cognitive therapy (1.58) and behaviour therapy (1.02). In the light of such claims it would seem that the findings

reported by Griffiths and her co-researchers need replication to establish their credibility. Likewise anecdotal reports of success using hypnosis with this population of self-defeating eaters must be considered. One possible explanation is that clinicians, unconstrained by research requirements involving the rigor of following a manual, may allow for intuitive adjustment of hypnotic suggestions to the hypnotic capacities of clients or patients.

### **Context for the Current Study: Summary**

From the literature surveyed, it appears that hypnosis may have marked benefits, especially when used in conjunction with Cognitive Behavioural Therapy, for helping such self-defeating eaters. Likewise, strategies which employ an individual's imagination appear to be helpful. While this is useful information, understanding the reasons that the benefits of Cognitive Behaviour Therapy can be enhanced by the addition of hypnosis could be even more helpful to clinicians. While the potential for the use of hypnosis in working with self-defeating eaters is tantalizing, the literature surveyed so far has raised many more questions than it has answered. Among those of most importance are questions pertaining to the possible involvement of hypnotic capacities in the aetiology of self-defeating eating. As previously noted, treatment options are usually determined by the theories held by clinicians regarding the possible causes of the conditions. Therefore, the likelihood that hypnotic susceptibility, imaginative ability or dissociative capacity could play some part in the development of self-defeating eating behaviours, is worthy of further investigation. Additionally, hypotheses regarding the nature of the possible connections between dysfunctional eating and such abilities, will contribute considerably to establishing the clinical possibilities in provision of effective treatment.

Self-defeating eating has negative effects on the lives of a large number of Australians. Obesity and overweight is on the rise, affecting twenty-five percent of our children, and between thirty and fifty percent of adults. Although disordered eating blights the lives of a relatively small percentage of the population of this country by comparison, the

majority of sufferers are girls and young women. However, overwhelmingly the feminine members of the Australian public indulge in very poor dietary practices in an effort to attain an unrealistically slim shape that is lauded by the media. Both dietary restriction and over-indulgence in high fat, calorie laden foods with little nutrient value have a large negative impact on the health of at least one half of Australia's citizenry. Treatment options are inadequate, in terms of availability and efficacy. Of those programs currently available, cognitive behavioural techniques have the best empirical record. Basic to this approach is the contention that internalization of the thin ideal, with its consequence of poor body image, is integral to the dietary restriction which appears to be the catalyst for long-term self-defeating eating.

Appearance schematicity seems to mark those who are in the minority of individuals who are most susceptible to the images of the idealized body presented by the media. Those treatments which are useful appear to include the harnessing of dissociative and imaginative capacities in a manner which seems to ensure more control for the self-defeating eater, through reframing and broadening of current perspectives. It therefore seems plausible to argue that some difference in capacities allied to hypnotic susceptibility, may contribute to appearance schematicity, which is central to the dietary restraint that begins the vicious cycle of Self-Defeating eating. This difference may account for the media influence on even very young children which has emerged in the research cited.

## Chapter 2

### **Literature Review: Hypnotic and Related Capacities and Self-defeating Eating**

The extant literature provides some interesting possibilities in relation to causality in the area of self-defeating eating. However, the research is uncoordinated, relies on reports based on research using a wide range of different measurement tests, and has almost nothing to offer in the area of empirically validated treatments, although anecdotal and clinical recommendations abound. Research in the area of hypnotizability, while a little more cohesive, still suffers from similar problems, especially in the area of eating behaviours. This lack of continuity and consistency, and the resultant confusion, becomes apparent when reviewing the literature.

### **Hypnosis and Hypnotic Responding**

Hypnosis still defies consensual definition. Experts, backed by considerable research evidence to support their viewpoints, are unable to reach agreement. This was demonstrated by criticisms of the definition published by the American Psychological Association (for example, see Fellows, 1995). Especially in the minds of the public the state position remains alive and well, encouraged by the media. That is, hypnotic responding is believed by many to be an altered state of consciousness.

Hypnosis has been described as dissociated experience (Hilgard, 1994); dissociated control (Bowers, 1991); an altered state of consciousness (Spiegel & Cardena, 1991); socially induced focussed concentration resultant from positive expectations (Kirsch, 1997); compliance (Wagstaff, 1991) and role-taking (Sarbin, 1997). Research indicates that specific traits or abilities such as imaginative ability/fantasy proneness (Wilson & Barber, 1981, 1983); the tendency to become easily and fully absorbed (Tellegen & Atkinson, 1974); openness to experience (Glisky, Tartaryan, Tobias, Kihlstrom & McConkey, 1991) and dissociative capacity (Butler & Bryant, 1997), may be related to hypnotizability, which is usually defined as the capacity to respond to hypnotic suggestions.

Many researchers acknowledge the multifactorial nature of such hypnotic responding (Sheehan & Robertson, 1996). It involves an intense internal focus with a temporary and controlled suspension of attention to outer reality, allowing for often substantial changes in affect, perception, sensation, cognition, behaviour and memory (Heap, 1999; Spiegel, 1986). Cognitive flexibility in information processing may be the key (Crawford, 1996). This may include the ability to easily attend and disattend to both external and internal stimuli, as well as to effortlessly move from analytic to holistic processing. Crawford argued that highly hypnotisable individuals appear to have more efficient and flexible fronto-limbic attentional-disattentional systems. The frontal lobes may organize intentional action and play a role in the experience of involuntary responding, which is central to hypnosis (Kihlstron, 2000; Oakley & Frasquilho, 1998). This may be one mechanism which contributes to the Anorexic's ability to maintain such rigid control of dietary intake when the food-deprived body is demanding sustenance. However, other aspects of this same talent may also account for the compartmentalized or dissociated state reported by those who binge eat, whether suffering from Bulimia or Binge Eating Disorder.

### **Hypnotic Responsivity or Hypnotizability**

The capacity for hypnotic responding, usually measured using standardised scales, may be an inherent ability for which some individuals possess a greater capacity than do others. The reliability and validity of the scales which are used to measure an individual's capacity for hypnotic responsivity have been well established (e.g. Bongartz, 1985; Pettinati, Horne & Staats, 1985; Piccione, Hilgard & Zimbardo, 1989; Sheehan & McConkey, 1979) and they generally correlate well with each other. Consistency over time (Piccione, Hilgard & Zimbardo, 1989) and the results of neurophysiological research by Crawford (1994) and Crawford and Gruzelier (1992) are interpreted as supporting this trait view of hypnosis, which hypothesises that hypnotizability level is inherent, in much the same way as are other personality characteristics.

However, reliance on a single scale may bias results (Perry, Nadon & Button, 1992). This may be due in part to differences in approach to definition of hypnotic responding which are reflected in the most commonly used scales. The Harvard Group Scale of Hypnotic Susceptibility: Form A (HGSHS:A, Shor & Orne, 1962), the so-called gold standard Stanford Hypnotic Susceptibility Scale, Form C (SHSS:C, Weitzenhoffer & Hilgard, 1962), the Stanford Clinical Scales (Morgan & Hilgard, 1975) and the Hypnotic Induction Profile (Spiegel & Spiegel, 1978) reflect a “state” approach. Their underlying premise is that hypnosis is an altered state of consciousness, as opposed to the hypothesis underlying such scales as the Carlton University Responsiveness to Suggestion Scale (CURSS, Spanos, Radtke, Hodgins, Stam & Bertrand, 1983), the Creative Imagination Scale (CIS, Wilson & Barber, 1978) and the Barber Suggestibility Scale (BSS, Barber, 1965). These scales are shaped by the socio-cognitive viewpoint which generally defines hypnotizability as a normal, everyday or mundane phenomenon, which depends on the ability to imagine in a realistic way. Often the latter scales are administered without an induction, and the claim is that hypnotizability is the difference between the ability to respond without such an induction and the scores one receives on the test when the responses follow an induction. Hypnotic and “waking” suggestibility have been reported to be highly correlated (Hilgard, 1965), an induction usually raising scores on hypnotic suggestibility scales by 1 or 1.5 items. However, it is important to note that a small minority of subjects, who view hypnosis as a way of being controlled by another, may actually demonstrate a reduction in scores (Braffman & Kirsch, 1999).

Orne (1977, cited in Pekala & Forbes, 1997) cautioned that standardized instruments measure the hypnotic process only as much as behaviour reflects subjective experience. The clinician must be mindful of Sutcliffe’s (1961) description of hypnotic phenomena as alterations in a person’s belief about himself, as well as about the world, which are compelling to the individual. Pekala, Kumar and Marcano (1995), while viewing hypnotic responding as an altered state of consciousness, have suggested that different individuals may be enacting hypnotic suggestions via quantitatively different mechanisms that may have important clinical applications.

Recent publications by T. X. Barber (1999a, b, c, 2000) of a typology of high hypnotizables, which he defined as those passing at least 83% of suggestions on standardized hypnotizability scales, identified three possible paths to excellent hypnotic responsiveness. He has suggested that fantasy prone, amnesia prone and positively-set subjects may all qualify as highly hypnotizable subjects. Pekala, working with his Phenomenology of Consciousness Inventory, has produced some support for this possibility (Forbes & Pekala, 1996; Pekala, 1991; Pekala & Forbes, 1997). Research by Barrett (1990, 1996) found similar types. If such is the case, then the caution proffered by these researchers that combining different types of hypnotic responders will probably produce specious results, is a caveat that needs to be remembered when conducting research in this area.

Barber, in presenting his typology, noted the kinds of suggestions and approaches which would produce the best results for each type. He believed that for the amnesia-prone subject, inductions should be formal and lengthy for best results, and that the hypnotist is regarded by them as powerful in making the suggestions occur. They appear to be talented at amnesia, time distortion, psychomotor changes and posthypnotic suggestions, and react well to suggestions to block memories, pain, vision, audition and other sensations. For the fantasy-prone, imagination of a relaxing situation can rapidly take them to an hypnotic space, in which age regression and progression are particular talents. They react especially well to guided imagery and the kinds of suggestions used in the Creative Imagination Scale. The relationship with the hypnotist is the secret to successful responses from the positively-set subject, who is encouraged to think along with the suggestions and actively use cognitive strategies to achieve suggested states.

The implications of this typology for research results may be deduced from this brief coverage, and from the summary table below. For example, should there be a preponderance of Fantasy Prone subjects in the research project, then reliance on suggestions that emphasised amnesia, time distortion or psychomotor retardation would be less successful than if the majority of subjects were amnesia-prone. Likewise, if therapeutic suggestions were heavily loaded on age regression or progression, or guided

imagery, then it is possible that Amnesia prone respondents would not benefit as much as the Fantasy prone.

Table 2. Summary of T. X. Barber's typology of hypnotic responding.

<b>Hypnotic Phenomena</b>	<b>Amnesia-prone</b>	<b>Fantasy-prone</b>	<b>Positively-set</b>
Induction	Formal lengthy relaxation style	Move quickly to hypnotic space – may imagine a relaxing situation	Respond best if correct response modeled
Most favoured hypnotic phenomena	Amnesia, time distortion, psychomotor changes, posthypnotic suggestion	Age regression or progression	Guidance allows best results in all suggestions
General	Hypnotist regarded as powerful, react well to suggestions blocking out memories, pain, vision audition and other sensations	In touch with own power and generate fantasy as suggested, react well to guided imagery and creative imagination scale style suggestions	Relationship with hypnotist key to successful responding, suggestions framed as thinking along with and actively using cognitive strategies to achieve suggested states

Some workers in the field (for example, Diamond, 1999) have viewed this typology as a synthesis of the trait and socio-cognitive positions, in that the positively-set subject responds in ways that reflect the latter position, while the Amnesia-prone and Fantasy-prone hypothetically have a natural talent developed as a result of childhood experience. However, it does not appear to throw any further light on the issue of whether hypnotic responding is the result of an altered state of consciousness or is simply a mundane response to suggestion. For the purposes of the argument herein developed, the idea of hypnosis as a trait is the more relevant concept, especially in regard to capacities for dissociation and fantasy, which probably contribute to hypnotic susceptibility. However, it does raise some very interesting questions regarding the possibilities that different types of hypnotic responding may have implications for the development of disparate

reactions to such concerns with weight and shape as appear to underlie self-defeating eating.

### **Hypnotizability: Links with Imagination and Dissociation**

Hypnotizability, as measured by the previously listed scales, has been found to correlate to varying degrees with both imaginative ability and dissociative capacity. For example, Lynn and Rhue (1991) noted a modest correlation of about .25 between fantasy proneness and hypnotisability in reviewing five studies. Correlations between imagination and dissociation scores ranging from .43-.63 have been reported. (Rhue, Lynn & Sandberg, 1995). Although research has suggested that the relationship between dissociation and hypnotizability does not generally appear to be very robust (Vanderlinden, Spinhoven, Vandereycken & Van Dyck, 1995; Whalen & Nash, 1996) it is usually placed in the order of 2-4% shared variance. However, if Barber's typology has any credence, then these relatively low correlations may be explained by the fact that only a small proportion of highly hypnotizable individuals are amnesia prone and are capable of manifesting the classic dissociative reactions to hypnotic suggestions. Those who are fantasy-prone tend to respond better to suggestions that do not involve dissociative abilities. Their particular talents appear to be invoked by suggestions to age regress or progress as well as in responding to guided imagery suggestions.

Results of such correlational studies are also difficult to interpret because of the wide array of measures used to assess not just hypnotizability, but also imaginative ability or fantasy proneness and dissociative capacity. There is evidence that each of the dissociation scales, for example, measure somewhat different, although related, constructs (Fischer & Elnitsky, 1990; Frischholz, Braun, Sachs, Schwartz, Lewis, Shaeffer, Westergaard & Pasquotto, 1991; Gleaves, Eberenz, Warner & Fine, 1995; Ray & Faith, 1995). Likewise, there is some support for the idea that various measures of imaginative or fantasy ability are linked (Lynn & Neufeld, 1996, Lynn & Sivec, 1992). For example, fantasy proneness correlated .48 with the Positive Constructive Daydreaming style of the Short Imaginal Processes Inventory (Lynn & Sivec, 1992). While there is significant overlap in the constructs being measured, there are obviously

other factors which need to be taken into account when using any of the different measures of fantasy proneness.

Hypnotizability scales do not necessarily measure exactly the same factors, either. McConkey, Sheehan and White (1979) and Laidlaw and Large (1997), for example, found that there was little relationship between the HGSHS:A (Shor & Orne, 1962) and the CIS. Whereas findings of Hilgard, Sheehan, Monteiro and Macdonald (1981) and Sapp and Evanow (1998) found similar factorial structure in both scales. As Sheehan & Robertson (1996) suggested, the relationship between imagery and hypnosis may be a very complex one which could be affected by the measures of imagery used.

While hypnotizability level might, according to some reports, have an effect on therapeutic outcomes, for example in working with pain, there are those who hold the view that this is not the case (for example, J. Barber, 1996). However, the experience of pain may be somewhat different to situations where hypnotisability and its correlates may be involved in the aetiology of the condition as is herein proposed in relation to self-defeating eating. Again, should Barber's typology have merit, further investigation may be needed in this area to establish the precise nature of these relationships.

Any conclusions generated by a review of relevant literature must be cognizant of the difficulties inherent in defining hypnosis, and of those associated with reliable measurement of responsivity to same, as well as of the sometimes tenuous links found between hypnotic susceptibility, dissociative capacity and fantasy proneness. However, there do appear to be links between these entities and concerns regarding weight and shape, and self-defeating eating behaviours, as the ensuing literature review seeks to demonstrate .

### **Hypnotizability and its Correlates: Evidence for Links with Self-defeating Eating**

Evidence that links self-defeating eating with hypnotizability and its correlates, dissociative capacity and fantasy-proneness, can be sought in both the literature that pertains to the use of hypnosis in therapy with self-defeating eaters, as well as in the

research that establishes links between these same capacities, weight and body shape concerns and dietary restraint. Therapeutic outcomes in which hypnotizability levels are linked with more effective therapeutic outcomes are also of importance.

### **Links with Self-defeating Overeating**

Little emphasis is placed on the links between hypnotic susceptibility and therapeutic efficacy in the clinical and anecdotal literature. One exception is the account by Spiegel and Spiegel (1978) of their brief work (1-2 sessions if a person was less than 15% overweight, and more sessions for those whose weight was higher). Their treatment involved reframing overeating as a poison which affected one's body and eating sensibly as a means of respecting and protecting the only body one would tenant in this life. Their accounts suggested that overweight people register scores of many different levels on their Hypnotic Induction Profile.

But there is some evidence that overweight could be related to level of hypnotic susceptibility, although the relevant literature is relatively meager, and is summarized in Table 3.

Table 3. Major research examining relationship of overweight/obesity to hypnotic susceptibility and its correlates

<b>Date</b>	<b>Researchers</b>	<b>Assessment</b>	<b>Result</b>
1976	Thorne, Rasmus and Fisher	HGSHS:A	Overweight women have higher susceptibility scores
1978	Deyoub	BSS	No relationship between susceptibility and obesity
1985	Andersen	SHSS:A	Percentage overweight related to hypnotizability
1990	Groth-Marnat & Schumacher	HGSHS:A	Concerns with weight and eating behaviour may be correlated with hypnotic susceptibility in females
1997	Grave, Oliosi, Todisco & Vanderlinden	DIS-Q	Obese with BED score higher on dissociative scale than obese without BED

Thorne, Rasmus and Fisher (1976) were the first to report an obese group of patients as having a higher mean score (9.17) on the HGSHS:A (Shor & Orne, 1962), but noted that their earlier studies had produced significantly lower scores for the same types of subjects. Deyoub (1978) tested the hypothesis that degree of suggestibility might

increase with degree of overweight. He found that in his seventy-three subjects the Barber Suggestibility Scale (Barber & Glass, 1962) did not establish any relationship between obesity and overweight, nor of degree of overweight.

Andersen (1985) using the Stanford Hypnotic Susceptibility Scale: Form A (Weitzenhoffer & Hilgard, 1959), found that the percentage overweight was related to susceptibility scores on that scale ( $r = .56, p < .001$ ). Using the HGSHS:A (Shor & Orne, 1962), Groth-Marnat and Schumacher (1990), working with a student population, concluded that concerns with weight and eating behaviours may be correlated with hypnotic susceptibility in females. Higher dissociation scores (Dissociation Questionnaire, Vanderlinden, Van Dyck, Vandereycken, Vertommen & Verkes, 1993; Vanderlinden, Van Dyck, Vertommen & Vandereycken, 1992) were gained by obese subjects with binge eating disorder than those who were simply obese (Grave, Oliosi, Todisco & Vanderlinden, 1997).

The findings, summarized in Table 3, are equivocal regarding the relationship between hypnotic susceptibility and excess weight, however significant correlations were found with those scales which reflected the state theory of hypnosis, and not with the socio-cognitive scales. Concerns with eating behaviour may be correlated with hypnotic susceptibility in females. Further investigation using different scales is needed. There may be an association between dissociative capacity and bingeing in the overweight, but replication with other dissociation scales is required.

### **Recent Evidence: Specificity of Hypnosis improves Weight Management**

It seems reasonable to hypothesize that those who are more susceptible to hypnotic suggestions might find therapy which employs hypnosis more effective than therapy which does not use hypnosis adjunctively. Once again, consultation with the research literature raises more questions than are answered, as can be seen in Table 4.

Table 4. Major weight loss research examining correlation between weight loss and hypnotic susceptibility.

Date	Researcher	Assessment	Results
1975	Miller	HGSHS:A	No relationship between weight loss and susceptibility
1978	Cohen & Alpert	SHSS:A	Depth of trance not correlated with therapeutic outcome or amount of weight lost
1978	Spiegel & de Betz (as cited in Vanderlinden & Vandereycken, 1994)		No relationship between weight loss and hypnotizability
1978	Deyoub	BSS	No relationship between weight loss and hypnotizability
1979	Deyoub	HGSHS:A	Insignificant relationship between weight loss and hypnotic susceptibility
1980	Bornstein & Devine	HGSHS:A	No significant relationship between weight loss and hypnotic susceptibility
1982	Wadden & Flaxman		Weight loss unrelated to hypnotic susceptibility
1985	Andersen	SHSS:A	Correlation between hypnotizability and weight loss
1985	Touyz & Beumont	HGSHS:A	No correlation between hypnotic susceptibility and weight loss: when trance ratified, more weight lost
1986	Cochrane & Friesen	BSS	Trend towards greater weight loss with higher susceptibility scores
1989	Barabasz & Spiegel	SHSS:C	Significant relationship between weight loss and hypnotic susceptibility

Miller (1975, as cited in Levitt, 1993) measuring hypnotic ability with the HGSHS:A (Shor & Orne, 1962) reported no correlation between weight loss and hypnotic susceptibility in this study ( $n = 30$ ). Cohen and Alport (1976), using scores of fifteen subjects on the Stanford Hypnotic Susceptibility Scale:Form A (Weitzenhoffer & Hilgard, 1959) found no relationship between weight loss and hypnosis. Nor did they find that reported depth of hypnotic trance significantly correlated with weight lost measured either as percentage of body weight or in total poundage.

Deyoub (1979) used the results of 20 obese women tested with the HGSHS:A, and found a trend ( $p = .07$ ) for a relationship between weight loss and hypnotic susceptibility. His results were based on weight lost over eight group sessions, and no follow-up was

pursued. In more recent research (Bolocofsky, Spinler and Coulthard-Morris, 1985; Kirsch, 1996) it has been suggested that the benefits of hypnosis are more likely to emerge in the longer term.

A significant relationship between weight loss and hypnotic susceptibility was reported by five of the eight authors published in the 1980's. Deyoub and Wilkie (1980), using the Barber Suggestibility Scale found a significant relationship between hypnotic susceptibility and weight loss. Their female (10%-120% overweight) highly susceptible female subjects lost more weight in a group which employed hypnosis in addition to individualized suggestions for aversion to food, suggestions to attend to internal cues and to increase activity levels to cope with negative feelings and images of self-mastery. Suggestibility was unrelated to weight loss in a non-hypnotic task-motivational group. The significance of the relationship between susceptibility and weight loss was obvious in the objective scores ( $p < .05$ ) as well as in the subjective scores ( $p < .01$ ).

Andersen (1985) with a program that used specifically hypnotic talents such as positive and negative hallucinations, anaesthesia and time distortion found that there was a correspondence between hypnotic susceptibility scores on the SHSS:A and weight loss, and that during the follow-up period the highly susceptible subjects lost more weight than others. These hypnotic techniques were of the type which expedited hypnotic responding for Barber's amnesia-prone. An interesting profile of scores was revealed in this experiment with 33% scoring in the high range, 50% in the medium range, and only 17% obtained low susceptibility scores.

Jupp, Collins, McCabe and Walker (1986) likewise found a significant relationship between weight loss and hypnotic susceptibility as measured by the HGSHS:A, but noted in another paper published the same year (Jupp, Collins & McCabe, 1986) that hypnotic susceptibility did not determine persistence in therapy. This latter investigation also supported the relationship between hypnotizability scores and amount of weight lost. Their published script, while easily adaptable to all response types, may cater more for Barber's amnesia-prone types, using a traditional relaxation and eye closure induction,

and the presentation of mundane scenes for their clients to imagine (Walker, Collins & Krass, 1982).

Barabasz and Spiegel (1989) using the SHSS:C, also supported the hypothesis that there was a significant relationship between weight loss and hypnotic ability. The authors make the point that their cognitive restructuring strategy had been designed to help their subjects to use hypnotic dissociation to separate their desire to eat from their impulse to act on that desire. The Spiegel and Spiegel reframing technique was used with this group. The authors speculated that dissociative processes might be involved in the regulation of eating behaviour.

Bornstein and Devine (1980) found that there was no relationship between weight loss and scores on the HGSHS:A, nor between weight loss and vividness of imagery. Touyz and Beumont (1985), using the HGSHS:A found no correlation between hypnotic susceptibility and weight loss. Nor did Cochrane and Friesen (1986) using the Barber Suggestibility Scale. However, these latter authors noted a trend to greater weight loss with higher scores. The findings of both Halpern (1983, as cited in Crasilneck & Hall, 1985) and Touyz and Beumont (1985) are of interest. In both studies the authors noted that therapy resulted in improvement in, or a more realistic approach to, body image. Unfortunately there is no information about the relationship between hypnotizability scores and such changes, nor are there details regarding the use of techniques which might be regarded as using dissociative or fantasy capacities. Another further finding of interest in the Touyz and Beumont study was that while the weight loss was small, each person reduced every anthropometric measure taken before and after the program. A second study by the same authors in which some subjects were told that they were in a good trance allowed the subjects given such feedback to lose significantly more weight than those for whom no comment was made regarding trance depth.

The use of audio-tapes or daily self-hypnosis appeared to augment effects as in the study by Bolocofsky, Spinler and Coulthard-Morris (1985). Andersen (1985) made self-hypnosis an integral part of the twelve-week follow-up component of the program during

which the highly susceptible lost significantly more than the medium or low scorers. Improved body-image resulted from self-hypnosis (Touyz & Beumont, 1985). Barabasz and Spiegel (1989) used audio-tapes and daily self-hypnosis exercises and found a significant relationship between weight loss and hypnotic susceptibility.

A relationship between weight loss and hypnotic susceptibility, while not emerging in earlier studies, has been found in the more recent studies (see Table 4). This may be the result of the hypnotic strategies used. Anderson (1985) found that the specificity of hypnotic suggestions in her weight control intervention was important. Barabasz and Spiegel (1989) used both a behaviour management plan and a reframing technique which dissociated the desire to eat from the impulse to act on that desire.

### **Links with Eating Disorders: Anorexia**

While the weight loss literature has been a useful resource in regard to the possible relationship between weight and shape concerns, eating behaviour and hypnotic susceptibility, the coverage of issues related to hypnosis in the eating disorders literature relies more on anecdotal accounts than on scientifically based research.

Spiegel and Spiegel (1978) recommended their reframing technique. Identifying (with the Hypnotic Induction Profile) those for whom the affective component, rather than the thought disorder was of primary importance, they utilized techniques identified as particularly applicable to the highly hypnotizable. Their description of such individuals emphasized their tendency to trust, to rely on feelings rather than on logic, their proneness to live in the present and a capacity for intense focal concentration. They maintained that in cases of severe psychological problems, these normal attributes were exaggerated, making the person a victim of her own abilities, rather than controlling them. Thus they become pathologically compliant, preferring decision making by feeling rather than reasoning and not being prepared to think through the consequences of an action. They tended to live in the present, past precedents and future consequences being

ignored. They observed in these patients, an ability for intense concentration which often appeared to induce dissociative episodes.

Their recommendations for successful therapy involved exploring alternatives, exercising choice and using persuasive rather than rational explanations. Developing awareness of, and expertise in, using the capacity for dissociation was encouraged in the service of long-term goals. Clarification of core values was used to assist in making important decisions and judgments. Awareness of the ability to take metaphorical admonitions literally was carefully exploited, and supportive guidance was advocated as the best therapeutic approach. Such descriptions (relating to their Dionysians) are certainly reminiscent of the amnesia-prone individuals of Barber's typology.

Parker (1994) used a technique which incorporated fantasy-prone talents using the anorexic's spontaneous regression to a past life as part of a treatment that involved direct suggestions as well. Georgiou (1995) treated a case of late onset anorexia (with purging) using a multidisciplinary approach with hypnosis as an adjunct to the therapy. This patient scored a four (4) on the SHCS:A (Morgan & Hilgard, 1975), and consolidated her weight at fifty kilograms (compared with a 38 kg presenting weight).

Hornyak (1996) outlined some of the general principles and methodology of treatment of anorexia using the case of a 22-year old female, who at a three-year follow-up was leading a successful, relatively symptom free life. The therapy included working with what was identified as the frustrated and defeated part, which seems to be based on the dissociative capacity of the client.

Torem (1990) reviewed five cases for whom eating symptoms were, in his opinion, a manifestation of Multiple Personality Disorder. He noted the possibility that eating disorders may well assume both an affective and a dissociative form. His assessment technique included the use of ideomotor signalling. A central part of his technique was to address the healthy part and to reframe eating as gaining strength units. Imagery, age progression and regression and metaphorical prescriptions are important in his work. Barber's fantasy-prone types would obviously find this approach appealing.

Working with a bingeing and purging anorectic woman, Calof (1986) described his successful strategy as dissociative hypnosis where he worked through what was defined as *the other Carol*, a technique which might equally appeal to the amnesia or fantasy prone.

Nash and Baker (1993) speculated that issues of denial and dissociation were central to the disorder, in their successful hypnotic treatment of 36 female anorexics. Patients treated with hypnotic procedures had a 76% remission rate compared with 53% for those not involved in hypnotic therapy. They persuaded the patients that hypnosis was a means to greater security and mastery, and suggested that hypnosis had been employed to enhance boundaries physically, psychologically and interpersonally.

Vanderlinden and Vandereycken (1988) referred to pre-1988 research on hypnosis and anorexia as a trial and error phase, in which many findings were basically anecdotal, and the recommendations resultant from such research were basically hypothetical. Small case numbers, lack of meaningful follow-up, vague or unspecified assessment procedures, lack of detail regarding patient characteristics, and paucity of detail about the treatments offered were all identified shortcomings. For example, hypnotic induction procedures were not described, nor was there any indication regarding stage of introduction of hypnosis to treatment. This is an important consideration given the emaciated and hyperactive state of most anorexics in the early stages of treatment, when the use of hypnosis might be ineffective. Despite these early methodological inadequacies, experienced clinicians have repeatedly emphasized the dissociative elements of anorexia, the need for a strong client-therapist bond, and the usefulness of fantasy-prone hypnotic techniques to change body image distortions.

### **Links with eating disorders: Bulimia**

Coman (1997), Griffiths (1997) and Griffiths and Channon-Little (1995), in reviewing the literature, have all recommended the use of hypnosis with bulimics. They have highlighted the dissociative aspects of this condition.

Pettinati, Kogan, Margolis, Shrier and Wade (1989) presented two cases as well as guidelines for treatment, and are representative of the general literature. Their approach combined techniques recommended by Yapko (1986), Baker and Nash (1987), Frankel and Orne (1976) and other earlier writers. The underlying dynamics were exposed to ego enhancing suggestions. Age regression and hypnotic dreams were used. Problematic cognitions and behaviours were addressed, relaxation skills were taught and a healthy body image was reinforced. Bingeing and purging behaviours were reduced, while sensitivity to the physical signs of hunger and satiety was encouraged. Most importantly each patient was taught to recognize involuntary dissociative states. While Pettinati et al (1989) contended that dissociation is not central to the bulimic disorder, bulimic symptoms did signify a capacity for dissociation and learning control of this ability was essential for successful recovery. Their treatment regime, for which they claim success, combined positively-set, fantasy-prone and amnesia-prone techniques.

Vanderlinden and Vandereycken (1990) outlined three phases of therapy used successfully with fifty bulimics. Phase one covered planned eating, as well as eliminating bingeing and vomiting. Next they addressed core issues by communicating with what was defined as the bulimic part which often resolved traumatic past events or conflicts. Ideomotor signals were often used to reveal problems known to the unconscious. The final phases ensured long-term results through future projection.

As with anorexia, the harnessing of the dissociative capacity of the bulimic was regarded as fairly central to therapeutic endeavours in the clinical literature. Hypnotic strategies encompassed all aspects of Barber's typology. Other research has suggested strong links between bulimic behaviour and higher hypnotic susceptibility.

### **Bulimia also appears to have links with Hypnotic Susceptibility.**

The research of Pettinati, Horne and Staats (1985) first scientifically reported the high hypnotizability of the bulimic. Their subjects included twenty-one bulimics, nineteen restricting anorexics, forty-six vomiting/purging anorexics, and twenty-one bulimics. Hypnotizability was measured with the Hypnotic Induction Profile (HIP, Spiegel & Spiegel, 1978), the HGSHS:A (Shor & Orne, 1962) and the SHSS:C (Weitzenhoffer & Hilgard, 1962). On all scales bulimics had the highest hypnotizability scores, followed by bingeing and purging anorectics. Restrictor anorectics' scores were normal (the norm on the SHSS:C is 5.07). Although this pattern of scores was only a trend on the HGSHS:A, on the SHSS:C the difference was significant at  $p < .001$ . Pettinati and her colleagues noted the greater extent of psychopathologic features in bulimic patients including depression and phobic anxiety. As a result of this research they speculated that patients with lower hypnotic capacity might be more advantageously treated with relaxation and ego-strengthening, while those with higher scores might benefit from hypnotherapeutic strategies that draw on cognitive and perceptual abilities.

Barabasz (1991) contributed to the growing research by comparing forty bulimics with the same number of controls using the SHSS:C and the BULIT (Bulimia Test). The mean hypnotizability score for the experimental group (9.25) was significantly higher than that for the controls (7.1), however she found no difference between the groups on the three dissociation items of the SHSS:C ( $B_n = 1.77$ ;  $C = 1.5$ ).

Kranhold, Baumann and Fichter (1992), using the German translation of the HGSHS:A, found higher scores for bulimics than for controls. Vanderlinden, Spinhoven, Vandereycken and Van Dyck (1995) found that eating disordered subjects scored higher on the SHCS:A than did controls. Higher hypnotizability scores were gained by bulimics and mixed anorexics than by restricting anorexics.

Groth-Marnat & Schumaker (1990) examined the hypnotic susceptibility scores of a college population (102 females) to investigate the possibility that non-patient subjects

with high body shape and weight concerns might also be highly hypnotizable. Using the HGSHS:A (Shor & Orne, 1962), the Eating Attitudes Test (Garner & Garfinkel, 1979) and the Goldfarb Fear of Fat Scale, they found that students who were concerned with body shape and weight were more hypnotizable. They hypothesized that hypnotizability may be one of a variety of predisposing factors in the development and maintenance of extreme attitudes towards eating and weight reduction.

Table 5. Major research findings linking hypnotic susceptibility scores with eating disordered

Date	Researcher	Assessment	Results
1985	Pettinati, Horne & Staats	HIP; HGSHS:A; SHSS:C	Hypnotizability Bn>An or Controls: An(p)>An(r)
1989	Griffiths	SHCS	Bn in normal range
1990	Groth-Marnat & Schumaker	HGSHS:A	Hypnotizability high in students preoccupied with body weight & shape, or inordinate fear of eating & gaining weight
1990	Pettinati, Kogan, Evans, Wade, Horne & Staats	HIP; SHSS:C; HGSHS:A	Hypnotizability Bn>An; An = Schizophrenics
1991	Barabasz	SHSS:C	Hypnotizability Bn>controls; dissociation scores same
1992	Kranhold, Baumann & Fichter	HGSHS:A	Hypnotizability Bn>controls; An (b)>An(r)
1993	Griffiths & Channon-Little	HGSHS:A	Hypnotizability Bn> Aust. Population mean
1994	Covino, Jimerson, Wolfe, Franko & Frankel	SHSS:C	Hypnotizability Bn> controls
1994	Griffiths, Ghannon-Little & Hadzi-Pavlovic	HGSHS:A	Bulimic higher level of hypnotizability
1995	Vanderlinden, Spinhoven, Vandereycken & van Dyck	SHCS:A	Hypnotizability Eating Disordered>controls; An (mixed) = Bn>An(r)
1996	Wybraniec & Oakley	CIS	Significant difference between scores of restrained and non-restrained eaters
1997	Frasquilho & Oakley	CIS	Hypnotizability strongly significantly correlated with only the cognitive restraint factors of eating behaviour
1998	Frasquilho & Oakley	CIS	Hypnotizability correlated with dietary restraint, not with impulsive eating or trait body fat anxiety

As the tabulated (Table 5) results suggest, it appears that those who are restrained eaters, concerned with body weight and shape, as well as bingers and bulimics, are higher in measured hypnotic susceptibility. Restricting anorexics score in the average or slightly

higher range. However, given the hyperactive and distractible state of the typical anorexic who has become part of a patient population, the lower scores are hardly surprising. Further investigation into pre-anorexic hypnotizability status would be useful. The need for specificity of hypnotic interventions for effective treatment of eating disorders has again been mooted.

Griffiths has contributed a number of significant studies to the literature (Griffiths, 1995, 1999; Griffiths, Beumont, Russell, Schotte, Thornton, Touyz & Varano, 1999; Griffiths & Channon-Little, 1991, 1996; Griffiths & Farnill, 1996; Griffiths, Touyz, Mitchell & Bacon, 1987). Significant reduction in vomiting and bingeing achieved by 12 bulimics was charted over the eight week treatment phase and for nine months thereafter (Griffiths, 1989). She noted that hypnotizability scores (SHCS:A) were in the normal range and that of an initial thirty people selected for the study, the dropout rate was eleven, seven of whom completed the program but not the follow-up. In 1994 (Griffiths, Channon-Little & Hadzi-Pavlovic) she compared a Hypnobehavioural treatment (HBT, Griffiths, 1995) with CBT ( $n = 53$ ). Whilst hypnotizability scores (HGSHS:A) were higher than the Australian norm (Sheehan & McConkey, 1979) they found no relationship between a good outcome and hypnotizability in either treatment. They noted a greater prevalence of passes on the dissociation items of the HGSHS:A in this group of bulimics.

Such findings, as yet unreplicated, need to be treated with caution. If Barber's typology is a clinically useful one, then specificity of hypnotic strategies may well be the key to accurately assessing therapeutic outcomes. Therefore, some investigation of the current understanding of the relationship between dissociative capacity, imaginative ability, and issues pertaining to shape, weight and dietary concerns, would be helpful.

### **Dissociation linked to Eating Disorders: Especially Bingeing and Bulimia**

From early reports of work by Janet and his brother at the turn of the 19<sup>th</sup> century, it was acknowledged that the eating disordered were difficult to cure. Janet was the first to postulate the dissociative connection in relation to these disorders and to recommend

hypnosis as a means to manipulate the dissociated “*idee fixe*” in order to promote mental synthesis or what might now be termed cognitive restructuring (Vanderlinden & Vandereycken, 1988)

Torem (1986, 1987) elaborated on the role of dissociation in bulimia nervosa. He speculated that there might be some patients with an underlying dissociative pathology which presented first as eating symptomatology. He maintained that patients with dissociative ego states, whom he exemplified by describing two cases, often have histories of abuse. Of the thirty eating disordered patients with whom the first report was concerned, he claimed that twelve displayed dissociated ego states. He also noted that 73% (22 patients) were highly susceptible to hypnosis. He described his therapy as *Ego State Therapy*, in which he sought to reintegrate the dissociated ego-state. Such therapy seems most appropriate for Barber’s amnesia-prone, but could also be successfully presented to the fantasy-prone.

Initial scientific investigation of dissociation and eating disorders was made by Sanders (1986) while developing the Perceptual Alteration Scale. Comparing seventy-four students with forty binge eaters she established the higher scores obtained by the latter on her scale, which she claimed measured modifications in affect, control and cognition. She maintained that dissociation did not cause binge eating, but that it appeared to result from high levels of anxiety. She concluded that dissociation might be a personality trait which interacted with other personality traits.

Comparing scores of thirty eating disordered subjects and thirty controls on two dissociation scales (Dissociative Experiences Scale, DES, Bernstein & Putnam, 1986) and the Dissociation Questionnaire DIS-Q, Vanderlinden, Van Dyck, Vandereycken, Vertommen & Verkes, 1993), Demitrack, Putnam, Brewerton, Brandt and Gold (1990) demonstrated that the anorexics and bulimics who formed their experimental group scored significantly higher than the controls. Torem (1990) found that bulimics and those with partial syndromes had higher dissociation scores than did anorexics. Barabasz (1991) found no difference in the scores of bulimics and non-eating disordered individuals on the dissociation items of the Stanford Hypnotic Susceptibility Scale:Form C.

Vanderlinden and Vandereycken are significant contributors to the literature, especially regarding the relationship between traumatic life events, higher dissociation scores and eating disorders. Vanderlinden, Vandereycken, Van Dyck and Vertommen (1993) examined this relationship with ninety-eight eating disordered patients using the Dissociation Questionnaire (DIS-Q, Vanderlinden, Van Dyck, Vandereycken, Vertommen & Verkes, 1993). They found that those experiencing more (and more serious) trauma scored higher on the DIS-Q particularly on the amnesia sub-scales. The highest scorers were those who had experienced sexual abuse. Their hypothesis was that trauma led to the development of a subgroup of patients with an eating disorder.

A further study (Vanderlinden & Vandereycken, 1997) indicated that sexual abuse was significantly more present in mixed type anorexia (50%), than in bulimics (18%) and restricting anorexics (10%). Physical abuse was more in evidence in patients with bulimia (37%) than in restricting (23%) or mixed type anorectics (21%). Again the sexually abused patients scored significantly higher on a number of measures including the total DIS-Q score and that on the amnesia subscale. This study also confirmed a high presence of borderline symptoms (personality and dissociative disorders) in the sexually abused patients. Vanderlinden, Vandereycken and Probst (1995) again confirmed that in sixty-two eating disordered subjects, those with the highest scores on the DIS-Q (especially on the amnesia subscale) reported childhood trauma. Another interesting finding was that after six months to one year in treatment DIS-Q scores decreased for restricting anorexics and bulimics but remained unchanged for bingeing and purging anorexics.

Vanderlinden, Spinhoven, Vandereycken and Van Dyck (1995) obtained the scores of fifty-three eating disorder patients (including 2 males) on the DIS-Q, the Stanford Hypnotic Clinical Scale: Adult (Morgan & Hilgard, 1978-79), the Dutch Phenomenology of Consciousness Inventory (short form of PCI, Pekala, 1982) and the Dutch Resistance to Hypnosis Scale (DRHS based on RHI, Spanos, Cross & de Groh, 1987) and found that both dissociation and hypnotizability scores were higher for bulimics than for mixed anorexics, who in their turn, scored higher than anorexics. Differences on the Loss of

Control sub-scale were significant. They found a low positive correlation between the DIS-Q and the SHCS:A, suggesting that these instruments are testing related but different capacities.

Schumacher, Warren, Schreiber & Jackson (1994) concluded that anorexia was a monoidesitic disorder when their anorexic ( $n = 26$ ) and bulimic ( $n = 18$ ) subjects attained similar scores on the Riley Questionnaire of Experiences of Dissociation (1988), both of which were higher than the scores of control groups. In 1995, (Schumacher, Warren, Carr, Schreiber & Jackson) further research indicated that there was a relationship between depression, dissociation and eating disorders (anorexia and bulimia).

A further study with college students by Rosen and Petty (1994) demonstrated a strong correlation of two eating inventories (BULIT, Bulimia Test, Smith & Thalen, 1984 and EDI, Eating Disorders Inventory, Garner, Olmstead & Polivy, 1983) but only moderate correlation between two dissociation scales (PAS, Perceptual Alteration Scale, Sanders, 1986 and DES, Dissociative Experiences Scale, Bernstein & Putnam, 1986), which suggested that these scales may be measuring different underlying experiences. The pattern of correlations between the eating scales and the dissociation scales indicated that cognitive distortions were not as important in the relationship with eating disorders as were dissociation of feelings and loss of control.

Covino, Jimerson, Wolfe, Franko and Frankel (1993) raised an interesting question with their small study, in which seventeen bulimics scored higher on both the SHSS:C (Weitzenhoffer & Hilgard, 1962) and the DES (Bernstein & Putnam, 1986) than did the twenty controls. They speculated whether the high dissociation scores could be the result of nutritional and metabolic changes. As well they concluded that there was no relationship between the severity of the symptoms and hypnotizability.

Once again college students ( $N=886$ ) formed the basis of a study by Faith and Ray (1994) who after administration of the DES, the Questionnaire of Experiences of Dissociation (Riley, 1988) and the HGSHS:A (Shor & Orne, 1962), concluded that there was an

orthogonal relationship between hypnotizability and dissociation. Their interpretation of the data posited the possibility of voluntary and involuntary pathways to dissociation.

Valdiserri and Kihlstrom (1995 a, b) produced two interesting studies on large numbers of college students (241 females, and 270 males/386 females) who were tested with a wide range of instruments including the EDI (Eating Disorders Inventory, Garner, Olmstead & Polivy, 1983), M-DES (their own minor modification in language to the Dissociative Experiences Scale), Perceptual Aberration Scale and Magical Ideation Scale (the latter two usually used to identify schizotypal behaviour)). Their conclusion was that the significant correlations between aspects of depression and anxiety when compared with the modest relationships between abnormal eating and dissociation, suggested that the latter was more strongly related to aspects of ego dysfunction than to abnormal eating.

Gleaves and Eberenz (1995), in comparing 125 females who were anorexic, bulimic or combined both sets of symptoms, found no difference in dissociative symptoms (DES). Their interpretation was that dissociation was not related to the core symptomatology of eating disorders.

A comparison of 100 female undergraduates with twenty-six bulimics by Everill, Waller and Macdonald (1995) indicated significant correlations between bingeing (Eating Attitudes Test, EAT, Garner & Garfinkel, 1979) and DES scores, and higher dissociative scores in the bulimic group. The key variable in the link between bingeing and dissociation was absorption. Sexual abuse was associated with greater dissociation and with more frequent bingeing. They proposed a model of abuse-related tension reducing behaviour as the basis for the bingeing behaviour. McManus (1995) found that eighteen bulimics scored higher on all DES scales than did a matched comparison group, that amnesia was related to bingeing behaviour, and that bulimia and oral control (EAT) correlated strongly with depersonalization and derealization.

Favaro and Santonastaso (1995) tested 491 female college students and found no significant difference on DIS-Q scores between groups. Katz and Gleaves (1996) examined fifty-two females, whom they divided into groups which combined eating disorder comorbid with dissociative disorder, as well as eating disordered without comorbidity, and a group of controls. Using the DES, they found that pathological dissociative experiences were common to the dissociative disorder group, but that the dissociative experiences of the eating disorder groups were only related to eating behaviour. Overall their data supported the hypothesis that dissociative phenomena may be related to the psychopathology of eating disorders.

Swirsky and Mitchell (1996) postulated that the binge-purge cycle may be used by survivors of sexual abuse to facilitate dissociation, numb feelings and keep negative affect dissociated, as well as to keep disturbing memories from consciousness. This resulted from their comparison of sexually abused and non-sexually abused bulimics (N=65). The part played by trauma in the severity of reported dissociative experiences and their connection with bulimic symptoms is reinforced by Grave, Rigamonti, Todesco, and Oliosi (1998) in comparing DIS-Q scores of 103 inpatients and 112 high school students (all female). The lowest scores on the dissociative questionnaire scale were achieved by the obese. A further experiment by Santonastaso, Favaro, Olivotto and Friederici (1997) further confirmed that scores on the loss of control scale (DIS-Q) were highest for eating disordered individuals with a history of sexual abuse. Control subjects who reported serious trauma had more frequent amnesia, identity alterations, depersonalization and derealization.

Meyer and Waller (1998), consolidating some of the ideas of the preceding research, concluded that it is not helpful to treat dissociation as a unitary construct when researching the eating disorders. Examining the Eating Disorders Inventory (Garner, Olmstead & Polivy, 1985) and the Dissociative Experiences Scale (Bernstein & Putnam, 1986), as scores related to 249 male and female students, they found women's EDI scores related most strongly to experiences of depersonalization and derealization with absorption possibly playing an indirect role (through poor impulse regulation). Male

experiences of amnesia and imaginative absorption were more strongly associated with EDI scores. They suggested that therapeutic attention to different defensive styles in men and women may be appropriate.

The bulk of the research (summarized in Table 6) points to the possibility of an association between bulimic and bingeing behaviours and some aspects of dissociative experiences. Some links between anorexia and higher dissociation scores (QED and DIS-Q) were found. The presence of bingeing/purging anorexics in the sample may account for this result, or dissociative capacity may be differentially involved in the various disorders.

Table 6: Summary of research investigating the relationships between dissociative capacity and bulimic behaviours

Date	Researcher	Assessment	Findings
1986	Sanders	PAS	Bingers have higher dissociation scores than normals
1990	Torem		Dissociation scores bulimics and partial syndromes > dissociation scores anorexics
1990	Demitrack, Putnam, Brewerton, Brandt & Gold	DES, DIS-Q	Dieting disordered patients scored higher on dissociation scales
1991	Barabasz	SHSS:C	No differences scored by bulimics and normals on dissociative items
1992	Vanderlinden, van Dyck, Vandereycken & Vertommen (as cited in Vanderlinden & Vandereycken, 1997)	DIS-Q	Bulimics and atypical eating disordered score high on dissociation scale than restricting Anorexics and controls
1993	Vanderlinden, Vandereycken, van Dyck & Vertommen	DIS-Q	12% of bulimic sample had dissociation scores similar to those of patients with diagnosed dissociative disorders
1994	Schumaker, Warren, Schreiber & Jackson	Riley Questionnaire of Experiences of Dissociation	Eating disordered had higher scores than controls
1994	Rosen & Perry	DES, PAS, Dissociation items	Dissociation of feelings and loss of control subscales correlated with eating problem scores
1994	Covino, Jimerson, Wolfe, Franko & Frankel	SHSS:C; DES	Bulimics had higher hypnotizability & dissociation scores than controls
1994	Griffiths, Channon-	HGSHS:A	Greater pass level on dissociation items for bulimics

	Little & Hadzi-Pavlovic		
1994	Faith & Ray	DES; Questionnaire of Experiences of Dissociation; HGSHS:A	Orthogonal relationship between hypnotizability and dissociation
1995	Vanderlinden, Spinhoven, Vandereycken & Van Dyck	DPCI; DIS-Q; SHCS:Adult	Dissociation and hypnotizability scores higher for bulimics>mixed Anorexics>Anorexics
1995	Valdiserri & Kihlstrom	DES	Significant correlations between drive for thinness, bulimic tendencies and body dissociation
1995	Valdiserri & Kihlstrom	DES; Magical Ideation Scale; Perceptual Aberration Scale	Modest correlation between abnormal eating & dissociative experiences but higher correlations with aspects of depression and anxiety
1995	Gleaves & Eberenz	DES	No difference in dissociative symptoms in eating disordered groups
1995	Everill, Waller & Macdonald	DES	Significant correlation between bingeing and DES scores
1995	McManus	DES	Bulimia associated with specific aspects of dissociation; bulimia and oral control correlated with depersonalization and derealization
1995	Favaro & Santanastaso	DIS-Q	No significant differences on DIS-Q scores for eating disordered group and controls
1995	Schumaker, Warren, Carr, Schreiber & Jackson	Questionnaire of Experiences of Dissociation	Eating disordered had higher scores than controls
1996	Katz & Gleaves	DES	Pathological dissociative experiences found in DID but eating disordered groups scored higher on eating related dissociative experiences
1996	Swirsky & Mitchell	DES	DES scores no different for sexually abused and non-sexually abused bulimics
1996	Grave, Rigamonti, Todisco & Oliosi	DIS-Q	Eating disordered score higher on DIS-Q than controls
1997	Frasquilho & Oakley	DES-II	Dissociation scores correlated with disinhibition of control and susceptibility to hunger
1998	Meyer & Waller	DES	Correlation with Eating Disorder scores for females with depersonalisation and derealization; for males, amnesia and imaginative absorption

While hypnotizability and dissociation scores do appear to be elevated in many self-defeating eaters, there is little that is conclusive about the precise implications of such findings. One complicating factor is the lack of consistency between different

dissociation questionnaires, which appears to reflect the notion that dissociation is not a simple concept, and therefore it is not easily captured by these questionnaires.

### **Issues of Concern raised by the Literature Review**

#### **Dissociation not Unitary Construct: Implications for Self-defeating Eating**

Meyer and Waller (1998) have suggested that dissociation is not a unitary construct, especially in relation to eating disorders. Scales used to measure dissociation have been found to consist of more than one factor (Fischer & Elnitsky, 1990) and such questionnaires have yielded intercorrelations which are so insignificant that the measures are not interchangeable (Frischoltz, Braum, Sachs, Schwartz, Shaeffer, Westergaard & Pasquotto, 1991). David Spiegel (1986, 1995; Spiegel, Hunt & Dondershine, 1988) has speculated that while repression appears to involve inhibiting normal memory processes, dissociation seems to allow cognitive escape from the disturbing event at the time of its occurrence. According to Kihlstrom and Hoyt (1995), both repression and dissociation involve a set of memories, denied to conscious awareness, but remaining stored in memory. According to these authors, such memories remain dynamically active, although outside the scope of phenomenal awareness, and exert a demonstrable influence on ongoing experience. Watkins & Watkins (1990) and Torem (1986) have elaborated on the idea of the impermeability of boundaries between ego states as the basis for dissociative symptoms.

Some writers (for example, Demitrack, Putnam, Brewerton, Brandt & Gold, 1990; Sanders, 1986) have envisaged dissociation as a process that exists along a continuum. This spans the range from normal experiences like daydreaming and transient lapses of attention, to pathological failure to integrate thoughts, feelings, memories and actions into a coherent and unified sense of consciousness, as in Dissociative Identity Disorder. Findings reported by Sanders and Green (1994), Ray and Faith (1995) and Frasilho and Oakley (1994) supported this notion. Others have provided evidence that contradict the continuum model, while supporting the existence of distinct dissociative types (Putnam, Carlson & Ross-Anderson, 1996). Sanders (1986) suggested dissociation may have its

roots in the spiritual concept of mind-body separation. Relevant research, as discussed above, has been summarised below in Table 7, as a brief point of reference for the continuing discussion in relation to the difficulties of measuring dissociative capacity.

Table 7. Summary of research regarding the factors tapped by individual dissociation scales

Date	Researchers	Assessments	Results
1990	Fischer & Elnitsky	PAS, DES	Factor analysis concluded that scales were not measuring the 3 hypothesized underlying dimensions – disturbances in affect, disturbances in cognition and loss of control. PAS measured disturbances in affect; DES measured disturbances in cognition
1991	Frischholtz, Braun, Sachs, Schwartz, Lewis, Shaeffer, Westergaard & Pasquotto	PAS, DES	Intercorrelations of PAS & DES not high enough to consider the different dissociation measures interchangeable
1992	Ray, June, Turaz & Lundy	DES (rev)	Factors include fantasy/absorption; segment and in situ amnesia; depersonalization; different selves, denial and critical events.
1993	Vanderlinden, Vandereycken, Van Dyck & Vertommen	DIS-Q	Factors include identity confusion/fragmentation; loss of control; amnesia; absorption
1994	Sanders & Green	DES	Factors include imaginative involvement; depersonalization & derealization; amnesia. Gender differences apparent.
1995	Ray & Faith	QED, DES	DES: Absorption, derealization & depersonalization, segment & in situ amnesia; QED: depersonalization & derealization, process amnesia, fantasy/daydream, dissociative body behaviour & trance.
1995	Gleaves, Eberenz, Warner & Fine	DES, QED	DES more effective in discriminating between clinical & non-clinical dissociation
1997	Frasquilho & Oakley	CIS, DES-II	CIS highly correlated with DESII
1998	Collins & Ffrench	DES	Scores of DES correlate with external locus of control and escape-avoidance coping strategies
1999	Merkelbach, Muris & Rassen	DES	Dissociative experiences of DES driven by fantasy-proneness and cognitive lapses

A further complication is introduced by the current findings regarding the possible relationships between dissociation scales and questionnaires which investigate attitudes towards weight, shape and diet.

### **Only some Factors of Dissociation Scales linked with Self-defeating Eating**

The scales used to measure dissociative ability as employed in the self-defeating eating literature include the Perceptual Alteration Scale (PAS, Sanders, 1986), the Dissociative Experiences Scale (DES, Bernstein & Putnam, 1986) and its updates (DES-Revised; DES-II), the Dissociation Questionnaire (DIS-Q, Vanderlinden, Van Dyck, Vandereycken, Vertommen & Verkes, 1993), and the Questionnaire of Experiences of Dissociation (Riley, 1988). They possess all the disadvantages of any self-report assessment, and do not measure dissociative capacity per se, but rather the occurrence of experiences described as dissociative.

From the results summarized in Table 8, it appears that the dissociation scales are not interchangeable, as they are probably measuring related but different constructs. The links with fantasy and absorption, especially in the DES, are marked. The DIS-Q, the only dissociation scale used in reported research with the obese, does not appear to include fantasy/imagination as a factor.

Research to date has suggested that links between dissociation scales and self-defeating eating include such factors as loss of control, disturbances in affect, amnesia, derealization and depersonalization, and fantasy/absorption. Gender differences have been found.

Table 8. Factors identified in each of the dissociation scales. \* Factors specifically linked with eating disorders (McManus, 1995; Myer & Waller, 1998; Rosen & Petty, 1994; Vanderlinden, Spinhoven, Vandereycken & Van Dyck, 1995).

Factors	PAS	DES	DIS-Q	QED
Loss of control *	X	x	x	-
Disturbances in affect *	X	x	-	-
Disturbances in cognition	X	x	-	-
Amnesia *	-	x	x	-
In situ amnesia	-	x	-	-
Segment amnesia	-	X	-	-
Process amnesia	-	-	-	X
Derealization & depersonalization *	-	X	X	X
Imaginative inventiveness	-	X	-	-
Fantasy/Absorption *	-	X	X	X
Critical events	-	X	-	-
Denial	-	X	-	-
Different selves	-	X	-	-
Identity confusion	-	-	X	-
Trance	-	-	-	X
Dissociative body experiences	-	-	-	X
Fantasy daydreams	-	-	-	X

In addition to this identified lack of clarity around the nature of dissociative experiences and their precise relationship to the whole spectrum of self-defeating eating behaviours, clinical reports indicate that images of self mastery appear to be important elements in the restoration of healthful eating (Deyoub & Wilkie, 1980; Nash & Baker, 1993; Spiegel and Spiegel, 1986; Torem, 1987). One implication which may be drawn therefrom, is that imagery or imagination may be implicated in the aetiology of Self-Defeating eating. Links between high levels of hypnotizability and of fantasy-proneness further support this possibility. Certainly, links between self-defeating eating and hypnotic susceptibility are worthy of further investigation.

### **Recent attempts at Integration: Adaptation of the Socio-Cultural Model**

Kaffman (1981, 1991), Schumaker, Warren, Schreiber and Jackson (1994) and Covino, Jimerson, Wolfe, Franko and Frankel (1994) have described anorexia as a monoideistic disorder, hypothesizing that hypnotic suggestibility may contribute to its development and maintenance. Investigation of such a possibility has been undertaken in the research

program of Frank Frاسquillo (Frاسquillo & Oakley, 1997; Frاسquillo & Oakley, 1999; Frاسquillo, Oakley & Ross-Anderson, 1998; Oakley & Frاسquillo, 1998; Wybraniec & Oakley, 1996; see summary of research in Table 9) who has attempted to put perspective on the research of the last two decades. Wybraniec and Oakley (1996) found a positive correlation between hypnotic susceptibility and cognitive restraint of eating, the first factor of the Three Factors Eating Questionnaire (3-FEQ, Stunkard & Messick, 1985). They also found significant differences between the scores of restrained and non-restrained eaters on the modified Creative Imagination Scale (Wilson & Barber, 1978). The modifications involved the addition of two suggestions regarding increasing and decreasing body size respectively. Those who indicated they practiced restrained eating scored significantly higher on the increased body size suggestion. Although the subject groups were small (20 females in experiment 1; 42 in the second experiment) this ingenious experiment examined body image, one of the major aspects of dysfunctional eating, according to the Cognitive Behavioural and Feminist viewpoints.

Table 9. Major findings of the Frاسquillo & Oakley team.

Date	Researchers	Assessments	Major findings
1996	Wybraniec & Oakley	CIS, TFEQ	Positive correlation between cognitive restraint of eating & hypnotic susceptibility; CIS scores restrained eaters > CIS scores of non-restrained; higher scores on increased body size suggestion for restrained eaters
1997	Frاسquillo & Oakley	CIS, TFEQ, DESII	Cognitive restraint linked with CIS scores; impulsive eating (dissociation of control + susceptibility to hunger) correlated with DESII scores
1998	Frاسquillo, Oakley & Ross-Anderson	TFEQ, Revised Restraint Scale, CIS	CIS scores correlated significantly with both measures dietary restraint; restrained eaters more susceptible to body image modification, especially size expansion
1998	Oakley & Frاسquillo		Socio-cultural model of cognitive processing in eating disorders (Appendix 3)
1999	Frاسquillo & Oakley		Further research linking restraint & hypnotizability, dissociative capacity & impulsive eating

The next research paper (Frاسquillo & Oakley, 1997) reported that hypnotisability (CIS) was significantly correlated with only the cognitive restraint factor of the Three Factors Eating Questionnaire ( $r = .66, p < 0.001$ ); while dissociation scores (DES-II) correlated significantly with the remaining factors, disinhibition of control ( $r = .55, p < 0.001$ ) and

susceptibility to hunger ( $r = .49, p < 0.001$ ), which they combined as 'impulsive eating'. This combination also produced a high correlation with dissociation scores ( $r = 0.6, p < 0.001$ ), but not with hypnotizability scores. They found a high correlation between the CIS and the DES-II. They concluded that hypnotizability and dissociation appeared to affect different aspects of eating behaviour. The authors discussed the socio-hypnotic and dissociative escape hypotheses of eating behaviour. The former suggests that high hypnotizability influences the internalization of socio-cultural body ideals. The latter suggests that dissociation may be used as a route to avoidance of negative affects. They speculated that with individuals who show high levels of cognitive restraint, dieting behaviour may be interrupted when dissociative tendencies are also high. They reasoned that high hypnotizability may be related to a tendency to restrict food intake, while dissociative tendencies might account for bingeing and purging. Further indication that their thesis might be worth serious consideration and further investigation, was provided in the study by Frاسquilho, Oakley and Ross-Anderson (1998) in which hypnotizability correlated significantly with two measures of dietary restraint. Again restrained eaters were more susceptible to body image modification, especially size expansion.

Oakley & Frاسquilho (1998) developed a model of cognitive processing in eating disorders based on their definition of hypnotic susceptibility or F-bias (focussed attention, flexibility in cognitive style, and frontal cortical systems). Their model was premised on the hypothesis that dissociative ability and hypnotic susceptibility are independent factors, the former related to impulsive eating, and the latter to restrained eating. Adapting Stice's (1994) sociocultural model of pathways to bulimia to accommodate anorexia as well, they contended that disturbed body image, in the development of which hypnotic susceptibility is integral, is the pathway to the eating disorders. According to this model, hypnotic susceptibility while allowing hyper-responsiveness to societal suggestions regarding the thin ideal, also leads to the kind of control which allows for effective goal-setting employed in the aid of a strict dietary regime. While the anorexic continues to increasingly greater obsession with dietary restraint, the model proposed that dissociative capacities of bulimics may automatically disinhibit such dietary restraint. Such disinhibition or uncontrolled dissociative processes result in bingeing. This

dissociative capacity may be the result of childhood trauma, which, according to Oakley and Frاسquilho, seems more prevalent in bulimics than in anorexics.

Using the foregoing research as a basis, and taking into account the literature previously reviewed, which highlighted the clinical benefits of hypnotic, imaginative and dissociative strategies, the author has developed for exploration, an hypothetical model. This model includes cognitive and social components, as well as outlining possible involvement of hypnotic and allied traits.

### **Hypno-socio-cultural Model: Basis for the Current Study**

It is hypothesized, in this model, that higher hypnotisability levels may play some part in the internalisation of the thin ideal, as suggested by Oakley and Frاسquilho (1998) perhaps via the route of increased vulnerability to development of appearance schematicity resulting from media emphasis on the importance of how one looks in terms of success and happiness. Imaginative abilities might contribute to the distorted body image which is central to self-defeating eating, and some aspect of dissociative capacity may contribute to the mind-body split which allows for objectification of the body. Again, aspects of both hypnotic control and/or dissociative tendencies may result in successful dietary restraint. However, other aspects of dissociative capacity might be responsible for the binge eating found in Bulimia and other forms of overeating. It is possible that some type of Imaginative Ability may be the reason that the Anorexic is able to continue to restrict dietary intake well past starvation levels. Perhaps this is because in imagination they have pictured their own bodies as grossly fat, when in reality they are little more than skeletal, and this is sufficient inducement or punishment to ensure that they do not succumb to eating anything that might put weight onto the bodies that to all but themselves look painfully emaciated.

This hypno-socio-cultural model, schematized in Figure 3, is an extension of the work done by Frاسquilho, and it attempts to integrate the findings of the relevant research and clinical literature reviewed to date. However, to establish credibility for such a model,

there are a number of issues which need to be addressed to begin to establish its validity and usefulness. The relationship between different measures of hypnotic susceptibility is one area which needs some clarification, given the use of many different scales in the literature reviewed. As well, comparison of different measures of imaginative ability or fantasy proneness may reduce some of the confusion about precisely what is involved, particularly in relation to hypnotic susceptibility. Investigation of the connection between fantasy proneness and dissociative capacity might highlight similarities and differences in the constructs which are currently measured. Additionally, some information about the possible usefulness of the Barber typology in relation to hypnotic susceptibility, dissociative capacity and fantasy ability would also benefit further enquiry in this complex area of self-defeating eating. Exploration of this typology may also help clarify some of the implications inherent in previous research. Examination of the relevant research in these areas may further clarify the questions that need to be posed to ensure clinical efficacy.

Recent research has indicated that hypnotic suggestibility and dissociative capacity may contribute to the development and maintenance of self-defeating eating behaviours (Covino, Jimerson, Wolfe, Franko & Frankel, 1994; Frاسquilho & Oakley, 1997, 1998; Pettinati, Horne & Staats, 1985; Vanderlinden, Spinhoven, Vandereycken & Van Dyck, 1995). This may account for clinical findings of marked improvement in dysfunctional eating behaviours using hypnotherapeutic strategies. Additionally, the correlation of imaginative ability that is often found with hypnotizability, could account for the usefulness of imagery and other experiential techniques used in the Cognitive Behavioural and Experiential approaches.

An intervention framework that takes into account the possible contribution of hypnotizability and its correlates, dissociative ability and imaginative capacity, and the mechanisms by which it does this, might significantly benefit clinicians and clients. A comprehensive approach to the deployment of hypnosis in therapy would provide additional clinical advantages for those who work with dysfunctional eaters.

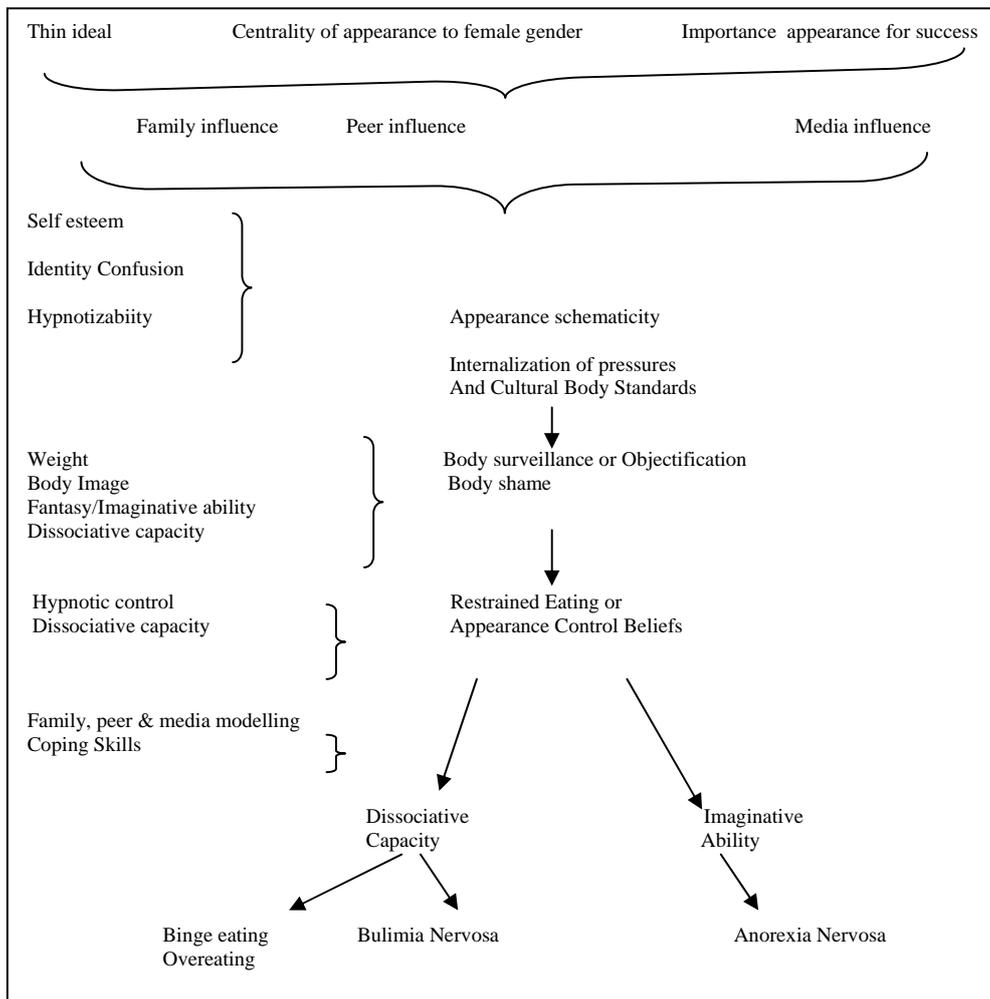


Figure 3. The hypno-socio-cultural model of self-defeating eating.

To this end, the relevant literature is reviewed in detail to support the following hypno-socio-cultural model of self defeating eating, which draws on the Cognitive Behavioural and Feminist/Social Constructivist models, and incorporates some hypothesized contributions of hypnosis and its correlates (dissociative capacity and imaginative ability) to the development and maintenance of such eating.

## **Summary**

Review of the relevant literature has suggested the possibility that aspects of hypnotic susceptibility may be involved in the aetiology and maintenance of self-defeating eating. However, interpretation of research findings is complicated by the use of instruments which appear to measure different, or at best, related aspects of the constructs under consideration. Therefore, in addition to investigation of the relationship between weight, shape and dietary concerns and hypnotic responsivity, dissociative capacity and fantasy ability, it seems prudent to investigate the congruence of some, at least, of the previously used measures in the literature which was surveyed.

## **Chapter 3**

### **Hypno-socio-cultural Model: Clinical Credibility, but no Empirical Validity**

#### **Issues in need of resolution**

A number of questions have been raised by the review of the literature, regarding connections and interrelationships between some of the relevant concepts which are integral to further exploration of some of the components of the hypno-socio-cultural model proposed in this thesis.

#### **Questions regarding Hypnotic Susceptibility and Related Measures**

##### **Measurement of Hypnotic Susceptibility**

Hypnotic susceptibility is generally agreed to be a person's ability to respond to suggestions after an induction, whereby changes in perception, memory, sensory experiences and one's sense of one's self all occur to varying degrees. However, the measurement of the amount of susceptibility displayed by any subject is usually dependent on the nature of the scale which is employed to indicate the hypnotizability level. While some research has indicated significant correlations between scales, particularly those reflecting socio-cognitive viewpoints and those developed from an altered state of consciousness position, there are conflicting results. Of particular concern in this research is the relationship between the Creative Imagination Scale, used in the studies instigated by Frasnquillo and colleagues, and the Harvard Group Scale of Hypnotic Susceptibility: Form A, which is the scale employed in most group studies described herein. Because these scales derive from quite different models of hypnotic ability, it is highly likely that they may measure different constructs. In particular, it is probable that the Creative Imagination Scale is more a measure of imaginative ability than is the Harvard scale, which is premised on the idea that hypnotic susceptibility is a reflection more of an altered state of consciousness probably reflective of dissociative

capacities. An investigation of research pertaining to these issues does not greatly clarify the issue.

### **Hypnotic susceptibility and the Creative Imagination Scale**

Concerns were originally raised by McConkey, Sheehan and White (1979), who found that the CIS and the HGSHS:A were far from identical in their underlying dimensions, as the former tapped only imagery and imagination ( $r = .28$ ). Hilgard, Sheehan, Monteiro and Macdonald (1981) found that the CIS loaded on two factors underlying the HGSHS:A (i.e. hypnotic performance and absorption/imagery) with a correlation of .55. Kurtz and Strube (1996) found the CIS weak in predictive power compared with the HGSHS:A. Laidlaw and Large (1997) indicated with their research that the CIS and HGSHS:A loaded on separate factors. Their conclusion was that they were measuring related but separate abilities, that is, they have a small but significant correlation. Sapp and Evanow (1998) also reported that the CIS and HGSHS:A were significantly correlated ( $r = .37$ ), but noted that this may be the result of an hypnotic context.

Because opinion to date is divided, the relationship between both these scales is further explored in this research. Likewise, the connections between hypnotizability and dissociation, as well as the link between dissociation and imaginative ability are the subjects of investigation.

### **Hypnotic susceptibility and dissociative capacity**

Relevant research has indicated that the relationship between dissociation and hypnotizability does not generally appear to be very robust, with shared variance estimated as ranging from 2 - 4% (Bartis & Zamansky, 1989; Butler & Bryant, 1997; Vanderlinden, Spinhoven, Vandereycken & Van Dyck, 1995; Whalen & Nash, 1996). A major exception to this finding was that of Frاسquilho and Oakley (1997), when the Creative Imagination Scale and the Dissociative Experiences Scale-II scores produced a correlation of .59. T. X. Barber's (1999, 2000) recent typology may explain the poor

correlations between measures of hypnotic susceptibility and dissociative capacity. If the amnesia prone are those who are capable of manifesting the classic dissociative reactions to hypnotic suggestions, it would be unlikely that such a small minority (1% of high hypnotizables according to Barber) would have a large effect on the type of research data reviewed herein.

A further confound is that which has been raised in Chapter 2, namely, that each of the dissociation scales measures somewhat different facets of a concept that is extremely complex.

Steinberg (1994), discussed the difficulties presented in assessment of dissociative symptomatology, one such concern being that those who experience dissociative phenomena regularly may be amnesic for the experiences. However, she also noted the complex and multifaceted nature of the dissociative disorders. Eve Carlson (1994), creator of the Dissociative Experiences Scale, posited that the behaviours measured by hypnotizability and dissociation scales were in different realms. The former, she maintained, sought to establish changes in motor, sensory and cognitive functions. Using as an exemplar her own scale, she pointed out that it endeavoured to discover alterations in memory, awareness, identity, cognitions and perceptions. As well, she believed that the different methods used in each measure, sampling capacity in hypnotic susceptibility scales, and obtaining self-reports of remembered daily incidence of dissociative experiences in the dissociation scale, would likewise produce low correlations. Her conclusion was that the kinds of research conducted on the relationships between both types of scales needed to be conducted in different ways to what had been previously attempted.

However, she also noted that in relation to eating disordered subjects, much of the literature that found higher dissociative experiences in this group, also noted the presence of childhood sexual abuse as a complicating factor. While Carlson's conclusion was that some recent reviews (Covert, Kinder & Thompson, 1989; Pope & Hudson, 1992) suggested that a relationships between sexual abuse and higher numbers of dissociative

experiences was not valid, there still seems to be no clear agreement regarding this topic in the literature reviewed.

The nature of dissociative experiences, while a fascinating topic, is not under investigation herein. For this reason, only one measure of dissociation was selected for inclusion in the study. The Dissociation Questionnaire (DIS,Q) was selected because it has been developed by a group of researchers who have focused on the study of dysfunctional eating. However, its inclusion was important in relation to an exploration of its relevance to the Harvard Group Scale of Hypnotic Susceptibility, Form A, to the various inventories of imaginative ability, and to further clarification of the possible usefulness of the Barber tripartite typology of hypnotic responding.

The fact that it does not include fantasy/imagination as a factor makes it an excellent candidate for investigation of its relationship with the imagination scales, as well as with those measuring hypnotic susceptibility, especially in relation to the Creative Imagination Scale.

Previously summarized research (see Table 8) suggested that the DES particularly reflects imaginative involvement and absorption, as well as depersonalization/derealization and in situ and segment amnesia. The distinction between dissociative experiences and fantasy/imaginative abilities is not clear-cut.

Again, T. X. Barber's (1999, 2000) typology seems to offer a rationale for some of the conflicting findings. However exploration of the fantasy dimension might clarify some of the issues surrounding this topic.

### **Fantasy : Links to Hypnotic Susceptibility and Dissociative Capacity**

Imagery appears to be a normal and adaptive activity functioning to organize experience, construe the meaning of events, plan for the future and in general guide individuals through their world and help them to achieve their goals (Singer, 1975). Klinger and Cox

(1987, as cited in Lynn, Neufeld, Green, Sandberg & Rhue, 1996) proposed that daydreaming and fantasy are overlapping constructs, and that daydreaming reflects current concerns, regulates mood, provides self-relevant information, facilitates learning and stimulates decision making. The Short Imaginal Processes Inventory (Huba, Singer, Aneshensel & Antrobus, 1982) identified three daydreaming styles. A positive and constructive or happy daydreaming style (PCD) was marked by pleasant feelings and positive attitudes towards day-dreaming. A guilty-fear-of-failure style (GFF) exhibited fear of failure typical of obsessional and neurotic individuals, and was associated with themes of guilt and sadness. A poor attentional control style (PAC) was marked by anxiety and a tendency towards distractibility. The latter two styles were more likely to be correlated with maladaptive behaviours. Depression was also related to these two daydreaming styles.

Fantasy proneness and the PCD style have been linked ( $r = .48$ , Lynn & Sivec, 1992). For example, Lynn and Neufeld (1996) have reported a correlation between fantasy-proneness and both the PCD and GFF fantasy styles. Additionally, Crawford (1982) found a significant relationship between hypnotizability and the PCD style.

Segal and Lynn (1992-3) established a link between dissociation and the PCD and PAC daydreaming styles, from which they concluded that dissociation may be linked not only to positive imaginal activities, but also to a failure in adaptive cognitive control.

There is also evidence that those with an internal locus of control tend to have fewer failure daydreams than those with an external locus of control (Brannigan, Hauk & Guay, 1991, cited in Lynn et al, 1996). This is of interest in light of findings that dissociative capacity is related to an external locus of control and a tendency to utilize avoidance coping strategies (Collins & Ffrench, 1998). Such reported links invite further exploration of the relationships between all these constructs.

In discussing five studies relating to fantasy proneness and hypnotizability, Lynn and Rhue (1991) noted only a modest correlation ( $r =$  about 0.25) between hypnotizability

and fantasy proneness. However, as many as 80% of fantasizers do test as highly hypnotizable. Rhue, Lynn and Sandberg (1995) emphasized that the majority of fantasizers appear to be well adjusted. However, Lynn and Neufeld (1996) noted that instances of childhood abuse and lonely childhoods were over-represented amongst their subjects who were fantasizers. About 20%-30% of fantasizers exhibited significant signs of maladjustment, psychopathology or deviant ideation. Irwin (1999) found that fantasy prone subjects exhibited more symptoms of psychopathology.

Rhue, Lynn and Sandberg (1995) noted correlations ranging from  $r = .43$  to  $r = .63$  for imagination and dissociation scores. Lynn, Neufeld, Green, Sandberg and Rhue (1996) concluded that a person's control over fantasy, imagination and self-absorbed attention may well be the crucial factor that differentiates healthy imaginative tendencies from pathological variants such as dissociation. They suggested that imagination may be used to escape frightening situations. Dissociation appears to involve the use of imagination and attention regulating behaviour to create a credible feeling of distance or separation from aversive events which are inaccessible to personal control or which inspire guilt, anger or anxiety. When fantasy draws attention away from present danger or substitutes gross distortions of reality to allow avoidance or escape rather than engaging in or rehearsing present or future activities, the process is potentially risky (see also Martin & Williams, 1990). They also hypothesized that negative affect could be intensified in a recursive manner if an individual perceived a goal as impossible to attain or felt unworthy of achieving the goal. Subsequently, motivation, and goal seeking behaviour, would diminish. Images and fantasies would thus become rigid and obsessive, and even bizarre or frightening in content.

Martin and Williams (1990) in examining the contribution of imagery to anxiety and depression, conceived of it as having evolutionary advantage by allowing adaptation in threatening situations. They contended that these mechanisms are disturbed in such disorders as post-traumatic stress disorder, phobias, generalized anxiety disorder, obsessive-compulsive disorder, depression, eating disorders and schizophrenia.

They postulated an imagery continuum from near veridical (evidencing little imagination) to non veridical (indicating much imagination), placing post traumatic stress disorder at the former extreme, generalized anxiety disorder at the non-veridical extreme, and phobia intermediate. They suggested that exploration of mental imagery in eating disorders needed to be undertaken, hypothesizing that specific imagery distortion relevant to the eating problem is likely to be a factor. They believed that the results of body image testing demonstrated gross overestimation of visual image that is so vivid that it cannot be distinguished from reality.

There may be a substantial link between dissociative and fantasy capacities, and possibly both are at work in the self-defeating eater. Little empirical literature is currently available on this important topic. Griffiths and Channon-Little (1995) recommended investigation of the relationship between eating disordered behaviours and hypnotizability constructs apart from dissociation. They reported a preliminary study which found no significant differences in levels of fantasy proneness, absorption and daydreaming style in bulimics, anorexics, eating disorders not otherwise specified and control groups. Nor did they find more than partial support for the idea that bingeing may be connected with dissociative tendencies.

However, this research has yet to be published in a peer-reviewed journal and needs to be replicated when full details of the method become available. It seems that the interrelationships are complex and individual contributions are difficult to isolate.

### **Issues to be Investigated in relation to Weight, Shape and Eating Concerns**

While there are many unresolved issues surrounding the measurement of hypnotic susceptibility and its correlates, the assessment of constructs related to self-defeating eating is also complicated by the use of a range of different scales. Of interest in the current study is the relationship between the Three Factor Eating Questionnaire used by Oakley and Frasilho (1998) and the scale more usually administered to identify at-risk eating behaviour, the Eating Attitudes Test. While the former tends to screen for bulimic

and bingeing behaviours, the latter has been more usually employed with those who restrict dietary intake. The precise relationship of these measures of dietary habits to questionnaires which assess primacy of weight and shape concerns, and to Body Mass index, should further elucidate some of the issues around self-defeating eating. In relation to such weight and shape issues, again there are many available measures. The most commonly used, because of simplicity of clinical administration, have been chosen for use herein.

As highlighted earlier, the Body Mass Index has some decided limitations as an indicator of healthy or unhealthy eating. Personal attitudes to weight, shape and size in relation to the Body Mass Index are potentially of greater interest in examining professed eating behaviours. This aspect of Self-Defeating eating, which highlights the body image issues central to the model, is likewise probed in this research.

## **Summary**

The acknowledged aims of the current small study are twofold. Of primary interest is the possible relationship between hypnotic susceptibility and its correlates, and behaviours associated with self-defeating eating. These include the internalisation of a thin ideal, the resultant dietary restriction, and its contravention by binge eating or overeating, and the possible use of compensatory strategies such as vomiting, purging or over-exercising. Subsidiary to this goal, but with important ramifications for interpreting previous research, is the investigation of correspondences between some of the measures used in previous research in this area. Questions regarding age and gender differences are of great import for future research, so, despite small number, these factors were also considered. Thus the questions asked by this research are:

(1) Does the use of different measures in the research reviewed to date have decided implications for the generalizability of those results in relation to self-defeating eating?

That is, do alternative measures of self perception, eating behaviour, hypnosis and

imagination produce similar patterns of results? Germane to this issue is the potential difference in profiles resultant from gender and age differences.

(2) Is clinical and anecdotal evidence regarding the usefulness of hypnotic, imagery and dissociative strategies in relation to self-defeating eating supported in the research settings by establishing links between those constructs and self-defeating eating behaviours?

(3) Are those links specific to the major hypothesised constructs of the cognitive behavioural model of self-defeating eating, that is, to internalisation of the thin ideal, and to eating behaviours such as restrictive eating and bingeing?

This study was designed to establish relationships between some of the different assessments utilized in previous research in the area of self-defeating eating. From these, it is proposed that the results of the most useful assessment instruments be applied to an examination of the inter-relationships between concepts relevant to self-defeating eating, and those which reflect hypnotic susceptibility, fantasy ability and dissociative capacity. Causality, although of major interest to those who work in the field, is not under investigation. Rather, decisions about the kinds of instruments which could most usefully be employed in the application of this research to those diagnosed as suffering with the major eating disorders, namely Anorexia, Bulimia and Binge Eating Disorder, or experiencing problems with overweight or obesity, were the focus of the investigation. An effort at some kind of consolidation, leading to recommendations about the direction of further investigation, seemed imperative at this stage of research regarding dysfunctional eating and the use of hypnotic, dissociative and fantasy strategies in

therapy. Thus, a cross-sectional design was employed in Stage 1, followed by a case study method in the second stage. The study has been guided by specific research predictions which refer to those instruments outlined in Table 10.

Table 10. Brief description of assessment measures used in current study.

<b>Assessment</b>	<b>Description</b>	<b>Scoring</b>
Contour Drawing Rating Scale (CDRS)	9 graded figure drawings, ranging from very thin to quite obese, with Figure 5 representing a healthy size Choice of actual (BSA), felt (BSF) and ideal (BSI) sizes/shapes	Differences between actual, felt and ideal weights i.e. Actual-Felt (A-F), Actual-Ideal (A-I), Felt-Ideal (F-I)
Physical Appearance State and Trait Anxiety Scale (PASTAS)	Eight weight related body parts (e.g. hips, waist) and eight non-weight related body parts rated for associated anxiety on a 5-point scale	Maximum score of 40 on each section of the questionnaire
Body Mass Index (BMI)	Computed for highest, lowest and current weights by dividing weight (in kg) by the square of height (in metres)	Underweight, >20, 20-25, normal weight, 25-30, overweight, <30, obese
Eating Attitudes Test (EAT)	26 item scale which yields three factors: <ul style="list-style-type: none"> <li>• Dieting (Diet)</li> <li>• Bulimia and Food Preoccupation (Food Preocc)</li> <li>• Oral Control (OC)</li> </ul> Also current, highest & lowest weights, plus height, so BMI can be calculated	Scoring based on ratings of Always to Never (6 categories), with a score of 20 or above suggesting the need for further diagnostic investigation
Three-Factor Eating Questionnaire (3-FEQ)	87 item scale which yields three factors <ul style="list-style-type: none"> <li>• Dietary restraint (Dietrest)</li> <li>• Disinhibition of eating (Diseat)</li> <li>• Susceptibility to hunger (Sushun)</li> </ul>	Scoring of 51 statements on True/False dimension, and 36 items on 4 point Likert scale. High scores on each of factors used to indicate need for differential management
Harvard Group Scale of Hypnotic Susceptibility: Form A (HGSHS:A)	12 suggestions given, and participants asked to score each item as Pass/Fail	Scores of 9-12 regarded as highly susceptible, medium susceptibles fall in 4-9 range, those below 4 are regarded as low hypnotisables.
Phenomenology	53 self-report items relating to quiet	Scores are assigned on a

of Consciousness Inventory (PCI)	time (2 minutes) embedded in HGSHS:A. Each item has a right and left dipole, and participants are requested to choose ratings from 1-7.	large number of categories. Those which have been utilized in this research include <ul style="list-style-type: none"> <li>• PCI: overall score denoting hypnotisability type (fantasy, amnesia- prone, etc.)</li> <li>• pHGS: predicted score on the HGSHS:A</li> <li>• Altered state (alsta)</li> <li>• Altered experience (altex)</li> <li>• Body image changes (bodim)</li> <li>• Time sense alterations (timsen)</li> <li>• Absorption (abs)</li> <li>• Perception of voluntary control (volcon)</li> <li>• Amount of imagery (imam)</li> <li>• Vividness of imagery (imviv)</li> <li>• Imagery (imag)</li> </ul>
Creative Imagination Scale (CIS)	10 suggestions, scored by participants using a 5 point Likert scale comparing likeness of response to the suggested experience	Classification of subjects into high, medium and low groups based on scores out of 40
Inventory of Childhood Memories and Imaginings (ICMI)	48 propositions requiring True/False answers, all pertaining to remembered use of fantasy and imagination in childhood	The higher the score the greater the proneness to fantasy and imagination
Short Imaginal Processes Inventory (SIPI)	45 items are rated on a 5-point Likert scale ranging from a very true reflection of individual experience to not characteristic of the respondent	Three categories of daydreaming are identified: <ul style="list-style-type: none"> <li>• Positive Constructive Daydreaming (PCD)</li> <li>• Guilt-Fear-of-Failure Daydreaming (GFF)</li> <li>• Daydreaming marked by Poor Attentional Control (PAC)</li> </ul>
Dissociation Questionnaire	63 questions, ranging from not applicable to extremely applicable,	Four subscales identified: <ul style="list-style-type: none"> <li>• Identity confusion (idc)</li> </ul>

	over 5 categories	<ul style="list-style-type: none"> <li>• Loss of control (loc)</li> <li>• Amnesia (amn)</li> <li>• Absorption (abs)</li> </ul>
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### **Questions asked by this Research**

The questions asked by this research include

- (1) Does the use of different measures in the research reviewed to date have decided implications for the generalizability of those results in relation to self-defeating eating? Integral to this question is that concerning the possibility that the measures examined produce different patterns for males and female subjects, which are likely to affect their application to clinical strategies. Also important in this respect is the possibility that these correlations are affected by age differences.
- (2) Is clinical and anecdotal evidence regarding the usefulness of hypnotic, imagery and dissociative strategies in relation to self-defeating eating supported in the research settings by establishing links between those constructs and self-defeating eating behaviours?
- (3) Are those links specific to the major hypothesised constructs of the cognitive behavioural model of self-defeating eating, that is, to internalisation of the thin ideal, and to eating behaviours such as restrictive eating and bingeing?

### **Specific Hypotheses to be investigated in the Study**

In relation to the previous questions, specific hypotheses can be generated in relation to the measures employed in the study. The following outlines the expected relationships.

1. In relation to the alternative measures employed in previous research, it is predicted that there will be some significant relationships between assessments measuring similar constructs, but that those similarities will not be sufficient to make the measures interchangeable. It is also predicted that gender and age will produce different profiles of results on the measures utilised, and that different patterns of

correlations are therefore likely to emerge. Thus, the two measures of eating behaviours, the Eating Attitude Test (EAT, Garner & Garfinkel, 1979) and the Three Factor Eating Questionnaire (3-FEQ, Stunkard & Messick, 1985), will be expected to produce significant relationships, as will the measures of concern with weight, shape and size (Physical Appearance State and Trait Anxiety Scale, PASTAS, Reed, Thompson, Brannic & Sacco, 1991, the Contour Drawing Rating Scale, CDRS, Thompson & Gray, 1995 and the BMI and related measures generated by EAT). Likewise, it is expected that there will be a significant relationship between the Harvard Group Scale of Hypnotic Susceptibility: Form A (HGSHS:A, Shor & Orne, 1962) and the Creative Imagination Scale (CIS, Wilson & Barber, 1978), and with those two instruments and the Phenomenology of Consciousness Inventory (PCI, Pekala, 1982, 1991). Measures of fantasy and imagination (Inventory of Childhood Memories and Imaginings, ICMI, Wilson & Barber, 1983, the Short Imaginal Processes Inventory, SIPI, Huba, Singer, Aneshensel & Antrobus, 1982, and the Creative Imagination Scale) should likewise produce some significant relationships. Gender and age differences have been found on some of the measures which are utilised in this study, and it is expected that these factors may influence the current results. For example, different profiles of results have been found in relationships between eating behaviours and dissociation questionnaires, and age differences would be expected in eating behaviour results, as greater weight and shape concerns are associated with younger people, especially females.

2. Significant relationships should be found between the following eating related behaviours and constructs related to hypnotic susceptibility:

- (i) Hypnotic susceptibility, as measured by the HGS: A, the CIS and the PCI (predicted, Harvard Groups Scale score, pHGS) should be related to those measures which assess concerns with weight, shape and size, that is, the PASTAS, the CDRS and the EAT. Likewise, these constructs and those measured by the ICMI and SIPI, and by the DIS-Q, should exhibit significant statistical correlations.
- (ii) Relationships should be produced between scores on the Dissociation Questionnaire (DIS-Q, Vanderlinden, Van Dyck, Vandereycken, Vertommen & Verkes, 1992), as well as some dimensions of the PCI (altered state, altered experience, body image changes, time sense alteration, absorption, perception of voluntary control) and those scales which measure bingeing and bulimic behaviour, that is, the EAT (Factor 2, Food Preoccupation) and the 3-FEQ (Factors 2 and 3, Disinhibition of Eating and Susceptibility to Hunger), and those dimensions of the PCI mentioned above in section (i).
- (iii) Measures of Dietary restriction (EAT, Factors 1 and 2, Dieting and Oral Control, and 3-FEQ Factor 1, Dietary Restraint) are expected to produce significant correlations with scales measuring fantasy and imaginative proclivities (CIS, ICMI, SIPI, PCI dimensions of imagery, imagery amount and imagery vividness) and with aspects of dissociative experience as measured by the DIS-Q.

## **Chapter 4**

### **Description of the current study**

#### **Introduction**

To recapitulate, two major outcomes of this study were envisaged. Establishing degree of compatibility of some of the tests employed in previous research was one goal. Investigation of the relationships between weight and shape concerns which resulted in self-defeating eating behaviour and hypnotic susceptibility, dissociative capacity and fantasy ability, was the second goal. A number of hypotheses and predictions were developed in regard to these objectives, as summarized at the end of Chapter 3.

#### **Compatibility of Measuring Instruments**

##### **Weight, Shape and Size Concerns**

Measurement of weight related concerns are tapped by two main methods. The Countour Drawing Rating Scale (Thompson & Gray, 1995) requests that the participant choose from nine female and nine male graded figure drawings those which represent actual, felt and ideal body shapes/sizes. As well, the Physical Appearance State and Trait Anxiety Scale (PASTAS, Reed, Thompson, Brannick & Sacco, 1991), a scale measuring anxiety about weight related and non-weight related body parts has been administered. It is predicted that there will be a relationship between the scores on these measures. Of interest, in this regard, is the correspondence between Body Mass Index (as supplied with the EAT) and perceptions held by an individual of degree of overweight. The expectation is that significant correlations will be found between Body Mass Index and scores on the instruments which assess the internalisation of the thin ideal. In summary, significant correlations are predicted for scores on the CDRS, the PASTAS and the BMI. As well, differences in the range of adult weights, which can be computed from the autobiographical information requested by the EAT, are expected to rproduce correlations with the PASTAS and the CDRS.

## **Eating Attitudes and Behaviours**

With regard to those measures which assess eating and related behaviours, it is expected that scores on the Eating Attitudes Test and the Three-Factor Eating Questionnaire will be fairly strongly related to each other, especially on those factors which are measuring similar constructs – namely those which focus on dietary restraint, and those which reflect a tendency to binge. These include Factors one and three of the EAT and the first factor of the 3-FEQ, in relation to dieting, and the second factor of the EAT and the second and third factors of the 3-FEQ pertaining to bulimic and bingeing behaviours.

## **Hypnotic Susceptibility**

In relation to the assessment instruments used it was assumed that there would be some overlap between what was being tested by the Creative Imagination Scale, and by the Harvard Group Scale of Hypnotic Susceptibility: Form A. Although previous findings in this regard have been very inconclusive, the basis for the model developed by Oakley and Frasilho (1998) would be supported by such a correspondence, because their research was based on the Creative Imagination Scale. However, it is expected that there may be some differences between male and female response on the two eating behaviour scales. Likewise, PCI scores should correlate significantly with the HGSHS:A and the CIS.

## **Hypnotic Susceptibility, Dissociative Capacity and Imaginative Ability**

Because there has been much previous research conducted in respect to the Phenomenology of Consciousness Inventory and the HGSHS:A, it is assumed that the predicted Harvard Group Scale Score resulting from the PCI will be significantly correlated with scores on the HGSHS:A. Additionally, there is likely to be some relationship between the intensity of imaginative involvement reported on that scale, and the scores achieved on the other fantasy scales – the Inventory of Childhood Memories and Imaginings, and the Short Imaginal Processes Inventory, as well as with the Creative Imagination Scale. Likewise, scores on the Dissociation Questionnaire will probably be

related to PCI scores recording degree of altered experience, which include such dimensions as changes in body image, experience of an altered state and perception of absence of voluntary control.

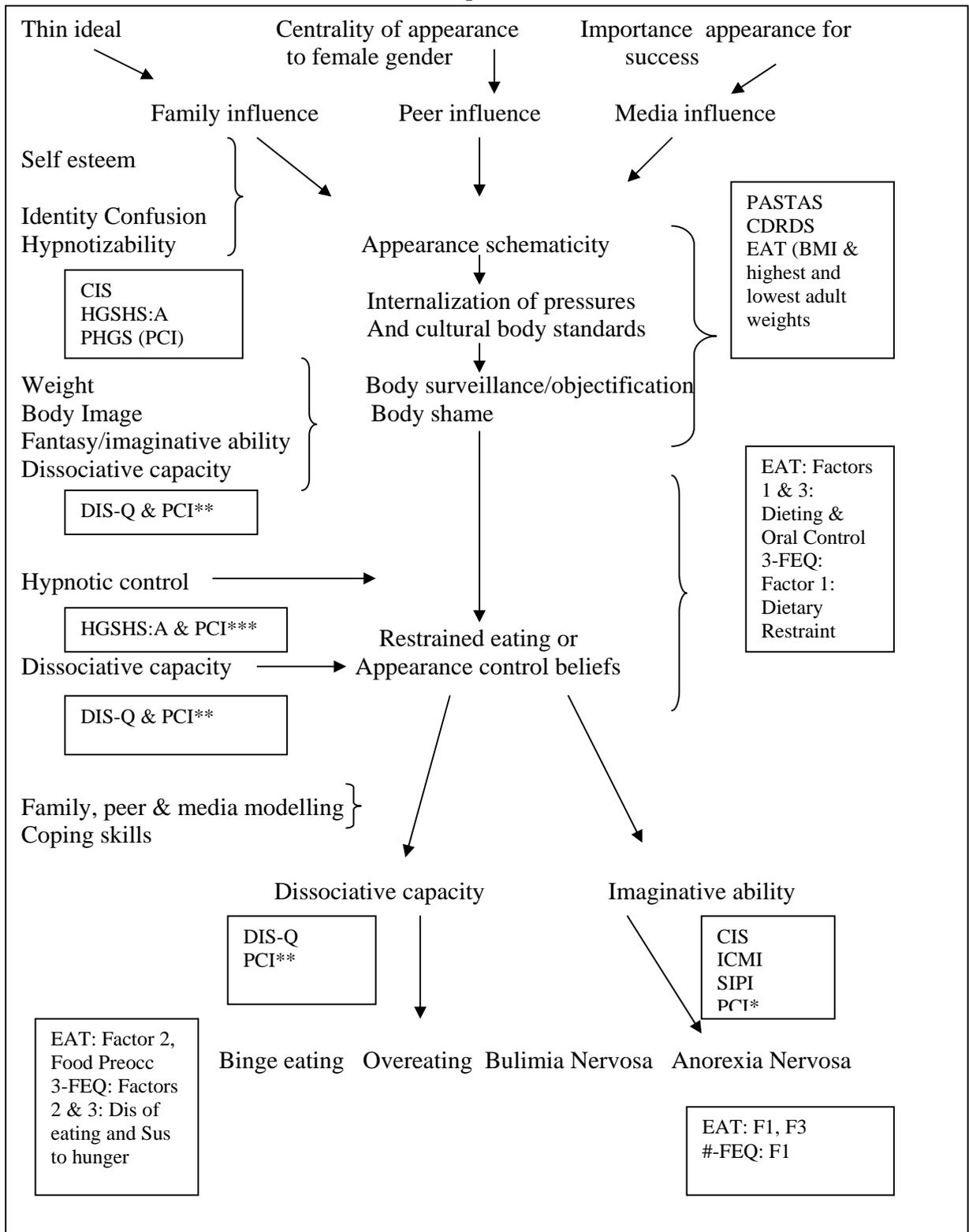
A relationship is predicted between the scores on the three fantasy assessments, the CIS, the ICMI and the SIPI. Another assumption is that the Dissociation Questionnaire will not be significantly related to these scales, as, unlike other dissociation self-report instruments, it has not previously been found to incorporate a fantasy element.

### **Feasibility of, and links between, Components of the Hypno-socio-cultural Model**

In relation to the further aims of the investigation, to examine some of the components of the Hypno-socio-cultural model, a number of hypotheses have been developed. It is predicted that there will be relationships established between weight and shape concerns, or internalization of the thin ideal (as represented by scores on the Body Image Assessment Contour Drawing Rating Scale (CDRS) and the Physical Appearance State and Trait Anxiety Scale PASTAS), or by a BMI lower than 20 and higher than 30), and scores on the HGSHS:A, the CIS, the DIS-Q, the ICMI, the SIPI and the PCI. Dietary restriction scores on the EAT and the 3-FEQ will likewise exhibit a relationship with these scores. Additionally, it is hypothesized that there will be some relationships found between scores on the DIS-Q, and the bingeing sub-scales of the 3-FEQ (Factors 2 and 3), as well as with Food Pre-occupation, the second factor of the EAT. The links between parts of the hypno-socio-cultural model and the assessments used in this research are diagrammatically illustrated in Figure 4.

Figure 4. Elements of the Hypno-socio-cultural model and measures used in this research to assess some of the major relationships.

\* PCI dimensions imag, imviv, imam; \*\* PCI dimensions altsta, altex, bodim, timsen, abs, volcon; \*\*\* PCI dimensions volcon and pHGS



## **Method**

### **Participants**

Preliminary investigation of some of the interrelationships implicit in the proposed model was undertaken, using a sample of undergraduate and post-graduate students involved in psychological studies in hypnosis at the Queensland University of Technology, Carseldine. The results of a selection of participants from this group were subjected to more in depth scrutiny in the second stage of the study, reviewing the results from a clinical perspective. While this sample was chosen partly for convenience, the intrusiveness of such a large amount of testing in the lives of eating disordered individuals, especially anorexics, did not seem justified at this stage. While such research has the potential for assisting those whose lives is severely restricted and affected by eating issues, it seemed more useful to investigate the issues initially with those for whom such research had immediate positive benefits. Thus it was hoped that refinement of the measures employed would ultimately permit the administration of a much smaller number of assessments to those whose eating behaviour placed them in a diagnostic category relevant to the issues under investigation. In addition, as many university students are in the age group (18-22 years, Sanders, Gaskill & Gwynne, 2000) which is most usually afflicted by the eating disorders of interest, it was assumed that there might be a number of participants whose profiles were close to those with dysfunctional eating behaviours.

Eighty students who were willing to be involved in the study were recruited by the chief researcher who addressed the groups involved explaining the nature of the study, and its advantage to their current educational program by virtue of their completion of a number of activities which would help them learn about the essence of hypnosis and its correlates in a unique and practical way.

Of these 80 participants, whose ages ranged from 18 to 57 years of age (mean = 30.3, *SD*, 11.1), 20 were males and 60 were females, which is the usual ratio of males to females enrolled in hypnosis units. Although much of the self-defeating eating research reviewed was conducted using female subjects, many of the issues being canvassed in the current study require the input of members of both sexes to help determine relevant differences in response to the questionnaires and construct measurement tools being used. As one of the questions concerns the generalizability of the measures under discussion, their relevance to persons of both genders is of interest. However, because of the three to one ratio of females to males in this sample, the next study will need to examine these gender differences using a much larger sample.

This study was designed to examine relationships between the various components implicated in the hypothesized model, and to clarify some of the related issues. Consequently, while causality is of primary interest to clinicians, this exploratory study confined itself to investigating some of the major relationships implicated and was therefore strictly correlational in nature.

### **Assessment tools**

A number of assessment instruments, tabled and summarised in Chapter 3 (Table 10), which currently represent the best expressions of theorizing about the relevant concepts were employed. These assessments were chosen because of their use in other studies to which this research owes its genesis, and because of their possible utility to clinicians who may wish to replicate any part of this study. Because the assessments administered were numerous, brevity in individual tests was preferred.

## Assessments

### Hypnotic Susceptibility

*Harvard Group Scale of Hypnotic Susceptibility: Form A (HGSHS:A) and the Creative Imagination Scale (CIS):* Two hypnotic susceptibility scales were employed, the Harvard Group Scale of Hypnotic Susceptibility: Form A (Shor & Orne, 1962) and the Creative Imagination Scale (Wilson & Barber, 1978). The former consists of 12 items, which are scored by the participant, and which include ideomotor suggestions, challenge items and a number of requests for cognitive alterations, delivered after an initial relaxation induction. Scoring is Pass/Fail, and arranges the subject by scores into Low, Medium and High Hypnotizable categories. This scale has been widely used in research, and its validity and reliability are well established. Published norms have included Australian, German, Canadian, Spanish, Danish and Japanese samples. Internal reliability is high ( $> .90$ ), and it correlates moderately well with the Stanford Hypnotic Susceptibility Scale: Form C (Weitzenhoffer & Hilgard, 1962) at around .60 (Register & Kihlstrom, 1986). As this latter scale, which is individually administered, is widely regarded as the benchmark for other hypnotic susceptibility tests, such a correlation gives the Harvard Scale credibility. Although about half the time the scores on the Harvard classify a subject differently from the Stanford scale, it is the relationship between the Harvard scale and the Creative Imagination Scale which is of interest in the current study.

*The Creative Imagination Scale (CIS, Wilson & Barber, 1978):* This scale, which can be used with or without an induction, and was delivered without an induction in the current study, to replicate administration in the Frasilho research, consists of ten items, which are scored by the subject using a five-point Likert scale comparing the likeness of each response to the suggested experience. Considering a total possible score of 40 points, subjects are classified into groupings of low, medium low, medium high and high. Test-retest reliability of .82 has been established, and correlations with the HGSHS:A (.55) and the SHSS:C (.60) have been found (Monteiro, Macdonald & Hilgard, 1980).

Because the Creative Imagination Scale allows some subjective reaction to the response to suggestion, personal reaction to hypnosis as experienced during the Harvard Group Scale of Hypnotic Susceptibility: Form A was canvassed utilizing the Phenomenology of Consciousness Inventory.

*Phenomenology of Consciousness Inventory (PCI, Pekala, 1982, 1991)*: This is a 53 item scale on which the respondent is requested to rate subjective experience in relation to sensations, perceptions, feelings, thoughts, imagery and impressions on a 7-point scale ranging from one dipole of a continuum to the other, for example, *My thinking was clear and understandable* (left dipole) to *My thinking was unclear and not easy to understand* (right dipole). It is administered in relation to a “sitting quietly” time of two minutes, which is embedded in the HGSHS:A, and the questionnaire is filled at the end of the HGSHS:A in relation to the experience of that period. Scoring identifies several variables of interest in the current study, a predicted Harvard Group Scale Score (pHGS), and typology as a fantasy/visualizing or classic high hypnotic responder, which may be related to the Barber tripartite typology. This latter score is generated from measured intensity of experience in 26 dimensions of which the following are of interest in this study: sense of an altered state, imagery, and amount and vividness of imagery, perceived extent of absorption, altered experience, volitional control and body image. Stability across the major dimensions has been reported (coefficient alphas of .67 to .82), and the predicted Harvard Score correlated well with the actual Harvard Group Scale Score (Pekala, 1991), and according to the author allows the researcher to measure “trance” quantifiably.

The inclusion of this assessment is of particular relevance given that it is a measure of self-perception in relation to individual responses to an hypnotic situation. At the heart of the CBT model which is employed throughout this research, perceptions of self, particularly in relation to body-image, are of central importance. Given that both the hypnosis scales employed herein (HGSHS:A and CIS) are scored on the more objective criteria of veridicality of the experience in light of the suggestion offered, a

phenomenological account of the experience will tap more of the perception of each individual regarding the phenomenology of the global hypnotic situation.

### **Assessment of Imaginative/Fantasy Ability**

Because it has been proposed that the measurement provided by the Creative Imagination Scale is of imagination, rather than of hypnotic susceptibility, its relationship with other scales that attempt to identify fantasy proneness/imagination was investigated. The two scales selected were the Short Imaginal Processes Inventory and the Inventory of Childhood Memories and Imaginings, because both have been used extensively in the kinds of research that identify fantasy abilities and have yielded correlations with some of the other variables of interest in this study.

*Short Imaginal Processes Inventory (SIPI, Huba, Singer, Aneshensel & Antrobus, 1982):* This self-report assessment consists of 45 items, rated on a 5 point Likert type scale, for example, *My fantasies usually provide me with pleasant thoughts* with responses ranging from “very true of me” to “strongly uncharacteristic of me”. Scoring identifies three different types of daydreams – Positive Constructive Daydreaming, Guilt-Fear of failure daydreams, and a style marked by Poor Attentional Control. The authors demonstrated its internal validity quoting within-scale correlations that are highly significant, and they maintained that it can be used reliably across ethnic, age and sex groupings. This scale highlights the manner in which imaginings are utilized by the individual participant.

*Inventory of Childhood Memories and Imaginings (ICMI; Wilson & Barber, 1983):* The purpose of this self-report inventory, which requires True or False responses to 48 propositions, is to provide data regarding imaginative and fantasy activities remembered from childhood. The higher the score, the greater the proneness to fantasy and imagination, with groupings corresponding to low, medium low, medium high and high imaginative abilities. Lynn and Rhue (1986; 1989; Lynn, Green, Rhue, Mare & Williams, 1990) have used this test to establish high fantasy-prone subjects in relation to hypnotizability in an extensive study of imaginative abilities. In fact, Green, Kvaal,

Lynn, Mare & Sandberg (1991) found significant correlations between this instrument and dissociative experiences (measured by the Dissociative Experiences Scale).

### **Assessment of Dissociative Capacity**

*Dissociation Questionnaire (DIS-Q; Vanderlinden, Van Dyck, Vertommen & Vandereycken, 1992b, Vanderlinden, Van Dyck, Vandereycken, Vertommen & Verkes, 1993a)*: Of the large number of Dissociation Questionnaires available, the Dissociation Questionnaire developed by Vanderlinden and his colleagues was chosen because it was developed by a team experienced in working with self-defeating eaters. Factor analysis has identified four subscales – identity confusion-fragmentation, loss of control, amnesia and absorption – a division which has been satisfactorily replicated (Vanderlinden, 1993; Vanderlinden, Van Dyck, Vandereycken, Vertommen & Verkes, 1993). Internal validity of from .67 to .94 for the four subscales has been shown, and test-retest reliability of .94 was reported (Vanderlinden, Vander Hart & Varga, 1996). Age differences have been found, with younger respondents (10-20 years) scoring significantly higher than older populations on both the identity confusion and loss of control subscales, as well as on the overall score. However, no gender differences have been found. These authors have reported several studies in the Netherlands using this scale with eating disordered populations. As well, the reliability and validity of the DIS-Q have been studied in the United States (Sainton, Ellason, Mayran & Ross, 1993, cited in Vanderlinden & Vandereycken, 1997). The authors claim that the DIS-Q can be useful for screening for dissociative disorders, as well as for use in a general (research) population, and that a cutoff score of 2.5 has yielded 91% sensitivity and 97% specificity. However, this is not a diagnostic tool as is the Dissociative Disorder Interview Schedule (Ross, 1989), but a screening device suitable for both clinical use and employment in the current study.

### **Assessments of eating behaviour**

*Three Factor Eating Questionnaire (3-FEQ; Stunkard & Messick, 1985)*: Of the screening scales measuring eating behaviours, the Three-Factor Eating Questionnaire was

the assessment chosen by Frank Frasnquillo for his program of studies in this area. This questionnaire presents the respondent with 51 statements to which a True or False answer is made for 36 items, and the remainder are rated on 4 point Likert-type scales relating to frequency of the particular eating behaviour. Three factors were identified by the authors. Factor 1 was called Dietary restraint, Factor 2 has been labelled disinhibition of eating reflecting a tendency to binge or overeat, and the third factor measures susceptibility to hunger which indicated need to eat. Test-retest reliability has been reported by a number of authors (Ganley, 1982,; Marcus & Wing, 1983; Shrager, Wadden, Miller, Stunkard & Stellar, 1983, all cited in Stunkard & Messick, 1985). Those who devised the test have suggested that high scores on each of the factors may indicate the need for differential clinical management. High scores on Factor I might benefit from nutritional treatments, while those with higher results on Factor II may respond better to behavioural treatment. Those who achieve the highest score on Factor III may need techniques for coping with hunger. The utility of such a scale to clinicians is obvious. This scale tends to identify those with problems relating to overeating, overweight and bulimic type behaviours. The Restraint (Factor 1) subscale, has correlated significantly with body dissatisfaction, while Factor III scores have been found to relate to body dissatisfaction and to bulimic eating behaviours. The disinhibition subscale (Factor II) has been found to correlate with the Bulimia Test, which was designed to identify bulimic behaviours.

*Eating Attitude Test (EAT; Garner & Garfinkel, 1979):* According to Garner, who developed this assessment, this is probably one of the most widely used standardized assessments of the concerns and symptoms characteristic of those with eating problems, and in particular, those with anorexic tendencies. This test is a short (26 item) self-report scale. A number of statements, such as *I am terrified about being overweight* and *I find myself preoccupied with food*, are linked to categories ranging from Always to Never (*Always, Usually, Often, Sometimes, Rarely, Never*). The results from this scale are divided into three subscales. These include Dieting (which may be similar to Factor I of the 3-FEQ), Bulimia and Food Preoccupation, and Oral Control, which reflects the subject's ability to restrict food intake. While this scale is not intended to be used as a

diagnostic tool, it is useful as a screening device or to assess changes in behaviours as the result of treatment, however, a score of 20 or above usually indicates the need for further investigation of the possibility of the existence of an eating disorder. Diagnosis with the Eating Disorders Inventory – 2 (Garner, 1991, cited in Garner, 1997) is recommended for those who score above 20 on this brief, clinically efficacious scale.

In addition to providing the scores described above, this scale also requests information relating to current weight, lowest and highest weight, and height. From these, it is possible to compute Body Mass Index scores.

*Contour Drawing Rating Scale (Thompson & Gray, 1995)*: Intrinsic to the socio-cultural interpretation of the aetiology and maintenance of self-defeating eating, is the centrality of objectification of the body and intense dissatisfaction with body image. Therefore, the inclusion of assessments which rate subjective impressions of various physical attributes, particularly of aspects which are indicative of concerns with weight and shape, would provide further information to that gained by using the EAT and the 3-FEQ. Body image disturbance has traditionally been assessed by two methods including the use of video distortion, which asks the individual to decide whether presented images of themselves are too wide or too thin. This type of assessment requires careful technological calibration and sophisticated equipment unavailable to many clinicians who practise outside of dedicated eating disorder clinics. The other method involves using silhouette drawings of varying body weights, shapes and sizes, from which participants are required to identify those figures which most closely correspond to their actual weight, their ideal weight, and the size that they currently feel. Thompson and Gray's (1995) groups of silhouettes are the ones most commonly employed for this purpose, and studies by Williamson, Davis, Bennett, Goreczny and Gleaves (1989) and by Williamson, Davis, Goreczny and Blouin (1989) have demonstrated that the choices made by respondents do reflect these differences. Body dissatisfaction was established as the reason for these discrepancies by Williamson, Gleaves and Watkins (1993). A reliability correlation of .79 was established by the authors. Validity, measured by the correspondence between reported weight and selected drawings, were reported as strongly correlated ( $r = .71, p <$

.0005). Relationships between BMI and chosen contour drawings were demonstrated as .76 for female subjects, and .72 for males.

*Physical Appearance State and Trait Anxiety Scale (PASTAS; Trait Version, Reed, Thompson, Brannick & Sacco, 1991)* was chosen to highlight those body parts which were particularly the focus of dissatisfaction. Sixteen body parts are listed, and the subject is asked to rate the anxiety generally felt about each component on a 5-point scale ranging from never to almost always. Of the 16 items, half are devoted to those body parts usually associated with weight concerns (e.g. thighs, stomach/abdomen) and the other 8 items are non-weight body segments (e.g. hands, ears). Reliability of .87 has been reported by Reed, Thompson, Brannick and Sacco (1991) for this trait version of the scale, and they claim good internal consistency quoting as evidence, high alpha coefficients and sizable item-total coefficients. The authors also noted that convergent validity was indicated by the correlation between this instrument and measures of eating disturbance, body dissatisfaction, physical appearance evaluation and anxiety. Moreover, they asserted that the weight scores on the scale provided an instrument for discriminating between eating disturbed individuals and those with more normal eating patterns, and was evidence of the concurrent validity of the PASTAS. They noted that although the non-weight scale exhibited insignificant connections with measure of eating disturbance, it did correlate significantly with overall anxiety ratings.

### **Method of administration**

Because of the nature of the recruitment process, the context was already hypnotic, which is an acknowledged limitation of the study. That is, the participants were students enrolled in hypnosis units who understood that the research related to hypnosis constructs, which could lead to heightened expectations and perhaps contaminated results. However, to lessen the possible contextual effects, the assessments were presented as early as possible in the courses of study. One group was presented first with the Creative Imagination Scale ( $n = 29$ ), then the Harvard Scale was undertaken several

weeks later. For the other group ( $n = 37$ ), the Harvard Scale and the PCI were experienced initially, followed by the CIS at a later date. As no statistical differences were found, results from both groups were treated in the same manner.

Because administration of the complement of tests took between two and three hours, they were applied over three sessions for each group. Consequently, some participants were absent for some sessions, or chose not to participate in some assessments. However, all results have been included in the final statistical analyses.

### **Summary**

As previously stated, the design was cross sectional in the first stage, followed by a second stage in which cases were studied to examine some of the results from an individual perspective.

## Chapter 5

### Results of the Study

#### Research Questions

The aims of this study were two-fold. Firstly, the correspondence between a number of assessment measures used in the literature was examined (Research Question 1). Because such a wide range of measurement tools have been employed in the previous literature, it was proposed that prior to further study with samples of self-defeating eaters, it might be advantageous to examine the benefits of using any of these instruments in isolation in order to limit the time needed to assess the various constructs involved.

The second goal was to examine the relationships between hypnotic susceptibility, dissociative capacity and fantasy ability, on the one hand, and expressed concerns with weight shape and size, and eating behaviours, on the other (Research Questions 2 and 3) in order to assess the possible usefulness of some components of the Hypno-socio-cultural model herein proposed. Further exploration of the possible connections hypothesised in this model definitely require the employment of a larger group composed solely of dysfunctional eaters. It therefore seemed considerate of the time such self-defeating eaters would need to devote to completing assessments, for initial investigation of the relevance of such a model to be conducted with a fundamentally non-eating disordered population who were obtaining academic benefits therefrom.

Overall, while weight, shape and eating scales seemed to bear significant relationships to each other, on the whole, the relationships between hypnosis, dissociation and fantasy measures were more tenuous. However, the Phenomenology of Consciousness Inventory bore quite significant relationships to most of these measures. The pattern of relationships between measures related to hypnotic susceptibility, and those pertaining to eating behaviour provided no clear-cut evidence of the links proposed by the Hypno-socio-cultural model, although some findings were relevant to the hypothesised

connections, suggesting the benefit of further investigation of the model, with some modifications as a result of the present findings.

## **Correspondence between Measures: Weight, Shape and Eating**

### **Measures reflecting Concerns with Weight and Shape**

Three measures were used to reflect weight and shape concerns. On the Countour Drawing Eating Scale (CDRS), participants were requested to choose, from nine silhouette drawings of body shapes graduated from very thin to quite obese, the outline that best reflected their current (or actual), felt and ideal body sizes. They were also required by the Physical Appearance State and Trait Anxiety Scale (PASTAS) to identify, on a Likert-type scale, the amount of concern they felt about body parts traditionally associated with adiposity, and about others that were unrelated to weight concerns. Additionally, subjects were requested to provide information on their current, lowest and highest weights, as well as to record their height, which yielded Body Mass Indices.

As demonstrated in the following table, a number of significant positive correlations emerged from the current data (Pearson correlation, 2-tailed,  $n = 69$ ). The results seemed to suggest that Body Mass Index may not be as reliable an indicator of concerns with weight and size as are some of the other measures. Reports of body weight concerns and the personal perception of the discrepancy between one's felt size and the size which one would prefer to be (that is Felt Size, CDRS, and Ideal Size, CDRS) gave more useful information as did Ideal Body Size (CDRS) score. Discrepancy between actual and ideal sizes (CDRS) seemed to also correlate well with the Weight related scores of the PASTAS. Neither Body Mass Index, nor differences between highest and lowest BMI, appeared to be good indicators of whether a person will be overly concerned with shape and weight issues.

Table 11. Relationships between Body Mass Index, differences in adult weights, selected silhouette drawings representing actual, felt and ideal body sizes (CDRS), and weight and non-weight body concerns PASTAS).

	Body Mass Index	Difference between highest and lowest BMI	Actual body size CDRS	Felt body size CDRS	Ideal body size CDRS	Difference between actual and felt size	Difference between actual and ideal size	Difference between felt and ideal size	Body concerns – weight PASTASW	Body concerns – non-weight PASTASN
<b>BMI</b>		.317*	.612**	.478 **	.357**	-.098	.237	.217	.382**	-.004
<b>Hi/Lo</b>			.379**	.338**	.023	.052	.373*	.239	.162	.318*
<b>BSA</b>				.907**	.270*	.171	.661**	.486**	.477**	.254*
<b>BSF</b>					.079	.569**	.742**	.691**	.565**	.299*
<b>BSI</b>						-.343**	-.501**	-.311*	-.381**	-.360**
<b>A-F</b>							.445**	.668**	.364**	.191
<b>A-I</b>								.609**	.633**	.547**
<b>F-I</b>									.677**	.092
<b>PASTW</b>										.328**

\*\* Correlation significant at the 0.01 level (2-tailed)

\* Correlation is significant at the 0.05 level (2-tailed)

However, findings in this study were generally in the predicted direction, in that BMI was significantly correlated with concerns with weight related body parts. Likewise, the difference between felt and ideal body size (CDRS), as well as between actual and ideal body size, correlated significantly with such weight related concerns.

With regard to the PASTAS, Reed, Thompson, Brannick and Sacco (1991) reported means for non-eating disordered individuals as 15.9 (*SD*, 6.0) for the weight sub-scale, and for the non-weight scale, the mean was 6.2 (*SD*, 4.8). Means in the current study were 14.9 (*SD*, 7.7) and 2.5 (*SD*, 3.5) for the weight ( $p < .01$ ) and non-weight ( $p < .05$ ) sub-scales respectively.

### Eating Behaviours

Two scales were administered to assess functioning in relation to eating behaviours, the 3-Factor Eating Questionnaire and the Eating Attitude Test. Although the latter is the assessment more often used in relation to the measurement of eating behaviours, the former was used as the basis of the model developed by Oakley and Frasilho (1998). Each scale identified three factors. Those identified by the Eating Attitudes Test include dieting, food preoccupation/bulimia and oral control. Dietary restraint, disinhibition of

eating and susceptibility to hunger were the three factors tapped by the 3-Factor Eating Questionnaire. Because the latter usually measures bulimic and bingeing behaviours, while the former is more often used to identify anorexic tendencies, it was of interest to establish what relationship these tests might have.

The table below records the relationships established with tests of Pearson's correlation, using the results of the 68 subjects who responded on these measures.

Table 12. Correlations between scores on the Eating Attitudes Test and the 3-Factor Eating Questionnaire.

	Dieting	Food Preocc/bul	Oral Control	EAT	Dietary Restraint	Disin of Eating	Suscept to hunger	3-FEQ
Dieting		.555**	.362**	.949**	.673**	.532**	.372**	.643**
Fpreoc			.127	.695**	.248**	.528**	.540**	.493**
Orcon				.549**	.130	-.004	.121	.149
EAT					.575**	.464**	.173	.682**
Drest						.464**	.173	.682**
Diseat							.606**	.805**
Sushun								.720**

\*\* Correlation is significant at the 0.01 level (2-tailed)

\* Correlation is significant at the 0.05 level (2-tailed)

Notes: EAT: total score for Eating Attitudes Test; 3-FEQ: total score for 3-Factor Eating Questionnaire

Although there were significant moderate to high correlations between these instruments, it would be premature to suggest that they are interchangeable. The factor which had the highest and most significant correlation with the full-scale score of the EAT was that of dietary restraint, while the disinhibition of eating (or bingeing) was most highly correlated with the 3-FEQ score. This suggests that their usage as indices of anorexic tendencies and bulimic/bingeing behaviours, respectively, is a reasonable one.

Results were no doubt affected by the fact that scores on the Eating Attitude Test were skewed to the lower end of the normal curve, as would be expected in a fundamentally non-eating disordered sample. Response on the Three-Factor Eating Questionnaire demonstrated a normal distribution.

As predicted, strong significant correlations between the EAT, Factors 1 (Dieting) and 3 (Oral Control), and the 3-FEQ, Factor 1 (Dietary Restraint), were found. Likewise,

moderate to strong correlations were found between EAT, Factor 2 (Food Preoccupation) and 3-FEQ, Factors 2 (Disinhibition of eating) and 3 (Susceptibility to Hunger).

### Eating Behaviours and Concerns with Weight and Shape

Of further interest, were the correlations between perceived inadequacies in weight and shape, and these eating behaviour inventories. The former were represented by the concerns with weight and shape already identified as being significant indicators of such worries, that is the difference between felt and ideal weights (CDRS), and reported concerns with weight related areas of the body (PASTAS). The following table records these correlations

Table 13. Correlations between scores on weight and shape related concerns and eating behaviour questionnaires.

	Felt-Ideal	PASTAS Weight	DietING	FPreoc	OrCon	EAT	Dietrest	Diseat	Sushun	3-FEQ
F-I		.677**	.343**	.273*	-.001	.315*	.331**	.451**	.133	.298*
BMI			.323**	.353**	-.119	.291*	.193	.327**	.022	.174
PASTW			.632**	.360**	.141	.579**	.628**	.615**	.307**	.613**

\*\* Correlation is significant at the 0.01 level (2-tailed)

\* Correlation is significant at the 0.05 level (2-tailed)

The relationship between the two most reliable indicators of concern with shape and size correlated moderately well with many of the dimensions of the two eating behaviour questionnaires. However, of the two, the questionnaire which identifies concerns with weight related parts of the body seemed to have a better correlation overall with both eating scales than did the silhouette choice. But the attitudes reflected in the responses are complex and convoluted. Of particular interest was the lack of any correlation between scores on either of the weight and shape measures and those relating to oral control, a result which appears counter-intuitive. One would have expected oral control to result from the perceived need to restrain dietary intake as it was dictated by weight and shape concerns.

These results are generally in the predicted direction, with moderate to strong correlations between acknowledged weight, shape and size concerns, and eating behaviour reflecting dietary restraint and/or bingeing. However, correlations between BMI and scores on the eating behaviour inventories range from low statistical significance to non-significance. Other significant correlations for the weight and shape concern measures are included in Table 14, and highlight the complexity of measurement of these concerns. For example, the small negative correlation between the EAT and 3-FEQ scores and the ideal body weight chosen (CDRS), seems to indicate that those with higher eating behaviour scores have lower ideal body sizes. Actual body size and felt body size (CDRS) are also significantly correlated with many of these eating behaviour scores. A larger difference between actual body size and ideal body size, also seems to be nominated by those with higher scores on the eating behaviour questionnaires.

Table 14. Significant correlations between other CDRS weight/shape related scores, and eating behaviour scores on EAT and 3-FEQ

	<b>Ideal Body</b>	<b>Actual Body</b>	<b>Felt Body</b>	<b>Actual-Ideal</b>
Dieting		.339**	.370**	.407**
Food Preocc			.304*	.303*
EAT	-.246*	.305*	.346**	.389**
Dietrest		.297*	.310*	.404**
Sushun		.401**	.461**	.475**
3-FEQ	-.255*		.251*	.314*

\*\* correlation is significant at the 0.01 level (2-tailed)

\* correlation is significant at the 0.05 level (2-tailed)

### **Summary of Results**

Correlations for weight, size and shape concerns seemed to suggest advantages in using both the silhouette drawings (CDRS), and the Physical Appearance State and Trait Anxiety Scale (PASTAS). Likewise, to measure the full range of eating behaviours representing dietary restraint and bingeing or overeating, the combination of the Eating Attitudes Test and the Three-Factor Eating Questionnaire would produce more realistic results. Although the BMI demonstrated a strong significant correlation with actual body size as reflected in the CDRS scores, its relationship to the eating behaviour measures does not appear to be straight forward.

## **Correspondence between Measures: Hypnotic and Related Scales**

### **Measurement of Hypnotic Susceptibility**

One-way analyses of variance suggested that there were no significant differences in scores as a result of order of administration of the Creative Imagination Scale and the Harvard Group Scale of Hypnotic Susceptibility: Form A. As previously mentioned, scores from both groups were subjected to the same statistical testing.

The measures of hypnotic susceptibility included the Creative Imagination Scale, the Harvard Group Scale of Hypnotic Susceptibility, and a measure of subjective experience, the Phenomenology of Consciousness Inventory. The PCI yielded a number of scores identified as relevant to the current investigation. These included a predicted Harvard Group Scale score (pHGS) which identified subjective reports of hypnotic susceptibility. As well, a number of dimensions were rated for perceived intensity of the experience. Of the twenty-six dimensions, several were chosen as pertinent to the variables of interest herein, because they reflected personal perceptions of the strength of the imaginative and dissociative variable of interest in this study. These included imagery (imag), amount (imam) and vividness of imagery (imviv), altered state (alsta) and experience (altex), malleability of both body image (bodim) and time sense (timsen), absorption (abs), and perception of one's voluntary control (volcon) of response to suggestions. From intensity ratings of these dimensions, subjects were placed in categories based on amount of fantasy proneness demonstrated in responses to suggestions, or ability to respond in a classically (amnesia-prone) hypnotic way (PCI). Table 15 summarises the correlations in the scores on these hypnotic susceptibility measures.

Table 15. Correlations between scores on CIS, HGS: A and PCI (including PCI dimension intensities).

	HGS: A	pHGS	PCI	Altexp	altsta	Absorp	Volcon	Time	Bodim	Imag'n	ImViv	ImAm
<b>CIS</b>	.263	.259	.102	.194	.330*	.175	-.184	.186	.039	.344*	.294*	.315*
<b>HGS</b>		.552**	.404**	.491**	.470**	.296*	-.386**	.580**	.383**	.257	.184	.257*
<b>PHGS</b>			.793**	.767**	.873**	.559**	-.748**	.752**	.605**	.366**	.263*	.383**
<b>PCI</b>				.624**	.757**	.341**	-.741**	.468**	.542**	.256	.137	.312*
<b>Altexp</b>					.686**	.251*	-.534**	.728**	.851**	.470**	.392**	.337**
<b>Altsta</b>						.454**	-.564**	.593**	.537**	.307*	.210	.337**
<b>Absorp</b>							-.278*	.214	.260*	-.046	-.035	-.057
<b>Volcon</b>								-.519**	-.436**	-.325**	-.152	-.325**
<b>Time</b>									.490**	.343**	.256*	.369**
<b>Bodim</b>										.383**	.286*	.409**
<b>Imag</b>											.900**	.923**
<b>Imviv</b>												.665**

\*\* Correlation is significant at the 0.01 level (2-tailed)

• Correlation is significant at the 0.05 level (2-tailed)

Notes: HGS: A: Harvard Group Scale of Hypnotic Susceptibility: Form A; pHGS: predicted Harvard Group Score of Phenomenology of Consciousness Inventory; PCI: classification of hypnotisability type; the following are all measures of intensity of the indicated dimension, that is Altexp (altered experience), altsta (altered state), absorp (absorption), volcon (voluntary control); bodim (body image), imag (imagery), Imviv (vividness of imagery).

The Creative Imagination Scale and the Harvard Group Scale of Hypnotic Susceptibility did not seem to be significantly related in this sample. Very few of the dimensions of the Phenomenology of Consciousness Inventory, apart from Altered state, Imagery, Imagery Vividness and Amount of Imagery seemed to be related to this scale which purportedly measures hypnotic susceptibility when delivered with an induction.

The HGS: A correlated significantly with every other measurement tapped by the PCI apart from the Imagery and Imagery Vividness intensities. It would seem that the PCI robustly measures many of the facets of hypnotic susceptibility captured by the HGS: A. However, it did not satisfactorily reflect the kinds of processes that may be in operation in the CIS when it is administered without an hypnotic induction. Rather, it reflected the fantasy and imaginative aspects of this scale.

One further parameter of interest involved Barber's tripartite typology, and its possible implications for the interpretation of research results. Among high responders, a Phenomenology of Consciousness Inventory Score (PCI) of eight denoted a high fantasy responder, while nine signified a classic high. As can be seen from the graph in Figure 5,

there were insufficient responders in either category to allow any valid conclusions. The highly susceptible subjects in this study were all in the imaginative category. However, it is possible that the Phenomenology of Consciousness Inventory may provide the different way of comparing hypnotic susceptibility and dissociation that was advocated by Carlson (1994), and which is addressed in Table 8. As can be seen from this graph, there were no subjects classified as classic highs.

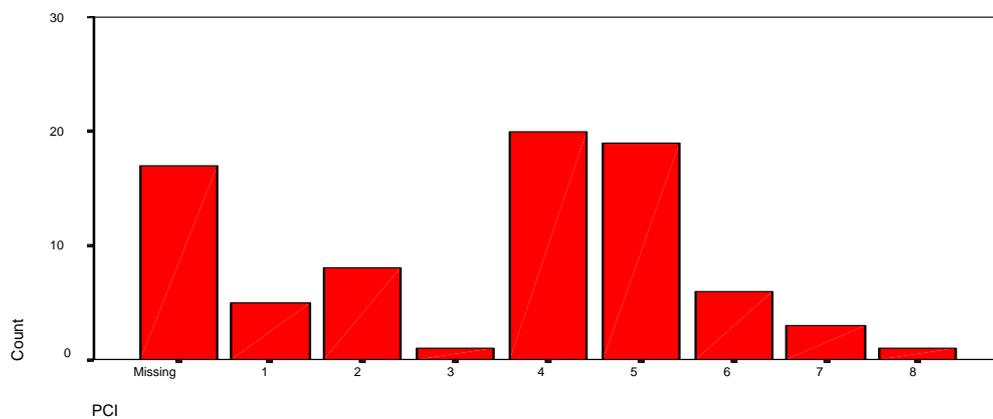


Figure 5. Distribution of scores on PCI denoting type of response in which category nine signifies classic high and eight a fantasy high.

### **Measurement of Fantasy and Imaginative Ability**

The relationship between the three assessments which pertain to imagination and fantasy ability were also of interest in this study, and are summarised in Table 16.

Table 16. Correlations between fantasy assessments, Inventory of Childhood Memories and Imaginings, Creative Imagination Scale, and the three factors of the Short Imaginal Processes Inventory, Pleasant-constructive daydreaming style, Guilt-fear-of-failure and Poor Attentional Control.

	<b>ICMI</b>	<b>CIS</b>	<b>PCD</b>	<b>GFF</b>	<b>PAC</b>
<b>ICMI</b>		.227	.284*	.243*	-.049
<b>CIS</b>			.136	.176	-.104
<b>PCD</b>				.144	-.034
<b>GFF</b>					.184

\*\* Correlation is significant at the 0.01 level (2-tailed)

\* Correlation is significant at the 0.05 level (2-tailed)

Notes: ICMI: Inventory of Childhood Memories and Imaginings; CIS: Creative Imagination Scale; PCD: Pleasant Constructive Daydreaming style of Short Imaginal Processes Inventory; GFF: Guilt Fear of Failure daydreaming style of same scale; PAC: Poor attentional control style of same scale.

It would seem that these assessments may have very little in common as the two correlations are quite low. Therefore it would be of interest to investigate their relationship with various facets of the PCI, particularly with the measures of the intensity of imagination, vividness of imagery and amounts of imagery generated. The following table examines these relationships.

Table 17. Comparison of fantasy inventories with the imagery intensity dimensions of the Phenomenology of Consciousness Inventory.

	<b>PCI/Imagery</b>	<b>PCI/Vividness of Imagery</b>	<b>PCI/Amount of imagery</b>
<b>CIS</b>	.344*	.294*	.315*
<b>ICMI</b>	.324*	.188	.389**
<b>PCD</b>	.115	.034	.156
<b>GFF</b>	.141	.189	.094
<b>PAC</b>	.153	.062	.195

\*\* Correlation is significant at 0.01 level (2-tailed)

\* Correlation is significant at 0.05 level (2-tailed)

Again, the correlations were rather small, apart from the relationship between the Inventory of Childhood Memories and Imaginings, and the Amount of imagery intensity recorded in the PCI, which was still only a moderate correlation. These results seem to suggest that the SIPI, particularly, is measuring different constructs to those tapped by either the ICMI or the CIS. These latter questionnaires may share some common, elements which have to do with perceived presence and amount of imagery, rather than vividness of same.

Previously, relationships between fantasy/imagination scales and hypnotic susceptibility have been found. In this study, the following correlations were produced and classified as in Table 18.

Table 18. Correlations between imagination inventories and hypnotic susceptibility scores on HGSHS:A and predicted Harvard Group Score of the Phenomenology of Consciousness Inventory.

	<b>ICMI</b>	<b>PCD</b>	<b>GFF</b>	<b>PAC</b>	<b>CIS</b>	<b>HGSH</b>	<b>pHGS</b>
<b>ICMI</b>	1	.284*	.243*	-.049	.227	.175	.373**
<b>CIS</b>	.227	.136	.176	-.104	1	.263	.259
<b>HGSGH</b>	.175	.330*	.181	.176	.263	1	.552**

\*\* Correlation significant at 0.01 level (2-tailed)

\* Correlation significant at 0.05 level (2-tailed)

While the ICMI scores rendered a small, but significant, relationship with predicted Harvard Groups Scores (PCI), other relationships were non-significant.

### Measurement of Dissociative Capacity

It has been suggested in the literature that most of the Dissociation scales appear to measure fantasy capacities, and that the DIS-Q is notable for the absence of such a factor. Analyses of the correlations between the DIS-Q and the measures of fantasy capacity did not entirely confirm this contention, as demonstrated in the following table.

Table 19. Correlations between scores on the Dissociation Questionnaire and the fantasy scales.

	<b>IDC</b>	<b>LOC</b>	<b>AMN</b>	<b>ABS</b>	<b>DISQ</b>
<b>CIS</b>	.028	.134	.021	.199	.091
<b>ICMI</b>	.347**	.345**	.447**	.128	.392**
<b>PCD</b>	.051	.047	.085	-.054	.052
<b>GFF</b>	.298*	.181	.264*	.188	.280*
<b>PAC</b>	.102	.047	.158	.115	.119

\*\* Correlation is significant at the 0.01 level (2-tailed)

\* Correlation is significant at the 0.05 level (2-tailed)

Notes: IDC: Identity confusion; LOC: Loss of control; AMN: Amnesia; ABS: Absorption; DISQ: total score of Dissociation Questionnaire.

While no significant relationships emerged with the Creative Imagination Scale, several small, but significant relationships with the GFF (SIPI) were revealed. Correlations with the Inventory of Childhood Memories and Imaginings were moderately significant. This suggests that memories of using fantasy and imagination in childhood may have some factors in common with a tendency to have (or to report) dissociative experiences in adulthood.

Relationships between dissociative capacity and hypnotic susceptibility were also of interest in this study. Between the two hypnotic susceptibility scales used, the CIS and the HGS: A, and the Dissociation Questionnaire, there were no significant relationships yielded by this study. However, such relationships have been generated between the Phenomenology of Consciousness Inventory and dissociative experiences as tapped by the DIS-Q. Significant relationships are as follows:-

Table 20. Correlations between DIS-Q scores and those on relevant intensity dimensions of PCI.

	<b>Identity confusion</b>	<b>Loss of control</b>	<b>Absorption</b>	<b>DIS-Q</b>
<b>PHGS</b>		.330*		.274*
<b>Altered experience</b>	.314*			.282*
<b>Time sense</b>	.421**	.418**	.274*	.449**

\*\* Correlation significant at 0.01 level (2-tailed)

\* Correlation significant at 0.05 level (2-tailed)

The PCI had small to moderately significant relationships with the imagination scales, the dissociation questionnaire and with the Harvard Group Scale of Hypnotic Susceptibility.

## **Gender and Age Differences**

### **Weight, Shape and Size**

As predicted, there were gender differences in some of the results, however significant age differences were few. For example, one way analysis of variance, suggested there were significant difference between males and females for both ideal size silhouette chosen, and the size of the differences between actual size and ideal size on the Contour Drawing Rating Scale. On the PASTAS, there were also significant differences between male and female means in relation to the scores which assessed concerns with weight related issues.

Body Mass Indices were also markedly different, with a normal spread for males, but a decidedly skewed spread for females, the majority of weights clustering in the lower ranges. This suggested that the expected conformity to social pressure to be slim might

be in operation in this group of females. Males seem to have different attitudes regarding appearance, again reflecting desirable social aspects of male body shapes which are not so focussed on underweight.

A different pattern of relationships emerged for males and females in relation to dissatisfaction with weight related body parts and the discrepancy between ideal and felt weights. For females, Body Mass Index and choice of silhouette representing actual weight chosen were significantly related, whereas this correspondence did not emerge for males. Nor did there appear to be any relationship for males between Body Mass Index, as reported, and felt or ideal weight, as there was for the female respondents. Moreover, the Body Mass Index did not seem to have any relationship to weight concerns for males, while there was a significant relationship for women.

Significant differences were found for age on the weight-related PASTAS scores, and between actual-ideal and ideal-felt shape and size as measured on the CDRS ( $p < .01$ ). Analysis of variance also revealed significant age differences for PASTAS non-weight related scores ( $p < .01$ ), as well as gender differences ( $p < .05$ ). Females and younger participants recorded higher scores, suggesting greater concern with all aspects of physical appearance for females and younger people.

The gender differences described in these measures do seem to support the idea that women's weight, shape and size concerns appear to be related to the perceived difference between their actual BMI and the size they would prefer to be. They seem to be acutely aware of their perceived inability to measure up to a very thin ideal. Males, on the other hand, may not be so concerned with a body shape tied to an extremely slender silhouette, or perhaps are not as aware of their preoccupations as are females.

### **Eating Behaviours**

Patterns of correlations on the eating behaviour questionnaires were also different for males and females. Analyses of variance found significant differences on factors one and

two of the Three-Factor Eating Questionnaire (Dieting and Disinhibition of Eating), with significantly higher mean scores for women ( $p < .01$ ). Significant age differences were found on the second factor ( $p < .05$ ). There were also significant differences between male and female overall scores on the 3-FEQ ( $p < .01$ ). No significant gender or age differences were found on the EAT.

However, different patterns of correlations emerged in male and female scores on these eating behaviour questionnaires. While Oral Control (EAT) was significantly related to dieting behaviour for females, the same pattern did not seem to hold true of the males in the sample. Dieting behaviours seemed to be more significantly related to preoccupation with food for male respondents. Likewise, while dieting and disinhibited eating were moderately related for females, the same relationship did not seem to apply for male dieters. There was, in fact, a slight negative trend for susceptibility to food in relationship to dietary restraint in scores of male respondents.

Likewise, age affected the patterns of correlations between weight and shape concerns and eating behaviours. For younger participants, there was a strong significant relationship between felt and ideal size, and the dieting factor of the EAT, while for older groups, links were stronger with 3-FEQ scores. Thus, it may be that the ways that older and younger people deal with perceived weight issues may differ in terms of their eating behaviour, with younger people restricting dietary intake, and the diet-binge cycle may be more prevalent among older persons.

The cause of these differences is uncertain, and may simply be the result of the small number of males involved. However, the profile of scores for females seems to support the central tenet of the CBT model, that dieting leads to a disinhibition of eating, which may be basic to the bingeing cycle. The pattern for males seems to be a little different, with food preoccupation attendant on dieting not necessarily translating into the need to binge.

## Measures of Hypnotizability, Fantasy and Dissociation

In relation to other measures, age differences were found on the Pleasant Constructive Daydreaming style of the SIPI; but on the other fantasy questionnaires and the dissociation questionnaire there were no significant differences for either gender or age. However, gender differences were significant on the HGSHS:A ( $p < .01$ ). This result, however, may be affected by the spread of scores on this hypnotizability measure, which were as follows:-

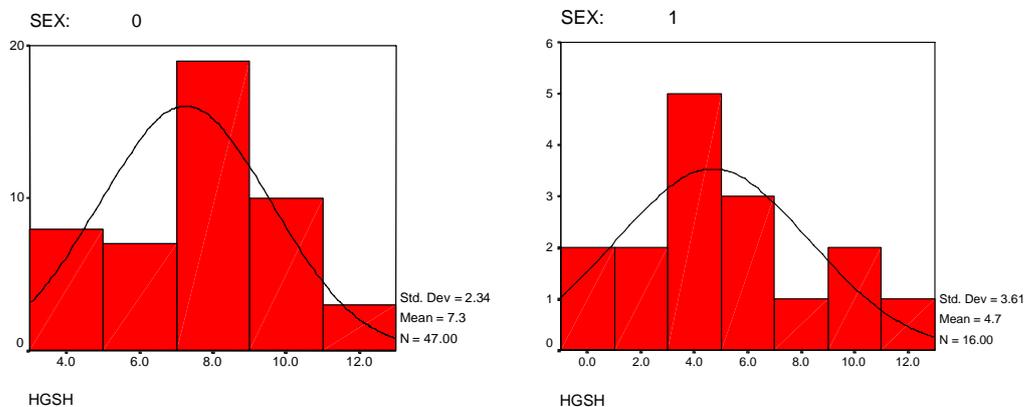


Figure 6: Female and male spread of scores on HGSHS:A

As can be seen from the graphs, while female scores (left hand graph) were fairly normally distributed, those of the males were decidedly influenced by two males with very low scores. These men were very overweight, and seemed very cynical about hypnosis. Because the number of male participants who completed this assessment was small, the results may have been unduly biased by these results, so would need to be treated with extreme caution.

## Summary

Expected correlations between the two hypnosis scales, the Creative Imagination Scale and the Harvard Group Scale of Hypnotic Susceptibility, were not forthcoming. However, the predicted relationships between the Phenomenology of Consciousness

Inventory and the Harvard Group Scale were found. Forecast relationships between the fantasy/imagination measures, the Creative Imagination Scale, the Inventory of Childhood Memories and Imaginings, and the Short Imaginal Processes Inventory were disappointingly low or non-existent. The same was true of relationships between fantasy and hypnotic susceptibility as measured by the scales used. Predicted non-significant correlations between the Dissociation Questionnaire and the fantasy measures were not borne out in this study. Expected relationships between hypnotic responsivity and reported dissociative experiences were likewise small. Of especial interest are the relationships between the DIS-Q, the GFF (SIPI) and the ICMI. The summative Table 21 reiterates all major correlations found in this part of the study.

Table 21. Summary of assessments producing relevant significant correlations in the area of Hypnotic Susceptibility and its correlates.

HGSHS:A	PHGS (PCI)
ICMI	PCD (SIPI) & GFF (SIPI)
DIS-Q	
<ul style="list-style-type: none"> <li>• IDC</li> <li>• LOC</li> <li>• Amn</li> <li>• Abs</li> <li>• Dis-Q</li> </ul>	<ul style="list-style-type: none"> <li>• ICMI, GFF (SIPI)</li> <li>• ICMI</li> <li>• ICMI, GFF (SIPI)</li> <li>• ICMI</li> <li>• ICMI, GFF (SIPI)</li> </ul>
PCI	
<ul style="list-style-type: none"> <li>• altex</li> <li>• altsta</li> <li>• abs</li> <li>• volcon</li> <li>• timesen</li> <li>• bodim</li> <li>• imag</li> <li>• imviv</li> <li>• imam</li> </ul>	<ul style="list-style-type: none"> <li>• DIS-Q, HGSHS:A</li> <li>• HGSHS:A, CIS</li> <li>• HGSHS:A</li> <li>• HGSHS:A</li> <li>• HGSHS:A, DIS-Q</li> <li>• HGSHS:A</li> <li>• CIS, ICMI</li> <li>• CIS, ICMI</li> <li>• HGSHS:A, CIS, ICMI</li> </ul>

## **Links between Eating Behaviours and Hypnotic and Related Constructs**

### **Thin Ideal Internalization, Hypnotic Susceptibility and Correlates**

Germane to this study was the pattern of correlations between hypnotic susceptibility and its correlates, and scores on the questionnaires measuring concerns with weight and

shape, and eating behaviours. Internalisation of the thin ideal, restrictive dieting practices and bingeing were the three major constructs of interest.

For the purposes of this study, internalisation of the thin ideal has been assessed by the two measures which appear to relate quite significantly, that is, the reported concerns with body parts associated with weight (PASTAS), and the difference between felt body shape and size, and preferable or ideal body dimensions (CDRS). These are, by nature of the measures used, individual perceptions of self. However, as the other weight related measure generated by the CDRS have also demonstrated significant correlations with eating behaviour scores, results therefrom are also of interest. One other set of correlations was produced between PCI dimension scores and the CDRS generated ideal body weight, whereby small, but significant, negative correlations were found. Ideal body weight correlated with Altered Experience (-.345, >.01), perception of altered Body Image (-.271, >.05), and experience of Altered Time Sense (-.313, >.05).

Because the CIS and the HGSHS:A appeared to be unrelated in this study, and the Phenomenology of Consciousness inventory provided an excellent subjective reflection of various aspects of the hypnotic experience, it is proposed to examine carefully the use of the PCI as the measure of hypnotic responsiveness. Again, it must be emphasized that the PCI is a measurement of each individual's own perception of responsivity to an hypnotic situation, and, as such, is especially relevant to this study. The relationship between the PCI dimensions, and the scores on the weight, shape and eating inventories, is reflected in the following Table 22.

Table 22. Correlations between intensity of dimensions on PCI and measures of concerns with weight and shape, and eating behaviours.

	pHGS	PCI	ALSTA	IMAM	IMVIV	IMAG	ALTEX	BODIM	TIMSEN	ABSOR	VOLCON
<b>BIAW</b>	.024	.124	-.009	.128	.024	.089	.104	.105	.192	-.138	-.290*
<b>IF</b>	-.055	-.004	-.028	.121	.024	.077	-.029	-.029	.061	-.113	-.118
<b>DIET</b>	.042	.055	-.069	.219	.237	.256	.100	-.001	.108	-.037	-.240
<b>FPRE</b>	.054	.003	-.042	.014	.055	.036	.012	-.213	.253	-.079	-.181
<b>OC</b>	.302*	.135	.202	.286*	.333*	.329*	.330*	.293*	.300*	.170	-.070
<b>EAT</b>	.122	.073	-.007	.232	.267*	.274*	.159	.016	.222	-.004	-.235
<b>DIET</b>	.019	.136	-.010	.051	.068	.068	.099	.115	.034	.015	-.179
<b>DISEA</b>	-.023	.084	-.007	.028	-.037	-.007	-.088	-.153	.029	-.234	-.186
<b>SUSF</b>	.012	.117	-.011	.007	-.030	-.014	-.089	-.221	.064	-.235	-.151
<b>3-FEQ</b>	.012	.117	-.011	.007	-.030	-.014	-.073	-.119	.014	-.137	-.214

\*\* Correlation significant at 0.01 level (2-tailed)

\* Correlation significant at 0.05 level (2-tailed)

Because other aspects of the CDRS and BMI-related scores have correlated significantly with eating behaviours, their relationship with PCI intensity dimensions was of interest. Small, but significant correlations emerged between highest and lowest BMI's and pHGS (.297, < .01) and Absorption (.272, <.01). Ideal body size (CDRS) was negatively correlated with Altered Experience (-.345, <.05) and with Alterations in Body Image (-.271, <.01).

Correlations to which attention needs to be drawn, include the small, but significant, negative relationship between the reported concerns with body weight and the intensity (or amount) of voluntary control experienced during the hypnotic experience of the Harvard. It would seem, in this sample at least, that the higher the concerns with body weight and shape, the lesser was the perception of voluntary control when hypnotised.

Another set of relationships with interesting implications for this study has emerged around the correlations of the Oral Control factor of the EAT with the predicted Harvard Group Scale score, and the intensity ratings for Amount of Imagery, Vividness of Imagery, Altered Experience, alterations of Body Image, and changed Time Sense. Both Imagery and Vividness of Imagery intensities also had small, but significant, correlations with the full score of the Eating Attitudes Test. It seems probable that for those participants who viewed themselves as high in the desire to control food intake, there was also a perceived susceptibility to hypnotic suggestions, which was associated with large amounts of vivid imagery, and alterations in their sense of time and body image. It is also noteworthy that there were no correlations between any of the hypnotic dimensions tapped by the PCI and the factors of the 3-Factor Eating Questionnaire.

Other correlations of interest in this respect included a small, but significant relationship between the HGSHS:A (.266, >0.01) and the Oral Control factor of the EAT, which again suggests that hypnotic susceptibility and a desire to control food intake may be linked. As well, a relationship has been found between Factor 3 (Susceptibility to hunger) of the 3-FEQ and Guilt-Fear-of-Failure (Short Imaginal Processes Inventory), a correlation of

.296 (<0.01). There were no significant relationships between any of the weight, shape and eating scores and the Creative Imagination Scale.

Other correlations of interest in this study, are those between scores on other aspects of weight, shape and size concerns, and those questionnaires tapping Daydreaming styles (SIPI) and dissociative experiences (DIS-Q). Table 23 summarizes those statistically significant correlations.

Table 23: Correlations between weight/shape measures and GFF, ICMI and DISQ

	<b>BMI</b>	<b>Hi-Lo BMI's</b>	<b>Actual Size</b>	<b>Felt Size</b>	<b>Ideal Size</b>
<b>LOC</b>					-.325**
<b>IDC</b>					-.452**
<b>ABS</b>	-.314*		-.287*	-.282&*	
<b>DIS-Q</b>					-.383**
<b>ICMI</b>			-.250*	-.278*	-.288*
<b>GFF</b>		-.310*			
<b>ABS(PCI)</b>		.272*			

\*\* Correlations significant at 0.01 level (2-tailed)

\* Correlations significant at 0.05 level (2-tailed)

These correlations, especially those with ideal body weight/size, suggest that high scores on two factors of the DIS-Q (LOC & IDC), as well as the total DIS-Q scores and the ICMI score, are related to a perceived desire for a lower body weight. These correlations also suggest a negative relationship between DIS-Q and ICMI scores, and felt body weight, with higher absorption scores correlating with a lower BMI, and smaller differences between highest and lowest weight. A high GFF score also relates to lower differences between these weights.

### **Eating Behaviour and Dissociative Experiences**

The expected correlations were evident between eating behaviour, weight and shape concerns, and the scores on the DIS-Q, which are tabulated below in Table 24.

Table 24. Correlations between weight and shape concerns, eating behaviour, and scores on Dissociation Questionnaire.

	<b>B/Wt</b>	<b>I-F</b>	<b>Diet</b>	<b>FPre</b>	<b>OC</b>	<b>EAT</b>	<b>Diet</b>	<b>Diseat</b>	<b>Suhun</b>	<b>3FEQ</b>
<b>IDC</b>	.215	.087	.181	.428**	.291*	.320*	.157	.175	.233	.238
<b>LOC</b>	.155	-.040	.059	.304*	.231	.184	.092	.231	.271*	.224
<b>AMN</b>	.112	.021	-.026	.063	.114	.028	-.109	.038	.068	.061
<b>ABS</b>	-.044	-.158	.040	.270*	.298*	.181	.060	-.019	.262*	.172
<b>DISQ</b>	.159	-.003	.102	.344*	.301*	.244	.083	.153	.247*	.217

\*\* Correlation significant at 0.01 level (2-tailed)

\* Correlation significant at 0.05 level (2-tailed)

Significant relationships between scores on Food Preoccupation and Identity Confusion, Loss of Control, Absorption and the total DIS-Q score were small, but significant. Identity Confusion also had small, but significant correlations with Oral Control and with the total EAT score. Locus of Control had a small, but again significant relation to Susceptibility to Hunger (3-FEQ). Absorption and the full DIS-Q score appeared to have some relationship to both Food Preoccupation and Oral Control, as well as to the Susceptibility to Hunger scores. Perceptions of susceptibility to dissociative experiences appear to be linked to the desire to control food intake, as well as to preoccupation with food and a possibly resultant desire to eat. As well, as Table 23 summarised, other weight, shape and size related measures, especially ideal body weight, resulted in significant negative correlations with DIS-Q scores.

### **Gender and Age Differences**

#### **Relationships between Eating Behaviours and Hypnotizability-related Measures**

Gender and age differences affected some of the relationships between results on the weight, shape and eating measures and those measuring hypnotic susceptibility, fantasy proneness and dissociative capacity. Because no significant relationships between eating behaviour and hypnotic susceptibility were found, it is difficult to comment on possible differences which might emerge as a result of the differences in hypnotizability scores reported for males and females.

In relation to fantasy-proneness, for males, only one significant correlation emerged, between the imagery dimension of the PCI and Oral Control (EAT). More relationships appeared between scores for female participants. These included – small, but significant, relationships between Dieting (EAT) and the imagery dimension (PCI); similar correlations between full EAT score and vividness of imagery and imagery; a small, but significant negative correlation between food preoccupation and body image (PCI); and a small, but positive correlation, between oral control (EAT) and altered experience (PCI). Only one significant correlation emerged from the scores on the 3-FEQ and the dimensions of the PCI, between Body Image and Susceptibility to Food and Hunger (Factor 3, 3-FEQ), which was negative.

Other significant relationships were found between female scores on the PAC (SIPI) and Susceptibility to Hunger (3-FEQ), as well as for Imagery, Imagery Vividness and Amount of Imagery (PCI) and Dieting and full EAT scores. For males, GFF (SIPI) correlated significantly with Disinhibition of Eating and Susceptibility to Hunger (3-FEQ), as well as with the total 3-FEQ score. As well, for males Imagery and Altered Experience (PCI) were significantly correlated with Food Preoccupation (EAT), and Time Sense (PCI) was correlated with Oral Control (EAT).

Age differences were found only in the relationship between scores for the PCD (SIPI) and the Dietary Restraint factor of the 3-FEQ.

Expected gender differences in relationships between eating behaviours and dissociative capacities emerged. Correlations between reported dissociative experiences and Oral Control (EAT) was strongly positive for males, while for females, a small, but significant relationship emerged between the DIS-Q scores on Loss of Control and Identity Confusion, and Preoccupation with Food (EAT).

This is quite a confusing profile, but in attempting to impose some interpretive order on same, it would seem that perhaps dietary restraint is something about which males daydream, while not necessarily taking the kinds of actions that females do in actually restricting food intake. The relationship between disinhibition of eating and

susceptibility to hunger, and Guilt-Fear-of-Failure Daydreaming styles, seems to suggest that males may be very strongly punished for taking on a diet and failing to meet their goals. This may account for the fact that males do not undertake dieting easily.

Imagery, generally, appears to be far more a part of the female attempt to restrict food intake, as are the dissociative experiences associated with identity confusion and loss of control. For females, poor attentional control is associated with Susceptibility to Hunger, while a perception of altered experience is related to Oral Control. This may be supportive of the idea that an objectification of the body, with its implicit dissociation therefrom, is the female route to dietary restriction. However, these results may simply be the reflection of the small numbers involved in the study. Certainly, to ascertain the generalizability of these differences, discriminant analyses would need to be undertaken, a course of action which is rendered difficult owing to the small size of the sample.

However, it would seem that caution needs to be applied in interpreting results using the measures herein described, as both gender and age differences in profiles of scores are likely.

### **Summary: Correspondence between Measures**

#### **Weight, Shape and Eating**

It seems a reasonable conclusion to draw from the correlations extracted from the current data that the best indices of weight and shape concerns appeared to be the PASTAS weight subscale, and the silhouettes chosen on the CDRS that represent the difference between felt body shape and ideal body size, although other aspects of that same questionnaire also provide useful information. Some BMI related information, however, was useful.

The eating behaviour inventories appeared to tap some similar areas, as well as some that were different. The EAT reflected bingeing, bulimic and anorexic tendencies, while the 3-FEQ appeared to concentrate more on bingeing and overeating behaviours.

### **Hypnotic Susceptibility**

. Relationships between the Creative Imagination Scale and the Harvard Group Scale of Hypnotic Susceptibility:Form A were not significant. However, the Phenomenology of Consciousness Inventory seemed to offer an excellent means of tapping the individual experience of each participant, and was very useful in examining possible relationships hypothesized by the hypno-socio-cultural model. Relationships between the HGSHS:A and the PCI dimensions were, on the whole, significant.

### **Fantasy Ability**

Relationships between the fantasy scales were generally insignificant, the two exceptions being small correlations between the Inventory of Childhood Memories and Imaginings and the Positive Constructive daydreaming and Guilt-fear-of-failure styles of the Short Imaginal Process Inventory. However, the imagery dimensions of the PCI demonstrated some small, but significant, relationships with the Creative Imagination Scale and the Inventory of Childhood Memories and Imaginings. Previously reported correlations between the HGSHS:A and the Pleasant Constructive daydreaming style were replicated herein, although the correlation was small. This and the Guilt Fear of Failure style also correlated with the Inventory of Childhood Memories and Imaginings.

### **Dissociative Capacity**

Dissociative capacity and fantasy ability appeared to have some common features, as correlations were found between the ICMI and all factors of the DIS-Q (except Absorption), while there were small significant correlations between identity confusion

and guilt-fear-of-failure daydreaming style, and between the same daydreaming style and amnesia, as well as with the full DIS-Q score.

Relationships between the DIS-Q and the measures of levels of hypnotic susceptibility suggested that these measures appear to have little in common, with only moderate correlations between locus of control and pHGS (.330\*), and pHGS and DIS-Q (.274\*), Identity confusion correlated with Altered experience (.314\*), and Time Sense (.421\*\*). Loss of control correlated with Time Sense (.418\*\*), and absorption related to this aspect of the PCI (.274\*). Time sense also correlated moderately well with the full DIS-Q score (.449\*). Neither the CIS nor the HGSHS:A produced any correlations with the dissociation questionnaire.

### **Gender and Age Differences**

Most of the measures were affected by gender differences, with important differences in some measures in relation to age. These also affected the links hypothesized by the Hypno-socio-cultural model.

### **Links hypothesised by the Hypno-socio-cultural Model**

Relationships between weight and shape concerns, and eating behaviour, and hypnotic susceptibility, fantasy ability and dissociative capacity were meagre in this sample in relation to the stated goals. Only small correlations were found between the following constructs for the entire sample

- Physical Appearance and perception of decreased voluntary control while hypnotised showed a small negative correlation, however, both dissociative experiences and scores on the ICMI and GFF (SIPI) were negatively linked with scores related to ideal body size, actual body size, the BMI and difference between highest and lowest weights.

- Small correlations were found between oral control and the pHGS, and the imagery, imagery amount and imagery vividness, altered experience, body image, and time sense intensities of the PCI.
- Small correlations were found between the full EAT score and both imagery and imagery vividness.
- Small correlations between DIS-Q factors and subscales of both the EAT (food pre-occupation, oral control) and the 3-FEQ (susceptibility to hunger) were found
- Small correlations were found between GFF (SIPI) and 3-FEQ (Susceptibility to Hunger)

Aspects of dissociative experiences also correlated with eating behaviour scores, with bulimia and food preoccupation (EAT) linked with all DIS-Q scores except Amnesia. Identity confusion was also linked with Oral Control, while loss of control was related to susceptibility to hunger (3-FEQ). Absorption and the DIS-Q score are related to both bulimia and food preoccupation (EAT) and Oral Control (EAT).

### **Summary of Results**

The most highly statistically correlated measures of weight and shape concerns were the weight-related scores on the PASTAS, and the differences between ideal and felt weights on the Contour Drawing Rating Scale, although other measures generated by this scale also provided useful information.

Of the Eating Behaviour assessments, scores with good statistical correlations to these weight, shape and size measures, included the Dieting factor of the EAT, and the Dietary Restraint and Disinhibition of Eating Factors of the 3-FEQ.

While the Eating Behaviour questionnaires would not be interchangeable, there were significant statistical correlations between the Dieting factor (EAT) and Dietary Restraint, Disinhibition of eating and Susceptibility to hunger (3-FEQ) as well as

between Food Preoccupation (EAT) and Disinhibition of eating and Susceptibility to hunger (3.FEQ).

No significant statistical relationships were found between the Creative Imagination Scale and the Harvard Group Scale of Hypnotic Susceptibility: Form A. However, the latter produced significant correlations with all dimensions of the PCI except those related to imagery and imagery vividness.

In relation to the Fantasy and Imagination Scales, the scores on the Inventory of Childhood Memories and Imaginings were significantly correlated with the Pleasant Constructive and Guilt-Fear-of-Failures Daydreaming styles of the Short Imaginal Processes Inventory. The Creative Imagination scale scores were significantly correlated to the Phenomenology of Consciousness Inventory's imagery, vividness of imagery and amount of imagery dimensions. The ICMI produced significant relationships to only two of these dimensions, the imagery and amount of imagery dimensions. No significant statistical relationships were found between the SIPI and the PCI scores.

Scores on the ICMI were significantly related to all factors of the Dissociation Questionnaire apart from the Absorption sub-scale. The Guilt-Fear-of-Failure Daydreaming style (SIPI) also produced significant correlations to the Amnesia and Identity Confusion and Amnesia factors, as well as to the full-scale score of the DIS-Q.

Phenomenology of Consciousness Inventory dimensions whose scores showed significant correlations with the DIS-Q scores included

- Altered experience and altered time sense, and Identity Confusion
- Altered time sense, and Loss of Control
- Altered time sense, and Absorption
- Altered experience and altered time sense, and the full-scale score of the DIS-Q

Correlations between scores on the eating related concepts, and those associated with hypnotic susceptibility, were not precisely those which were predicted by the model, but

nevertheless may support some of those relationships which were expected. These were as follows:

- PASTAS weight-related scores showed a small, but significant correlation, with the perception of voluntary control dimension of the Phenomenology of Consciousness Inventory
- The Oral Control factor (EAT) correlated significantly with the predicted Harvard Group Score (PCI), and with the PCI dimensions related to amount of imagery, vividness of imagery, imagery, altered experience, alterations in body image and alterations in time sense. There was also a small, but significant correlation, between the Oral Control scores and the HGSHS:A scores.
- The full scale score on the Eating Attitudes Test correlated significantly with the vividness of imagery and imagery dimensions of the PCI
- Food preoccupation (EAT), oral control (EAT) and full-scale EAT scores correlated significantly with Identity confusion (DIS-Q)
- Food preoccupation (EAT) and Susceptibility to Hunger (3-FEQ) scores correlated with Loss of Control (DIS-Q)
- Food preoccupation (EAT), Oral Control (EAT) and Susceptibility to Hunger (3-FEQ) correlated with Absorption (DIS-Q)
- Food preoccupation (EAT), Oral Control (EAT) and Susceptibility to Hunger (3-FEQ) all correlated significantly with the total DIS-Q score

In relation to the Hypno-socio-cultural model, the results of the current study can be summarised diagrammatically as follows in Figure 7.

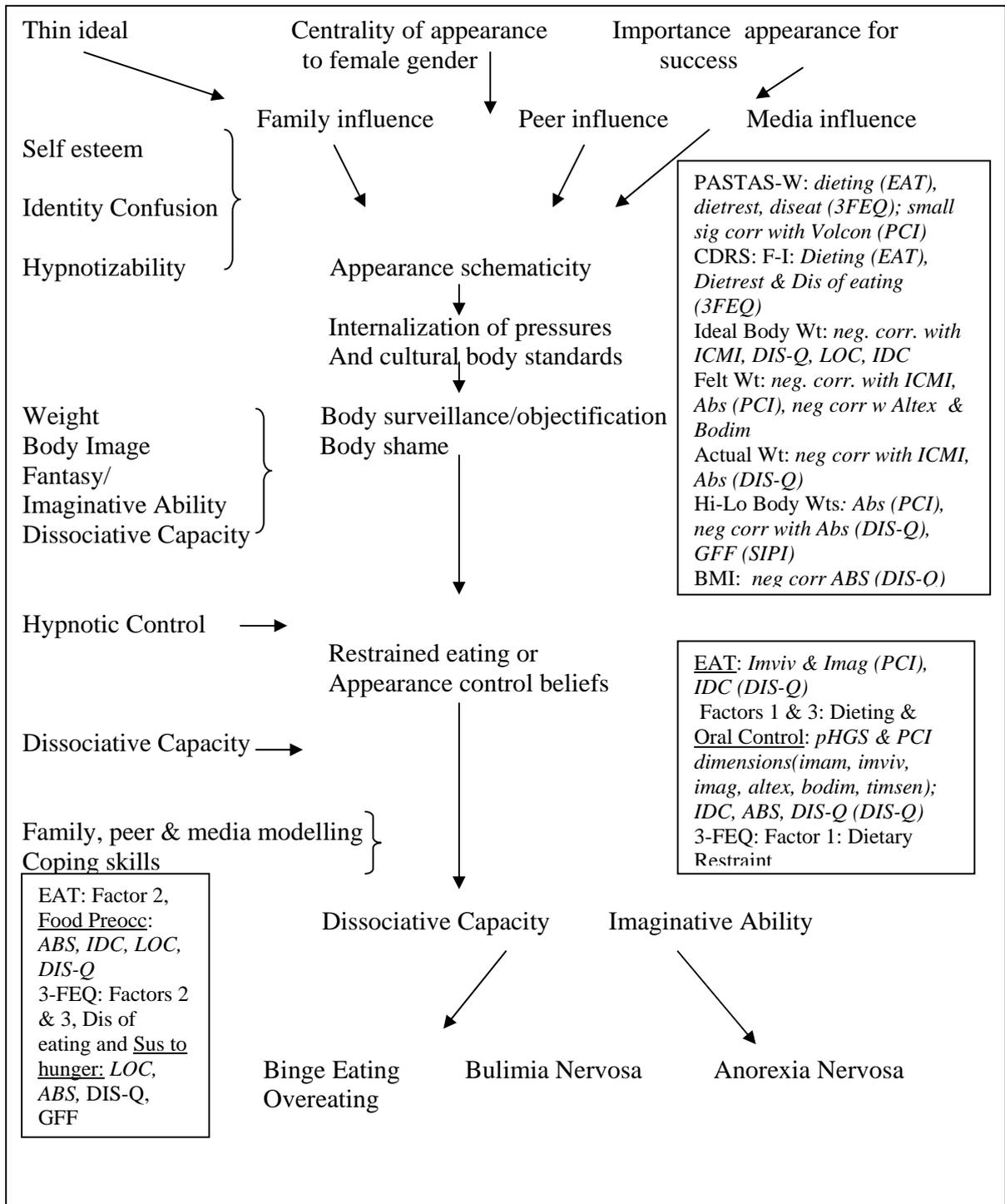


Figure 7: Significant correlations found between measures applicable to HSC model

## **Limitations of the Study**

This was a small study, the purpose of which was to examine some of the possible relationships between measures used in eating disorder research, that is, to establish whether alternative measures of self-perception, eating behaviour, hypnosis, dissociation and imagination produce similar patterns of results. As well, the study aimed to investigate some of the the hypothesised components and connections proposed by the hypno-socio-cultural model. One acknowledged drawback in the current study was the limited number of participants, especially of male group members. Statistical analysis of these small numbers in relation to the wide variety of assessments employed can be, at most, indicative of possible directions for future research. For this reason, overall the power of the current analyses is weak. A much larger sample size, with equal representation from both genders, and a wide range of age groupings, would yield results whose power would be much greater.

Because the group contained few participants who could actually qualify for a diagnosis of dysfunctional eating, findings would need to be treated with caution. Diagnosis of eating disorders, although not limited to those between the ages of adolescence and young adulthood, is most commonly found in younger people. However, in this sample, very few of the younger participants obtained scores on the eating inventories which would have indicated a need for their investigation for such diagnoses. In fact, it is possible that this group is atypical, because only two of the under-twenty five year old participants scored above the cut-off point for the Eating Attitudes Test, and likewise two of the younger group scored relatively high on the 3-Factor Eating Questionnaire. One of the two participants in each category was actually the same person, and her body mass index was in the normal range. The other five participants who scored above the cutoff on the Eating Attitudes Test were all over thirty years of age. Similarly, those who obtained higher scores on the Three-Factor Eating Questionnaire ( $n = 4$ ) were over 35 years of age.

An additional possible limitation was the “hypnotic” context in which the study was conducted. Previous research has highlighted the effect this may have on results by virtue of the expectations generated in participants. The fact that the individuals involved in this study were all interested in understanding and learning about hypnosis suggests a certain openness to the possibility of its effectiveness which may not be present in dysfunctional eating populations.

## **Conclusion**

The current study does seem to suggest that components of the Hypno-socio-cultural model do appear to be related but the significance of these relationships may have somewhat different implications for the model than those originally envisaged. However, the measures used in previous research do not seem to be interchangeable as they generate a significantly different pattern of results.

Because the pattern of results, though generally in the expected directions, is quite inconclusive, and seems to raise far more questions than it answers, further clarification of these issues has been sought in an examination of some of the individual responses made by participants. A review of several cases, male and female, and with different profiles on the eating disorder inventories, as well as different Body Mass Indices and reported weight and shape concerns, provides a more clinical angle on the data generated by the study.

## **Chapter 6**

### **Qualitative Aspects of Relevant Data**

#### **Clinical Interpretations Highlighted**

In-depth examination of a number of cases has been undertaken to highlight the complexity of some of the issues involved. Such an approach highlights the factors upon which clinical approaches are based, thus demonstrating the possible relevance to clinicians of the proposed model, in light of the difficulty of generating clear-cut statistical validation of the model. Such validation could only come from Structural Equation Modelling, which requires larger numbers than were available in the current study, and would be a recommended component of ensuing research. This initial research has simply examined some of the components of the model in preparation for further investigation. As suggested by the previous statistical analyses, these case studies further highlight the fact that no single measure, used in isolation, can accurately reflect the complex attitudes and capacities which are currently under scrutiny. However, there is also an emergent emphasis on those factors which indicate possible differences in self-perception in relation to control and regulation of self.

#### **Case Studies: A Different Perspective on the Data**

Twelve cases have been chosen to represent data from males and females, younger and older participants, those who are classified as underweight and overweight, and those of normal weight with higher scores on the eating behaviour questionnaires. The chosen respondents were closest in weight and shape to people whose eating behaviours would be diagnostically dysfunctional, or they obtained high scores on the eating behaviour inventories. Eleven females were below the BMI cutoff of 20 denoting underweight, although no one in the sample reported a BMI of 17 or less, which would have been indicative of anorexic problems. Three young men also reported a BMI below 20. Seventeen members of the sample were above a healthy BMI (25+), of whom one male

and four females were in the obese classification (over 30 BMI), while twelve were overweight to varying degrees (4 males and 8 females). All participants are designated by the code names allocated for the study.

**Effie: young, underweight, female**

Effie had a body mass index of under twenty (BMI= 18.75) which is ninety-four percent of a healthy body weight, as currently defined. Adult weight variations were small at approximately 2.5 kilograms. She was one of the younger participants in the sample, as were the majority who registered a BMI below 20 (the exception was one 45 year-old, Kat whose BMI was just below 20, and whose data is presented later in this chapter). Despite the fact that she was considerably underweight, and registered both her felt and actual weight as a 4 (from a choice of 9 silhouettes), she still desired to reduce that number to a 3, which she indicated was her ideal body shape and size. Her score on the Body Shape State and Trait Anxiety Scale – Weight related was 14 (of a possible 32), compared with the overall mean of 14.19 (*SD* 6.7), and the mean for twenty year olds which was 11.43 (*SD*, 7.9). This is comparable with the mean non-eating disturbed score of 15.92 (*SD*, 6.0) obtained by the authors of the instrument (Reed, Thompson, Brannick & Sacco, 1991), as contrasted with their reported mean of 26.7 (*SD*, 3.6) for the eating disordered in their sample. However, considering her underweight condition, this is an extremely high total. On the non-weight part of this scale (maximum score 32), Effie scored 7, compared with her age-group mean of 2.14 (*SD*, 3.7), and the group mean of 2.5 (*SD*, 3.5). This was comparable with the score of 6.6 (*SD*, 4.6) for eating disordered individuals reported by those who developed the scale. It is possible that Effie has an attitude to her body indicative of Body Schematicity, as proposed by the Cognitive Behavioural theorists.

Her scores on the Eating Behaviour tests were as follows:

Table 25. Scores on EAT and 3-FEQ for Effie

Dieting	Food Preocc/bulimia	Oral Control	EAT	Dietary Restraint	Disin of eating	Sus to hunger	3-FEQ
2	0	1	3	1	6	10	17

Comparatively, mean scores for twenty year olds on these two instruments were 4.43 (EAT) and 14.29 (3-FEQ), while for the total group the means were 7.54 (*SD*, 8.9) and 18.34 (*SD*, 9.5) for the EAT and 3-FEQ respectively. While the EAT score is well below the cutoff point (20) for consideration of further investigation in relation to disordered eating, the score on the 3-FEQ is a relatively high one, although once again, there are no implications for disordered eating diagnosis. However, Effie is obviously ignoring or controlling hunger substantially, in order to present with a significant degree of disinhibited eating and very high susceptibility to hunger.

For this subject, scores on the Dissociation Questionnaire (Table 26) were in the normal range, apart from the score for Loss of Control which was slightly elevated. However, her scores were higher than the means for her age-group as well as being higher than the mean for the whole group, as tabulated below. The high Loss of Control score may be related to her higher disinhibition of eating score. Possibly dietary restraint has become such a habit with Effie that she is no longer acknowledging that she is actually carefully controlling her eating and this regards her occasional hunger/eating outbursts as noteworthy. As many experts in the field have indicated, westernised women believe limited kilojoule intake is normal eating.

Table 26. Scores on DIS-Q for Effie, compared with 20-yr old means and those of whole group.

	Identity confusion	Loss of control	Amnesia	Absorption	DIS-Q
20-yr old mean	1.6 (.3)	2.5 (.4)	1.8 (.4)	2.3 (.5)	1.9 (.3)
Group mean	1.8 (.6)	2.2 (.6)	1.8 (.6)	1.2 (.7)	1.7 (.5)
Effie	1.5	3.1	2.7	2.7	2.3

Her score on the Inventory of Childhood Memories and Imaginings (20) places her in the low average range, and is comparable with the 20-year old mean of 23.4 (*SD*, 9.8) and with the group average of 22.6 (*SD*, 7.6), while her scores on the Short Imaginal Processes Inventory, especially on the Guilt Fear of Failure Daydreaming style were somewhat elevated. Her scores of 50 (Pleasant Constructive daydreaming style), 62 (Guilt-fear-of-failure and Poor Attentional control (58) must be compared against the following means for the 20-year old group and the total sample. These were, 57.6 (*SD*,

5.3), 54.7 (*SD*, 4.6), 49 (*SD*, 7.9), for her own age group, and 54.5 (*SD*, 8.8), 52.3 (*SD*, 8.6) and 47.1 (*SD*, 11.6) for the entire group. Her score on the Creative Imagination Scale (30) is in the high range, and is well above the mean for her age (20.5, *SD*, 10.7) as is her result on the Harvard Group Scale of Hypnotic Susceptibility (9), compared with the group mean of 6.6, (*SD*, 2.9) and the mean for her own age-group, 7.2, (*SD*, 2.1). Her score on the predicted Harvard Group Scale of the Phenomenology of Consciousness Inventory suggests that she is moderately hypnotizable, with a score of 5.78, compared with 4.5 (*SD*, 1.9) and 4.9 (*SD*, 1.6) for the twenty year olds and the whole group respectively. Intensity scores on the other dimensions are as follows, tabulated to highlight both Effie's scores and those of the other six twenty-year olds, as well as the means for the entire group.

Table 27. Scores on PCI, dimension intensities for Effie, 29 year olds and entire group

	<b>Alsta</b>	<b>Imam</b>	<b>Imviv</b>	<b>Imag</b>	<b>Altex</b>	<b>Bodim</b>	<b>Timsen</b>	<b>Absorp</b>	<b>Volcon</b>
<b>20's</b>	2.6 (1.9)	2.2(1.6)	2.4(1.4)	2..3(1.4)	1.93(1.4)	2.13(1.9)	3.26(1.4)	3.6(.9)	4.00(1.3)
<b>Group</b>	3.07(1.6)	2.2(1.7)	2.3(1.7)	2.3(1.5)	1.8(1.2)	2.06(1.8)	2.7(1.7)	3.8(1.3)	3.5(1.3)
<b>Effie</b>	4.67	3.5	3	3.25	2.46	2.33	4.33	3.5.	3.33

From this table it can be observed that Effie's scores are in the highest bracket, both for her age-group, and for the entire group.

Effie is a young lady who, according to her scores, has internalized quite effectively the kinds of body concerns about which the hypno-social-cultural model is hypothesising. Her relatively high scores on hypotizability scales, imagination and one factor of the dissociation scales suggest that the model may have some merit, although neither the ascription of causality, nor its direction, can be inferred from this data. Of especial interest is her relatively high score on the GFF factor (SIPI) which adds further evidence to an overall profile which suggests a relative inability to self-regulate negative imaginings and self-perceptions.

**Zach: young, underweight, male**

A nineteen year old, Zach, was also under a BMI of 20 (19.93), and unlike Effie whose weight had only varied by about 2 kilograms since she had reached adulthood, his weight had been considerably higher at times, varying about 8.5 kilograms above his current weight, which placed him in the overweight category at that time in his life. Despite the fact that he was just under what is considered a normal BMI, he considered that his actual size was a 5 on the silhouette rating scale, and that he felt around that size as well. His ideal body size was a 4. However, his weight related concerns only scored a 5 (compared with the mean for his age-group, 13.25, *SD*, 5.8) and his non-weight related worries scored a low 2 (mean for the 8 19 year olds 2.88, *SD*, 2.6). It seems that Zach does have considerable interest in his weight, shape and size, but may deal with those in a non-self-aware manner. His scores on the EAT were low, apart from those on Oral Control, on which his score was 10 (compared with means for 19 year olds, 2.13, *SD*, 2.0; and group means, 1.68, *SD*, 2.3). For the 3-FEQ, his total score of 9 was well below the mean for his age-group (19.25, *SD*, 10) and for the entire group (18.34, *SD*, 9.4). However, the high Oral Control suggests that he is probably carefully monitoring his food input in perhaps habitual ways, about which he does not consciously think. Or, given Zach's very high dissociation scores to be reviewed shortly, he may fall into that category of persons described by Steinberg (1994) who may be amnesic for some experiences.

All of his DIS-Q scores were considerably elevated, and a comparison between group, age-group and Zach's scores reveal the size of the discrepancy, as shown in Table 28.

Table 28. Scores on DIS-Q for Zach, compared with 19-year old and group means and standard deviations.

	<b>Identity confusion</b>	<b>Loss of control</b>	<b>Amnesia</b>	<b>Absorption</b>	<b>DIS-Q</b>
<b>19's</b>	2.29(.8)	3 (.8)	2.2 (.7)	2.6(.6)	2.5 (.6)
<b>Group</b>	1.8 (.5)	2.5 (.6)	1.8 (.6)	2.4 (.7)	2 (.5)
<b>Zach</b>	3.48	3.78	3.4	3.5	3.54

Fantasy scores for Zach were also high as the following table demonstrates.

Table 29. Scores on fantasy and imagination measures for Zach, compared with 19 year old and group means and standard deviations.

	<b>icmi</b>	<b>pcd</b>	<b>Gff</b>	<b>pac</b>	<b>cis</b>	<b>Imag</b>	<b>imam</b>	<b>imviv</b>
<b>19's</b>	26.36 (7.9)	53.4 (6)	56.9 (7)	55.2 (12.5)	17.7 (6)	2.7 (1.9)	2.7 (2)	2.7 (1.9)
<b>Group</b>	22.6 (7.6)	52.5 (8.8)	52.3 (8.6)	47.1 (11.6)	18.1 (7.5)	2.3 (1.5)	2.2 (1.7)	2.3 (1.5)
<b>Zach</b>	29	50	62	58	30	5.5	3.5	6

His scores on the hypnotizability and related measures were also higher than average, as tabulated hereunder in Table 30. Zach is potentially in that group of hypnotisable subjects classified as virtuoso.

Table 30. Comparison of Zach's scores on HGSHS:A and PCI dimension intensities, with 19 year old and group means and standard deviations.

	<b>HGSH</b>	<b>pHGS</b>	<b>alsta</b>	<b>altex</b>	<b>bodim</b>	<b>timsen</b>	<b>absorp</b>	<b>volcon</b>
<b>19's</b>	7.56 (3.6)	5.1 (1.2)	3 (1.2)	1.6 (1.2)	1.7 (1.7)	3 (2.2)	3.5 (1.4)	3.5 (1.2)
<b>Group</b>	6.6 (2.9)	4.9 (1.6)	3 (1.5)	1.8 (1.2)	2 (1.5)	2.8 (1.7)	3.8 (1.3)	3.5 (1.3)
<b>Zach</b>	12	8.07	6	3.68	4	6	6	4

This profile is very different from that of Effie. While her highest scores are for imagery and related variables, Zach's scores on all of the imagery, dissociation and hypnotic susceptibility measures are in the high to very high ranges. However, his weight related and eating behaviour scores, apart from those for Oral Control, are in the lower ranges, although he obviously has some issues around weight and shape concerns, but these do not seem to be influencing his behaviour in the same way as seems to be happening in Effie's case. Or perhaps his dissociative capacity has diminished his awareness of the amount to which he does monitor his weight, shape and size, and the extent to which he has internalized the need to be thin. He admitted to the author in a post-study conversation that he had been "fat" when he was younger, an experience he disliked. Again, this participant's scores on GFF (SIPI) a\were quite elevated, perhaps an indication of his general inability to regulate negative imaginings.

**Molly: older, underweight, female**

Molly, code-name for a 30 year old participant in the study, was likewise under the 20 BMI with her reported current Body Mass Index of 18.68. With a weight difference of approximately 3.5 kilos in her adult life, she rated her actual and felt silhouette at a three, and stated that this was also her ideal weight/shape. Her weight related concerns scored an 8, with a zero score for non-weight related concerns. This is well below the group average, and as there are only two people of her age, comparison with same-age peers will be omitted. Her scores on the EAT are extremely low (total of 1) while her scores on the 3-FEQ, at 19, is somewhat lower than the group norm apart from her susceptibility to hunger score which is 9 (group norm 5.5, *sd*, 3.5). Perhaps, like Effie, dieting has become such a way of life that it is not consciously noteworthy, and therefore has not called forth a response. However, susceptibility to hunger suggests that she might be eating less than her body actually needs for energy balance, as does her lower BMI.

Dissociation scores, likewise are average, apart from her absorption score, which was 3.16 (group norm, 2.4, *SD*, .7). Scores on fantasy measurements were relatively high, with an ICMI score of 29 and scores on the first two factors of the SIPI somewhat elevated (Pleasant constructive style of daydreaming, 59, and guilt-fear-of-failure style, 65). Unfortunately there are no CIS scores for this participant, however her score on the HGSHS:A (10) places her in the highly hypnotizable range. Her pHGS (5.98) does not exactly reflect this high score, however, phenomenological intensities are quite high, as the following table illustrates.

Table 31. Comparison of Molly’s scores on PCI dimension intensities with group means and standard deviations.

	<b>imam</b>	<b>imviv</b>	<b>imag</b>	<b>alsta</b>	<b>altex</b>	<b>bodyim</b>	<b>timesen</b>	<b>absorp</b>	<b>volcon</b>
<b>Group</b>	2.2 (1.6)	2.3 (1.6)	2.3 (1.5)	3 (1.5)	1.8 (1.2)	2 (1.5)	2.8 (1.7)	3.8 (1.3)	3.5 (1.3)
<b>Molly</b>	4	5	4.5	4.67	3.46	3.33	5	4.5	4

Molly’s scores, particularly on both the imagery dimensions, and the altered state dimensions (altered state, altered experience and time sense) are quite elevated compared

with the group mean. In common with the previously discussed participants, a high GFF (SIPI) score has been gained.

**Kat: middle-aged, underweight, female**

Kat, a 45-year old, has a quite low BMI of 19.59, and has had weight fluctuations of about 7.5 kilograms in her adult life. Her body weight concerns scored 14, which was about average for the group, but her non-weight scores were considerably above the group average, at 5. Given her slight frame, these concerns again seem indicative of over-concern with body dimensions. She credited her silhouette as matching a 6, although she felt like a 7, and her ideal body shape was a 5. This is grossly out of proportion to her actual size, given that she is underweight by about 10%. Her internalisation of the thin ideal seems probable.

Scores on the EAT are below the group norms, while her 3FEQ score is equivalent to the group average. However, her susceptibility to hunger score is considerably elevated, and again, it may be a case of dieting having become such normal practice that it is not credited as such. Her dissociation scores are well within the average range, and her ICMI score is in the medium low range.

Her score on the CIS, however, is high, as are her Guilt-fear-of-failure and Poor Attentional Control scores on the SIPI. Hypnotizability scores are in the high average range, with higher than average scores on the PCI dimension of altered time sense.

**Ally: normal weight range, high scores on eating behaviour inventories**

The participant code-named Ally (24 years of age) obtained scores that were relatively high on both eating behaviour inventories, with 23 on the Eating Attitude Test (3 above the recommended cutoff of 20), and 43 on the Three-Factor Eating Questionnaire, which was the highest score achieved by any member of this group. Her scores reflecting concerns with weight and shape were also high, although her Body Mass Index was in the

lower part of the normal range, with a variation in weight of about 2.5 kilograms in her adult life. Additional insight into her attitude to her weight and shape is afforded by her rating of her shape as a 5 on the contour rating scales, with an ideal body weight of 3, and a felt body shape of 6. With a Body Mass Index of 21, these ratings are somewhat biased in the direction of acceptance of societal ideals of appropriate body size and shape rather than a reflection of what might be expected for a healthy body size. Her actual size would be closer to a rating of 4 than of 5. On the PASTAS, her weight related concerns totalled 25, which is close to the 26.7 mean score reported by Reed, Thompson, Brannick and Sacco (1991) for their eating disordered group.

Scores on dissociation, fantasy and hypnosis scales were all above average for this participant. In particular, her scores on identity confusion, loss of control and absorption, as well as her total score on the Dissociation Questionnaire, which were 3, 3.7, 3.4 and 3 respectively, were above the normal limit, and much higher than the group norm of 2.06 (*SD*, .54). Hypnotizability and imagination scores were only slightly above average, although her scores for altered state, altered time sense, absorption and amount of imagination (Phenomenology of Consciousness Inventory) were also higher than average. Pleasant constructive (mean = 52.6, *SD*, 8.8) and guilt-fear-of-failure (mean = 52, *SD*, 8.9) daydreaming styles, however, scored well above average (at 68 and 63 respectively). On the Poor Attentional Control dimension she was significantly below the average of 47.1 (*SD*, 11.6) with a score of 21.

This is a case in which the full gamut of weight and shape related scores, considered in the context of the very high scores on the eating behaviour questionnaires, would need to be taken into account to understand the relevant issues. Taken in isolation, the Body Mass Index, which is in the normal range, does not provide insight into the possible body image and eating problems experienced by this young woman, although those afflicted with bulimia are usually in the normal weight range. Her profile of scores on the eating behaviour questionnaires suggested that both dietary restraint and bingeing behaviours were at a relatively high level, which could indicate that she has bulimic tendencies.

High dissociative and fantasy abilities may play some part in this symptomatology. Once again, this participant scored above average on the GFF (SIPI) scale.

**Barb: normal weight range, high scores on eating behaviour inventories**

Aged thirty-five years, and with a Body Mass Index of 21.1, this participant also had high scores on the PASTAS-Weight (22), the Eating Attitude Test (23), and the Three-Factor Eating Questionnaire (23). Scores on dietary restraint were quite elevated in both questionnaires. She actually rated her current size as a 3, her felt size as a 4, and her desired or ideal size as a 4. During her adult life, differences of only about 2.5 kilograms were reported in her weight.

Scores on the hypnotic susceptibility and fantasy questionnaires ranged from moderate to high, with a very high score on the HGSHS:A (11) and a correspondingly high score on the CIS (36), and high scores on PCD and GFF (SIPI) as well as on the ICMI. She placed in the fantasy group of responders on the PCI, and had exceptionally high intensity scores on the imagery, amount of imagery, imagery vividness, altered experience, body image, time sense and absorption states. Her low score on voluntary control suggested that she felt very much as though she was responding to suggestions involuntarily. Dissociation scores were in the average range for Identity Confusion and Amnesia, but well above normal for Loss of Control and Absorption.

Overall, this woman appears to have issues around size and shape, as well as a tendency to dietary restraint, combined with extremely high hypnotizability scores, higher than average fantasy scores, and some high dissociation scores. This is the kind of profile that would be predicted by the model discussed in this thesis.

**Zoe: normal body weight, high scores on eating behaviour inventories**

Zoe's very normal body weight (BMI, 23.4) did not in any way predict the high scores she obtained on all the size, shape and eating behaviour measures. Her PASTAS-Weight

score (29) was in the range obtained by the authors for eating disordered individuals. Despite her average body size, she rated her actual size as 7 on the Countour Drawing Rating Scale, while her felt size was 8, and her ideal size was a 3. Such ratings may be explained by the fact that over her adult years she had varied by some six kilograms in weight, with her highest weight placing her in the decidedly overweight category. Scores on both the eating inventories were also very high (EAT, 34; 3-FEQ, 33). Those factors on which she obtained highest ratings included dietary restraint (EAT) and all factors of the 3-FEQ (dietary restraint, disinhibition of eating and susceptibility to hunger).

In relation to scores on the other measures, those related to imagery and fantasy were only average, although her GFF (SIPI) score was relatively high, while her score on the HGSHS:A (8) placed her in the high average range. Scores on the intensity ratings of the PCI were, however, high, and she was identified as a fantasy hypnotic responder. Higher than average intensity scores were achieved on altered state, imagery, imagery amount and imagery vividness, body image changes and altered state. Dissociation scores were average, with a slightly elevated score on the Loss of Control factor.

Once again, these kinds of scores are generally supportive of the kinds of connections hypothesized in the Hypno-socio-cultural model, although the subject does not, strictly speaking, fall within one particular self-defeating eating category.

### **Myrna: normal weight, high scores on eating behaviour inventories**

One further case from this range of weights which would not, by itself, attract interest in terms of eating pathology, will further reinforce the idea that measurement of eating pathology is not a straightforward matter. Myrna, aged 45 years, registered a BMI just outside the range classified as average (25.9). Her scores on all the weight, shape, size and eating inventories were above average. Her PASTAS-Weight score of 31 was above the range considered eating disordered by the authors of the instrument, although her non-weight score was only 3. Although her score on the EAT (21) was only just above the cut-off advised by the author, her 3-FEQ score was high, at 32. She scored high on

both measures of dietary restraint, as well as on disinhibition of eating and susceptibility to hunger. She judged her actual weight as a 7, but felt more like a 9, and would have preferred to be the size represented by a 3 on the Contour Drawing Rating Scale. An adult range of 11 kilos in weight perhaps helps explain these choices.

Once again, this participant was rated a fantasy responder on the PCI, and registered moderate to high scores on most of the imagination scales, with the notable exception of her low scores on the SIPI. Dissociation scores were generally very high. Hypnotizability, while rated as only medium on the HGSHS:A, was perceived by the respondent as phenomenologically somewhat higher on her pHGS score. Intensity ratings which were higher than average included altered state, imagery, imagery amount and imagery vividness, as well as timesense and absorption. Her perception of voluntary control was rated as extremely low.

Once more, the kinds of scores which would be expected if the Hypno-socio-cultural model had some validity in reflecting reality, were found with this participant.

**Susan: obese, middle-aged, female**

Susan was 48 years old at the time of this research. With a BMI of 33.2, she would be classified as obese. Variations in weight of around 10 kilograms had involved weight concerns for much of her life. She classified her self as an 8 out of the possible 9 silhouettes, and maintained that she felt like she was a 9, while her ideal body shape she pinpointed as a 4. Concerns with weight related body parts scores 26, compared with the group mean of 14.19 (*sd*, 7.7). Because two people were the sole participants in this age group, only means for the total group are used as comparisons in this case. Non-weight related concerns scored 7, compared with the group mean of 2.51 (*sd*, 5). Again, this is a person who appears to have internalised the thin ideal and who seems to objectify her own body.

Scores on both the EAT (41) and the 3FEQ (34) were much higher than the group norms of 7.54 (*SD*, 9) and 18.34 (*SD*, 9.4). Particularly high scores were obtained on the first factor of the EAT (dieting), and on the dietary restriction and disinhibition of eating factors of the 3-FEQ. Comparison of group means with Susan's scores are set out below.

Table 32. Comparison of Susan's scores on EAT and 3-FEQ with group means and standard deviations

	Diet	Foodpre	Orcon	EAT	Dietrest	Diseat	Suscepthu n	3-FEQ
<b>Group</b>	4.6 (6.3)	1.24 (2.4)	1.68 (2.3)	7.5 (9)	6.7 (4.7)	5.9 (3.7)	5.4 (3.2)	18.3 (9.4)
<b>Susan</b>	28	6	7	41	16	10	8	34

Dissociation scores for this participant are well within the average range, while her scores on the imagination scales range from medium on the ICMI, to slightly higher than average on the SIPI, and medium-low on the CIS. In particular, her score on the Guilt-fear-of-failure factor is quite high (60, compared with the group mean of 52.32, *sd*, 8,8). However, her scores on the hypnotizability measures are comparatively high as set out below in Table 33.

Table 33. Comparison of Susan's scores on HGSHS:A and PCI with group means and standard deviations.

	hgshs a	phgs	alsta	imam	imviv	imag	altex	bodim	timsen	absorp	volcon
<b>Group</b>	6.6 (2.9)	5 (1.6)	3 (1.6)	2.2 (1.7)	2.3 (1.5)	2.3 (1.5)	1.8 (1.8)	2 (1.5)	2.8 (1.7)	3.8 (1.3)	3.5 (1.3)
<b>Susan</b>	12	6.48	3.33	5	2	4.5	2.23	1.33	4.67	5.5	2.33

Susan, like Zach, is in the virtuoso range of hypnotic susceptibility, however her phenomenological profile is quite different from his, and her dissociative capacity is obviously less than is his. However, she demonstrates a markedly higher concern with weight, shape and size, as well as eating behaviour, than does Zach. Again, after debriefing at the end of the study, this participant chose to converse about her reflections on the experience. She maintained that she has always had a very active imagination, and described episodes of binge-eating, and failed dieting attempts, and constant concerns with weight, shape, size and appearance.

**Kan: obese, middle-aged, female**

Kan was 41 years old, had a BMI of 33.3, and has had a wide variation in adult weight of 12 kilograms. She is well above the group average in weight and shape concerns, reaching a 23 on the Physical Appearance scale, and a 6 on the non-weight scale. Her actual size silhouette choice was an 8, her felt size was 9, and her ideal size was 4. Once again, this indicates a probable internalisation of the thin ideal.

This assumption is confirmed when considering her scores on the eating behaviours scales, on which she has a majority of scores above average, the exceptions being oral control and dietary restraint. Her DIS-Q scores are in the average range. Scores on the fantasy inventories are generally elevated. Her ICMI score is 23, her CIS rated 24, and the Pleasant constructive daydreaming style is 63. Her hypnotizability scores are in the high, medium range, and of the PCI intensities, her scores for imagery, vividness of imagery and amount of imagery were all considerably elevated.

**Cora: young, overweight, female**

As contrast to these two somewhat older women, Cora is a 19 year old whose BMI of 28.5 places her in the overweight category. As well, she chose silhouette 7 to signify her actual size, a 9 to indicate the size she felt, and selected silhouette 3 as her ideal. In her adult life, variations of three kilograms in weight had been experienced. Her score on the Appearance scale was 29, and for non-weight related concerns she rated herself 4. Both of these scores are above average. This young woman appears to have the requisite objectification of her body that suggests efficient thin-ideal internalisation.

Scores on the eating behaviour scales were generally elevated, but the EAT score was particularly high because of the dieting score. Disinhibition of eating was also markedly high on the 3-FEQ. Dissociation scores were in the average range. However, many of the fantasy scores were considerably elevated, with an ICMI score of 23, Pleasant

constructive daydreaming style totaling 60, while her GFF score was mildly elevated, and high intensities for imagery, imagery amount and vividness on the Phenomenology of Consciousness Inventory. Her HGSHS:A score was 12, again in the virtuoso range, although her pHGS score was only in the medium range. Her altered state intensity on the PCI was likewise high.

**Anton: younger, overweight, male**

Anton, the code name for an older male participant (32 years) was another person whose BMI (28.44) placed him outside the optimally healthy weight range, as this BMI would be classified as overweight. While his weight had only fluctuated about three kilograms during his adult life, he fairly accurately classified his shape as a number seven silhouette, and claimed that he also felt this same size. However, he nominated his ideal silhouette as number 5, which is exactly average, and probably a reasonably healthy choice. His weight related concerns scored 19 (compared with a group mean of 14, *SD*, 5.7). and were probably realistic, as well. As there were only two other participants in the same age bracket, these means will not be cited. Non-related weight concerns did not rate any score, which puts him well below the group mean of 2.5 (*SD*, 3.5).

Scores on the two eating behaviour questionnaires were likewise elevated compared with the group means, as evident in Table 34.

Table 34. Comparison of Anton’s scores on EAT and 3-FEQ with group means and standard deviations.

	<b>dieting</b>	<b>foodpreocc</b>	<b>oralcontrol</b>	<b>EAT</b>	<b>dietrest</b>	<b>disofeat</b>	<b>sustounger</b>	<b>3-FEQ</b>
<b>Group</b>	4.6 (6.3)	1.24 (2.4)	1.68 (2.3)	7.5 (9)	6.7 (4.7)	5.9 (3.7)	5.4 (3.2)	18.3 (9.4)
<b>Anton</b>	24	10	4	38	10	11	10	31

Dissociation scores were average apart from his score on Absorption, which was 3.33 (compared with the group mean of 2.4, *SD*, .7).

Fantasy scores, on the whole, were within the average range, apart from the ICMI score which was in the high range and his GFF (SIPI) score which was elevated. Scores on the hypnotic susceptibility measures demonstrated an unusual profile, and are shown below in Table 35, in comparison with group means.

Table 35. Comparison of Anton’s scores on HGSHS:A and PCI with group means and standard deviations.

	hgshs a	phgs	alsta	imam	imviv	imag	altex	bodim	timsen	absorp	volcon
<b>Group</b>	6.6 (2.9)	5 (1.6)	3 (1.6)	2.2 (1.7)	2.3 (1.5)	2.3 (1.5)	1.8 (1.8)	2 (1.5)	2.8 (1.7)	3.8 (1.3)	3.5 (1.3)
<b>Anton</b>	1	4.5	2	5	3	2.5	2.15	1	2.3	3.5	3.7

While his overall hypnotic susceptibility score was so low as to lead one to expect that Anton is virtually un hypnotizable, his phenomenological report of the experience suggested that he was moderately so. The amount of imagery he experienced was considerably above the group norm, while both imagery vividness and amount were relatively high. In combination with his higher ICMI score, this suggests that perhaps he is a person who is quite well endowed with imaginative capacity, but for reasons unknown at this stage, his behavioural responses to hypnosis do not indicate accurately his level of susceptibility.

### **Case studies: Summary**

Each of these participants demonstrated a quite different profile of scores, which are tabulated for comparison below, in Table 36. Included in the table are the norms and standard deviations for the group, as well as the number of subjects who completed each assessment. As explained in the individual case studies, four of the participants (Effie, Zach, Molly and Kat) were underweight; four were in the normal range of weight (Ally, Barb, Zoe and Myrna); while the remaining four participants (Susan, Kan, Cora and Anton) were in the overweight or obese range. Some of them recorded quite wide disparities in adult weight, while others were relatively stable in terms of their shape and size. Because the ratio of males to females in the study was quite low, only two males were included in the cases subjected to more intensive study.

Further analysis of the results hereunder tabulated suggested that a combination of measures might be needed to obtain an accurate impression of any individual's weight, size and shape concerns, as well as to understand how these might relate to dysfunctional eating behaviours. Only in this way would it be possible to begin to find any pattern of significant relationships with the other variables of interest, those pertaining to hypnotic susceptibility, fantasy proneness and dissociative capacity.

Ideal weights (CDRS) ranged from choices of third smallest silhouette to the sixth silhouette, however nine of these participants wanted a body size (silhouette 3 or 4) of below an average weight (which was represented by silhouette 5 on the CDRS). For Zoe, Myrna, Susan and Cora, differences between ideal and felt body sizes were very high (differences of 5 or 6 silhouettes).

### **Implications of the Case Studies**

There are several facets of these results that seem to be outstanding, and which have implications for further study of the hypno-socio-cultural model, as well as for the results of the study under discussion.

Assessment of the amount of internalization of the thin ideal cannot be inferred from any of the scores relating to weight and shape, if they are taken in isolation. It seems that one needs to understand the interplay of factors such as Body Mass index, range of adult weight change, and the expressed concerns regarding shape and size in relation to these measures as assessed by both the silhouette drawings (CDRS) and the Physical Appearance State and Trait anxiety scale. In relation to this internalization of the thin body ideal, neither Zach nor Anton appear to have objectified their bodies in the same manner as the female participants, although they do have concerns regarding overweight. Those who have suffered from excess weight, as measured by the BMI, appear to have greater concerns with such issues which cannot always be directly inferred from any one of the reported factors.

Table 36. Comparison of scores of each of cases cited with group means and standard deviations, and total number of cases.

	Group norm, sd & number/cases	Effie	Zach	Molly	Kat	Ally	Barb	Zoe	Myrn	Susan	Kan	Cora	Ant
<b>PASTASW</b>	14.3 (7.7) 69	14	5	8	14	25	22	29	31	26	23	29	19
<b>PASTASN</b>	2.5 (3.5) 69	7	2	0	5	0	0	4	3	7	6	4	0
<b>Diet</b>	4.6 (6.3) 68	5	0	0	2	16	15	21	16	28	11	9	24
<b>Foodpreoc</b>	1.2 (2.4) 68	0	1	0	2	7	1	3	5	6	7	3	10
<b>Oralcon</b>	1.7 (2.3) 68	1	10	1	0	0	7	10	0	7	0	1	4
<b>EAT</b>	7.5 (9) 68	3	11	1	4	23	23	34	21	41	18	13	38
<b>Dietrest</b>	6.7 (4.7) 68	1	1	5	9	17	16	9	12	16	7	8	10
<b>Disofeating</b>	5.9 (3.7) 68	6	2	5	7	16	4	13	10	10	11	10	11
<b>Sustohung</b>	5.5 (2.5) 68	10	6	9	11	10	3	11	10	8	6	6	10
<b>3FEQ</b>	28.5 (7.8) 68	17	9	19	27	43	23	33	32	34	24	24	31
<b>Idc</b>	1.8 (.6) 74	1.5	3.5	1.9	1.3	3	1.6	1.6	3.3	1.9	1.6	2.4	2
<b>Loc</b>	2.5 (.6) 74	3.1	3.8	2.4	1.9	3.7	3.1	2.1	3.3	1.8	2.6	1.5	2.6
<b>Amn</b>	1.8 (.6) 74	2.7	3.4	1.8	1.2	2.2	1.2	1.5	2.9	1.9	1.7	2.7	1.4
<b>Abs</b>	2.3 (.7) 74	2.7	3.5	3.1	2.3	3.4	3.5	1	2.5	2.3	2	1.7	3.3
<b>Dis-q</b>	2 (.5) 74	2.3	3.5	2.1	1.5	3	2.2	1.8	3.1	1.9	2.3	1.8	2.2
<b>Icmi</b>	22.6 (7.6) 74	20	29	24	16	21	28	22	23	19	23	23	25
<b>Cis</b>	18.5 (7.5) 59	30	26		30	22	36	13	15	12	24		
<b>Pcd</b>	52.5 (8.8) 73	50	63	59	50	68	60	46	40	59	63	60	50
<b>Gff</b>	52.3 (8.5) 73	62	67	65	62	63	60	58	43	60	47	55	47
<b>Pac</b>	47 (11.6) 73	58	53	45	58	21	37	43	46	62	37	40	49
<b>Hgshsa</b>	6.6 (2.9) 63	9	12	10	8	6	11	8	5	12	8	12	1
<b>Phgs</b>	4.9 (1.6) 61	5.8	8.1	5.98	5.9	5.2	5.6	4.9	5.7	6.48	4.3	5	4.5
<b>Imam</b>	2.2 (1.7) 61	3.5	5	4	2.5	3	5.5	5	4	3	5	4	2
<b>Imviv</b>	2.3 (1.5) 61	3	6	5	1.5	0	5.5	4.5	4.5	2	4	3.5	3
<b>Imag</b>	2.3 (1.5) 61	3.2	5.5	4.5	2	0	5.5	4	4.3	2.5	4.5	3.7	2.5
<b>Alsta</b>	3 (1.5) 61	4.7	6	4.7	2.67	4.3	2.7	3	3.3	3.3	2.6	3.6	1
<b>Altex</b>	1.8 (1.2) 61	2.5	3.7	3.4	1.4	1.8	3.9	2.7	1.6	2.2	1.1	2.4	2.1
<b>Bodyim</b>	2 (1.5) 61	2.3	4	3.3	1.6	1	5.3	3.3	1.3	1.3	.3	4	1
<b>Timesense</b>	2.8 (1.7) 61	4.3	6	5	4.3	3.7	5	3	5	4.6	3.3	1.3	2.3
<b>Absorption</b>	3.8 (1.3) 61	3.5	6	4.5	1	3.5	3.5	2.5	3	5.5	3.5	3	3.5
<b>Volcon</b>	3.5 (1.3) 61	3.3	4	4	3	4	2	3	1	2.3	2.3	3.3	3.7

Notes: PASTASW: Score on Physical Appearance State and Trait Anxiety Scale – Trait, weight-related; PASTASN: score on same scale for non-weight related issues; Diet: dietary restriction; Foodpreoc: Food preoccupation and bulimia; Oral Control: third factor on Eating Attitude Test; EAT: total score for Eating Attitude Test; Diet restrain: Dietary restraint; Dis of eating: disinhibiton of eating; Sustohung: Susceptibility to hunger; 3-FEQ: total score on 3-Factor Eating Questionnaire; IDC: Identity confusion; LOC: Loss of control; AMN: Amnesia; ABS: Absorption; DIS-Q: total score on Dissociation Questionnaire; ICMI: Inventory of Childhood Memories and Imaginings; CIS: Creative Imagination Scale; PCD, GFF, PAC: pleasant constructive, guilt-fear-of-failure and poor attentional control daydreaming styles of Short Imaginal Processes Inventory; HGSHS: Harvard Group Scale of Hypnotic Susceptibility: Form A; pHGS: predicted Harvard Group Score of Phenomenology of Consciousness Inventory; intensity of dimensions on Phenomenology of Consciousness Inventory including imam (amount of imagery), imviv (vividness of imagery), imag (imagery), alsta (altered state), altex (altered experience), bodyim (body image), timesense (sense of time passing), and volcon (impression of voluntary control).

Nor is it possible to assess dietary restraint from either of the eating questionnaires in a straightforward fashion. For those for whom dieting is a way of life, and regarded as normal eating, there is little reflection in the scores of this fact. It must be inferred from the overall profile, using both the EAT and the 3-FEQ, with particular attention to

susceptibility to hunger and the tendency to disinhibited eating. This would seem to indicate that both questionnaires are necessary to obtain a realistic picture of individual eating attitudes and behaviours.

Generally, there appears to be a fairly strong link between fantasy scores, in particular, and these concerns with weight and size. Daydreaming styles, particularly Guilt-Fear-of-Failure, and higher scores on the ICMI, are especially implicated. As well, higher intensities in the imagery areas of the PCI seem to be involved. Dissociative capacity appears to play some role in the disinhibition of eating, but perhaps is not so important in the ability to restrain dietary intake. Nor does high hypnotizability appear to be correlated strongly with either dietary restraint, oral control, food preoccupation or disinhibition of eating. It is possible that it does have some relation to susceptibility to hunger.

Of the twelve cases discussed herein, ten individuals scored above average on the GFF day-dreaming style of the Short Imaginal Processes Inventory. Eight individuals also obtained high scores on the DIS-Q, perhaps reflecting a tendency to overuse dissociative capacities as coping mechanisms.

There does not seem to be a great deal of difference between females, whether younger or older, but the same generalization is not applicable to the males discussed. The commonality with both these males is in the elevated dissociation scores, as Anton has quite low hypnotizability scores, as well as lower scores on the ICMI. Perhaps dissociative capacity is more influential in the male approach to eating behaviour, weight and shape concerns than it is with females.

However, again it seems that while these may be influential contributors in determining the nature of an individual's approach to his or her own size, shape and weight, they are uninterpretable without some understanding of the many-faceted nature of the spectrum of factors which influence people to adopt eating behaviours which are not optimally healthy.

One further comment regarding the measures used seems to be warranted by the information revealed by these case studies. As concluded from the available statistical evidence, the ICMI and the PCI appear to be very useful as instruments to assess fantasy and hypnotizability capacities respectively.

## **Conclusion**

Of all the participants in this study, the scores of Anton and Susan in the Eating Attitude Test are the only data which suggest the possibility of eating pathology. Garner recommended a cutoff point of 20 as the level over which further diagnostic assessment should be pursued. The fact that the other seventy-eight subjects were all in the normal range of eating behaviour, as classified by these two questionnaires, is an acknowledged limitation, as these scores can only be indicative of possible tendencies in those with diagnosed eating pathology. However, both the statistical results, and the case studies discussed in this chapter, appear to highlight the implications of imaginative, dissociative and hypnotic elements in perceptions of self as having major weight, shape and size concerns leading to some kind of self-defeating eating behaviour. In particular, it would appear that those whose imaginings are avoidant and escapist (dissociative) or which fail to adaptively rehearse successful future actions (because fear of failure intrudes on imaginings of outcomes), are also those whose concerns with weight, shape and size lead to eating behaviours which are not optimal for healthy living.

## **Chapter 7**

### **Discussion**

The concerns raised regarding issues of reliable measurement of many of the constructs in the areas of self-defeating eating seem to have been validated by the results of this study. Acknowledged limitations of this research are the small size of the sample, in particular of male participants, especially given the large number of measurement tools involved, the fact that the participants were drawn from a non-eating disordered population, and the possible confounds introduced by the nature of a group interested in the study of hypnosis as a therapeutic tool. Apart from the two cases identified in the previous chapter as possibly diagnosable dysfunctional eaters, no other participants were in a range which would be considered of clinical interest.

### **Measurement of Relevant Concepts**

#### **Concerns with Weight and Shape**

Stice (2001) maintained that the Body Mass Index has been proven by research to be a reliable index of adiposity, which has correlated well (.96 - .99) with weight verified by a researcher. Results from the current sample tend to support this contention. Reported BMI correlated well with most of the other measures of weight and shape, including a small, but significant, relationship with concerns with weight related body parts. One contributor to the development of self-defeating eating, according to the Cognitive Behavioural viewpoint, is elevated Body Mass Index. Additional support is given to this idea by the fact that there is a correlation between the size of the difference between highest and lowest Body Mass Indices, and the difference between the actual and ideal body sizes a person selected, as well as the size the person “felt”. However, gender significantly affected these measures and their relationships, in the current study.

However, the fact that these relationships exist does not provide a solution to the problem posed in the first chapter, of using a blanket measure for all individuals and then deciding on an arbitrary cut-off point to designate healthy and unhealthy weights. Such a system does not take into account vital factors like muscle mass and bone density, nor does it encompass genetic or hereditary body shape and size.

One further observation can be made as a result of the relationships found in this area. The significant negative relationships between Ideal Body Size and concerns with non-weight related body parts, that is, the lower the ideal body size the higher the concerns with non-weight related shape, highlights the possibility that Cognitive Behavioural hypotheses may be confirmed for this group of people. That is, Body Schematicity may involve objectification of the entire body, and not solely those elements which are notable for adipose tissue build-up, and this seems to be particularly so for females and younger people. Most weight measures correlated mildly to moderately with these non-weight related concerns.

Assumptions that reported weight and shape concerns are an actual reflection of the internalisation of the thin idea, are not necessarily valid. Stice, in a number of articles (Stice, 2001; Stice, Killen & Hayward, 1998; Stice, Schupak-Neuberg, Shaw & Stein, 1994; Stice & Whitenton, 2002), has reported the use of the Ideal-Body Stereotype Scale-Revised (Stice & Agras, 1998), the Drive for thinness scale from the Eating Disorders Inventory (Garner, Olmstead & Polivy, 1983) and the Thinness and Restricting Expectancy Inventory (TREI: Hohlstein, Smith & Atlas, 1998) to measure this concept. Therefore, it is difficult to state with certainty that the measures employed herein were, in fact, accurately representing this internalisation of the thin ideal. Further research which investigated the kinds of relationships between these scales would be of interest in establishing some reasonable standards for such a measurement.

## **Eating Behaviour**

The correlations produced by this sample have indicated that results from the two inventories tapping eating attitudes and behaviours, suggested that these tests, while related, would not be interchangeable in research terms. Factor I of the 3-Factor Eating Questionnaire assesses Dietary restraint, as does the Dieting subscale of the Eating Attitudes Test, both of which seem to be statistically related. Bulimia and Food Preoccupation, as assessed by the second factor of the Eating Attitudes Test, appeared to be significantly related to both the Disinhibition of Eating and the Susceptibility to Hunger scores on the 3-FEQ. However, the Oral Control factor of the Eating Attitudes Test samples an entirely different construct from any which are presented in the 3-Factor Eating Questionnaire. Items typical of those which comprise this factor include *I avoid eating when I am hungry* and *I display self-control around food*. These attitudes are more strongly indicative of the kind of approach taken to food by a restricting anorexic. From the evidence produced by this sample, it seems that the 3-FEQ would be most appropriately utilized when the topic of interest is bingeing or bulimic behaviour, as was the case in the Oakley and Frasilho (1998) study. When the focus is on anorexic behaviours, including restrictive as well as bingeing aspects, the Eating Attitudes Test may be the better measurement tool. As a general measure, it may be that the latter test taps a larger number of relevant food behaviours than does the 3-FEQ. Issues in relation to gender and age may need clarification in respect of the issues herein assessed.

## **Relationship between Weight and Shape Concerns and Eating Behaviours**

As suggested in the previous chapter, the links between weight and shape concerns and eating behaviours may be quite convoluted, as it is possible that dietary restriction may have become such a habitual approach to eating with some females, and even perhaps males such as Zach, that the strategies used to limit food intake may be unrecognised. The reaction to depriving the body of sufficient energy intake, that is a susceptibility to hunger and to disinhibition of eating, may be more of an indication of such dietary

practices than is the kind of self-report provided by responses to questionnaires directly requesting such information.

The implications for future research are pronounced. It is likely that large samples of both males and females would produce more evidence which may indicate the precise nature of the differences in the eating profiles of each gender, as well as clarifying the involvement of possible amnesia-like tendencies in relation to recall of food related behaviours, especially those indicative of dietary restraint.

### **Measures of Hypnotic Susceptibility**

The vexed question of relationships between susceptibility scales, particularly those which are representative of different approaches to hypnotic susceptibility, has definitely not been settled by the current study. However, the findings support previous suggestions that reliance on one test of hypnotic susceptibility is not likely to produce results which are reliable.

However, the fact that the Phenomenology of Consciousness Inventory has produced quite substantial correlations with the Harvard Group Scale augurs well for its use in future research, especially given the recent Barber typology of hypnotic responsivity. The fact that it appears to correlate with all the major scales utilized in this study suggests that it may be an extremely versatile instrument in research with self-defeating eaters. However, much more investigation is needed, especially with those in the clinical categories of dysfunctional eating, before this would be an accepted conclusion. As the PCI has been successfully used with the Stanford Clinical Scale for adults (Vanderlinden, Spinhoven, Vandeereycken & Van Dyck, 1995), further study of its usage in that context would have the advantage of further reducing time spent in test administration.

The other facet of the PCI which seemed useful in the current study involved the intensity ratings, as a result of which the respondents were classified according to nine categories which included – classic (1) and relaxed (2) lows; nondialoging (3), and dialoging (4)

mediums; visualizers (5); rational high-mediums (6), dialoging high-mediums (7); and fantasy (8) and classic (9) highs. Of interest in the current study were categories 5, 8 and 9. As reported in an earlier chapter, there were no classic high respondents identified in this study. The following Table 37 relates to those whose scores placed them in either the visualizer or fantasy groups.

In this connection, it is of major interest that the number of fantasy-prone responders comprised almost one-quarter of the sample under consideration. This may have been because these were students interested in Hypnosis, or because so many of the participants were female, or may be due to some other bias in the sample. However, the Phenomenology of Consciousness Inventory classified two types of fantasy-prone responders, those who were highly hypnotizable, who were designated a response type of 8, and those labelled 5, who were lower in hypnotizability, but still relied on imagery to obtain the desired response to suggestion. As well as identification of those who were rated as preferring fantasy responding, the PCI also categorized classic high style responses, or responding which reflected self-dialogue or classic low qualities.

Table 37: Participants identified by PCI as visualizers or fantasizers, showing scores on weight, shape, size and eating behaviour inventories, and hypnotic susceptibility (HGS: A) and dissociation measures.

BMI	DIFF	ACT	FELT	ID	PAS TAS	EAT	3- FEQ	HGS	DIS	HI FACTORS DIS-Q	GEN
33.2	9.8	8	9	4	26	41	34	12	1.9	Abs	F
27	7.5	7	7	5	21	3	15	4	1.7	LOC/Abs	F
26	11	7	9	3	31	21	32	5	3.1	All	F
22.3	5	5	5	5	7	6	15	8	1.8	LOC/Abs	F
23.4	5.9	7	8	3	29	34	33	8	1.8	Nil	F
21.8	5.4	6	7	3	21	12	28	7	1.6	Nil	F
25	2.2	6	6	5	12	2	17	10	1.6	Nil	M
18.7	3.5	3	3	3	8	1	19	10	2.1	LOC/Abs	F
24.8	6.4	5	6	4	23	15	25	10	1.7	LOC	F
18.7	6.2	7	9	1	16	4	16	3	2.3	IDC/LOC/Abs	F
21.1	2.5	3	3	4	22	23	23	11	2.2	LOC/Abs	F
22.2	7.7	6	6	4	9	1	4	7	1.7	Nil	F
25.7	1.6	5	5	5	12	0	13	-	1.9	LOC/Abs	M
27.5	3	7	9	3	29	13	24	12	1.8	IDC/Amn	F
26.2	2.8	7	8	4	20	15	31	9	2.4	LOC/Amn/Abs	F
18.7	2.5	3	3	5	14	3	17	9	2.4	LOC	F
23.8	3.3	5	6	5	3	3	15	10	1.9	LOC	M
19.9	8.5	5	5	4	5	11	13	12	3.5	All	M

Those whose self-reports classified them as fantasy responders were selected from the participants of the current study, and their spread of scores on the weight, shape, size and eating behaviours inventories were examined. As well, a comparison of their scores on hypnotic susceptibility and the dissociation questionnaire was made. Their gender was also noted.

From an examination of their scores, it would seem that unless the respondent was male or a female of fairly low body-weight (BMI of under 22.5), then scores on one or more of the weight, size, shape or eating behaviour inventories was well above average, irrespective of age or of scores on hypnosis or dissociation measures. However, there does seem to be some link between body weight, including sizes of differences in adult body weight, and scores on the hypnotizability and allied measures and higher measures on the eating behaviour scales, when the person has a tendency to respond to hypnotic suggestion with a predominantly fantasy-prone response style. This propensity appears to be peculiar to the female respondents in the current group, especially where there is a Body Mass Index which is in the higher normal range or above. This observation deserves further investigation, in particular for its implications for the model under discussion with its possible bearing on clinical work with those whose eating behaviour is self-defeating.

Although the numbers of representatives in the amnesia-prone (or, as categorised by the PCI, the Classic High) category of respondents did not allow for any conclusions to be drawn regarding the usefulness of Barber's typology, it is strongly recommended that further research be pursued in this area. Because of the implications in terms of interpreting historical and future results of research which involves measurement of hypnotic responsivity, it would seem vital to such research that further enquiry be made.

## **Fantasy-Proneness and Imagination**

Another question raised by this research regards the nature of what precisely is being investigated by each of the measures of imagination. Correlations between the fantasy scales were disappointingly low or non-existent. Of the instruments which were employed in this study, none seemed to cover precisely what each of the others measure. Nor did any of these measures produce outstanding correlations with the imagery dimensions of the PCI, although both the ICMI and the CIS seemed to bear some relationships to imagery, amount of imagery and imagery vividness. Therefore, it is difficult to assess precisely what each of the measures may be indicating in relation to eating behaviours and weight and shape concerns. Here again, the Phenomenology of Consciousness Inventory may be a more useful and parsimonious tool.

However, the preponderance of high scores on the GFF (SIPI) among those with higher size related and eating behaviour scores, does invite conjecture, and further research. As Lynn, Neufeld, Green, Sandberg and Rhue (1996) contended, healthy imaginative strategies appear to be marked by control over one's focus of attention, and the rehearsal of future efficacious behaviours. Daydreams which focus on guilt and fear of failure do not enact such healthful imaginings. In fact, the GFF Daydreaming style has been linked with an external locus of control, as well as with the use of avoidant coping mechanisms such as dissociation. This link between GFF (SIPI) and aspects of the DIS-Q (Amnesia and total DIS-Q score) was replicated herein, although these correlations, while significant, were quite small.

## **Dissociation Questionnaire**

In the results to hand, the Inventory of Childhood Memories and Imaginings demonstrated a much stronger relationship with the dissociation questionnaire than it did with the other fantasy scales. Likewise, as previously mentioned, the Guilt-fear-of-failure daydreaming type of the Short Imaginal Processes Inventory showed some small, but significant, correlations with some factors of the DIS-Q. Use of imagination for

avoidance or escape, an unhealthy use of thereof, according to Lynn, Neufeld, Green, Sandberg & Rhue (1996), appears to be the basis of the overuse of dissociative capacities. Perhaps those with high reliance on the use of imaginative strategies in childhood, and for whom other negative factors coincided with these developmental years, learned such a use of their imaginative powers to avoid difficult situations and a related rise in anxiety.

Given the research findings regarding the fantasy component of other dissociation scales, such an idea is worth investigation. Perhaps the voluntary pathway to dissociation which results in hypnotic responding is, as Rosen & Petty ((1994) suggested, a very real distinction. That is, self-controlled use of dissociative capacities may result in successful hypnotic responding. This would be supported by the fact that in this sample there were no significant correlations between any of the hypnotic susceptibility measures and the DIS-Q, apart from its link with the pHGS (PCI), which score reflects self-perception of hypnotic susceptibility. Dissociation scales may measure the use of dissociative capacities in a manner perceived as not regulated by self.

The fact that the DIS-Q scores (IDC, AMN, DIS-Q) showed some small, but significant, correlations with the GFF (SIPI) invites more investigation of the possibility that both high GFF and DIS-Q scores do reflect a lesser ability to self-regulate imaginative abilities. While Katz and Gleaves ((1996) suggested that dissociative experiences of eating disordered groups are related only to eating, it is possible that an unhealthy use of imagination generally may mark the self-defeating eater. This could explain the depression and anxiety identified by Valdiserri and Kihlstrom (1995, a, b) as more strongly correlated with dissociation in abnormal eaters than were their responses on the Eating Disorders Inventory.

### **Thin Ideal Internalization, Hypnotic Susceptibility and Correlates**

As might be expected from the results emerging from the measures which have been utilized in this study, useful information regarding relationships relevant to the Hypno-socio-cultural model has been difficult to generate. Gender and age differences in many

of the responses to questionnaires may also have affected the final correlational data produced. Despite such issues, a number of relationships have nevertheless emerged in the statistical results. However, these do not satisfactorily reflect the kind of information that has been exposed by an examination of a number of cases of participants involved in the study.

The Hypno-socio-cultural model proposed that there would be relationships between aspects of hypnotizability and the internalization of the thin ideal, which is reflected in the scores around weight and shape concerns. As well, it hypothesized that the nature of the eating behaviour, whether it involved dietary restriction or bingeing and overeating, would probably also be related to aspects of hypnotic susceptibility, dissociative capacity and fantasy-proneness or imaginative ability.

Intensity ratings on the voluntary control dimension of the PCI correlated negatively with reported concerns with weight and shape. That is, the higher the concerns with body weight, size and shape, the less perceived control one had in terms of responding to hypnotic suggestion. Furthermore, intensity ratings for imagery amount and vividness, altered experience, body image and time sense, all correlated with the full scores on the Eating Attitudes Test. The oral control factor of the EAT produced a correlation with the predicted Harvard Group Scale score (pHGS). This suggests that the links proposed by the model proposed herein are certainly worthy of further investigation, using a larger sample. Ultimately, the investigation must be pursued with a subject pool involving large number of those with diagnosed eating pathology, with a large representation of both genders and a wide range and representation of age groups.

The expected correlations between dissociative capacity and eating behaviour emerged, in relation to both oral control and factors indicative of bingeing or overeating – namely, food preoccupation and susceptibility to hunger.

## **Application of Findings to the Hypno-socio-cultural Model**

While the findings are limited, their application to the proposed model demonstrates the possibilities intrinsic to this model, or to something very similar. Discussion of the following diagram, Figur 8, elucidates the potential of the model for clinical and research purposes. In reference to the concepts outlined in the model, the following equivalences might be proposed, as discussed in Chapter 4:

- Appearance Schematicity, Internalization of the Thin Ideal, Objectification of the Body and Body Shame may be represented by the PASTAS and Contour Drawing Rating Scale scores, as well as by scores related to BMI as tapped through relevant information requested by the EAT e.g. BMI.
- Appearance Control Beliefs manifested in Restrained Eating might be regarded as operationalized in the Dieting and Dietary Restraint subscales of both the EAT and the 3-FEQ respectively.
- Anorexic tendencies might be hypothesised to include the Oral Control factor of the EAT.
- Tendencies to overeating and bingeing behaviour are more accurately reflected in the Food Preoccupation score of the EAT and the second (disinhibition of eating) and third factors (susceptibility to hunger) of the 3-FEQ.

How might the findings of the current study be usefully applied to the model as it was outlined in Chapter Two?

In consultation with this diagrammatic representation presented in Figure 8, it can be noted that the predicted relationships are generally emerging. Although the precise nature of the relationships has not been elucidated, there is a tendency for overeating and bingeing behaviours to be associated with the dissociative aspects of a participant's experience. On the other hand, imagery related abilities appear to be linked with those eating behaviours which are usually associated with anorexic proclivities. However, results involving fantasy and dissociative capacities are not clear cut. Absorption (DIS-Q) seems to be related to other weight related scores, such as the BMI, ideal body size,

actual body size and felt body size. Higher Absorption scores are related to lower scores on all these latter measures. Likewise, High GFF (SIPI) scores seem to be related to lower differences between highest and lowest admitted weights. Lower preferred ideal body sizes are recorded by those whose scores are high on Identity Confusion and total DIS-Q scores.

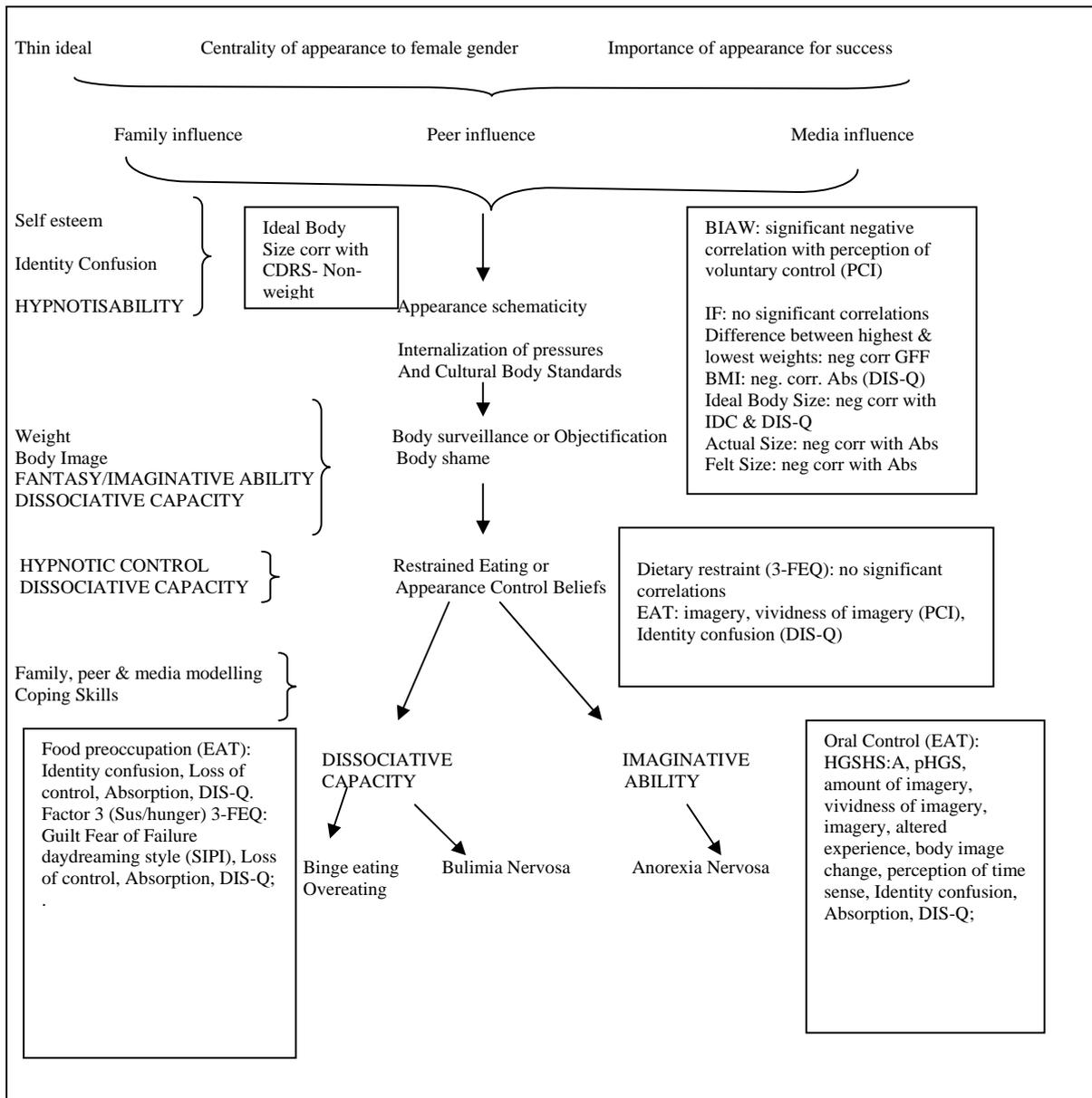


Figure 8. Hypno-socio-cultural model with notes regarding the kinds of relationships which have emerged in this limited study, suggesting that correlations in the predicted directions have generally been found. (Constructs important to the study have been capitalised.)

Some comment is required in relation to the nature of some of these relationships. For example, it is surprising that the difference between ideal and felt weights related to none of the hypnotic, fantasy or dissociative scales. This requires further investigation, especially in light of the association between weight concerns (PASTAS) and perception of voluntary control (PCI). This correlation suggests that those who have higher weight concerns perceived their responses to hypnotic suggestions as being less under their own control than those with lower scores on the PASTAS scale. This is a characteristic traditionally associated with high susceptibility to hypnosis.

Again, with the full-scale EAT score, there are positive and significant correlations with many of the imagery dimensions of the PCI. As well, Identity Confusion has demonstrated a link with this score. One possible interpretation of this result is that those with high imagery capacities and a tendency to be somewhat confused about their own sense of identity may be most vulnerable to these appearance control beliefs and the consequent dysfunctional eating behaviour. It may, as previously suggested, be a function of a general tendency to lose control over imaginative capacities, especially in anxiety provoking situations.

Those scores which are linked with Anorectic tendencies include hypnotic, imaginative and dissociative abilities, as represented by the scales used in this research. Given the relationships between dissociation and fantasy found in this group, it is difficult to separate the connections. Possibly both dissociative and imaginative ability are inherent in the tendency to this kind of restrained eating, as well as in the perceived need for same, which manifests in Body Image issues. However, the links between purely dissociative experiences and a tendency to binge or overeat are more obvious. Again, the association between this kind of eating and two of the daydreaming styles (GFF and PAC) of the SIPI, suggest that dissociative and fantasy capacities may overlap.

At this stage, rather than exploring the model as it stands, it may be necessary to focus more particularly on specific imaginative styles, rather than on hypnotic or fantasy

capacities, per se. It seems likely that those with escapist or avoidant fantasy tendencies, or those who tend to rehearse failure rather than success in their imaginings, may be more vulnerable to self-defeating styles of eating.

This would certainly account for the success of interventions which target the reintegration of dissociative ego states (Torem, 1987), the harnessing of dissociative states for long term goals (Spiegel & Spiegel, 1978), the use of mental imagery for future pacing (Cash, 1997) and the constructive use of imagination (Hutchinson, 1985), reframing (Yapko, 1986), use of hypnosis to control weight (Gross) and the visualisation of different and successful outcomes (Lynn, Rhue, Kvaal & Mare, 1993.)

A revised model is presented in Figure 9, which emphasises the inability of those who eat in a self-defeating manner to use imagery in a constructive and healthy way to regulate behaviours, particularly those which relate to weight, shape and size concerns, and the corollary unhealthy eating in which such concerns result. It may be that there is a tendency for such persons to bring a perception of an external locus of control to many of their experiences, including that of responding to hypnotic suggestions.

Accommodating these results to the previous research is necessary if their validity is to be credible. Findings regarding the hypnotic susceptibility of those who are overweight or obese have been mixed (see Table 3). However, if Oral Control is related to higher scores on Hypnotic Susceptibility Scales, results which find higher hypnotisability scores in those who are well above healthy weights, may be valid. As previously noted, the Cognitive Behavioural model suggests that internalisation of the thin ideal precedes oral control, which itself often leads to the kind of compensatory eating which eventually can lead to problems of overweight. It may also explain the majority findings, summarised in Table 4, which were unable to link weight loss with hypnotic susceptibility. Seven of these eleven studies failed to find significant relationships between weight loss and hypnotic susceptibility. It may be that the mechanism by which people successfully manage weight may be linked more to the management of dissociative or imaginative skills and capacities.

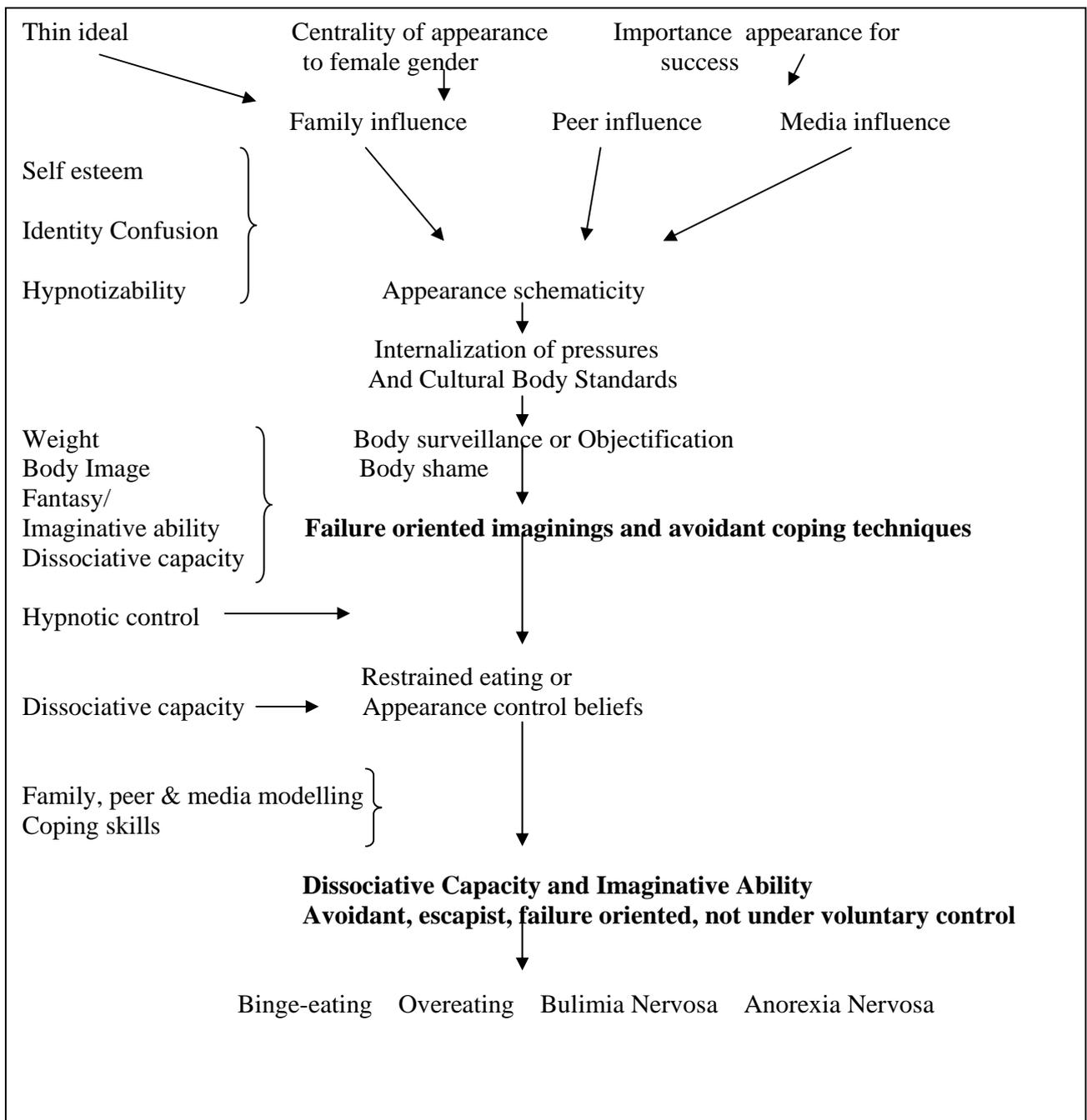


Figure 9. Revised Hypno-socio-cultural model, with emphasis on use of imagination and dissociative capacities in a manner which are escapist, avoidant or not oriented towards constructive goals.

Again, similar conclusions may be drawn in relation to Bulimia, where research suggested that hypnotizability levels are generally higher in this eating disordered population, as summarised in Table 5. Again, the hypnotic susceptibility marks the oral control which precedes the kind of dietary regime which eventually leads to bulimic and bingeing behaviours. Anorexics have been found to have lower hypnotizability scores, but such findings are usually the result of assessment when the condition is quite advanced, and perhaps other mechanisms have been called into play by this stage, such as misdirected dissociative or imaginative capacities.

In all types of self-defeating eating, there appears to be a rather high dissociative component, although the nature of the dissociative experiences may differ with the nature of the eating problem. Given the differences found in the various dissociation questionnaires, it may be that the precise aspect of dissociative experiences that characterize different expressions of self-defeating eating may not yet be clearly specified. With reference to the results summarised in Table 6, it would seem that apart from one study (Favaro & Santonastaso, 1995), those with eating problems were found to have higher dissociation scores, regardless of the scale employed in the research. The current study appears to support this position. It is the precise nature of the dissociative experiences which can be linked with particular eating problems that remains to be explored. Dissociative experiences such as loss of control and dissociation of feelings have been linked with all eating problems, while both bulimic and oral control tendencies have shown relationships with depersonalisation and derealisation. Frasquilho and Oakley (1997) found that dissociation scores correlated with disinhibition of control and susceptibility to hunger, a finding which has been replicated herein.

In relation to the findings of the Frasquilho team, it would seem that their reliance on the Creative Imagination Scale as a measure of Hypnotic Susceptibility might be problematic, in light of the current findings. Their results linking CIS scores with the dietary restraint factor of the 3-Factor Eating Questionnaire has not been sustained herein, although their findings of links between dissociative experiences (measured by the Dissociative Experiences Scale) and the other two factors on the 3-FEQ have been

supported. However, their postulated connection between hypnotic susceptibility and an ability to restrain dietary intake has been given some credence by the link between the Eating Attitude Test's Oral Control (a factor not measured on their only eating behaviour instrument, the 3-FEQ) and both the HGSGS:A, the pHGS and other dimensions rated on the Phenomenology of Consciousness Inventory.

## **Conclusions**

As with any other study that endeavours to add new dimensions to the literature in a specific area, this research has raised many more questions than it has answered. But these are questions that need exploration if research in this area is to offer some guidance to clinicians in terms of working with this population of clients/patients. Anecdotal wisdom has suggested that the use of hypnotic, imaginative and dissociative techniques have yielded useful results with those for whom self-defeating eating has negatively and intensely affected quality of life. Provision of services of this nature can only be enhanced if scientific evidence can be offered in support of the treatments currently employed. Many therapeutic services are subject to approval by medical insurers, or are answerable to funding bodies who want to believe that their money has been wisely invested in the service being provided. For those who pay private clinicians, accountability for the best possible service is a reasonable expectation. Again, the ability to demonstrate that such services are based on experimental evidence would be advantageous to both the practitioners and to those who seek their services.

There are a plethora of both hypnotisability scales and dissociation questionnaires, as research in this area has experienced an upsurge in the last few decades. However, enquiries into fantasy and imaginative abilities has somewhat "lagged behind" the other areas, despite the relatively recent work of Sheehan, Lynn, Rhue and their colleagues. Styles of imagery use in relation to Self-Defeating Eating appear to be an area with enormous possibilities for research and application to clinical work. Investigation of links between the SIPI and other Dissociation Questionnaires would seem useful. It also appears that the PCI could be employed most advantageously in future research in this

area to tap many of the dimensions related to hypnotic responsivity, fantasy proneness, and dissociative capacity.

In relation to the next possible step in testing the modified Hypno-socio-cultural Model, it would seem appropriate to investigate the responses of individuals diagnosed with dysfunctional eating behaviours, to a number of the measures used herein. More appropriate assessment of the internalisation of the thin ideal might be available, and this deserves exploration, possibly initially with the kinds of subjects used in this research, namely university students. However, employment of both of the eating behaviour questionnaires (EAT and 3-FEQ), in combination with the Phenomenology of Consciousness Inventory, could yield interesting results with problematic eaters, as previously noted. The group working with Vanderlinden has used the PCI with the Stanford Clinical Scale for Adults, and found similar results as have been produced by its use with the HGSHS:A. Therefore, employment of this instrument could be advantageous with eating disordered individuals. This would markedly reduce the time that would need to be spent in responding to questionnaires to approximately one hour, but would produce far more individualised results than is possible with hypnotic measures that are administered in a group context, as was the case in the current study. Further investigation of the SIPI and dissociative experiences in an eating disordered group appears to be of paramount importance, in light of the possible significance of dependence on dysfunctional imaginative styles which have been implicated in the current research.

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