

14th May 2008

The Secretary
House Standing Committee on Health and Ageing
House of Representatives
PO BOX 6021 Parliament House
Canberra ACT 2600

haa.reps@aph.gov.au

To Whom It May Concern:

RE: Inquiry into Obesity in Australia

Please find attached a response to the above inquiry. We look forward to hearing the outcome of this investigation and our contact details are above.

Summary of Submission:

- There is thorough and outstanding evidence regarding the increase in Australia's level of obesity and the projected outcomes if this is not addressed
- Children in particular are noted as being especially at risk of future long term health problems
- The current causes of obesity are addressed
- While dietary restraint, more nutritious eating habits and physical exercise have always been purported to be the answer to the obesity crisis in adults, adolescents and children, long term meta analysis and follow-up studies indicate that weight loss is not maintained (and indeed the more time that elapses between the end of a diet and the follow-up, the more weight is regained, Mann et al., 2007).

*The missing link in the treatment of obesity is the concept and issue of addressing the psychological contributors or emotional drivers that are leading people to overeat and how to provide treatment of this to all sufferers. This concept IS **ESSENTIAL** to be included in future obesity treatment programs for long term weight loss, body shape change success along with good mental health. Relying on willpower and education is clearly not enough.*

The 'how to' is addressed in this submission.

Yours sincerely,



Peta Stapleton, PhD
Psychologist



Terri Sheldon
Psychologist

Overview of the Authors

Dr Peta Stapleton has 15 years experience as a registered Psychologist in the State of Queensland, Australia and has completed a Bachelor of Arts, Postgraduate Diploma of Professional Psychology and Doctor of Philosophy. She a three times published author of non fiction psychological texts and is currently Senior Lecturer in Medicine for The School of Medicine, Griffith University and also a Director of SlimMinds P/L. SlimMinds® is a group based program focusing on the preconscious¹ mind to assist those who choose to change their minds, change their shape and change their lives to achieve their optimal wellness and personal wealth. Peta regularly contributes to the academic field with publications in the areas of obesity, nursing, morale, communication, psychological interventions and eating disorders. She is the founder of the Gold Coast Eating Disorders Association Inc., and facilitated the support groups for 8 years. She continues to consult for the Association, and is involved in training other health professionals across Queensland, in leading therapies for eating disorders. Peta is well known in her area of specialty within Queensland and is consulted for radio, television and print media interviews for her expert opinion. She has been awarded many honours including the Australian Psychological Society Elaine Dignan Award for research into women's issues. Peta is the immediate past President of the Eating Disorders Association of Queensland and past Gold Coast Branch Secretary for the Australian Psychological Society. She is a certified practitioner of Neuro Linguistic Programming, Timeline Therapy and the Emotional Freedom Technique.

Terri Sheldon is a registered Psychologist in the State of Queensland, Australia, completing an honours degree in Psychology with a double major in psychology and a single major in Law in 1984. She has over 23 years experience in child development; child, adolescent and adult mental health and has worked extensively in government, community and hospital systems as well as private practice on the Gold Coast. Terri began her career in psychology working at the Barrett Adolescent Inpatient Unit in Brisbane then spent 5 years working in the early intervention field with Intellectual Disability Services. She moved to the Gold Coast to take up a position in the Community Child and Youth Mental Health Service where she worked for 10 years helping children and families with a range of complex mental health needs. She was one of the first psychologists on the Gold Coast specialising in child psychology to setup up in private practice. Since 2000 Terri has been working solely in Private Practice and is the comanager of the Lakeside Rooms at Robina, the first multidisciplinary mental health private practice on the Gold Coast.

Her experiences in mental health and developmental psychology led her to investigate alternative paradigms and approaches that could be applied alongside traditional therapeutic approaches for her clients. In recent years she has seen the benefits of good quality nutrition and its impact on health and wellness and now operates within

¹ The terms 'subconscious' and 'unconscious' are often used to describe that part of our mind that we are not consciously aware of. We prefer to use the term **preconscious** because it is this part of the mind that is actually in contact with all the external stimuli **before** we are consciously aware of it. And it's not just in contact with all the external stimuli such as touch, sound, taste, smell and vision. It provides the mechanism for how we interpret the stimuli, evaluate and react to it.

a wellness framework. She is particularly interested in how superior nutrition supports physical and emotional health. Terri has personally travelled the many roads of fat loss programs only to find herself back at the starting point months or years later. This experience along with her psychological knowledge, has led to the partnership with Peta to develop the special elements of this system that they both recognised were missing from other programs. Terri is the other Director of SlimMinds P/L.

Terri is a specialist member of the College of Counselling Psychologists and the College of Educational and Developmental Psychologists (Australian Psychological Society). Terri has served as board member of the Eating Disorders Association of Queensland and the Queensland Branch of the Australian Psychological Society. She is also a trained practitioner of Neuro Linguistic Programming, Timeline Therapy and the Emotional Freedom Technique and EMDR.

Inquiry into Obesity in Australia

House Standing Committee on Health and Ageing
House of Representatives

Terms of Reference:

1. The Committee will inquire into and report on the increasing prevalence of obesity in the Australian population, focusing on future implications for Australia's health system.

What We Know

In July 2006 the Australian Government implemented a five year, \$500 million program aimed at reducing the impacts of chronic disease including a focus on promoting healthy weight. It is indicated that early identification of elevated body mass indexes (BMI), medical risks, and unhealthy eating and physical activity habits are essential in future prevention of global obesity.

It is now known that approximately 60% of the Australian population is overweight or obese (about 7 million Australian adults - 67% of men and 52% of women over 18 years; Australian Society for the Study of Obesity).

“At the rate of weight gain currently observed, in theory 100 per cent of the population will be obese by the year 2050 and obesity will bankrupt our medical benefits system within the next 10 years,” warns Garry Egger Adjunct Professor of Health Sciences at Deakin University, Scientific Director of GutBusters and Co-editor of CHOICE *Health Reader*.

1. Our Children

The latest research shows there are 1.5 million overweight children in Australia and that between the mid-1980s and mid-1990s, the number of overweight children doubled and, of even more concern, the childhood obesity rate tripled. The most alarming figures show that 25% of Australian children are overweight or obese (about 26% of boys and 23% of girls aged 4 to 14) – more than at any other time in our recorded history – and it has been predicted that this figure will increase to 50% by the year 2020 (Murdoch Children's Research Institute, 2002). This places Australia as one of the highest amongst developed nations.

In its statement on nutrition and obesity, released in November 2005, the Australian Medical Association (AMA) warned that half of all young Australians would be overweight by 2025 unless action was taken now to address obesity rates in children.

What has caused the Obesity Epidemic in Children?

1. Sport, Technology and Safety Concerns - physical activity has decreased markedly over the last century (especially in the last 20 years). In the 1984 Olympic year, 95% of Australian children participated in at least one organised sport. By the 2000 Olympic year, this figure dropped to only 60%. The development of technology such

as television and computers has encouraged children to pursue more sedentary activities such as internet chat rooms and playing video games (Hill & Radimer, 1997).

Concerns about safety have discouraged parents from allowing their children to play unsupervised in parks, streets and neighbourhoods, and from riding their bikes or walking to school.

A policy document by Dr Michael McDowell on Children and the Media developed for the Royal Australasian College of Physicians in 2003, suggested that for Australian children between 7 and 14 years of age:

- 45% have televisions in their bedrooms (compared to 21% in the year 2000);
- 27% have a VCR in the bedroom (10%);
- 22% had their own computer in the bedroom (14%);
- Technologies in the bedroom were more likely for single children, boys and where families subscribed to pay television; and
- 36% of children indicated that their parents let them watch anything, 58% said their parents sometimes told them what to watch, and 12% indicated that their parents always decided what they watched.

Obesity results from an imbalance between calories eaten and calories expended through activity and exercise. Television (and other media behaviour) upsets this balance through:

- Reduced metabolic rate;
- Reduced activity (children who watch more television do less sport); and
- Increased food and calorie consumption (from advertising and snacking).

2. Media and Peer Conformity - Peer pressure and the behaviour of others directly impacts upon a child's thinking and expectations. Advertising companies have become very shrewd in promoting their products. For example, multinational companies pay for product placement in movies, thereby promoting their products.

One Australian study examined 239 food advertisements during children's television slots. Of these, 25% were for fast food restaurants and 22% for chocolate and other confectionary. Only 1% was for vegetables and there were no advertisements for meat. As a result children may believe that the advertised foods are good for them when fast food is actually unhealthy. For example, a single burger is likely to contain more fat than a child's recommended daily intake. Compound this with chips, sundaes, and soft drink on an outing and energy intake has increased significantly.

3. Emotional Eating - Excessive eating and bingeing are often a consequence of boredom and habit behaviours among children and families. Food or drinks are used to relieve the monotony. They can also be used as a coping strategy to deal with problems arising from anxiety, depression, stress and conflicts. Although they may feel comforted after consuming excessive food, the person has not dealt with the underlying cause of these problems. Consequently, there is no reason why they will not **reoccur** in the future. This can become a vicious cycle.

If a parent deals with their own emotional issues by eating it is highly probable that the child will also do so. This pattern for coping is being modelled.

4. Family Activity or Exercise Patterns - Another reason why children do not partake in as much activity is that their parents do not. Other commitments gradually become a greater priority; for example, staying back at work to catch up, visiting friends, watching sport on television, or doing house work.

5. Unrealistic Expectations - Unrealistic expectations and thoughts about exercise and nutrition contribute to weight problems. These may include misinformation about food or exercise, as well as our expectations about work, our age and self. For example, an unrealistic expectation might involve thinking "everyone will stare at me if I walk because I am overweight" and therefore they will not engage in walking. Parents who have these beliefs model them to their children.

Lapband (Bariatric) Surgery: Is this the Answer?

According to reporter Lou Robson, "More than 60 Queensland teenagers some as heavy as 180 kilograms, have resorted to stomach banding surgery and many others are on hospital waiting lists."

"Our kids are the first generation that has the potential to die before we do," says Dr Bowden, Australian surgeon specialising in Lap Band surgery, blames a lack of exercise and too much junk food. "Our kids are inactive as a result of PlayStations, the internet, remote-controlled TELEVISIONs and the fact parents drop their kids at school and won't let them play at the park because of the risks involved," Dr Bowden said. "It's a result of high-calorie foods and soft drinks which I think we should legislate against. "

Australia Medical Association statistics show one in four children is overweight and hospitals have been inundated with referrals for teens weighing at least 140 kilograms. "It's the second most common procedure in general surgery, behind gall bladder," Dr Bowden said (Robson, The Australian Newspaper 28 Jan 2007).

We do not wish to become embroiled in a debate about bariatric surgery however of concern with this intervention for both adults and adolescents is that there does not appear to be a standard procedure for psychological treatment before and after surgery (NB: Dr Peta Stapleton has conducted psychological assessments on patients for bariatric surgery for many years). Some surgeons do involve a psychologist in the assessment process (for example, but many clients report after surgery that they do not receive any psychological treatment to deal with the reasons that may have contributed to becoming obese. Many clients are still maintaining their emotional eating patterns after surgery and although they are eating less some tend to just eat small portions of nutritionally deficient food like potato chips, chocolate, sweets rather than healthy foods. One client reported that she was still consuming up to 3 litres of ice cream in binge episodes because it was a liquid and was not restricted by the lap band. Clearly some of these clients are still engaging in emotional eating because the real causes have not been addressed. More research needs to be conducted to ascertain the proportion of people undergoing bariatric surgery who are still engaging in emotional overeating.

2. Adults and the Obesity Epidemic

Associated Medical Conditions

In Australia each year approximately 100,000 adults develop Type II diabetes (275 people daily), and more than 200,000 people progress from being overweight to being obese - nearly 600 people daily (Barr et al., Australian Diabetic Study, 2006).

Professor Zimmet, The Director of the International Diabetes Institute in a recent interview about the latest Australian Diabetic study (2006) results said “the diabetes epidemic is being driven by lifestyle factors, particularly the dramatic increase in obesity, poor diet and physical inactivity – and is already costing taxpayers over \$3 billion annually. That figure will increase exponentially over time.”

“There is no doubt that diabetes and its associated problems of heart disease, strokes, amputations and kidney failure will have a profound impact on Australia’s future health budget.”

“It also gives every Australian a clear indication of the increased risk they face of developing diabetes and its appalling complications if they do not make lifestyle changes.”

Dr Michael Booth, a Director at Sydney’s Centre for Overweight and Obesity stated in April 2006 on ABC news that the increasing level of Type 2 diabetes would result in many children developing potentially deadly diseases by the age of 30 or 40 that people used to suffer in their 60s (or older), such as amputations, blindness, liver failure, kidney failure and heart disease.

Causative factors

Our lives are out of balance because we have food abundance and lead more sedentary lifestyles. Many health indicators are declining for the majority of people because we are all experiencing increasing stress in our current lifestyles, we are being exposed to high levels of toxins in our environment, food quality is declining and we are making poor food choices.

- **Our Lives are Out of Balance**

Generally, obesity occurs when we consume more energy than we burn off. Unfortunately, evolution has not equipped us to deal with food in abundance. It is only over the last 100-200 years that the food supply has been guaranteed and abundant in developed countries. Prior to this there was a cycle of feast or famine depending on seasons, natural disasters, wars and weather patterns. Food choices were not the same and highly sugared, processed foods did not exist or were not readily available to everyone.

In addition, physical activity required for daily survival was much, much greater than it is today. Energy intake was balanced out by lots of daily exercise. Imagine the exercise we would have to do if there were no motor vehicles, washing machines, refrigerators or telephones or if we had to grow and harvest our foods or chase down the animals we needed for protein. *The balance between nutrition and activity has shifted for the worse. Currently, we are a “society out of balance”.*

- **Energy Dense Foods**

Many modern foods are pre-packaged, ready to eat and loaded with calories for convenience and taste. Our ancestors worked the field with a horse drawn plough; sowed seeds by hand, harvested the seeds with a scythe, threshed the seeds by hand, milled the seeds into flour and then baked them in a wood fired oven. They would also have chopped and transported the wood and done other tasks in their spare time.

This person could eat several loaves of calorie dense bread in a day and still not gain excess fat because they burned more energy than they consumed. The energy balance has changed in modern times and is largely responsible for the obesity epidemic. We are paying the price for this imbalance with our health.

- **Emotional Hunger/Eating**

Humans are only motivated by feelings (i.e. sensations). There are three types of feelings; **pleasant, neutral and unpleasant**. The motivation we get from the unpleasant feeling is *to move towards a feeling we do not have, but do want*. We move away from the unpleasant feeling by replacing it with a different pleasant (or neutral) feeling.

Hunger, is an unpleasant sensation (for most people) and is relieved by the pleasant sensation (for most people) of eating and the taste of food. Like other basic functions, this is so that we can survive, individually and as a species. Most of us prefer pleasant sensations over unpleasant sensations. But pleasant sensations are not always matched with the outcome that they were designed for. **Many people eat, not because they need nutrition, but because they feel an unpleasant emotion, like rejection, loneliness, distress, depression, fear, betrayal, worthlessness, defeat, helplessness or hopelessness**. This emotional over-consumption of food often leads to fat-gain and other health problems. This can then create a vicious cycle of more emotional eating to manage the emotional consequences of becoming overweight and unhealthy.

What is clear from research is that more than 70% of obese children and more than 85% of obese adolescents will become obese adults. For adolescents and young adults who are obese there is increased risk of poor socio-economic outcomes (lower educational attainment, social isolation, low income). Ultimately the net effect of all of these adverse consequences of childhood obesity is an increased risk of ill health and risk of premature death in adult life (Swallen et al., 2005).

A recent study conducted by Patricia Goodspeed Grant (2008) involved investigating the psychological, cultural and social contributions to overeating in obese people.

She found that eating for comfort for the morbidly obese is rooted in using food to manage experiences of emotional pain and difficult family and social relationships. Her participants reported that what had been missing from all treatment programs they had tried was the **“opportunity to work on the psychological issues concurrently with weight loss”**.

- **Am I Hungry or Thirsty?**

It has now been recognised that people can mistakenly feel hungry when they are actually thirsty. There are several factors possibly contributing to this. If people are comfort eating, all oral signals may be mistaken as being hungry for food. Also, there

is so much focus on food and food has never been more available and so easy for most people to obtain. Further, when people do attempt to quench their thirst, they are consuming very large quantities of liquids, other than water. Most of these liquids; soft drinks, alcohol, and energy drinks are manufactured and usually have a high calorie content and low nutrition and so, for the body, even liquids become associated with food.

- **Fat is a toxin storage system**

Humans and other animals store a variety of toxins in fat. This seems to be a mechanism the body uses in an attempt to neutralise or minimise the toxic effect when it can not immediately eliminate the toxins. Some factors affecting the amount of toxins stored depend on intake and an individual's ability to eliminate them. It seems that our bodies resist fat reduction (metabolising fat into energy) as a precaution against the release of these toxins into other parts of the body where they can cause harm. Toxin elimination and reduction of intake seems to be critical for sustained fat burning as well as long term health maintenance.

- **Nutritional Deficit due to Consuming Poor Nutrient Food**

Most people associate fat-gain with eating too much carbohydrate and/or fat. It is now known that not eating enough of the many different kinds of nutrients we need, can have the same result. Our bodies need many different high quality nutrients to function properly.

- **Lack of Sleep**

Several large epidemiological studies suggest a link between fat-gain and shortage of sleep. People who sleep less than seven hours a night tend to have a higher Body Mass Index than people who sleep more (US National Health and Nutrition Survey). It is also well known that obesity impairs sleep. What may be influencing this is how sleep deprivation alters metabolism. Leptin, the hormone that signals satiety (feeling full), falls with lack of sleep. Ghrelin, the hormone that signals hunger, rises and this boosts appetite (Vorona et al., 2005).

- **Genetics/prenatal effects**

Children of obese mothers - especially those mothers who develop gestational diabetes - are much more likely to become obese later in life. While this may be mostly due to genetics (about 65% according to studies of twins), there is evidence that there is some influence on the unborn baby while in the uterus. Evidence in studies on mice show that offspring of mothers fed on a high fat diet during pregnancy are much more likely to become fat than those mothers fed on a normal diet. On the other hand, nutritionally deprived pregnancies can also lead to obesity for the child later in life, especially if there is a rapid catch up in the first two years of the child's life (Keith et al., 2006).

- **Fat equals Fecund (Fertility)**

There is suggestion that heavier people have more children. Having children can increase the chance of fat-gain but being fat also probably contributes to having more children. Obesity has some association with lower socioeconomic status which in turn is associated with having more children (Keith et al., 2006).

- **Pollution**

Modern humans are exposed to tens of thousands of industrial chemicals (around 80,000 since the start of World War II): pesticides, industrial waste products, dyes, flavourings, perfumes, plastics, resins and solvents, to name a few. We swallow them, inhale them and absorb them through our skin. There is some evidence that low levels of some of these chemicals can lead to fat-gain. Mice given small amounts of dieldrin (pesticide) more than doubled their body fat and rats given hexachlorobenzene (pesticide) caused them to gain significantly more fat than control rats, despite eating only half as much. Some chemicals are endocrine disruptors that interfere with proper functioning of hormones such as oestrogen and may cause fat-gain (Keith et al., 2006).

- **Mature Mums**

The United States National Heart, Lung and Blood Institute's growth and health study found that the chance of a child being obese increases by about 14% for every five extra years of their mother's age (Keith et al., 2006).

- **Like Marrying like**

Lean people are more likely to marry lean partners and fat people are more likely to marry fat partners. The facts that obesity is partly genetic and that heavier people have more children may amplify other causes of the obesity epidemic (Keith et al., 2006).

- **Less Physical Activity**

In 2004-05, 70% of Australians aged 15 years and over were classified as sedentary or having low exercise levels. Of these, just under half (48%) recorded no or very little exercise in the previous two weeks (sedentary exercise level) and 52% recorded a low level of exercise. (*Australian Bureau of Statistics (ABS) 2006, National Health Survey: Summary of Results, Australia, 2004-05, cat. no. 4364.0, ABS, Canberra*)

Physical activity is widely recognised as an important factor in reducing the risk of chronic disease among Australians. Physical inactivity is responsible for about seven per cent of the total burden of disease in Australia (Mathers et al. 1999, *The burden of disease and injury in Australia*. AIHW Cat. No. HE 17. Canberra: AIHW)

In Australia, physical inactivity contributes to the risk of 6,400 deaths per annum from coronary heart disease, non-insulin dependant diabetes mellitus and colon cancer, and up to 2,200 more due to other conditions, including breast cancer and stroke (*Commonwealth Department of Health and Aged Care and Australian Sports Commission (DoHAC & ASC) 2000, The Costs of Illness attributable to Physical Inactivity in Australia: A preliminary Study, John Stephenson, Adrian Bauman, Tim Armstrong, Ben Smith and Bill Bellow. Commonwealth of Australia, Canberra.*)

The effects of physical inactivity are probably much greater when the multiplying effects of other poor health behaviours are considered, such as lack of nutrition from unhealthy food choices, excess-eating habits, excess alcohol consumption and smoking.

The annual direct health care cost attributable to physical inactivity is estimated to be around \$377 million per year (there are enormous indirect costs also).

The State of our Food

- **Declining Quality**

Fruits and vegetables are denatured due to treatment with chemical fertilisers, fungicides and pesticides. They are usually placed in long term storage after unripened harvesting and then often 'ripened' with chemicals.

Many fruits and vegetables are picked green, stored for weeks, months or perhaps years before they are put on the supermarket shelves to sell. If you are able to purchase fruits out of season that have come from another country it is likely they have been stored for some time and treated to extend their life or may have been harvested green, stored and then gassed to ripen them.

Sulphur dioxide (SO₂) is a gas and used to maintain the appearance of fruit and to keep old fruit and vegetables looking fresh. It is used as bleach for many purposes. Health effects caused by exposure to high levels of SO₂ include breathing problems, respiratory illness, changes in the lung's defences, and worsening respiratory and cardiovascular disease (Ontario Ministry of Defence).

- **Nutrient loss**

According to Ramberg and McAnalley, (2002) most stored fresh vegetables steadily lose ascorbic acid (Vitamin C). Green beans refrigerated after harvest lost more than 90% ascorbic acid following 16 days of refrigeration and broccoli lost about 50% of both ascorbic acid and Beta Carotene (Vitamin A) following 5 days of storage.

The fresh fruit and vegetables purchased from major supermarkets and even local green grocers are sometimes up to a year old.

Research commissioned by The Saturday Daily Telegraph found apples in a Sydney Woolworths store to be up to 9 months old, pears up to 3 months old, grapes up to 3 weeks old and cherries up to two weeks old.

Dr Stephen Morris (Sydney Post Harvest Laboratory Director) said "The taste can drop off after a long period and Vitamin C and Vitamin E as well as antioxidant level, which can be cancer preventing can decline."

The shelf life of apples can be extended by up to a year by treating the air in the storage environment with a gas (Fresh Food Farce The Daily Telegraph Jan 2006).

- **Pesticides**

Pesticides are toxic chemicals designed to kill agricultural pests and can cause problems if they are consumed by humans, in even small amounts. Maximum limits for safe human consumption includes a wide safety margin. However past experience has shown that sometimes, a pesticide that was thought to be safe for human consumption has undesirable effects. DDT is such a an example because even though it is no longer used in most countries it has environmental persistence and has the ability to accumulate in body fat. Some imported food is contaminated with DDT because it is still used in some developing countries, especially in Asia.

DDT was known to be linked to premature births and low birth weight and a recent

study at the University of California, Berkeley, suggest that children who have been exposed to DDT while in the womb have a greater chance of experiencing developmental problems (BBC 2006 news link <http://news.bbc.co.uk/go/pr/fr/-/2/hi/health/5145450.stm>)

Many samples of fresh produce carry multiple pesticide residues, but the safety levels set are usually for individual pesticides. Assessments for safety do not take into account the interactions or 'cocktail effect' of combinations of pesticides in and on foods. According to Shane Heaton, Nutritionist, research is confirming the potential for synergistic (combined effects) increases in the toxicity of pesticides up to 100 fold resulting in reproductive, immune and nervous system effects not expected from the individual compounds acting alone (Heaton, 2005).

Belgian research in 2003 indicated that women diagnosed with breast cancer were 6 to 9 times more likely to have the pesticides DDT or hexachlorobenzene in their bloodstreams when compared to women who did not have breast cancer (Charlier et al., 2003).

- **Soil Demineralisation**

Soil depletion results mainly from over-farming or deforestation. For thousands of years it has been known that farm soils need to be rotated to keep them from becoming wastelands. Corporate farming usually involves adding nitrogen, phosphorus and potassium to the soils. This makes the plants grow full of calories, water and perhaps fibre, but void of the complete nutrients you need (Dr Steve Nugent, *The Missing Nutrients*, 2005).

Unfortunately, to keep humans healthy we need many more than these three nutrients. Humans need anywhere from 42 to 78 different minerals each day. Healthy growing plants draw the minerals that we need from the soils. The poorer the soil quality the less nutrients in the plants we eat. That means less nutrients are available to us. Nutrients cannot be added to the produce once they have been picked.

- **A Preference for processed foods**

1995 National Nutrition Survey with the previous national surveys of adults (1983) and children (1985) shows that the quality of Australian diets had deteriorated during that time. Australians are eating more energy, carbohydrate, soft drinks, snack foods and fast foods, while fat intake has changed little. Energy intakes (calories or kilojoules) increased significantly by around 3–4 per cent for adults, 11 per cent for girls and 15 per cent for boys aged 10–15 years.

When examined by food groups, the increased energy consumption in both adults and children was mainly due to increased consumption of cereal-based foods (including cakes, biscuits, pies, pizza and some desserts), confectionary and sugar-sweetened drinks.

The 1995 national Nutrition Survey revealed that less than 50% of all children participating in the study (aged 2 to 18 years) had an adequate fruit intake, and only one-third of children and adolescents met the vegetable intake recommendations. They concluded that fruit and vegetable intakes of Australian children and adolescents fall well below recommendations and appear to have declined in the past 10 years.

Australians now eat almost three million meals at large fast food outlets across the country every day with almost one-third of all money dedicated to food going toward meals purchased outside the home

A 2007 study carried out by Russell and Worsley at Deakin University's School of Exercise and Nutrition Sciences surveyed parents of 371 two to five year old children about their food preferences. They found that a large percentage of foods in the cereals and extra foods groups were liked more (64% and 56%, respectively) in contrast to the other food groups, especially vegetables (7%).

Roy Morgan Research in Australia asked 1853 children aged 6-13 to name their favourite foods. This is what they found: 1) 90% chose hot chips; 2) 87% pizza; 3) 81% fish and chips; 4) 80% chicken nuggets; 5) 75% barbecue chicken; 6) 74% pies, pasties, hamburgers.

Many dollars, many calories, meagre nutrition

In 2004, \$410 million was spent on food advertising in Australia. 1% of food advertised promotes healthy food. 99% promotes fast food, ice cream, soft drinks and other junk food ("A fat lot of good ads do", Bob Brown, *The Australian*, September 7, 2006).

A study from Deakin University in Australia looked at meal deals from the four most common fast food outlets in Australia; McDonalds, KFC, Red Rooster and Hungry Jacks. The results revealed that the large meal deals provided on average 5733 kJ, approximately 1400 calories (35.4% energy from fat and 21.4% energy from sugar). According to data from the 1995 National Nutrition Survey, these single meal deals constitute 52% and 77% of the average daily energy intake of male and female Australians, respectively.

The average person's intake of sugar per year in the USA is 175lbs (\approx 80 kilograms). That is approximately 300,000 calories per year or 800 calories per day from sugar. The majority of these added sugars are contained in soft drinks. Other culprits are fruit beverages, biscuits cakes and even bread. Many breads in the United States have added sugar or honey.

In the United States studies have indicated that by the age of 14 years, 32% of girls and 52% of boys are consuming three or more cans of soft drinks daily (Institute of Medicine of the National Academies).

In Australia, male soft drink consumers aged 16–18 years consumed an average of 836 mls (2 cans) of soft drink per day; a figure double that of their female peers (MJA 2006; 184 (6): 263-264).

The Australian Bureau of Statistics, suggest that the intake of soft drinks in Australia has grown rapidly in the past 30 years from around 47.3 litres per person per year in 1969 to 113 litres per person (children and adults) in 1999. This is approximately one can per day and puts Australia within the top 10 countries for consumption and represents a market of around \$1.6 billion per year (Gill, Rangan & Webb, 2006).

It is probable that consumption has increased further since 1999.

Evidence shows that soft drinks can increase the risk of fat-gain and obesity. One can of soft drink contains approximately 10 teaspoons of sugar and each can of soft drink consumed per day increase the risk of being obese by 60%. Unlike foods, drinks do not create a feeling of fullness, so despite consuming a lot of calories, the person is still hungry. In fact there is evidence that soft drinks may increase appetite leading to a further increase in energy intake. Soft drinks provide empty kilojoules and no nutritional benefits. Reducing the consumption of soft drinks will reduce energy intake and contribute to prevention of fat-gain and obesity with no negative impact (World Health Organisation).

- **Stress Response**

Primitive people benefited from their stress response because it gave them the physical agility and strength, with the mental resolve to deal with an emergency, followed by extended periods of calmer life routines and recovery. Stress for modern people is more unrelenting and recovery periods are shorter and incomplete because the chemicals that produce stress responses, mainly cortisol and adrenaline, stay in our bodies for much longer periods. These chemicals are powerful and their prolonged presence in our bodies leads to health complications.

When cortisol levels rise, so does insulin and when insulin levels rise, so does cortisol. They are directly linked to each other. The interplay between these two hormones sets a path toward decreased muscle mass, increased fat storage and insulin resistance.

Scientific studies prove that psychological stress lowers the immune system. In fact, there is evidence to indicate that even negative thoughts can lower your immune function slightly. Two hundred and ninety-three stress related studies were carried out between the years 1960 to 2001 with approx 19,000 participants. Findings were that long term stress caused excessive wear on the body and activated a deterioration of the immune system (Segerstrom & Miller, 2004).

Illness among children increases more than twofold following significant stress. (Mark Flynn, University of Missouri, 13 year study of stress and health).

Stress has been linked with increases in blood pressure, heart disease, cancer, infections, immune system modulation problems, aging, depression, anxiety, headaches, gastrointestinal problems and skin disorders.

3. Traditional Weight Loss Programs

Current weight loss / body shape change programs are based on principles of eat less and exercise more. They do re-educate people about healthy eating options and how exercise or physical activity is beneficial in our lives, most but not all of them still rely on willpower to abstain from old eating habits, being constantly mindful of what you eat and avoiding fattening foods. However, at some point people will start to be distracted by holidays, visitors or celebrations over holiday seasons and then relax their will power and cease the diet program/exercise regimen. This results in past

habits and eating patterns re-emerging. They re-appear as though they have never gone away and people become disillusioned with dieting.

In fact a meta-study conducted by at UCLA by Psychologist Traci Mann in 2007 involved reviewing 31 long term studies on diets. Her results indicated that:

- The majority of people regained all the weight, plus more. Sustained weight loss was found only in a small minority of participants, while complete weight regain was found in the majority. Diets do not lead to sustained weight loss or health benefits for the majority of people;
- One study of dieting obese patients followed them for varying lengths of time. Among those who were followed for fewer than two years, 23 percent gained back more weight than they had lost, while of those who were followed for at least two years, 83 percent gained back more weight than they had lost, Mann said. One study found that 50 percent of dieters weighed more than 11 pounds over their starting weight five years after the diet;

Another study, which examined a variety of lifestyle factors and their relationship to changes in weight in more than 19,000 healthy older men over a four-year period, found that one of the best predictors of weight gain over the four years was having lost weight on a diet at some point during the years before the study started. Several other studies indicate that dieting is actually a consistent predictor of future weight gain (Mann et al., 2007).

4. Government Initiatives

The Federal and State governments have been increasingly concerned about the obesity epidemic and the social, emotional and financial costs to Australians. We applaud the initiatives that have been made so far. These initiatives have tended to focus on dietary and physical activity education and improvements. **However, the psychological causative factors and consequences of obesity have been overlooked.** Although the new Medicare Better Access to Mental Health Scheme gives access for people with mental health problems to psychological services, many people with obesity and overweight are not being referred under this program because they may not be considered as fitting one of the listed mental disorders. These people are often just seen as needing dietary/exercise/medical intervention and consequently their emotional eating issues may not be addressed.

5. Psychology and Obesity

- **Adults**

Obesity in adults can be caused by psychological problems but can also have psychological consequences. The psychological consequences of obesity can range from **lowered self esteem to clinical depression. Rates of anxiety and depression are three to four times higher** among obese individuals than among their leaner peers. Greenberg et al (2005)

Even though some people suffering with obesity would not fulfil the criteria for a psychiatric diagnosis they would benefit from psychological intervention to address the patterns of emotional eating.

- **Children & Adolescents**

The literature indicates the psychological impact of obesity on children is both short and long-term. Obese children are often stigmatized by their peers in school. Bullying (teasing, name calling, physical harm), being targeted for rumours/lies, and social isolation are some of the effects that school children face because of their obesity. These immediate effects of obesity are associated with psychological factors such as lower self-esteem, emotional distress and anxiety. Other psychological disorders, such as depression and having suicidal thoughts, and unhealthy weight control behaviours such as Bulimia Nervosa are also associated with childhood obesity.

Erickson et al. (2000) in their cross-sectional study of 868 third graders in Northern California, where students were measured for height and weight also asked them to complete a self-report assessment of depressive symptoms and overweight concerns. The researchers reported **increased symptoms of depression in overweight girls.**

Ackard et al., (2003) using data from 4746 Minnesota students who were surveyed and had anthropometrical measurements taken for a cross-sectional study, reported that **overeating was:**

- **associated with highest scores in the depressive mood scales and lower self-esteem. Overweight students were more likely to endorse suicidal thoughts and attempts; and**
- **significantly associated with body dissatisfaction.**

Mellin et al. (2002) conducted a cross-sectional, school-based survey of 9957 Connecticut adolescents in grades seven, nine and 11, comparing overweight and non-overweight adolescents on a number of self-report measures of eating habits, physical activity, dieting, educational, and psychological scales. They found that **overweight adolescents:**

- **experienced more psychological distress (using psychosocial well-being variables, like relationships with peers, parents and teachers)**
- **reported higher levels of emotional distress manifested in poor self-image, aggressive behaviours, suicide, promiscuity, drug, alcohol and tobacco addiction**
- **displayed high levels of emotional distress, which in turn is associated with fewer years of school completed and higher rates of poverty and unemployment**
- **engaged in significantly more unhealthy behaviours such as binge eating**
- **displayed unhealthy behaviors such as extreme dieting, skipping meals, and prolonged TELEVISION watching**
- **rated their school performance lower**
- **rated their future educational plans lower**

6. Evidence for benefits of Psychological intervention combined with diet/exercise regimen

To assess the effects of psychological interventions for overweight or obesity as a means of achieving sustained weight loss, Shaw, O'Rourke, Del Mar, and Kenardy (2005) obtained studies from searches of multiple electronic bibliographic databases. The date of the latest search was June 2003. Trials were included if they fulfilled the following criteria: 1) they were randomised controlled clinical trials of a

psychological intervention versus a comparison intervention, 2) one of the outcome measures of the study was weight change measured by any method, 3) participants were followed for at least three months, 4) the study participants were adults (18 years or older) who were overweight or obese (BMI > 25 kg/m²) at baseline. Two people independently applied the inclusion criteria to the studies identified and assessed study quality. Disagreement was resolved by discussion or by intervention of a third party. Meta-analyses were performed using a fixed effect model.

A total of 36 studies met the inclusion criteria and were included in the review. Overall, 3495 participants were evaluated. The majority of studies assessed behavioural and cognitive-behavioural weight reduction strategies. Cognitive therapy, psychotherapy, relaxation therapy and hypnotherapy were assessed in a small number of studies. Behaviour therapy was found to result in significantly greater weight reductions than placebo when assessed as a stand-alone weight loss strategy (WMD -2.5 kg; 95% CI -1.7 to -3.3). When *behaviour therapy was combined with a diet / exercise approach and compared with diet / exercise alone, the combined intervention resulted in a greater weight reduction*. Studies were heterogeneous however the majority of studies favoured combining behaviour therapy with dietary and exercise interventions to improve weight loss. Increasing the intensity of the behavioural intervention significantly increased the weight reduction (WMD -2.3 kg; 95% CI -1.4 to -3.3). *Cognitive-behaviour therapy, when combined with a diet / exercise intervention, was found to increase weight loss compared with diet / exercise alone* (WMD -4.9 kg; 95% CI -7.3 to -2.4). No data on mortality, morbidity or quality of life were found.

The authors concluded that:

- *people who are overweight or obese benefit from psychological interventions, particularly behavioural and cognitive-behavioural strategies, to enhance weight reduction*. They are predominantly useful when combined with dietary and exercise strategies
- that cognitive behaviour therapy and behaviour therapy significantly improved the success of weight loss for these people
- cognitive therapy alone was not effective as a weight loss treatment
- there was not enough evidence to reach a conclusion about other psychological forms of therapy, such as relaxation therapy and hypnotherapy, *however the evidence that is available suggests that these therapies may also be successful in improving weight loss*.

The Committee will recommend what governments, industry, individuals and the broader community can do to prevent and manage the obesity epidemic in children, youth and adults.

Our Answer: The SlimMinds® Program- *Change your Mind, Change your Shape, Change your Life!*

The aim of including a psychological component to a shape-change program is to increase the success of long-term physical and emotional change. The SlimMinds® Program, delivering group based programs since March 2006, is unique and sees the power of the mind as the masterkey to the Obesity problem. It is not a specific dietary weight loss program. It is designed with a view to changing mindset towards weight, food, fat and exercise, and gives clients skills and techniques to approach any complimentary dietary program or exercise regimen with greater ease, commitment and interest. It offers the client the opportunity to realign their attitudes and beliefs towards food, physical activity and body shape, in order to achieve the shape or size desired.

The SlimMinds® Program focuses on the psychologically positive concepts of changing body shape and size rather than on the perceived negative concepts of loss and weight. The term '**weight loss**' was originally devised to politely avoid using the less fashionable - '**fat loss**'. We avoid the term 'weight loss' because it does not help people focus on the shape they want and it does not tell us what type of weight is being lost. The loss of weight may be due to loss of muscle, bone, other tissue or water. And that is not what we want to lose, but in many 'weight loss' programs these components of the body are often what is lost before fat. For any given volume, muscle weighs almost three times more than fat. Also, for some people, they have a type of preconscious resistance to the concept of *loss* of anything, even if it is the excess fat they do not want.

Clients are be provided with a diverse range resources for ease of reference, relevant websites to access, diaries to complete, and suggested physical activities.

SlimMinds® Mission

The SlimMinds® mission is to offer powerful beneficial techniques of the mind to those who choose to change their minds, change their shape and change their lives to achieve their optimal wellness.

SlimMinds® Vision

The SlimMinds® vision is to be a leading company in the field of health promotion and life choices by promoting the mind and body approach to shape change. To continually support program objectives with statistical research and data, ensuring continual improvement of the client programs, remaining consistent with client feedback and relevant outcomes (physical and psychological). To be a recognised worldwide leader in the area of body shape programs and a valued and respected contributor to international publications, presentations and programs. To be instantly recognised in the wider community as THE defining factor in body shape change programs.

Program Aims and Objectives

- Enhance the client's ability to change their body shape and be the shape they wish to be;
- Enhance the client's ability to quickly and preconsciously change aspects of themselves that results in gaining fat and size (centimetres);
- Enhance the clients understanding of the underlying issues that result in their gaining fat and size;
- Enhance the clients sense of self-esteem and sense of control in their lives; and
- Provide the missing link in the weight loss industry.

Overview of the Program:

Topics Include

- Preconscious goal setting and motivation
- Health and food facts
- The psychology of eating
- Preconscious shape change techniques
- Easy fitness the preconscious way
- Glycemic Indexing of foods and food choices
- Menu planning and recipes
- Overcome binge-eating
- Relaxation techniques for calm living
- Mind development
- Self esteem and your body
- Changing unhealthy patterns in your life
- Effects of parents' eating behaviours on their children

Delivery

The SlimMinds® program is delivered in a group format by one or two of our trained facilitators depending on the size of the client group.

There are many options for the format of running the groups.

The principal format consists of 6 two hour sessions; usually 5 weekly and one follow-up session four weeks later.

Due to Client feedback, we have become aware of a need to offer more accelerated versions of the SlimMinds® program. While the 6-week version does suit many Clients, some have indicated an interest in attending a more condensed program. The following are alternative formats and some suggestions of how these are offered:

1. 1 x 6 hour block (weekend option) and 1 x 6 hour a week/fortnight later Plus 2 hour follow-up 2 to 6 weeks later
2. Weekend course – 6 hours each day Plus 2 hour follow-up 2 to 6 weeks later
3. Mid week: 3 consecutive days of 2 hours each, and the same a week later Plus 2 hour follow-up 2 to 6 weeks later

Disclaimer

The SlimMinds® program is not designed to replace a doctor's advice nor be a replacement for any medication or medical regimen to pre-existing medical conditions or ailments (either physical, emotional or mental). The program is designed to complement the advice of a doctor to the client, and provide them with additional tools and resources. For this reason, we recommend clients seek the advice of their medical practitioner before commencing the SlimMinds® program if they have any health concerns. **This Program is not suitable for people suffering with Anorexia Nervosa.**

About the Program Advisors

Dr Peta Stapleton	PhD; MAPS Psychologist, Practitioner of NLP, TimeLine Therapy & EFT
Terri Sheldon	B.A. (Hons); MAPS Psychologist, Practitioner of NLP, EMD-R & EFT
Brett Porter	Assoc Dip. WR & W Practitioner of NLP, TimeLine Therapy & EFT
Dr Frances Hill	M.B.B.S (Syd); Dip CH Doctor of Medicine, Bachelor of Surgery, Practitioner of NLP, TimeLine Therapy, Hypnosis & EFT
Sonya Barnes	BHSci, ND Grad Dip Hlth Sci Practitioner of Nutritional Medicine & Naturopath
Jack Hammond	M.Pharm, B.Pharm Sci., Pharmacist, Practitioner of EFT
Brad Gordon	Certificate 4 Personal Trainer, EFT Practitioner
Laraine Ludwig	Pilates Instructor

Happy Healthy Teens Program

The target group is young people aged 12-18 years who are at-risk or currently diagnosed as obese.

The program:

- Focuses on the preconscious aversion to physical activity with a range of techniques designed to change the desire level towards WANTING to engage in physical activity;

- Focuses on the preconscious desire levels for unhealthy food options and increases the desire for healthy food options – through a range of preconscious techniques. Re-education about food choices and healthy weight is covered;
- Discusses the impact of eating when in an emotional state and the relationship between stress and eating and resulting weight gain. The program also teaches helpful psychological strategies to manage feeling states that may be leading to overeating;
- Covers family relationships and family patterns which may result in the same behaviour as modelled by parents. Relating to family members in a more constructive way is also discussed; and
- Highlights the cognitive distortions which can occur in adolescents and more appropriate ways of coping are discussed. Guided visualisation exercises and meditation are taught to offer alternative ways to cope with stress, anxiety and depression.

Conclusion

Extensive research suggests that the addition of any psychological intervention to a weight loss or dietary or exercise program is more beneficial than either of these alone, in achieving and maintaining weight loss. Personal preference over individual weight loss intervention versus group intervention appears to make no difference to weight loss success; however group intervention has been shown to be more effective in long term weight loss success. Because the adjunct of hypnotic techniques in a weight loss program have been shown to be beneficial in achieving and maintaining successful weight loss, it is vital that these issues be included when addressing this national concern and the development of Federal and State based prevention and treatment programs.

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