BODY IMAGE AND DIETING BEHAVIOURS:

A STUDY OF ATHLETES AND NON-ATHLETES

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ABSTRACT

Research has shown that elite female athletes competing in competitive sports may experience weight consciousness and face demands to conform to unrealistic standards of body weight. The purpose of this research was to investigate body image and dieting behaviours in adolescent female athletes and non-athletes. A self-reporting questionnaire was administered to 60 athletes aged between 13-16 years derived from eight different sporting populations, and a control group consisting of 60 non-athletes or inactive individuals aged between 13-16 years. Two major areas relating to weight and eating behaviours were examined: disordered eating and distorted body image. Other variables under investigation included current attempts at weight loss, level of acceptance of thin female stereotypes promoted by the media, reasons for dieting, and perception of one's own body image.

Results indicated that the majority of the athletes displayed a positive body image and were generally happy with their overall body shape. This group was less likely to employ weight loss behaviours. However, the non-athletes were more likely to display distorted body image and distorted eating behaviours. Consistent with the cultural expectations of thinness, large proportions of the non-athletes wished to lose weight, even though their actual weight (i.e. Body Mass Index) was normal or underweight. Weight concerns in the non-athlete group related more to attaining a media driven "ideal" of femininity. The weight concerns recorded amongst a small number of athletes were related more to improving sporting performance. Although no clinically diagnosed cases of eating disorders were recorded, eating behaviours, weight reduction practices and body image beliefs indicated that the adolescent female non-athletes may be at risk of developing disordered eating and body image problems.

CHAPTER ONE

INTRODUCTION

Introduction

Healthy body image and eating patterns is an important health issue for adolescent girls (Rehr, 2001). This aspect of health is an important area to investigate due to its ultimate impact on the self-concept and well-being of adolescent girls.

This chapter presents an overview of the study including:

- The research problem and its significance
- Definition of terms
- The aims and purpose of the study
- Summary of method and research questions
- The theoretical framework
- Outline of thesis.

The Research Problem and its Significance

Over the past 20 to 30 years, intense social pressures arising from such factors as media, fashion, self surveillance, experienced by adolescent females to diet and conform to unrealistic body standards (Cooke, 1994). The prevalence of adolescent dieting ranges between 30-65% of the population (Griggs, 1994). The number of female adolescents

developing an eating disorder is also rising. Clarke (2000) estimates that 1 in 200 adolescent girls will develop an eating disorder and an even greater number will have an obsession with their body image. Disordered eating and body image is also very common amongst adolescents not actively involved in sport or physical activity. The Australian Bureau of Statistics found that in 2000, 52% of adolescent females participated in organised sport outside school hours and it was also shown that girls were most likely to drop out after year 8 and during winter (Signey, 2002). From a health promotion perspective, greater information is required into the protective benefits physical activity may offer young women in terms of body image and associated dietary practices.

However, this area has been little investigated. There is conflicting evidence available which suggests that athletes participating in sports where extreme thinness is the ideal somatype may be more susceptible to developing eating disorders. These sports include figure skating (Brooks-Gunn, Burrow & Warren, 1988), running (Weight & Noakes, 1987), swimming (Drummer et al, 1987), gymnastics and ballet (Zucker et al; 1985). Other researchers have found ongoing health benefits associated with physical activity include improved fitness, muscle endurance, decreased chance of developing diabetes or heart disease. Most importantly, in relation to the prevention of eating disorders, participation has been noted in various studies as aiding the development of healthy self-concept and body image in adolescent girls (Petchers, Hirsch & Bloch 1988; Dinuble, 1993; Williams & Cash, 2001).

The present study is of relevance to the health and well-being of all female adolescents: athletes and non-athletes, and parents, teachers and coaches. The study examines the concerns a group of adolescent females have about their body image and employment of weight control methods as a means to alter their body shape and maintain a low body weight. This phenonema has not previously been investigated within the one study, as to whether similar concerns and behaviours would be held by sports participants compared with those not participating in any sport and physical activity.

This study provides a current review of coaching practices and training techniques in relation to body image and dieting behaviours for athletes. Nutrition and safe eating practices have become an important issue both in the general education of females and in the training of athletes (Deakin, 1996). For example, in a attempt to have athletes perform better physically and mentally, coaching and officials often demand that young athletes modify their food intake in order to achieve a preferred body weight for performance benefits (Bernardot et al; 1990). Athletes employing these dangerous weight loss methods during periods of rapid growth in order to maintain a certain body weight may experience long term medical consequences such as osteoporosis (Martin, 1998).

At a personal level, this study is significant in that the researcher is a PDHPE teacher and has experienced many girls expressing to her how uncomfortable they are with their bodies. The researcher has also noted girls dropping out of sport increasing in numbers over the past 5 years, not realising the benefits that physical activity can provide. An

initial study conducted by the researcher at honours level studied dieting behaviors and body image in netball players and gymnasts. However, further questions still remained, such as who holds healthier body image: athletes or non-athletes? And finally, through the researchers own personal battles with eating and body image the researcher believed that she had the right insight to investigate this issue.

For females in general, the constant messages from the media and society suggest that the contemporary ideal body shape is thin (Pearce; 1993; Wolfe, 1994). This excessive amount of pressure has lead to many females to pursue the 'ideal' body shape at the expense of their own health (Cooke, 1994). Females need to be more accepting of their bodies and realise that their shape is biologically and genetically determined (Kay, 1996). If it can be shown that participation in physical activity is associated with adolescent females being more accepting and positive about their own body, then this may offer on means of increasing self-esteem, self confidence and body image. Longer term outcomes of such participation may include decreased incidence of eating disorders such as anorexia nervosa and bulimia nervosa (Philips, Martin & Baker, 1997).

Definition of Terms

Aesthetic	sports which are normally judged subjectively; appreciation of beauty, pleasing to the eye.
Adolescence	develepomental stage between childhood and youth.
Amenorrhea	the absence of menstruation.

Anorexia nervosa	an eating disorder characterised by a psychological condition with progressive weight loss, fear of weight gain, distorted body image and having a cycle of ritualistic and rigid behaviours such as excessive exercise or calorie controlled diet.
Athlete	a sports participant who is trains to a regime of physical exercises in order to compete in events and against other athletes.
Body mass index	a measure of relative fatness calculated by body weight divided by height squared.
Body image	an individual's perception of their own body. A personal evaluation of what the individual self is physically and biologically. Body image also involves evaluating oneself against others and/or images (Pearce, 1993).
Bulimia	an eating disorder characterised by recurrent episodes of binge eating, secretive purging and self induced vomiting.
Distorted image	also known as dysmorphobia. It is an obsession with a particular body flaw and blowing it out of proportion. The personal perception of the characteristics of an individual's body such as degree of over or underweightness, are not realistic and very much out of proportion with the actual person's physical appearance or image.

Disordered eating	utilising unhealthy eating behaviours such as fasting, cutting out certain foods or vomiting in an attempt to lose weight.
Ectomorphic	slight body build with very little fat, tall and slender.
Elite athlete	representation in one's sport at national or international competition level. Often receiving sponsorship and money for involvement.
Endomorphic	body build that is round and heavy with a high percentage of body fat.
Genetic determination	characteristics inherited from both parents and grandparents.
Ideal	a desirable standard for imitation, a perfect representation of an optimal and popular state or condition.
Mental health	the capacity to cope with life events and situations, grow emotionally through them, develop to the fullest potential and grow in awareness and consciousness. Mental health includes feeling good about one's self, accepting one's limitations and physical appearance, being content with life and gaining inner peace.
Mesomorphic	a body frame that tends to be muscular characterised by wide shoulders and narrow hips.
Muscle tone	a condition of the muscles where they are firm or taut, usually gained from regular exercise or strength training.

Non-athlete	an individual not participating in any training, physical activity or competitive sport outside of compulsory school PDHPE classes.
Obese	a condition in which a person's body weight exceeds his or her healthy weight range by 20-25%.
Perceptions	an awareness or understanding that people have about certain things.
Self concept	what an individual thinks, feels and believes about his or herself. An understanding of the value of one's personal abilities, values, feelings and qualities.
Self esteem	high self-esteem indicates a positive self concept and high level of self respect and self liking. The judgment a person makes and maintains with regard to self including apects such as body image. It expresses an attitude of approval or disapproval and indicates the extent to which an individual believes oneself to be capable, significant and worthy.
Social athlete	individual who participates in an organised sports competition at a club or venue purely for enjoyment, fun, social and fitness reasons.
Socio-ecological	a view of health which acknowledges the influence of the environment and other social supports on human behaviour.

Somatotypes	a system of classifying body type or physique according to a range of three extremes.
Sport	organised indoor or outdoor physical activity of athletic nature. Involves rules, scoring and competition. Can be conducted at a social, sub-elite or elite level.
Stereotype	a commonly held conception or idea about an object, social characteristic (such as unemployed, fat, or thin people) or group of persons. It is usually based on prejudicial attitudes and feelings held about specific persons that are then applied to the whole group. A desired goal or set of behaviours that people may indicate one's maleness, femaleness, level of success, beauty, such as extreme thinness will bring happiness and success.
Sub elite athlete	competing at a level lower than elite. Competing in regional to state level competitions.

The Aims of the Study

The main aims of the study were to:

- Investigate body image and dieting behaviour in a group of adolescent female athletes and non-athletes.
- Determine whether differences exist between participants representing different sports regarding body image and dieting behaviours.

Therefore, the purpose of this study was to investigate body image and dieting behaviours in a group of adolescent female athletes compared with non-athletes. The bulk of past research has shown that elite female athletes competing in aesthetic sports are more weight conscious and are faced with greater demands to conform to unrealistic standards of body weight than their inactive counterparts (Petrie, 1993). However, it was deemed worthy to investigate sports participates competing at sub-elite level. Even though more adolescent girls take part at social or sub-elite level compared with elite, most studies have focused on body image and dietary behaviours in elite athletes. The researcher was also interested to focus on the dietary behaviours and body image of an active group of female adolescent girls compared with a non-active group. The majority of studies have been conducted on small groups (n = 7-10) of elite athletes participating in aesthetic type sports such as ballet or ice-skating. Notably lacking are studies designed to look at the differences between a relatively larger group (n = 120) of active and inactive females from the general community. There is also a gap existing within the wider research literature on studies with an Australian focus.

The key purpose of selecting the six sports of netball, tennis, dance, swimming, gymnastics and rowing was to obtain a variety of respondents. This range of sports includes team and individual sports, each requiring a different body shape. Sports such as tennis, rowing and netball have not been widely studied. However, netball is the largest participation sport in Australia for females (Orr, 2001). Only one study has previously examined body image and dieting behaviours amongst athletes from this sport.

Theoretical Framework

The theoretical framework informing the study utilised a socio-ecological health promotion perspective. The new public health approach to health promotion recognises the influence of the environment, including social factors, on human behaviour. Typical social factors include culture, media, gender roles, community organisations, peers, family, coaches and other authority figures. The impact of positive or negative environmental supports in terms of resulting healthy or unhealthy behaviours choices is important for several reasons. Firstly, body and eating disorders are the only common type of psychopathology in which socio-environmental variables appear to be a major factor in determining prevalence (Mitchell, 1987; Maguire, 1993; Thompson et al., 1999). Further, societal norms in western cultures demand both a slim and physically fit physique (Tebbel, 2000). Individuals may feel pressured to attempt to achieve this ideal physique through dieting, exercise or even sports participation (Pearce, 1993; Johnson, 1992).

The researcher is informed by previous research which has suggested that elite athletes are exposed to body shape and weight pressures unique to their type of sports participation (Black, 1991; Pierce & Daleng, 1998). One potential source of those pressures is task related. For example, Streigel-Moore et al. (1986) stated that sport, with its emphasis on obtaining an optimal weight for athletic performance, represents a subculture that intensifies societal pressures to be thin, thereby increasing the risk of

developing an eating disorder. Pressures from coaches, judges, and team-mates could also encourage unhealthy eating and weight management behaviours (Sundgot-Borgen, 1993). Furthermore, elite athletes may exhibit specific characteristics that increase their vulnerability to disordered body and eating behaviours. Characteristics such as perfectionism, compulsiveness, self motivation or high achievement expectations are thought to be advantageous for athletic performance, However these characteristics are also found in individuals with body and eating disorders (Johnson, 1992).

However, the theoretical underpinning of this study is that participation in sport at the sub-elite level has the potential to offer a protective influence in terms of dietary behaviours and body image. Those adolescent girls who participate in regular physical activity are more likely to derive positive body image benefits than those who are not participating in any regular physical activity. They are also more likely to adhere to exercise behaviours, and so enjoy the long-term health benefits of phyiscal activity (Body Image & Health (BIH) Inc; 2000; Active Australia, 2001; Williams & Cash, 2001). Female athletes participating in netball, basketball, track and field, softball and tennis, have expressed positive attitudes towards various parts of their body, weight and health, compared with female non-athletes (Rao & Overman, 1986). For example, Orr (2001) recently found that females who participate in netball at least once a month were almost three times more likely to be happy about their personal appearance than those who didn't play team sports.

A socio-ecological framework was utilised as it may assist in:

(a) understanding factors related to eating behaviours and body image

(b) identifying and developing interventions to alter or reduce negative environmental influences, and

(c) designing prevention programs which are most effective in meeting the needs of athletes and non-athletes.

If the environment can be modified, such as the media using more realistic images, or coaches stressing helpful ways through skill improvement in athletes other than pure weight reduction, than negative pressures and expectations on female adolescents to conform to a certain body image may be reduced. The prevalence of eating disorders and individuals dissatisfied with their body shape might be diminished.

Therefore, the research questions which have been addressed in this study include:

- Do a group of athletes have on average, more positive or healthier body image and dieting behaviours than non-athletes?
- Do a group of athletes from specific sports hold greater concerns about their body image and dieting behaviours than groups of athletes from other sports?

Summary of Method and Research Questions

A self-reporting questionnaire was administered to 60 athletes aged between 13-16 years derived from six different sporting populations, and a control group consisting of 60 non-athletes or inactive individuals, aged between 13-16 years. Two major areas were examined: levels of disordered eating and distorted body image. Other variables under

investigation included current attempts at weight loss, level of acceptance of thin stereotypes promoted by the media, reasons for dieting, and personal body image.

Outline of Thesis

Chapters Two and Three contain a review of the related literature, providing an overview of body image in society, adolescence, dieting behaviours in females, and any health consequences associated with distorted body image and dieting behaviours. In addition, the benefits of participation in sports and physical activity in relation to body image and dietary behaviours are reviewed. Chapter Four outlines the methods utlised throughout the study providing a description of the research design and manner in which the data was collected and analysed. Chapter Five presents the survey findings and Chapter Six provides a discussion of the main findings from the investigation. Chapter Seven presents the conclusions of the study which provide a summary of the main findings, theoretical and practical implications, together with recommendations for further research.

CHAPTER TWO

A BACKGROUND TO SOCIETY AND BODY IMAGE

Introduction

Women raised in western societies are often socialised to value their appearance more than their accomplishments (Turner, 1996). This socialisation process may be influenced by:

- culture
- media
- gender roles
- community
- peers
- parents and family and
- other authority figures such as teachers or sports coaches (Black, 1991; Thompson et al., 1999).

The ideal appearance or female body shape valued by society today is very slim. It has been suggested that eating disorders develop partly, due to factors such as media images creating pressure for women to conform to this unrealistic yet, popular slim image (Wolfe,1990; Terry & Waite, 1996).

This chapter reviews the related literature on the nature of social pressures which contribute towards unrealistic body image amongst young women. The major characteristics of the two major eating disorders, anorexia nervosa and bulimia nervosa,

are also reviewed, including associated extreme body image and dieting behaviours. Prevalence rates, body image and dieting during female adolescence are examined in order to understand these health problems more fully.

Cultural Expectations and the Ideal Body Shape

In western cultures, it is often widely accepted that females need to be beautiful and thin in order to be successful (Black, 1991, p.11). For example, females are constantly subjected to beautiful, feminine images of successful women in the media. Females equate success as being related to such images and as a result try to match this image (Milkie, 1999). This oppressive uniformity has been a staple of women's magazine and those seen on television, for decades, for the reason that perfection of face and body is what women are taught to associate with success (Tebbel, 2000).

However, there is no universal acceptance of what is considered to be the perfect female body shape. Expectations of the most acceptable female body shapes may vary from culture to culture. For example, in India, a voluptuous body shape is highly valued, while in many African countries people consider full hips and thick thighs to be most attractive (Bell, Kirkpatrick & Rinn, 1986).

The ideal body image for women in Australia in the 2000s is attractive, elegant and slim (Wilson, 2000). The social pressure to conform to the thin ideal is immense (O'Connor, 2000). The media images continually exhibited as the ideal thin body (Metcalf, 2000). The media images arise largely from fashion magazines, marketing and advertisements,

products, movies, television and sport. Women and girls in society often find themselves continually comparing their own body image to the thin 'ideal' portrayed (Tebull, 2000).

There is some support for the contention that the ideal body shape for women in western cultures has shifted toward a thinner ideal over the past 20 years (Garner & Garfinkel, 1980; Silverstein, 1986; Terry & White 1996; Garth, 2000). For example, Maloney and Kranz (1991) state that Playboy centrefolds, Miss America finalists and some movie stars over the last 25 years have shown a significant trend toward a thinner standard. It is amazing to reflect that by today's standards, 1950s movie icons Marilyn Monroe and Mae West are considered overweight (Brooks, 1995; Kay, 1996, Maloney & Kranz, 1991). Figure 2.1 illustrates some images supporting this trend.

Figure 2.1 Changing shapes over the years – Marilyn Monroe' 60s, Claudia Schiffer, late 80s to early 90s, Kate Moss' 90s & Victoria Beckham 2000s (From The Body Snatchers, 2000, p.92, The Sunday Telegraph, 1999, October 1, p. 7, & The Sun Herald, 2001, July 22, p. 73).

There has also been an expectation over the last twenty years to live up to an increasingly fit and toned body physique (Pearce, 1993; Cooke, 1994; Wolf, 1994). An example of this toned, slim ideal is portrayed in Figure 2.2. Moriarty and Moriarty (1988) noted that one reason for the high regard placed on toned, slim bodies may be due to the fact that women view fitness and exercise as a possible weight control method. Adulation and attention is therefore placed on those women who have successfully used exercise as a means of developing a toned and thin body shape. Pearce (1993) also found that body image was an 'incentive' for women to engage in exercise programs and 'get in shape.'

Figure 2.2 The increasingly fit and toned look as exhibited by Tatiana Grigoreva (The Australian Magazine, 2001, January 13, p. 12).

It needs to be remembered that today's expectation of women achieving the thin ideal body shape is an impossible goal for most women. For women in western societies, it is indeed a myth that a body can be moulded to attain the cultural ideal. The thin ideal which permeates western culture could only be safely achieved by less than 5% of the population (Kay, 1996). Biological limitations make it extremely difficult to achieve this ideal body shape as we each have a genetic predisposition for a specific body weight

(Wichmann & Martin, 1993). The distribution of muscle and fat is a result of genetic makeup. Fat patterns in the body are different for everyone (Swan & Egger, 1991).

A certain degree of body fat is also normal in mature females however, many women believe they can change their natural body shape through diet and exercise. Whilst it is possible in certain cases to change total body weight, it is not possible to change the general individual genetic patter of weight distribution of various sections of the body (Bouchard et al., 1990; Campaigne, 1990; Swan & Egger, 1991; Cooke, 1994). The other barrier is that the average clothes size for Australian females is a size 14, which means that from a health point of view, most women cannot realistically reach a size 8 without self-harm (McCabe, 2001).

One motive for women wishing to lose weight may be that society holds a negative view of overweight individuals. Some studies show that people perceive a thin individual to somehow be in greater control and smarter than an overweight individual (Atrens, 2000). Overweight people often have to deal with constant taunts at work, school and rejection in the wider community (Tebull, 2000). When Hollywood movie star Gwyneth Paltrow wore a fat suit into a hotel preparing for a movie role, she experienced people not looking at her, making eye contact or even smiling (McCarthy, 2001). Images of larger size, overweight or even the 'regular' size 14 woman are rarely seen in the Australian media. Actress Renee Zellweger, gained 9kg for a movie role. However, when even at her heaviest she was never more than a size 12, which is still a whole size below the average for an Australian woman (McCabe, 2001).

This social repulsion of the obese individual and the constant pressure to be thin often creates greater levels of dissatisfaction amongst females with their own bodies. According to Chernin (1991), dissatisfaction with one's own body shape can lead to an extreme fear of fatness and desperate attempts at weight control.

It is not surprising that many females are using extreme measures to control their body weight and shape. Women face great pressure from society and it has been suggested that some women develop eating disorders, because of these pressures to conform to an unrealistic image (O'Connor, 2000). The next section focuses on the clinical features of eating disorders and dieting amongst female adolescents.

Body Image

Body image refers to how an individual perceives one's physical self (Trebel et al; 1990). Ben-Tovin (1992) noted that body image is a term that is conventionally used in reference to people's experiences of their own bodies. His study identified "feeling fat" as the most common and obvious attitude held by virtually all women in a large Australian community group.

A healthy body image is when one has a positive perception of their body and adopt healthy eating behaviours (Garner, 1997). Body image dissatisfaction is often the result of an incongruence with one's perceived body shape and size with that which is endorsed by the media, advertising and society as the ideal standard (Pearce, 1993).

Clinical Features of Eating Disorders

"You can always find an empty bathroom ," said one recovering bulimic who was an All-American distance runner. During her worst period of self-abuse she was visiting bathrooms five or six times a day, vomiting simply by flexing her stomach muscles. "It's like a drug," she said of the syndrome. "It controls you. An overwhelming feeling comes over you, like a fog" (Noden, 1994, p.54).

There are three types of eating disorders, however the symptoms frequently overlap:

* Anorexia Nervosa (self-starvation with body image distortion)
* Bulimia Nervosa (binge eating and purging through vomiting, excessive exercise, laxative abuse and compensatory starving) and
* Compulsive eating (binge eating and/or continual eating) (Philips, Martin & Baker, 1997).

The purpose of this particular study is to research dieting behaviours and body image amongst female athletes and non-athletes. Dissatisfaction with one's body shape, the desire to be thin or extreme exercising is more likely to result in anorexia nervosa or bulimia nervosa (Sheather, 1997). Therefore the following discussion focuses on the features of these two eating disorders with the emphasis on female adolescents.

Anorexia Nervosa

Anorexia Nervosa symptoms are characterised by body image distortion and the intense fear of gaining weight, resulting in body weight that is at least 15% below that expected for age and height. Challis (1993) suggests anorexics are usually hungry, yet they deny this aversion. There are many physical complications associated with anorexia nervosa including; cardiac problems, amenorrhea, constipation, muscle cramps, fainting, fine hair on arms and legs hormone abnormalities, left ventricular shrinkage of the heart and osteoporosis. Anorexics are pre-occupied with food and weight; often cooking for the family yet not for themselves. They may also display disturbed sleep patterns, depression, anxiety, feelings of loss of femininity, food hoarding and increasing irritability as they become weak and tired (Philips, Martin & Baker, 1997).

The illness inevitably involves the patient exhibiting a number of disturbing behaviours all directed at making the patient thin (Thompson & Sherman, 1999) This includes the choice of low-energy foods, increasing food refusal, strenuous exercising or excessive levels of physical activity. Extreme weight loss measures that can be used including diuretics, laxatives and appetite suppressants (Thompson & Sherman, 1993).

Epling and Pierce (1988) proposed that a combination of dieting and exercise initiates as many as 75% of anorexic cases in western societies. Specifically, they contend that strenuous exercise suppresses appetite which decreases the desire for food intake. As a result, food intake and body weight decreases. The individual may take note of her

decrease in body weight and as a result gain positive reinforcement and feel motivated to take part in further exercise.

The American Psychiatric Association (APA, 2000) has devised diagnostic nomenclature to assist in the treatment and management of people with this condition. Table 2.1 outlines the four main clinical features which if all present may lead to doctors to a diagnosis of Anorexia Nervosa. These include (a) body weight that is below 15% that is expected, (b) fear of gaining weight, (c) distorted thinking in the way in which body weight is viewed and (d) the cessation of the menstrual cycle.

DSM–1V–TR CRITERIA FOR ANOREXIA NERVOSA
A) Refusal to maintain body weight over minimal normal weight for age and height, e.g. weight loss leading to maintenance of body weight less than 85% of that expected; or failure to make expected weight gain during period of growth, leading to a body weight less than 85% of that expected.
B) Intense fear of gaining weight or becoming fat, even though underweight.
C) Disturbance in the way in which body weight, size or shape is experienced, undue influence of body weight or shape on self-evaluation, or denial of the seriousness of the current low body weight.
D) In postmenarcheal females, amenorrhea, i.e. the absence of at least three consecutive menstrual cycles. (A women is considered to have amenorrhea if her periods occur only following hormone, e.g., estrogen, administration).

Table 2.1: Diagnosis of Eating Disorders– Anorexia Nervosa
(APA, 2000, p.589)

Bulimia Nervosa

Bulimia Nervosa is characterised by undue personal focus on body shape or weight and recurrent episodes of uncontrollable binge eating. The binge eating is followed by inappropriate compensatory behavior undertaken to prevent weight gain. Behaviours may

include excessive exercise, self-induced vomiting, use of laxatives or diuretics, strict bingeing or fasting (APA, 2000). Binge eating and inappropriate compensatory behaviours must occur, on average, at least twice a week for 3 months (Thompson & Sherman,1999).

Physical complications associated with bulimia nervosa include enlarged parotid glands, erosion of tooth enamel and increased cavities, inflammation and tears in the esophagus, potential heart and kidney problems, sluggish bowel functioning and dehydration (Philips, Martin & Baker, 1997). Psychological and behavioural complications can include one or more of the following; depression, mood swings, impulsive actions, secretiveness and substance abuse (Philips, Martin & Baker, 1997). Table 2.2 outlines the five main combined clinical features presented which doctors identify in the patient in order to diagnose Bulimia Nervosa.

DSM-1V-TR CRITERIA FOR BULIMIA NERVOSA
A) Recurrent episodes of binge eating. An episode of binge eating is characterised by both of the following: (1) eating, in a discrete period of time (e.g. within any 2 hour period), and amount of food that is definitely larger than most would eat during a similar period of time and under similar circumstances (2) a sense of lack of control over eating during the episode (e.g. a feeling that one cannot stop eating or control what or how much one is eating).
B) Recurrent inappropriate compensatory behaviour in order to prevent weight gain, such as self-induced vomiting; misuse of laxatives, diuretics, enemas, or other medications; fasting; or excessive exercise.
C) The binge eating and inappropriate compensatory behaviours both occur, on average, at least twice a week for 3 months.
D) Self-evaluation is unduly influenced by body shape and weight.
E) The disturbance does not occur exclusively during episodes of Anorexia Nervosa.

Table 2.2: Diagnosis of Eating Disorders – Bulimia Nervosa
(APA, 2000, p. 594)

In contrast to those women experiencing Anorexia Nervosa, individuals with Bulimia Nervosa are able to maintain body weight at normal or slightly above minimal normal level. Challis (1993) suggests that sufferers may experience their first binge due to the pressures of strict dieting. However, binges may also be triggered by boredom, loneliness, stress or guilt from overeating. Binges can also act as a tranquilizer for unpleasant emotions. However, once the binge has occurred, feelings of shame and guilt takeover. The high degree of guilt experienced by the sufferer often results in the removal of food by vomiting or other means. The methods used for purging food are a common reason why binges remain secretive (Ball, Butow & Place, 1993).

Prevalence Rates

The prevalence rate of Anorexia Nervosa in adolescent and young adult females is approximately 0.5-1.0%. The rate for individuals who are considered subthreshold for the disorder (that is, displaying some symptoms but not clinically diagnosed as suffering from eating disorder) is believed to be higher. A prevalence rate of 1-3% for bulimia nervosa is reported for adolescent and young adult females. Rate for men are one tenth of the rate for women (APA, 2000). There has been a dramatic escalation of diagnosed cases of anorexia and bulimia in the 1980s and 1990s with approximately 90% of these cases being female (Brooks, 1995) It has been estimated that 1-10% of western women suffer from an eating disorder (Bray, 1994). The recovery rate from eating disorders is poor with 5-15% dying during treatment usually from heart failure or suicide, and about 50% never recovering completely (Philips, Martin & Baker, 1997).

Adolescence is often considered to be a period of great psychological, physical, hormonal and emotional turmoil. It is therefore feasible that disordered eating symptoms may develop and present during this period. Females are experiencing very large yet important developmental physical changes. At the same time, a healthy body image is crucial to the adolescent female, as it plays an important part in feeling comfortable with the changes and in one's developing self-concept and self esteem. From a health perspective, it is therefore dangerous that teenage girls are also exposed to the ideal body defined in terms of extreme thinness. Some studies have shown that restrictive dieting and vigorous exercise are viewed by adolescent girls has a means attaining lower body weight (Garner, Garfinkel, & Olmsted, 1987). The next section will focus on the period of adolescence related to girls' changing bodies and body image.

Body Image During Female Adolescence

Adolescence is the dynamic stage between childhood and early adulthood. Physically, it is a time of change in which the body develops adult characteristics. It is natural for females to develop feminine sexual characteristics for example, fat deposits on hips, breasts and bottom. But ironically, women wished to achieve a look that is more pre-pubertal, contrary to the natural changes which exist (O'Connor, 2000). Female adolescents typically exhibit high levels of body dissatisfaction at this time (Desmond, Price, Gray & O'Connel, 1986; Greenfield, Quinlan, Harding, Glass & Bliss, 1987; Moore, 1990; Fabian & Thompson, 1989; Carruth & Goldberg, 1990). The phenomena

is widespread, with girls of normal, overweight or underweight proportions all wishing to be thinner (Nylander, 1971; Wardle & Beales, 1986; Moore, 1990; Griggs, 1994).

From an early age, perception of body image and eating behaviours are formed. For example, adolescent females are exposed to constant media images and messages from society that the ideal female body shape is a thin one (O'Connor, 2000).The average 12 year old girl will develop a realisation that females constantly evaluated on the basis of one dimension – appearance (Pipher, 1996). Appearance is evaluated two ways, (a) self and (b) others. Female adolescents usually compare themselves to the unrealistic slim ideal. This ideal image as portrayed in media images has often been perfectly sculptured by computers to portray an adult shape with full breasts, wide shoulders, narrow waists, long legs, and flat stomach (Bird, 2000). Bird (2000) supports the view that adolescents girls are constantly bombarded with unrealistic images e.g. Bardot, Britney Spears (see Figure 2.3), and may experience diminished self esteem and body image. As a consequence, they can become quite vulnerable to developing eating and body image disorders.

Figure 2.3 Pop group Bardot typify the ideal body of image that adolescent girls are constantly bombarded with (From The Daily Telegraph, 2001, June 14, p.15).

Unfortunately, adolescents tend to be easily deceived that the unreal, yet predominantly, thin ideal portrayed in the media is somehow attainable (Wolf, 1990). Continual pressures to appear beautiful and sophisticated in high school are very real and to achieve this goal many girls turn to body abuse (Bird, 2000). However, the recent portrayal during 2001 of Sara-Marie on Australian television's "Big Brother" provided a counter-image of the slim ideal body shape. As a result many women have applauded this as a image which is more realistic and one that women can relate to (Tinker, 2001). The next section will focus on the increasing phenomena of dieting and eating disorders amongst adolescent females.

Female Adolescence, Dieting and Eating Disorders

Dieting behaviours and body dissatisfaction in adolescence are not new phenomena. Whilst research into female adolescent dieting has increased substantially over the past ten years, much of the research has been conducted overseas utilising small samples. Leon (1991), Davis (1992) and Griggs (1994) have reported that the prevalence of adolescent female dieting can range between 30% and 65% of the population. American studies in the 1960s found that female high school students used dieting as a means to lose weight due to their discontent with their body image (Huenemann, Hampton, Behnke, Shapiro & Mitchell, 1966).

Wells and Siegel (1996) studied teenage perceptions of somatotypes and discovered that females wished mainly to achieve the ectomorphic or thin body shape. Figure 2.4

illustrates the three main somatotypes. Adolescent girls believe that the thin bodies exhibit beautiful and feminine qualities (Wells and Siegel, 1996).

Figure 2.4 The three main classifications of somatatypes (From Health Moves 1, 2000, p.46).

Huenemann, Hampton, Behnke, Shapiro, and Mitchell (1966), Nylander (1971), Crisp (1977) and (Rehr, 2002) reinforced the view that an adolescent female's concerns with her caloric intake, diet and weight coincided with general dissatisfaction with personal body image. More disturbing was the fact that young women, who often considered themselves to be excessively fat, were in fact not. Greenfield et al. (1987) discovered that 45.9% of girls in their study perceived themselves to be overweight while only 12.3% were found to be objectively overweight for their age. Similar findings have been reported by Williams, Schaefer, Shisslak, Gronwaldt and Comerci (1986), Cole and Edelmann (1987), and Mellin, Irwin and Scully (1992).

Research suggests that reasons for dieting may have little to do with actual body weight (e.g. being overweight) but more to do with wishing to attain the ideal body image. These

concerns about body weight and dieting behaviours even exist in the very young. Mellin et al, (1992) studied 9-18 year olds at a selected American high school. For 40% of 9 year olds and 70% of 10 year olds, dieting and fear of fatness were real concerns. Wardle & Marsland (1990) observed similar results with 45% of 10 year olds in their study wanting to lose weight, 39% felt too fat and 22% dieting. In the United Kingdom, a study by Hill, Oliver and Rogers (1992) of 170 females 8-15 years in an independent school, confirmed high levels of dieting and body dissatisfaction in both preadolescent and adolescent groups of females. Therefore, the body image concerns exhibited in adult females is mirrored by similar rates in much younger girls.

The effect of dieting during adolescence has been found to be detrimental to both physically and mental health (Phillip, Martin & Baker, 1997). Adolescent girls are also often overly sensitive about their own body image. Unfortunately, thin is seen as an ideal by many teenagers, and many attempt to achieve the thin look. In an attempt to achieve this ideal teenage girls may employ dieting methods (Sheather, 1997). Dieting in turn, has been implicated in anorexia and bulimia disorders (Garth, 2000). Weight loss and restrictive eating can result in emotional disturbances leading to the establishment of the more severe vicious cycle of disordered eating disorders.

The rate of eating disorders in Australian female teenagers is rising. Clarke (2000) estimates that one in every 200 young Australians will develop an eating disorder and an even greater number have an obsession with their body image. In a study by Borebam (1994), more than 70% of teenage girls wished to be thinner. Even those of low weight

still desired a thinner appearance. Girls were far more unhappy with their bodies compared with boys. More than 10% of those surveyed used cigarettes to lose weight and many teenagers were using dangerous dieting techniques to lose weight (a forerunner for the development of eating disorders in many cases). Huon and Brown (1986) studied females 15-19years and found 53% were dieting, 54.3% wanted a weight that was ten percent below their expected norm, and 73% perceived themselves as 'fat.'

In other western countries, researchers have recorded incidences of eating disorders ranging from 1 to 16% (Shisslak, Crago and Neal, 1990). Davis and Furnham (1986) studied 300 females 11-18 years of age from a single London school, and reported 43% of girls wished to lose weight compared with only 4% of the group actually overweight. Feldman et al. (1986) questioned three hundred and fifty-five Canadian students on their dieting behaviours. In terms of perceived body weight:

- 50.6% of girls believed themselves to be 'fat,'
- 68% wanted to lose weight,
- 55.3% had dieted in the last year,
- 15% used vomiting as a means to lose weight and
- 17% had a high risk of developing Anorexia Nervosa.

Greenfield et al, (1987) in the United States discovered:

- 81.5% of 13-19 year olds in their study felt 'fat,'
- 45.9% believed they were overweight (while only12.3% were actually objectively overweight),
- 43.6% used crash diets to lose weight and

- 39.7% believed fasting was a legitimate way to reduce weight.

Conclusion

Disordered eating is characterised by an obsession with thinness (Theander, 1970; Fabian & Thompsom, 1989; Challis, 1990; Sheather, 1997). Sociocultural factors such as media images, social pressures and social expectations contribute to adolescents developing eating disorders (Garner et al., 1993; Thompson et al., 1999).

This literature review has highlighted the major issues and concerns in relation to society and body image. In summary, research indicates:

- Sociological factors influence female body image.
- Western cultures assert that successful females need to be thin and beautiful. The ideal image for the 2000s is successful, attractive, elegant and slim.
- Media continually exhibits what is considered to be the 'ideal' thin body. Adolescents are also constantly bombarded with unrealistic images.
- The social expectation to live up to an increasionally fit and toned physique is increasing.
- Less than 5% of the population can realistically safely achieve the thin ideal.
- Society holds negative views of those who are overweight.
- The incidence of eating disorders is increasing with 1 in 200 females developing Anorexia or Bulimia Nervosa and an even greater number having an obsession with their body image.

- Studies have shown that many adolescents perceive themselves to be overweight when they are not.

The review of literature presented throughout this chapter has established that eating disorders are seriously debilitating and potentially life-threatening for a significant proportion of teenage girls. It is also true that extreme exercise and weight control behaviours contribute significantly to the development of disordered eating behaviors (Davis, 1992; Markula, 1998; Deakin, 1998).

Research has shown that 'normal,' participation in physical activity can assist with healthy dietary practices, help maintain a normal body weight and create a positive body image (Active Australia, 2001; Williams & Cash, 2001). Koff and Bauman (1997) conducted a 6 week physical education program that was based on wellness, fitness and sport skills. Results suggested that participation in the program provided students with a positive, proactive and empowered attitude toward their own health and well-being. Similiarly, Bartlewski, Raalte and Brewer (1996) found that participation in aerobic exercise programs may help to improve the body image of female students. However, these studies were conducted overseas, which is why a study such as this is needed for adolescent girls in Australia.

However, in the context of elite sporting and athletic activity such as dancing or gymnastics, exercise and weight control concerns can also become extreme. Sports requiring a thin build have been reported in the literature as being obvious places for

adolescent females to develop eating disorders (Burns, 1997). However, it is not known whether this phenomena exists across a wider range of sports and body types. Sports participants are also surrounded by new social pressures to appear sexy and perfect (Williams, 2000). These factors will be examined in more detail in the following chapter.

CHAPTER THREE

BODY IMAGE, EATING DISORDERS AND THE ADOLESCENT FEMALE ATHLETE

Introduction

General participation in physical activity is related to ongoing health benefits (Petchers, Hirsch & Bloch, 1988). Physical benefits may include improved fitness, muscle endurance, and a decreased chance of developing diabetes or heart disease. Other individuals report less fatigue and an improvement to sleep patterns from exercise involvement (Garner, 1997). Emotional benefits of physical activity participation include development of self-confidence, management of stress and anxiety and the development of healthy self concept, including body image (Dinubile, 1993). For adolescents in particular, Steptoe and Butler (1996) found that participation in sport and vigorous recreational activity led to definite favourable effects on emotional state.

However, there is conflicting evidence available which suggests that excessive weight pre-occupation may frequently occur amongst participants in sports which require leanness (Brooks-Gunn, Burrow & Warren, 1988; Petrie, 1993). Further studies have found that preoccupation with weight and body may not just be restricted to athletes in sports that are characterised by ultra-thinness (Rosen et al; 1986; Drummer et al; 1987; Folelholm & Hiilloskorpi, 1999). This chapter will assess the available evidence on the relationship between body image, dietary behaviours and sports particpation.

The link between disordered eating, body image and physical activity has been the focus of numerous research studies over the past decade (Fogelholm & Hiillskorpi, 1999; Peterson, 1998). Does participation in physical activity offer any protective benefits in terms of body image, and healthy eating behaviours ? Are the majority of eating disorders and environmental pressures mainly faced by elite athletes ? This chapter investigates whether current research points to participation in physical activity promoting a healthy body image in females, or whether more intense or elite involvement or particular sports place female athletes at risk of developing disordered eating and body image behaviours.

The Benefits of Physical Activity in Relation to Development of Positive Body Image

Research has generally found that people who participate in physical activity at a community, social or sub-elite level have a more positive perception of their bodies than non-exercisers. This has been shown across a number of age groups, for both genders (Garner, 1997; Connelly, 1997). One reason proposed for this association is due to the fact that exercise has been shown to enhance various indexes of mental health (Caruso & Gill, 1992).

For example Green and Ignico (1995) found that a physical fitness training program over 10 weeks not only increased children's fitness but also positively enhanced self concept or their feelings about themselves. Daley and Buchanan (1999) also found that teenage girls who participated in a 10 week aerobic program showed improvements in areas of physical self-worth, sports competence, conditioning competence and body image. Aerobic exercise has been demonstrated to elevate mood, provide a sense of mastery and

control, combat state anxiety and mild depression, and enhance self-concept and self esteem (Martinsen & Morgan, 1997).

Those who participate in regular physical activity are more likely to derive the body image benefits of being physically active than those who are not participating in regular physical activity. They are also more likely to develop exercise behaviours that they can stick with, and so enjoy the long term health benefits of physical activity (Body Image & Health (BIH) Inc; 2000).

Body image can play a powerful role in determining whether a person will start and continue to engage in physical activity. Unfortunately, poor body image, which affects the majority of young and middle aged females often stops people form enjoying regular physical activity, as a result an increasing number of females are becoming dissatisfied with their body and are adopting unhealthy eating practices (Booth et al; 1997).

Therefore it appears that physical activity participation may have positive effects on body image, provided that the primary motivation does not stem from interpersonal or socio-cultural pressure to lose weight or achieve a certain body ideal (BIH Inc., 2000).

Negative Effects of Physical Activity Participation on Body Image

However, some studies suggest that athletes who participate in sports that emphasise leanness or are held at an elite level, have greater concerns about their appearance and are

more likely to exhibit disordered eating (Garner, 1997; Frederick & Morrison, 1996). A study by Davis (1992) even found that competitive sports participation in general tended to foster an exaggerated focus on one's body. Subjective personal assessment of body size rather than an awareness of actual size such as body weight, influenced the degree to which athletes were pre-occupied with their weight and dissatisfied with their appearance. However, among non-exercising women the relationship was reversed. That is, only knowledge of personal body weight was significantly related to weight pre-occupation.

While women generally are exposed to society's values concerning beauty and attractiveness (Striegel-Moore et al; 1989), female athletes may also experience additional, unique, sports related pressures to achieve a certain ideal athletic body size and shape (Harris and Greco, 1990). This phenomena may be due to elite athletes often being expected to:

- achieve increased body tone
- achieve competition weight
- attain sex symbol status
- attract sponsorship/dollars
- meet media obligations (Miller, 2001).

A comparison of the range of additional pressures which elite athletes and women in general are exposed to in relation to body image, is illustrated in Figure 3.1.

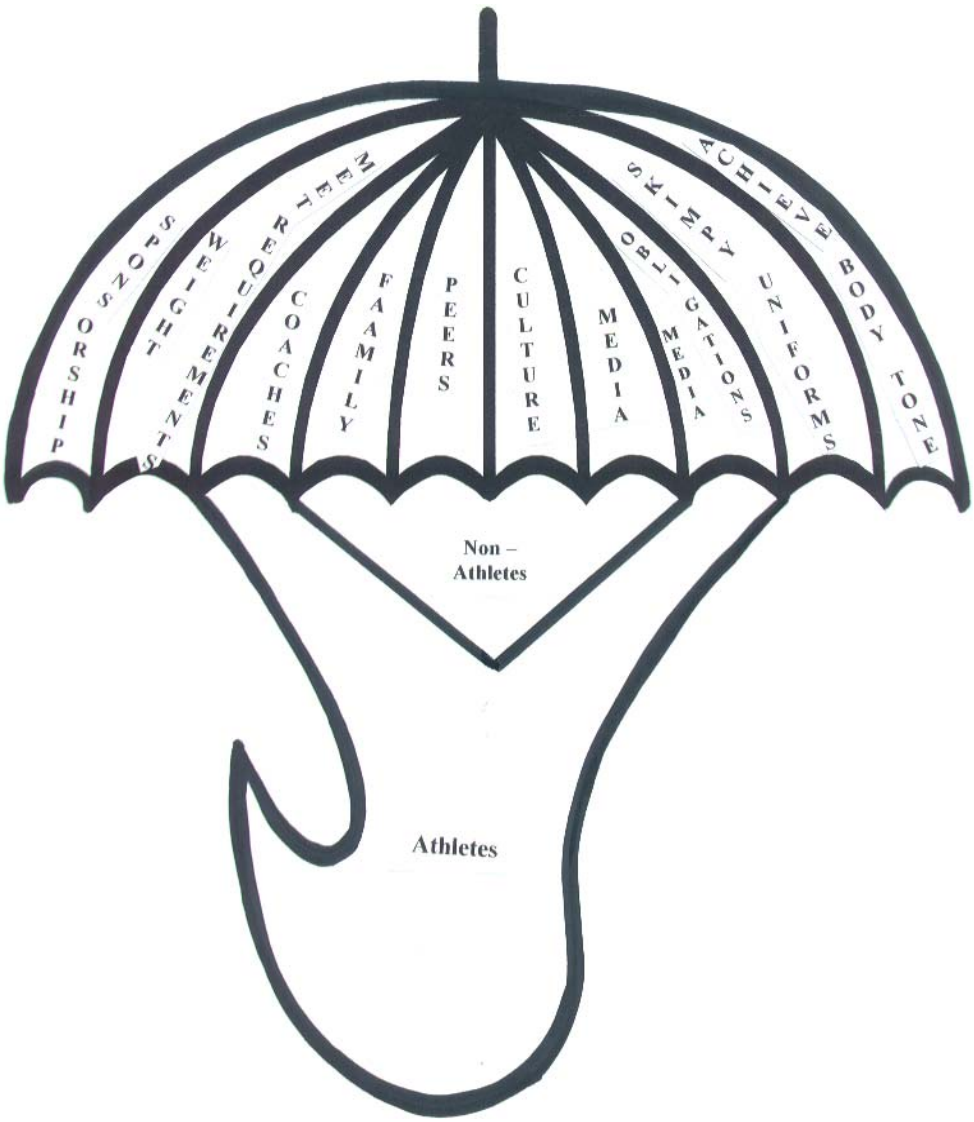

Figure 3.1 The following diagram highlights the pressures faced by all females and the additional pressures faced by elite athletes.

Another factor which points to the additional pressures on elite athletes is the rising prevalence of disordered eating and body image amongst female athletes in the last 10-15 years (Fogelholm & Hiilloskorpi, 1999). Leon (1991) believes disordered eating in athletes may reflect a combination of the search for the culturally ideal body combined with the need to attain a low body weight for optimum sports performance. This pressure

is particularly strong for athletes in aesthetic sports such as gymnastics which require a lean and attractive appearance as part of the overall standard by which performances are judged (Borgen & Corbin, 1987; Treit, 1989; Rosen & Hough, 1988; Harris & Greco, 1990; Petrie, 1993). Certain sports such as ballet (Brooks-Gunn, Burrow & Warren, 1988; Pierce & Daleng, 1998), long distance running (Moen, Sanborn, & Dimarco, 1992), gymnastics (Harris & Greco, 1992) and ice-skating (Rucenski, 1989; Ziegler et al, 1998) place additional demands upon athletes to be slim, compared with other sports which do not require such thin body shapes.

A study by Davis (1992) assessed the degree dieting behaviours among elite female athletes, and found that there was a greater degree of aberrant dieting behaviour and concern with weight and body image amongst high performance athletes in comparison to their non-athlete counterparts. The same study showed that a substantial number of the athletes who were already underweight, by objective standards, wanted to be thinner, were dissatisfied with their bodies, and were frequently dieting compared to the no-athletes who were of a normal weight.

Dieting Behaviours and Practices in Athletes

In most sports, athletes who weigh more than what is ideally required will limit their speed, endurance and agility, plus contribute to an earlier increase in fatigue (Smith, 1980). Athletes in aesthetic type sports may lose marks for appearing overwieght. Davis (1992) recognised the performance advantage for athletes not carrying excess body fat. He also noted that for females athletes, due to the fact that extreme slimness currently

epitomizes our cultural ideal of female attractiveness, an additional social reinforcement may take place. The athlete may therefore be more likely to develop strong aversions to being overweight and equally strong incentives to reduce body fat to very low levels.

A number of reports indicated that athletes frequently employed extraordinary, and often extreme, methods to reduce body fat in order to improve speed, strength and aesthetic appeal. In order to do so they use unhealthy means such as fasting, cutting out certain foods and vomiting, some are more extreme then others. They are termed as dietary or weight control behaviours. Rosen and Hough (1988) found that 62% of female college gymnasts were using at least one form of a weight control behaviour including fasting, vomiting and use of laxatives. Zeigler et al. (1999) reported a 55% incidence of eating disorders in a sample of ice-skaters (n = 40). Others studies report a very high incidence of eating related problems among professional ballet dancers (Garfinkel & Garner, 1982, cited in Davis, 1992).

Rosen et al. (1986) found that athletes from a variety of sports indicated using at least one form of weight control behaviour. Similarly, Black and Burckes-Miller (1988) found that one third of athletes sampled from eight different sports reported the use of weight control methods to reduce their weight. It appears that while these methods were most frequently used by gymnasts, they were also common among athletes for whom extreme thinness was not the ideal body type, such as hockey, basketball and tennis. This finding supports the theory that all females are affected by sociocultural pressures to be thin (Rhea, 1992; Rucker & Cash, 1992; Crago et al; 1996).

Eating Disorders in Female Athlete Populations

In general, disordered eating behaviour is more likely to occur in female athletes involved in sports that:

(i) are individual rather than team in nature,

(ii) contain aerial movements,

(iii) expose contours and body shape in competitive uniforms,

(iv) emphasise aesthetic appearance in overall performance evaluation

(Combs 1982; Thorthon 1990; Taub & Benson, 1992).

The development of eating disorders in female athletes has been specifically linked to particular sports that require low body weight to achieve optimum performance. Sporting activities such as:

- ballet dancing (Garner, Garfinkel, Rockert & Olmstead, 1984; Brooks-Gunn, Warren, & Hamilton, 1987),
- gymnastics (Rosen & Hough, 1988; Harris & Greco, 1990; Petrie 1993; Pierce & Daleng, 1998), ice-skating (Rucinski, 1989; Ziegler et al, 1999),
- long distance running (Yates, Leechey & Shisslak, 1983; Blumenthal, O'Toole & Chang, 1984; Goldfarb & Plante, 1984; Katz 1986; Owns & Slade, 1987; Weight & Noakes, 1987; Pasman & Thompson, 1988; Parker, Lambert & Burlingame, 1994),
- lightweight rowers (Terry & Waite, 1996) have been shown in recent studies to be linked to disordered eating behaviours. This is largely due to the fact that these athletes are being judged by their appearance or require a low body weight to achieve the ideal performance.

Other researchers such as Brownell et al. (1987) claim that certain individual body types are suited to, and therefore motivate those athletes with the closest and most advantageous competitively body shape, to participate those in particular sports. The greater a person's body type deviates from the ideal dictated to be most successful or suited to a particular sport, the greater her chance of developing a disordered eating condition (Brownell, Steen & Wilmore, 1992).

Figure 3.2 Body shapes that are typically suited to various sports; Martina Hingis from tennis (The Daily Telegraph, 200, January 7, p.50), Liz Ellis from Netball (Living Well Magazine, 2002, p.9), Gymnasts, (The Body Snatchers, 2000, p. 144), Hayley Bateup from ironwomen (The Sunday Telegrpah, 2001, November 25, p. 59) and ballet, (Inside the Australian Ballet, 1999, p. 5).

Athletes developing eating disorders have also been shown to start sport-specific training at significantly younger ages than other athletes (Brownell, Rodin, Wilmore 1992). The disadvantage of commencing sports participation at a pre-pubertal age may be that it prevents an athlete from choosing a sport most suited to their eventual or post-pubertal somatotype, and in the long run may force them to achieve unrealistic body modifications. Figure 3.2 shows the body shape or somatotype most suited to various sports.

In contrast, research has also shown that female athletes participating in sports such as basketball, track and field, softball and tennis, may express significantly more positive attitudes towards various parts of their bodies, and toward their weight and health, compared with female non-athletes (Rao & Overman, 1986). A recent study conducted by Orr (2001) found that females who participated in netball at least once a month were almost three times less likely to be unhappy about their personal appearance than those who didn't play team sports. Thus, it appears that participation in sport at a sub-elite level or social level and where weight and appearance are not a factor, may in fact enhance body image.

Media Influences on Body Image of Female Athletes

Current messages contained in media advertising reflect the cultural emphasis on physical fitness and leanness (Miller, 2001). Athletes and adolescent girls in general, may be especially susceptible because they often attempt to model on role model elite athletes appearing in the media epitomising the athletic or fitness look (Clennell, 2000). In

addition, fitness is also equated in the media with sex appeal, popularity, status, self-esteem, happiness and achievement (Black, 1991). This is evident by the recent 2000 Olympic games, which were dubbed the "The Glamour Games" (Williams, 2000). Former Australian athletics star Jane Fleming believe that rise in the ideal body image and glamour surrounding the olympics was simply a reflection of society, "Young women are keen to look their best and sportswomen are just the same, except they have so much more media focus on them" (quoted in Williams, 2000 p.146). However, Olympic Cyclists Zijlaard and Clingnet claimed that the media was to blame for them developing eating disorders, due largely to the stereotyping that occurs in the athletic environment. " The media is what f….s up women's mind so much," Clignet said. "If you look at all those magazines and all those barbie dolls …… they're sold this message that thin is beautiful" (Clennell, 2000, p. 56).

Figure 3.3 Highlights how the marketable look can be achieved more easily from athletes such as Anna Kournikova (The Daily Telegraph, 2002, Jan 7, p. 50) and Tatiana

Grigorieva (The Australian Magazine, 2001, January 13, p. 12) in comparison to athletes such as Leontien Zijiaard, (The Sydney Morning Herald, 2000, September 19, p. 23) and Brownyn Eagles, whose picture only showed her top half (The Sunday Hearld, 2002, p. 85).

The media has come to expect that elite athletes exhibit the new commercialised, 'glamour' look as portrayed in Figure 3.3 (Thompson & Sherman, 1999). In addition, elite athletes are pressured by the media to not stray from this marketable, sexy ideal. As this could result in loss of sponsership and media exposure. This can prove difficult in sprint or power sports such as shot put as these athletes require larger muscles for short-term energy bursts and power, and a low body weight or slim build will not necessarily provide this.

Sources of Pressures on Female Athletes to Achieve the Marketable "Look"

Many athletes are faced with the dilemma to behave according to what is expected of them in society (Macguire, 1993). The male athlete is expected to look muscular and strong (Striegel-Moore et al, 1986; Downs, 1990). However, a female athlete may experience wider ranging pressures to be strong, muscular, powerful and competitively successful, and yet at the same time be sexy, feminine, sophisticated, slim and able to market herself to sponsors or the media (Striegel-Moore et al; 1986; Bird, 2000). The following section describes the sources of pressures which may be experienced by elite female athletes.

The Athletic Sub-Culture

Elite sports training academies and camps can exert stressful conditions on the individual athlete. Some studies have revealed that they can resemble semi-closed communities intensifying the pressures to be thin and not overweight (Black, 1991). Once elite athletes enter the athletic sub-culture, they may begin to place more emphasis on their weight and use unhealthy weight loss methods, as they now have additional pressures and demands to perform and succeed (Black & Burkes-Miller, 1988). For example elite swimmer Sarah Ryan revealed the pressures that are face by young female athletes to conform to a certain body image, " I eat lollies and its frowned upon when were in this environment." (Cock & Miles, 2002, p.1).

Borgin and Corbin (1987) also found that the type of sport and level of competition may also make a difference in possibly predisposing an athlete to a body or eating disorder. For example gymnasts and netball players have differing pressures. Gymnasts have to wear body hugging, brief attire. Netball players at the community level may not be concerned about how they look and they may have other reasons for playing. However, netballers competing at an elite level on television may feel greater attention to how they look. The pressure to appear attractive and secure sponsorship dollars, may depend on whether the athlete is competing at an elite level.

Peers

In some sports where there is pressure to maintain a low body weight in order to perform effectively and peer pressure may be extreme. This is evidenced by the seemingly high

prevalence of eating disorders among athletes in sports such as gymnastics (Pierce & Daleng, 1998), dance (Brooks-Gunn, Warren & Hamilton, 1987) and lightweight rowing (Terry & Waite, 1996). These groups of athletes are constantly being weighed, judged or aesthetically compared with others. In addition, athletes may teach each other unhealthy ways to manage their weight. Overall however, little is known about the impact of peer pressure as it relates specifically to an athlete's body image and dietary behaviours. Peer pressure can come from other individuals or team members. For example, in rowing if a team member fails to meet a certain weight, they may let peers down through disqualification.

Coaches, authority figures and family

Coaches play a key role in the whole development of the athlete. Some coaches put more emphasis on winning as opposed to the welfare of the athlete. Some coaching practices may serve to encourage an athlete's dissatisfaction with her body and the use of unhealthy eating practices. For example, group or public weighing, verbal statements about an athlete's body shape or weight and specifying a certain weight for their athlete (Harris & Greco, 1990). Retired former champion swimmer Samantha Riley said she had heard about athletes who were placed under pressure to whittle down their frames claiming, "Some coaches do harp on a lot about making sure you're in good condition" (Cocks & Miles, 2002, p. 9). A coach's reputation is built on their ability to develop elite athletes. Thus, especially at the elite level, where the coach may be under a paid contract, success is contingent upon their athlete's performance. Coaches themselves are under pressure to get results and if their athletes don't perform their credibility is questioned.

Families may also encourage athletes to be competitive and to succeed at their sport. As a result, the athlete may feel compelled to use unhealthy weight loss methods if that is what is perceived as necessary to succeed. The athlete is also at risk of developing an eating disorder if someone in the family specifically reinforces efforts to lose weight (Striegel-Moore et al, 1986; Black, 1991; Muir et al., 1999; Thompson, et al., 1999).

Conclusion

In summary, elite female athletes participating in sports that emphasis leanness tend to exhibit extreme attitudes to weight and body shape and engage in a greater incidence of disordered eating and weight losing behaviours compared with non-active women or athletes participating in sports requiring BMIs approaching normal levels (Fogelholm & Hiilloskorpi, 1999). Not only do elite athletes have to have a body fit for performance, but in the era of calenders and increasing sponsorship and professionalism they are striving to obtain a fashionably slim figure aesthetically pleasing to the eye (Abraham, et al 1983; Hausenblas & Carron, 1999).

The following points highlight the link between body image, dietary behaviours and elite athletic participation:

- Female athletes, as well as non-athletes may use dangerous weight loss methods in order to lose weight.

- Elite athletes may experience 'sport specific' or additional pressures to sociological sources, for them to lose weight and obtain or particular body shape. However, this pressure is more extreme for elite compared with sub-elite athletes.
- Pressures are particularly strong for athletes in aesthetic sports to lose weight. Evidence suggests that excessive weight pre-occupation occurs more frequently amongst athletes participating in sports requiring a slim build.
- Preoccupation with body image and weight may not just be restricted to athletes in aesthetic type sports, however this concept requires further investigation.
- Athletes requiring weight loss employ unhealthy eating behaviours order to lose with for performance and appearance reasons.
- In contrast, general community or sub-elite sports participation may have a positive effect on body image. However previous research has not investigated fully body image in physically active compared with inactive females.

There is a gap in the literature as to how various sports participants compare in terms of healthiest body image and dietary practices.

Body image and eating behaviours are a concern among not only among athletes but women in general. However, it is worthwhile to discern whether participation in general physical activity is linked with healthy body image and eating behaviours. The next chapter discusses the methodological elements involved in conducting the research.

CHAPTER FOUR

METHOD

Introduction

A study of athletes and non-athletes adolescent female was undertaken in order to establish patterns of eating behaviours, body image, existence of any unhealthy weight control practices, or perceptions of societal pressures to diet in each group. The research design involved a descriptive survey investigation utilising quantitative data. The data was collected by the way of a questionnaire.

This chapter outlines the methods utilised throughout the survey including:

- Description of respondents
- Indicators and Instruments
- The pilot study carried our prior to the main study
- Ethical considerations taken into account during the study
- Procedures
- Limitations of the investigation.

Description of Respondents

A thorough review of previous research on body image and dietary behaviours showed that few studies had compared a variety of sports. Many studies have focused on sports that demand a lean or relatively thin build (e.g. gymnastics, dance, figure skating) and

have not included sports which require a 'normal build' (e.g. netball, tennis). Very few studies have looked at sports such as netball, tennis and rowing. Most studies have only focused on dietary behaviours and body image of athletes in one or two sports at the elite level (Weight & Noakes, 1987; Ziegler et al; Drummer et al; 1987 & Harris & Greco, 1992).

The sample of respondents included 60 female athletes (mean age = 13.9) and a control group of 60 female non-athletes (mean age = 14.6). A total sample of 120 female adolescents, aged 13-16 years (mean age = 14.2 years) took part in the survey. For the athlete sub-sample, ten respondents each from six different sporting groups were surveyed. The sporting groups consisted of 10 athletes from netball, gymnastics, dancing, tennis, rowing, or swimming. All athletes participated at regional the "representative" level within their sporting activity. Regional athletes compete in major metropolitan through to state-level sporting competitions and events.

The regional netball players were the 13 year old Inner Western Suburbs team representing their Association at district and state carnivals. All respondents from this group only played netball during the winter season. All respondents trained 3 times a week.

The gymnasts, 13-16 years of age, were from an Inner Western Sydney Club competing at either intermediate or advanced regional level. All ten respondents aspired to perform

at National level and trials in the future, with all participating year round, training 4-5 times a week.

The tennis players, 13-16 years of age, were regional representative tennis players who played in Sydney Diocese Catholic Schools events. All ten respondents also competed in and trained for tennis events outside of school. All respondents trained 2-3 times a week.

The dancers attended an Inner Western Sydney Dance Academy. The majority of dancers were also contracted to agencies, that is, to professionally perform in various shopping centre holiday and weekend shows. All respondents trained at least 3-4 times a week.

The majority of the swimmers competed in the summer season only at a local Inner Western Swimming Club. The ten swimmers surveyed were identified by club officials as the 'stand-out' performers within the club, as they represented the club at various swimming carnivals during the season. They also trained on a regular basis during the summer season 4-5 times a week and around twice a week in the off-season.

The rowers attended an independent school and trained at an Inner Western Sydney rowing club. This group of respondents had been selected to represent the school in various regional and state regattas. All respondents were generally involved in year round training and competition. This group trained 3 times a week.

The control group consisted of 60 female secondary school students aged 13 to 16 years attending physical education classes taught by the researcher. While both groups participated in physical education at school, the control group were not involved in any other physical activity. Any participant from the control group found to be engaging in any additional sport to this compulsory activity, such as regular organised sports training or competitions, was excluded from the control group.

Indicators and Instruments

Questionnaire development

A thorough review of methodological procedures used in similar published studies led to the decision to use a self-administered questionnaire. This is the most suitable and convenient means of determining body image and dieting behaviours in selected purposeful sample groups, as it relatively reliable and allows privacy (Garner & Garfinkel, 1970; Smith, 1980; Garner, Olmstead & Polivy, 1993; Rosen, McKeag & Hough & Curley, 1986; Attie & Brooks-Gunn, 1989; Warren, Stanton & Blessing, 1990; Maloney & Kranz, 1991; Yates, 1991; Sungot-Borgen, 1993).

The main factors that the study intended to measure included eating and weight control behaviours and body image in athletes compared with non-athletes. The questionnaire used for this study was based on previously validated questionnaires used in similar studies of weight control methods, body image and weight concerns (Garner et al.,

19982; Drummer et al., 1987; Harris & Greco., 1992; Griggs, 1994., Burns, 1998; Peterson, 1998). The questionnaire is located in Appendix 2.

Variables measured by the questionnaire

The questionnaire contained closed-ended questions designed to elicit individual responses to the following ten areas of focus: These ten areas were considered essential as they related to the questionnaire and could allow the results to be analysised according to these areas.

i*) Sporting background*

Questions 1 to 3 asked respondents whether or not they were currently involved in regional competitive sport, the type of sport they were competing in and the number of years of involvement in that sport. These questions were designed to place the respondents into athlete or non-athlete groups and to exclude elite level athletes. To be considered a non-athlete, a participant would have not taken part in any organised sport or physical activity in the last 4 months apart from compulsory school sport and physical education. All students were exposed to the two practical and three theory lessons per fortnight cycle.

ii) Age

Age (Question 4) was expressed as number of years on the day that the questionnaire was administered.

iii) Current and past attempts at weight loss

Respondents were asked (Questions 5 and 6) to report whether they had tried to lose weight in the last year and whether they were currently trying to lose weight.

iv) Perceptions of Body Weight

Question 7 measured respondents' perceptions regarding personal body weight. A seven-point likert-scale quantitatively measured perceptions ranging from "very overweight" (7) to "very underweight" (1).

v) Weight control behaviours

In Question 8, respondents were asked to indicate the types of weight loss methods they may have used and the frequency of such methods. A six point likert-scale, ranging from "Everyday" (6) to "Never" (1) was used. The types of behaviours ranged in severity from mild to dangerous, for example eating smaller or skipping meals up to taking laxatives.

vi) Reasons for the use of weight control behaviours

Question 9 contained two parts A and B, with all respondents answering 9A and only athletes answering 9B. For Question 9A, respondents were asked to indicate, as applicable, the reasons why they used the weight control behaviour mentioned in Question 8. If the respondent did not employ any weight loss behaviours, they would answer "No." In Question 9B, athlete respondents were asked to indicate whether the weight control behaviour(s) would be due to sporting or social reasons.

vii) Safety of weight control behaviour

In Question 10, respondents were asked to indicate their views on the health effects of employing actual weight control behaviour(s), ranging from "No risk" (1) to "High risk" (4).

viii) Social influences on personal body image

This section included questions dealing with the respondent's perception of social influences including:

- acceptance of thin stereotypes promoted by the mass media;
- any suggestions made by family, peers, coach and others about the respondents personal weight; and
- the respondents perception of their own body shape in comparison to the slim ideal.

vii – a) Comments relating to current body weight made by family, peers, coach and others

Question 11 measured whether the respondent reported having parents, other family members, male friends, female friends, coach and other people suggest to them that they were overweight. In Question 12, respondents could also report on having parents, other family members, male friends, female friends, coach and other people suggest to them that they were underweight.

viii – b) Acceptance of thin female stereotypes promoted by the media

This area was investigated in Questions 13, 14 and 15. Question 13 used a 7 point scale ranging from "very overweight" to "very underweight" to determine perception of weight status of attractive women typically portrayed in the mass media. This question aimed to discover the respondent's perception of the media's ideal body shape.

Question 14 used a 7 point scale to compare the weight status of the media's ideal to that of the individual respondent. Categories of responses available ranged from "much heavier than you" to "much lighter than you."

Question 15 used 4 categories of responses to indicate the respondent's desire to obtain a body shape similar to that promoted by the media.

viii – c) Sport and the media pressures on the individual to be thinner

Both questions 16 and 17 required the respondent to give a yes or no response. Question 16 measured whether the respondent felt that sport participation places pressure on her or in general be thinner. Question 17 measured whether the respondent felt that the media places pressure on her to be thinner.

ix) Own thoughts on personal weight and body image

Questions 18, 19, 20 and 21 asked respondents to report on their own perceptions of personal body shape and current weight. Question 18 and 19 attempted to indicate frequency of thoughts or awareness levels about such issues using a 5 point scale ranging from "I hardly ever think about it" to "I can never get it off my mind." Question 20 and 21 used quantitative categories of responses to indicate respondent's satisfaction with her own body shape. Question 20 ranged from "I feel very satisfied with my body shape" to "I feel very dissatisfied with my body shape." Question 21 used a 5 point scale of responses ranging from, "I like my body and feel very comfortable about it" to "I don't like my body at all and feel very uncomfortable about it."

(x) Weight and Height Measurements

Weight and height measurements were objectively recorded for Question 22 by the researcher in private in order to calculate Body Mass Index (BMI). The use of BMI is recommended by the Australian Nutrition Foundation (ANF) as a suitable indicator in determining the 'normalcy' of one's body weight (ANF, 1998). The National Heart Foundation (NHF, 1997) categorises BMI as body weight in kilograms divided by height squared (see Table 4.1).

Table 4.1 BMI Weight Category

Body Mass Index (BMI)	Weight Category
> 30	Obese or overweight
25 – 30	Overweight
20 – 25	Healthy weight
> 20	Underweight
< 18	Very underweight

NHF (1997, p. 24)

Data Analysis

Calculation of Healthy and Unhealthy Categories to Arise from the Questionnaire

The following baseline measures were used to calculate the 10 variables under examination (Drummer et al., 1987; Harris & Greco, 1992; Griggs, 1994):

(a) Disordered eating behaviours

The questions identifying any existence of disordered eating in subjects, reflected those contained in the DSM-IV-TR (APA, 2000). From the following check-list, behaviours of athletes and non-athletes could be divided into categories of 'disordered' or 'non-disordered eaters.'

The category of 'disordered eaters' was established if any of the following 2 DSM-III symptoms were detected:

(i) respondent was actually underweight (BMI<18) (Question 22) and currently trying to lose weight (Question 6).

(ii) in the last month, subject had used vomiting to lose weight (Question 8c).

The category of 'non-disordered eater' was established if either (I) or (ii) were present:

(i) the respondent was a healthy weight (BMI 20-25) (Question 22) and was not currently trying to lose weight (Question 6).

(ii) in the last month, the respondent was not using any or a less severe weight loss behaviour (Question 8).

(b) Unhealthy weight control practices

Athletes and non-athletes were classified as 'unhealthy dieters' if they reported either:- eating smaller meals, skipping meals, cutting out inappropriate foods (dairy, meat and/or cereal products) or taking laxatives in the last month (Question(s) 8a,b,c,d,e,f)

A respondent was classified as a non-unhealthy dieter if the respondent 'Never' employed any of the weight loss behaviors asked in Question 8. This enabled the respondents from each group to be divided into 'unhealthy dieters' or 'non-unhealthy dieters.'

(c) Disordered body image

To discover if 'distorted body image' existed;

(i) The actual BMI of each respondent was compared to the perceived weight and subsequent 'perceived' BMI using height measures the respondent had decided on in Question 7. If the respondent's perceived and actual BMI varied by 2 categories or more, a distorted body image was noted as being present.

(ii) Questions 18 to 21 asked the respondents a series of questions regarding their thoughts about their own weight and body shape. If the respondent placed herself

in either of the last two categories of each question (Appendix A), a distorted image was present.

'Non disordered body image' existed if;

(i) the actual and perceived BMI of the respondent did not vary by more than 2 categories.

(ii) the respondent did not place herself in either of the last two categories in Questions 18 to 21.

Statistical analysis of the data derived from the questionnaire was performed utilising the Windows Excel 7.0. computer package. The Mircosoft Excel program was used to obtain the frequencies and means of the questionnaire responses.

Pilot Study

Following the development of the questionnaire, the researcher conducted a pilot study with seven randomly selected females attending secondary school to check that the items were readable and comprehensible. These females were randomly selected from class lists. The results of the pilot study revealed no major problems with the respondents' ability to understand the wording of the actual questionnaire. Feedback from the participants involved in the questionnaire trial indicated that the questions were easy to comprehend and the response rate to the range of questions was 100%. However, it was decided based on recommendations by two of the participants, that it would be better to place the weight and height measurement readings on a separate and final page of the questionnaire, as opposed to listing on the front. This would ensure maximum

confidentiality and avoid any embarrassment with regards to weight and height measurements.

Ethical Considerations

There were several ethical features associated with this study. Prior to any data collection, ethical approval was gained from the Australian Catholic University's Human Research Ethics Committee (Appendix 1). Some respondents may have felt uncomfortable with some aspects of the research. For example, an overweight participant may have felt uncomfortable being weighed. She may have felt upset, depressed or even angry. If a participant had suffered from or was currently experiencing and eating disorder, they may have felt uncomfortable answering the questionnaire.

To counteract these issues, all respondents' questionnaires remained completely confidential. That is, data were aggregated and identified only as belonging to a particular sporting group or from the non-athlete control group. Only the researcher had access to the completed questionnaires. The questionnaires were stored securely. Most importantly, participation in the study was purely voluntary. Secondly, participation in weight and height measurements was also voluntary, and completed in private by the researcher only.

Procedures

Administration of the Questionnaire

Various local sporting organisations and the school which the researcher taught physical education at were invited to take part in the study. The Invitation Letter explained the purpose, procedures and requirements of the study and were sent to the managers of each prospective association and principal of the school to gain approval (Appendix 4). After permission was granted by the school principal and each sporting association's President or Head Officer to conduct the study, the researcher organised a meeting with the principal and each coach to explain the study, consent procedures, show them the questionnaire and to arrange a time for the study to be conducted.

Before the questionnaires were administered, the respondents took home an Information Letter (Appendix 3) and were required to have a consent form signed by themselves and their parent or guardian, explaining the requirements of the study (Appendix 5). These had been supplied to coaches on the day when initial contact was made. In the case of the school, the principal had sighted the parental information letter for approval prior to class distribution.

The questionnaires for the school (control group of non-athletes) and each sporting group were administered separately, during the months of February and March 2001. The researcher gave a brief explanation of the purpose of the study and questionnaire procedures to each group before the questionnaires were administered. The study was introduced as a research project designed to investigate dieting behaviours and body

image in female athletes and non-athletes. The respondents were informed of the importance and value to the researcher of them answering all questions accurately and honestly. All athletes and non-athletes were informed that responses would remain strictly confidential, as they would be seen individually by the researcher. Additionally, athletes would only be listed by their sporting category, and in the case of the school students, only listed as 'non-athlete.'

The athletes and non-athletes completed the questionnaire in exam-like conditions to maintain confidentiality and possible levels of honesty in responses. Throughout questionnaire administration, respondents were invited to move into an adjacent room where height and weight measurements could be recorded. This was undertaken only by the researcher each time to ensure confidentiality and reliability.

At the completion of data collection, the researcher thanked participants and once again assured them that their responses would remain strictly confidential. The coaches and school Principal were told that each would receive an executive summary of results when the study was completed.

Limitations of Investigation

There are certain aspects of the study that would have influenced the results to a certain extent which need to be acknowledged. The study only used sixty athletes limiting the generalisabilty of adolescent female findings to other females from the Sydney

metropolitan area of similar age and sporting background. However, this study does explore a greater range of sports than other previous studies, which have only compared one to two sporting groups.

The athletes came from the Inner Western Sydney region for the athletes and non-athletes, the Liverpool region. The socioeconomic status is slightly different for each group and this may have affected the outcomes measured.

This study attempted to limit athlete respondents to those competing at regional representative level. That is, athletes representing their geographic region competing at or up to state level competitions within New South Wales. This is, not at the international, or even national (state representation) elite level. However, each sporting association has varied criteria for selecting their athletes. Coaches freely admitted that subjective analysis of athlete capability is often used. Therefore, differences may exist between the standard of athletes or levels of competition from the six sporting groups to some degree and this may have affected the reliability of the outcomes measured.

Managers from two separate dance academies refused participation on behalf of their dancers to take part in this study. The manager of the dance academy that allowed eventual participation only reluctantly agreed. This could have perhaps influenced the way in which her dancers answered the questionnaire. The dancers may not have answered as honestly as they had wished.

The non-athletes that were used in this study were students at the school where the researcher worked. There is the possibility that the respondents may have wished to 'please' the teacher, or not wish to 'open up' for fear of being identified (Harris & Greco, 1992). This may have positively affected the outcomes measured.

There are further limitations of the study's findings due to the self-reporting nature of the questionnaire. Since interviews or validated inventories were not also used, the ability to further scrutinise responses is lost, such as reporting of or the frequency of vomiting or bingeing behaviour. Pyle, Halvorson, Neumman and Mitchell (1986) concluded that episodes of purging and binge eating are often over-estimated by questionnaires. Vandereycken and Vanderlinden (1983) however, reported that questionnaires may under-report subject's behaviours or views due to denial mechanisms. Thus it is difficult to know whether the present study under-estimated or over-estimated disordered eating behaviours and this factor would require further investigation to ensure high levels of validity.

The height and weight measurements were only taken by the researcher trained in these techniques to limit inter-observer bias. While some minor discrepancies may be present, results would be considered much more reliable than other studies such as Davies and Furnham's (1986) or Richards, Boxer, Petersen and Albrecht's (1990), where self-reported guesses of height and weight measures were used. Gibbons, Paxton, Wertheim, Hillier and Petrovich (1991) reported that large inaccuracies are found, especially in adolescent girls, when self-reported measures of height and weight are used. One

gymnast in this study gave a self-reported answer. This may have slightly affected the average BMI outcome for the gymnast group.

The questionnaire used in this study was developed by modifying previous questionnaires used in related studies (Garner et al, 1982; Drummer et al., 1987; Griggs, 1994; Burns, 1998; Harris & Greco, 1992; Peterson, 1998). Although the instrument was pilot tested the questionnaire has had limited prior use or validation. The questionnaire required attention for 15 minutes. Some participants may not have concentrated or answered all questions accurately. This factor and a reliance on respondents giving all truthful responses, may have created some hidden inaccuracies in results. The questionnaire's main advantage however, was its ease of use, privacy, simple design and portability to each of the groups under consideration. A test-retest reliability was later conducted on a small sample of 20 athletes which found reliability to be 0.8 (coefficient alpha). The questionnaires were administered to a group of 20 athletes prior to a training session and were again completed by the same group two weeks later. This allowed the researcher to compute a correlation between scores at these two times (Slavin, 1992).

The next chapter outlines the findings of the survey.

CHAPTER FIVE

RESULTS

Introduction

This study investigated body image and dieting behaviours in adolescent female athletes and non-athletes. This chapter outlines the findings of the survey.

Questionnaire Results

Body Mass Index

Using the standard BMI calculations as recommended by the Australian Nutrition Foundation calculations. The use of Body Mass Index is recommended by the Australian Nutrition Foundation as a suitable indicator in determining the "normalcy" of one's body weight in relation to height (NHF, 1997). The National Heart Foundation [NHF] (NHF, 1997) categorise BMI (body weight in kilograms divided by height squared) according to Table 5.1 the average BMI of the athletes was 20.5 situated at the lower end of the Healthy Weight Category (NHF, 1997). It is notable that within the athlete sample, the average BMIs of the dancers and gymnasts were located in the underweight category (dancers = 19.8 and gymnasts = 19.9). While the results of the other sporting groups were within the healthy weight range (swimmers = 21.3, netball = 22.2, rowers = 20.5 and tennis players = 23). The average BMI of the non-athletes was 23 located in the middle of the Healthy Weight category.

Table 5.1: BMI Weight Category

Body Mass Index (BMI)	Weight Category
> 30	Obese to overweight
25 – 30	Overweight
20 – 25	Healthy weight
18-20	Underweight
< 18	Very underweight

(NHF, 1997, p.24)

Disordered Eating, Unhealthy Dieting and Distorted Body Image

Thirteen per cent of the athletes were able to be classified as having disordered eating behaviours A slightly lower rate of 10% of the non-athletes cold be classified as having a disordered eating behaviour. Twenty three per cent of the athletes were classified as unhealthy eaters. However, amongst that rate or double with 45% of the non-athletes were classified as unhealthy eaters.

In terms of distorted body image, 13% (8) of the athletes displayed a distorted body image, while 27% (16) of the non-athletes displayed distorted body image.

A respondent was classified as having disordered eating if they were underweight (BMI<18) and was currently trying to lose weight or in the last month had used vomiting to lose weight. A classification of unhealthy eating was given if the athlete of non-athlete reported the use of weight control behaviours such as; eating smaller means, skipping meals, cutting out certain foods (dairy, meat and/or cereal products of taking laxatives in

the last month. Distorted body image existed if the athlete or non-athlete perception of weight (Question 7) and actual BMI varied by two or more categories. Or if when responding to Questions 18 to 21 they placed themselves in either of the last two categories of each question (Appendix A).

Current Attempts at Weight Loss

From the athlete group approximately half or 29 respondents had previously (at least once over the past year) tried to lose weight. The netballers, rowers and dancers recorded the highest number of attempts. Almost double the athlete rate, 47 of the non-athlete sample had previously tried to lose weight.

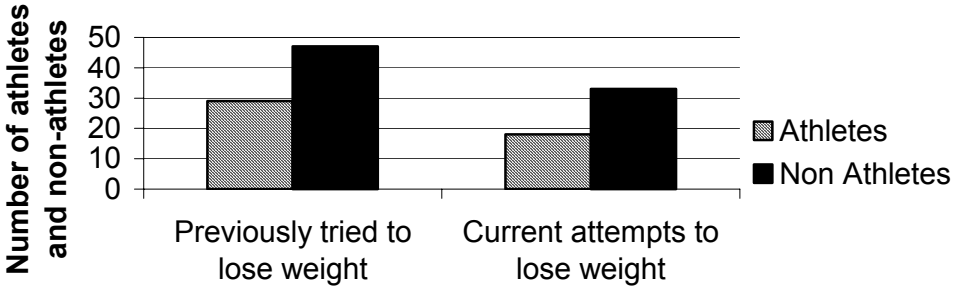

Figure 5.1a Previous & Current Attempts to Lose Weight

Approximately one third of the athletes (n = 18) were currently (over past month) trying to lose weight while approximately half (n = 33) of the non-athletes were currently trying to lose weight. Figure 5.1a illustrates this comparative data. The highest levels of reports of dieting attempts from the athletes were the dancers and gymnastics. Figure 5.1b highlights the athletes who were currently trying to lose weight.

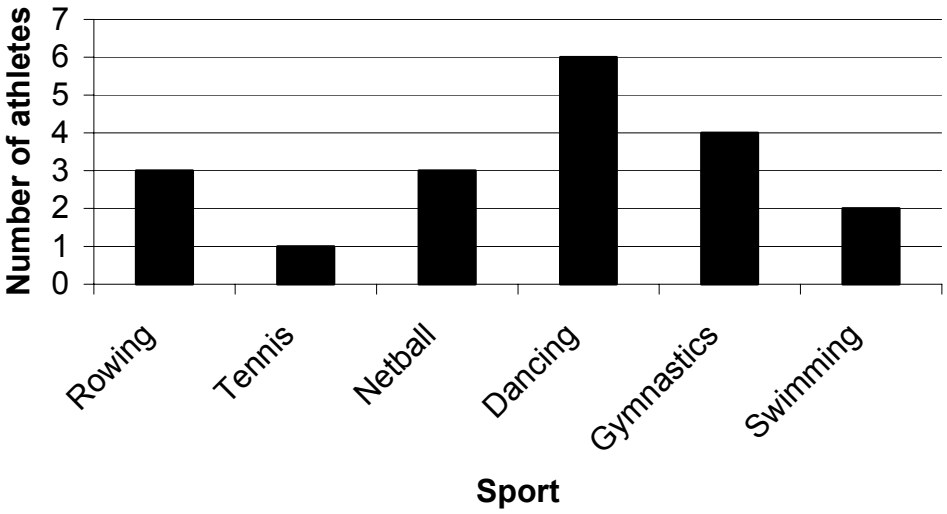

Fig 5.1b Athletes Currently Trying to Lose Weight

Perception of Weight

With the exception of the dancers and gymnasts, who perceived themselves half way between "moderate to a little overweight," all athletes perceived themselves to be "just about right" [body weight]. From the perceptions of the non-athletes, it could be interpreted that many in this group had misconceptions about the meaning of their actual body weight. The average perception of the non-athlete group was "a little to moderately overweight." However, according to BMI standards, this group's mean is located in the healthy weight range. Figure 5.2 highlights the discrepancies which exist between the average perceptions of both the non-athlete and athlete groups about how heavy they feel they are, compared with actual mean weight.

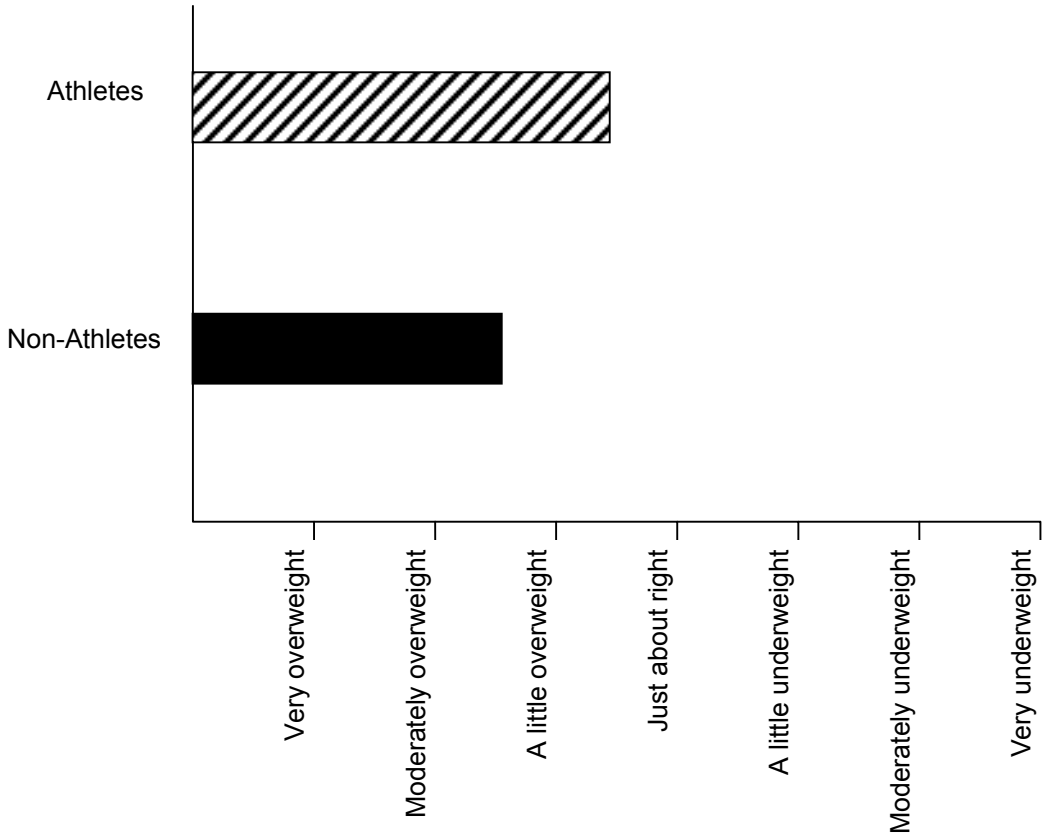

Fig 5.2 "Do you see yourself as …"

Weight Loss Behaviours

With the exception of the dancers, the athlete group appeared to be employing weight loss behaviours less frequently than the non-athletes. The methods used most frequently by this group included exercising more frequently (n = 20) and cutting out certain foods (n = 14). Three athlete respondents did report the use of vomiting.

Results indicated that the non-athletes used weight loss methods on average a few times a month while the athletes on average once a month. Two respondents reported using

vomiting and laxatives. The most common methods used included eating smaller meals (n = 36), skipping meals (n = 30) and cutting out certain foods (n = 24). Figure 5.3 compares the slightly higher frequency of use of weight control behaviours by the non-athletes with athletes.

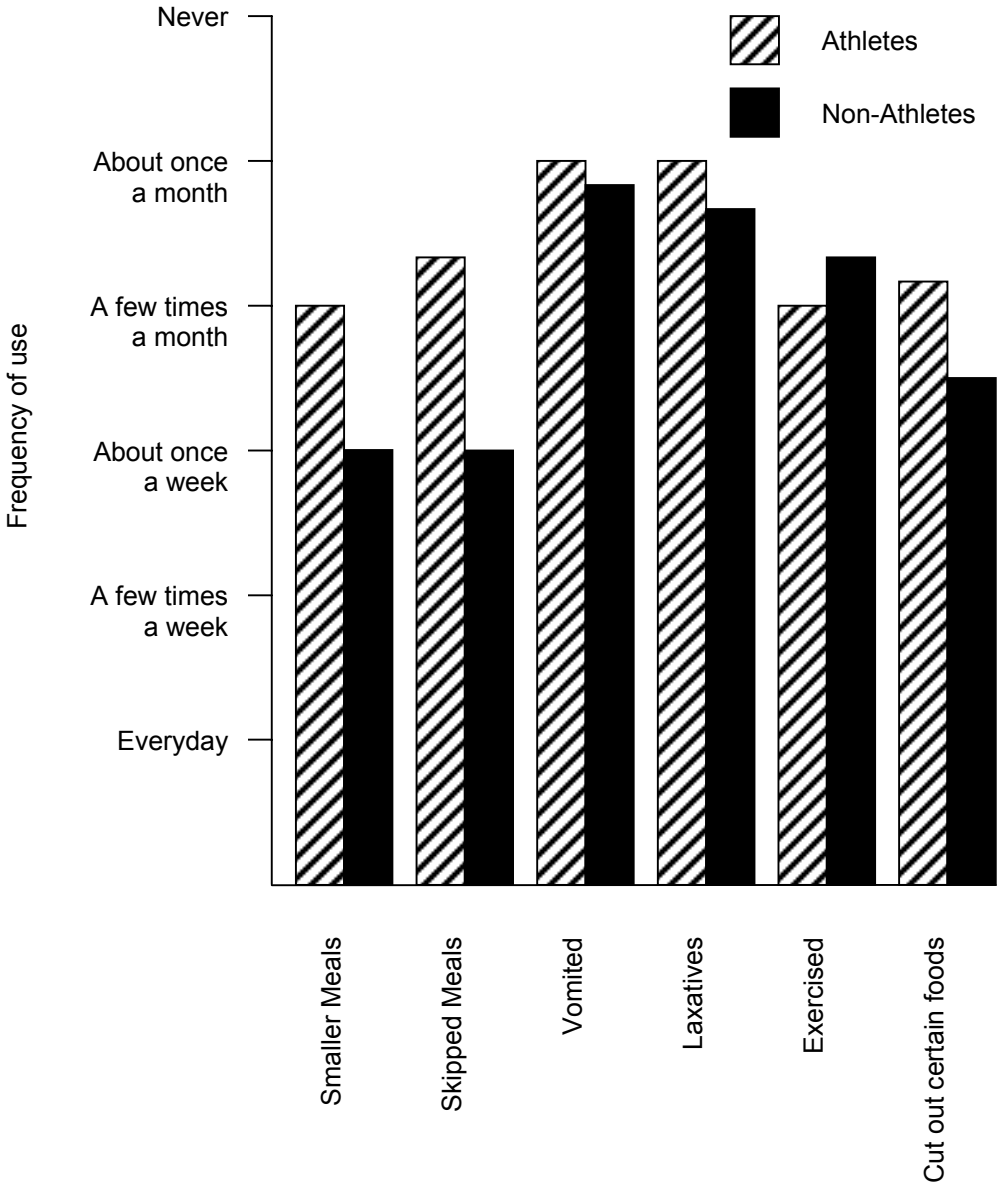

Fig 5.3 Weight Loss Behaviours

Reasons for Using Weight Loss Behaviour(s)

The athletes or non-athletes were asked why they were using or would use a weight control behaviour. Forty eight per cent (n = 29) of the athletes were using or would employ weight loss behaviours to improve their own appearance or body shape. Forty per cent (n = 24) stated the reason would be to look better in clothes, while 25% (n = 15) said that it would mean that they would be more socially accepted by their peers. Fourteen per cent (n = 9) said the reason was to please parents/guardian.

Of the non-athletes sampled, a greater proportion or 59% said they were using or would use a weight loss behaviour to improve their own appearance or body shape. Fifty two per cent (n = 31) responded that they would look better in clothes, 30% (n = 18) said it was to be more socially accepted by their peers, and 16% (n = 10) to please their parents/guardian. Figure 5.4 highlights these findings.

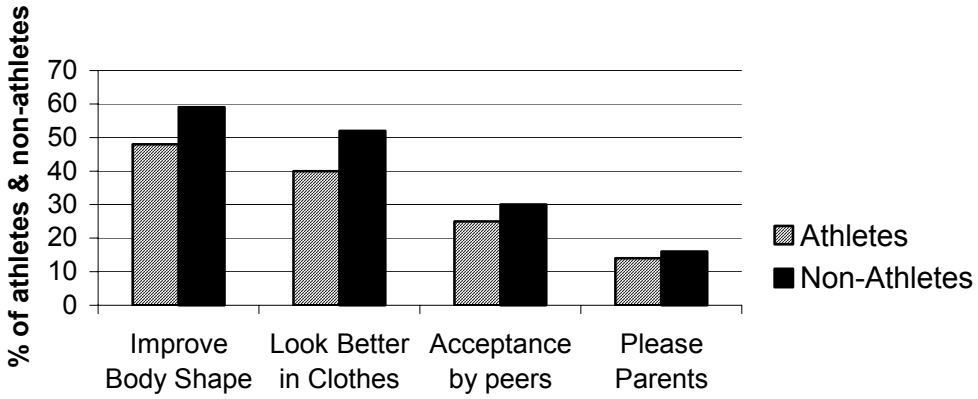

Fig 5.4 Reasons for Using Weight Loss Behaviours

Question 9B asked athletes only to respond, this was to determine whether athletes had additional pressures to use weight control behaviours and to also determine whether the use these behaviours were for sporting or social reasons.

The reasons given by the athletes for using weight control behaviours in relation to sport included:

- 60% (n = 36) using or would use a weight control behaviour to improve their sporting performance.
- 77% (n = 46) to improve their own appearance or body shape.
- 60% (n = 36) to look better in their sporting uniform and
- 32% (n = 19) to please their coach.

A breakdown of the proportions of the athletes who would use or were using weight loss behaviour from each sport is highlighted in Table 5.2.

Table 5.2 Athletes who would use or were using weight control behaviours

Reasons for planned or actual use of weight control behaviour	**Netball N=10**	**Swimming N=10**	**Rowing N=10**	**Gymnastics N=10**	**Dance N=10**	**Tennis N=10**
To improve sporting performance	50% (5)	40% (4)	60% (6)	100% (10)	90% (9)	20% (2)
To improve own appearance/body shape	40% (4)	80% (8)	90% (9)	90% (9)	90% (9)	70% (7)
To look better in sport uniform	30% (3)	70% (7)	60% (6)	80% (8)	90% (9)	30% (3)
To please coach	10% (1)	20% (2)	0% (0)	80% (8)	70% (7)	10% (1)
Total	13	21	21	35	34	14

The results show that the gymnasts and dancers were using or would use weight control behaviours more frequently in order to perform and look 'right' for their sport.

Health Risks of Using a Weight Control Behaviour

In response to the question on whether the use of weight control behaviour(s) posed a health risk to the individual, it was found that both the athletes and non-athletes held similar views. The use of these behaviour(s) were deemed a 'low' to 'moderate' risk to their own health.

Messages Received From Others About Athletes and Non-Athletes Own Weight

The main external sources of messages included parents/guardian, friends and boyfriends. The average messages the athletes and non-athletes received from others about their weight seemed to correlate with each group's mean perception of body shape and weight.

Seventeen percent (n = 10) of athletes had been told to lose weight by a parent/guardian. Twelve percent (n = 7) of athletes remembered being told to lose weight by friends and one athlete reported having been told to lose weight by their coach.

In contrast, 43% (n = 26) of the non-athletes had been told to lose weight by their parent/guardian, 25% (n = 15) by a sibling and 10% (n = 6) friends.

22% (n = 13) of athletes had been told by their parents/guardians to gain weight. 17 % (n = 10) form their friends. 12% (n =7) by their boyfriend. Only 10% (n = 6) of the non-athlete sample had been told that they needed to gain weight by a parent/guardian.

Perceptions of Female Body Shapes Portrayed in the Media

In response to how the athletes and non-athletes believe that the media portrays female body shapes, both groups held similar views. On average, both groups believed that in general, the women on TV or presented in advertisements were "a little underweight." In response to how they compared their own body shape to the ideal female shape most likely to be presented on TV or advertisements, both groups again held similar views in that they felt that the TV image, was generally "a little lighter" than their own shape. The dancers and gymnasts were the only sub-groups from the whole sample felt that the TV body shapes women were moderately lighter than them. Figure 5.5 depicts the athletes and non-athletes' level of desire to achieve the same body shape as that appearing in magazines or on TV. In response to whether they wished they had the same body shape as these women portrayed in media, again both groups held similar views, in that they would "quite like to have that body shape."

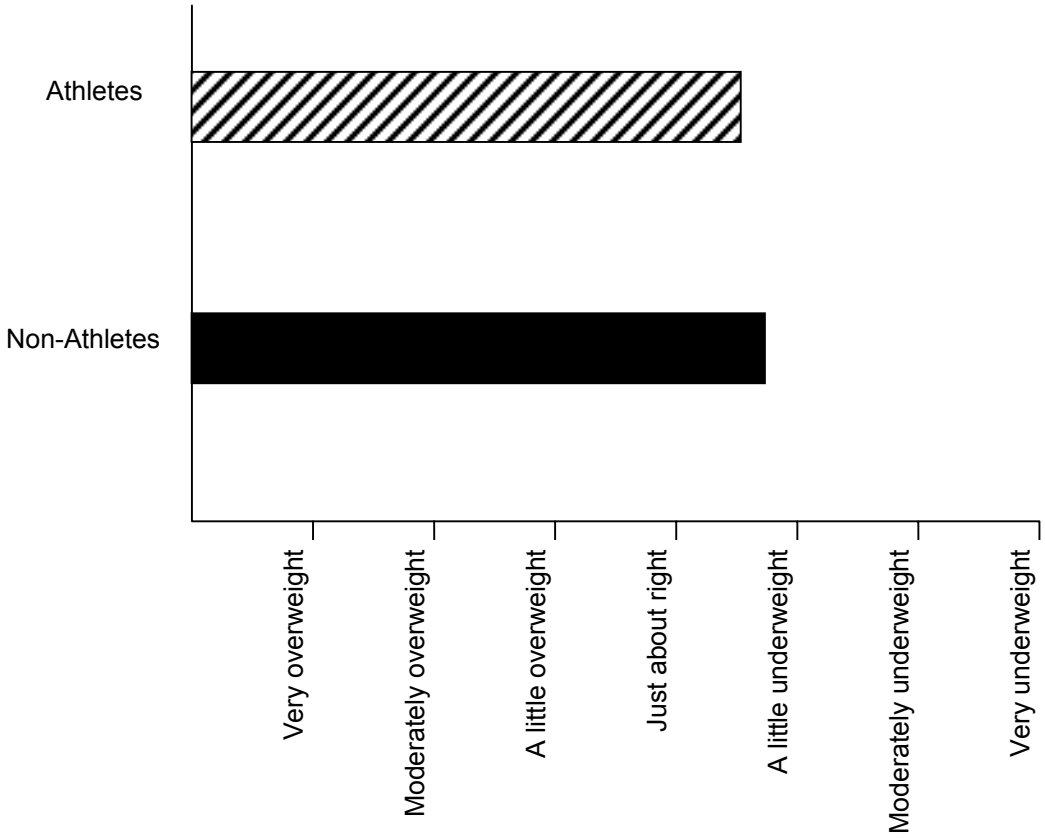

Fig 5.5 Perceptions of female body shapes portrayed in the media

Pressures on Athletes and Non-Athletes

Eighty per cent (n = 48) of the athletes and an even higher number of non-athletes 88% (n = 53) felt that the media placed pressure on them to be thinner (see figures 5.6a and b). Fifty-five percent (n = 33) of athletes believed that sport did place pressure on athletes to be thinner. Similarly, 53% (n = 32) non-athletes also felt 'sport' as a social entity placed pressure on athletes to be thinner (see figures 5.6 c and d). This indicates that the media was perceived as a greater source than sport, of social pressure for females to be thinner.

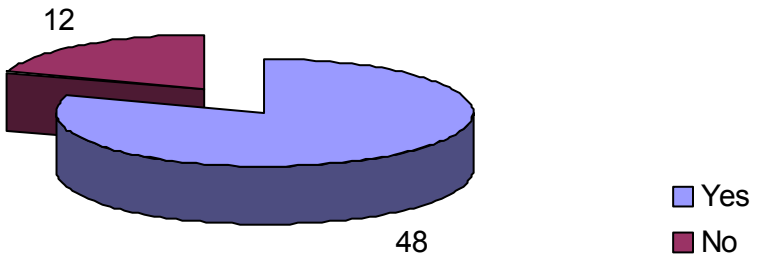

Fig 5.6a Athletes believing the media places pressure on them to be thinner (n = 60)

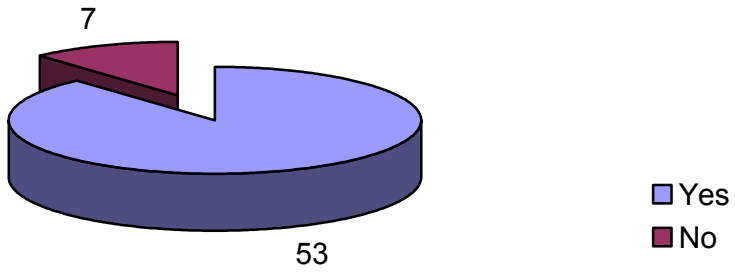

Fig 5.6b Non-athletes believing the media places pressure on them to be thinner (n = 60)

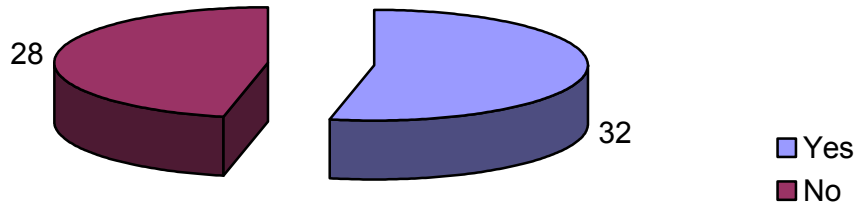

Fig 5.6c Non-athletes who feel sport places pressure on participants to be thinner

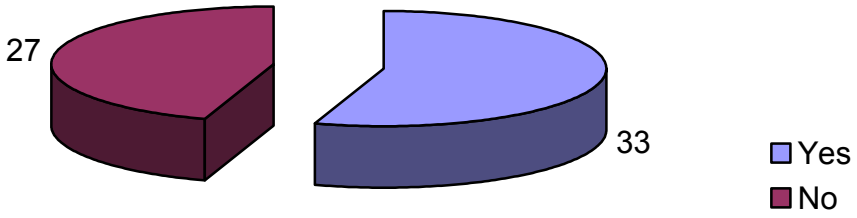

Fig 5.6d Athletes who feel sport places pressure on participants to be thinner

Frequency of Personal Thoughts About Own Weight and Body Shape

The athletes were less concerned, or spent less time thinking about their body weight than the non-athletes. On average, the athletes thought about their own body weight and body shape "sometimes," whereas the non-athletes thought about these issues "quite a lot."

Amongst the athlete sub-groups, the dancers thought about personal body weight the most, and the tennis players the least. On average, the athletes thought about their own body shape "sometimes" to "quite a lot." On average, the non-athletes thought about body shape "quite a lot." Within the sporting groups, the dancers however, thought about it "quite a lot" to "all the time." Figure 5.7 depicts these results.

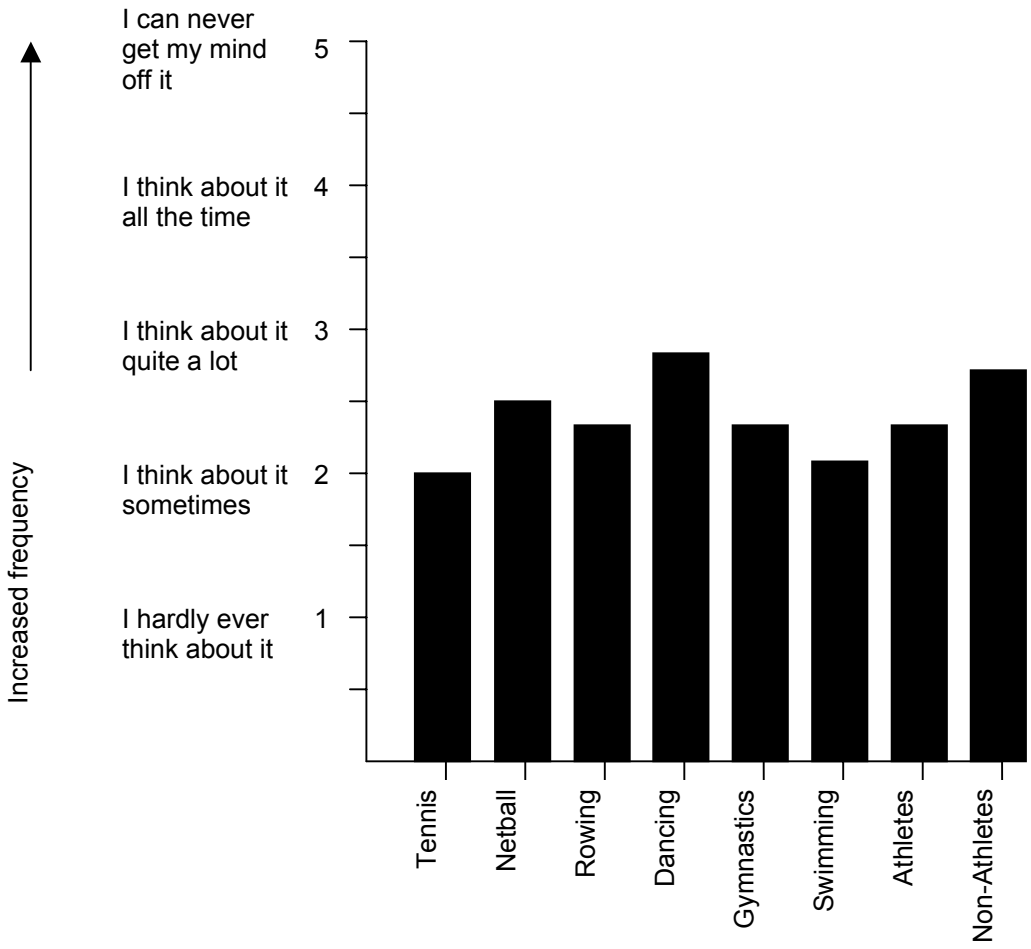

Fig 5.7 Frequency of personal thoughts about own body weight and shape.

Satisfaction With One's Body Shape and Body Image

The average response from the athlete group on satisfaction levels with personal body shape was positive, with the group generally expressing 'satisfaction.' The non-athlete sample generally responded that they were dissatisfied with personal body shape. However, it is worthy to compare that there were several reports of personal dissatisfaction with body shape amongst dancers and gymnasts. Figures 5.8a compares

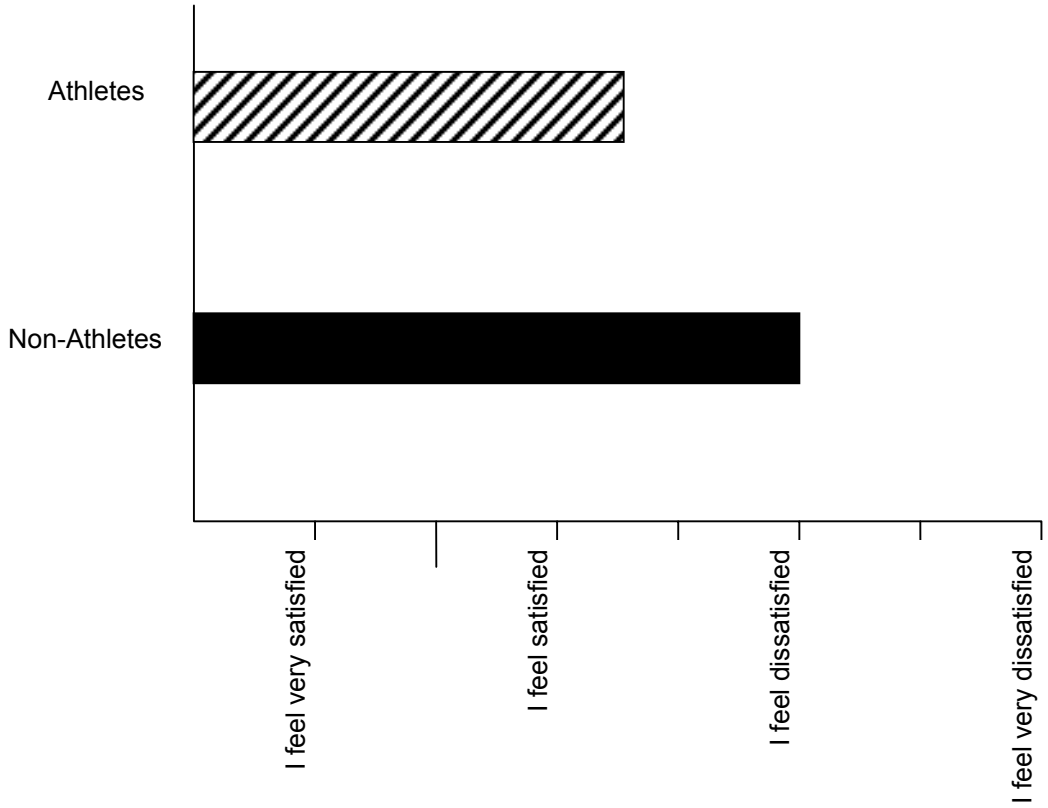

Fig 5.8a How satisfied are you with your body shape?

responses between athletes and non-athletes, in terms satisfaction levels with own body shape. Figure 5.8b contains a breakdown comparison between sports.

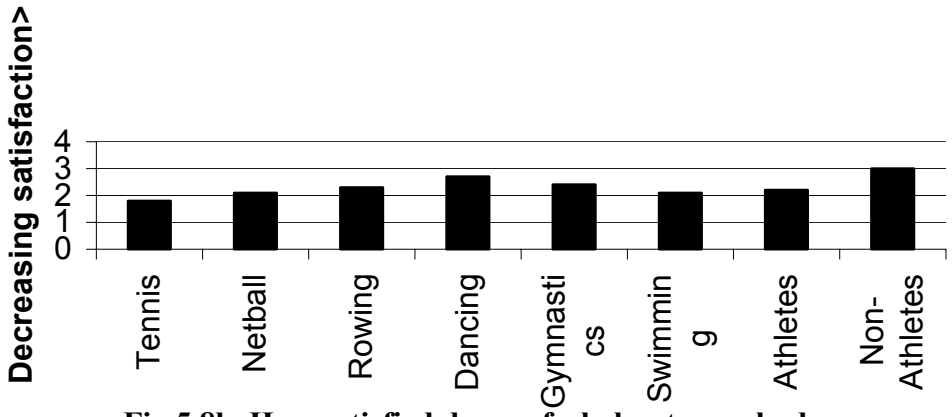

Fig 5.8b How satisfied do you feel about your body shape?

With the exception of the dancers, on average, the athletes felt that their body was "OK, and they were comfortable with it". In contrast, the non-athletes on average "did not like their body and felt uncomfortable about it."

Summary

Several observations are immediately apparent from the results of this study.

- The gymnasts and dancers were the only groups to be located in the underweight category, with the rest of the sample located within the healthy weight range.
- The non-athlete group were more consistent with their attempts to lose weight, employing weight loss behaviours more frequently.
- More non-athletes had distorted body image than athletes, with the exception of the gymnasts and dancers.

- Misconceptions about weight appeared within the non-athlete group, dancers and gymnasts with these groups perceiving themselves to be “moderately to a little overweight.”
- The main reasons for wanting to lose weight for the non-athlete group was to improve their own appearance or body shape. Within the sporting sub-groups the majority were similar to the non-athletes. However, the majority of the dancers and gymnasts also wanted to lose weight for sporting reasons.
- Both athletes and non-athletes held similar views regarding the use of weight control behaviours. Deeming them to be of low to moderate risk to one’s health.
- A correlation appeared to exist between the messages received by others with each groups perception of their weight and body shape. The main external sources of messages about a athletes or non-athletes coming from parents/guardian or friends.
- Both athletes and non-athletes held similar views on the media’s portrayal of females. That females used were “a little underweight” and believed that they were “a little lighter than them.” The dancers and gymnasts reported feeling that the females used in the media were moderately lighter than them.
- The majority of athletes and non-athletes felt that the media placed pressure on them to be thinner. Just over the athletes and non-athletes felt that sport placed pressure.
- With the exception of the dancers and gymnasts, the majority of athletes spent less time thinking about their weight than non-athletes. Athletes were also generally satisfied and comfortable with their body shape and body image. In contrast, the non-athletes were dissatisfied and uncomfortable.

In the following chapter, the study's findings will be further explored in the light of the related research and theoretical literature.

CHAPTER SIX

DISCUSSION

Introduction

This chapter interprets and contains a discussion of the results revealed in the previous chapter. The two main issues from the findings which are discussed include (1) the group of adolescent female athletes were generally more satisfied with their body shape than non-athletes, and (2) the dancers and gymnasts were more dissatisfied with their body shape and employed more weight loss behaviours than other athletes and non-athletes.

Body Mass Index

Body Mass Index (BMI) is a reliable indicator of degree of one being overweight or underweight (NHF, 1997) BMI were used to categorise the athletes' and non-athletes' body mass levels. Table 5.1 (p.*) depicted the BMI weight categories. Results showed that, on average, the athletes had BMIs within the healthy weight range, with the exception of the dancers and gymnasts. Healthy BMI or body weights were exhibited by the swimmers (BMI = 21.3), netballers (BMI = 22.2), rowers (BMI = 20.5) and tennis players (BMI = 23). The non-athletes were also located within the normal healthy weight range (BMI = 23). However, it is important to note that 13% (n = 8) of the overall non-athlete sample were within lower limits of the overweight BMI catergory. It is a concern that the dancers and gymnasts in this study were more underweight according to BMI standards. On average, the dancers were underweight (BMI= 19.8), as were the gymnasts

(BMI= 19.9). These two groups also had lower BMIs than the other athlete sub-groups under investigation or the and non-athletes. A reason for this finding could be due to the aesthetic nature of their sport and the fact that both sports are judged on presentation. The long term health consequences associated with being underweight can be oestoporosis in later life, depression, fatigue, anemia and loss of the menstruation cycle due to a lack of adequate nutrition.

Distorted Eating, Unhealthy Dieting and Disordered Body Image

Disordered eating was established if two of the DSM-III (APA, 1987) symptoms were detected. Unhealthy eating was classified if the athlete or non-athlete reported using eating smaller meals, skipping meals, cutting out certain foods or taking laxatives in the last month. Distorted body image existed if the actual BMI of the respondent varied by two categories or more in questions 7, 18-21 (see pp, 55, 57, Chapter 4).

Distorted eating patterns were found to exist in 23% of the total sample (n = 14/120). Forty five percent (n = 27) of the non-athletes were classified as non-healthy eaters, a rate approximately double that of the athletes. Twenty-three percent (n =14) or approximately half of the rate of non-athlete of the athletes were classified as unhealthy eaters. In terms of disordered body image, only 13% (n = 8) of athletes displayed a disordered body image. Non-athletes however displayed an unhealthier trend with 27% (n = 16) of this group displaying disordered body image. These results indicate that those not participating in regular physical activity expressed more negative views towards their bodies and were adopting unhealthy eating behaviours.

Johnson et al. (1984) and Wertheim, Paxton, Moude, Szmukler and Hillier (1992) have suggested that society's emphasis on appearance could be a predictor of disordered eating in female adolescents. However, in this study levels of disordered eating were highest within the athlete subgroups of gymnastics and dancing, classed as aesthetic sports in which athletes normally need a low body weight for optimum performance. Harris & Greco's (1992) study discovered that disordered eating in gymnasts may not only reflect pressure to attain a culturally ideal body type, but also the need to attain a low body weight for optimal sports performance.

In contrast other research conducted by Rosen and Hough (1988), and Black and Burckes-Miller (1988) found that the majority of athletes in the study's sample were displaying negative body image, the majority of athletes in this study, with the exception of dancers and gymnasts, displayed healthier eating habits compared with non-athletes. The findings of this study suggest that participation in regular physical activity at a sub-elite level may have positive or protective influences effects on eating behaviours, self confidence and body image (Dinubile, 1993, Steptoe & Bulter, 1996, Peterson & Curie, 2002). The fact that 45% of non-athletes were classified as non-healthy eaters despite the majority of this group being classified within the healthy weight range for BMI was of great concern. Adolescents are often exposed to unrealistic slim images in the media. As a result they may ascribe to these images and not accept themselves for who they are in an attempt to obtain this look.

Restricted intake of food or dieting may be one way that these girls are attempting to lose weight and conform towards the ideal. Approximately twice as many non-athletes 27% (n = 16) displayed a disordered body image compared with athletes 13% (n = 8). However, it is important to note that the 13% of athletes who presented with disordered body image only came from the dancer and gymnast groups.

Disordered body image may arise from a desire to please self, significant others, coaches or parents. The dancers and gymnasts may also have regarded that excessive personal body weight may reduce their own performance. Thorton (1990) found that excessive body weight induced early fatigue and caused slowing of movement. Both these factors would greatly degrade a dancer's or gymnasts performance. Coaches and parents often weigh their athletes in order to reinforce the need for low body weight (Harris & Greco, 1992).

The belief that weight control is related to athletic advantage may become exaggerated and contribute to distorted body image and other disordered eating behaviours. For instance, Davis (1992) believed that the combination of cultural pressure to be thin and the need to reduce body fat in athletes could lead to especially strong aversions to weight gain. Disordered eating behaviors or body image are more likely to occur in those athletes involved in activities emphasising body contours in competitive attire, and aesthetic emphasis in overall competition evaluation (Combs, 1982; Taub & Benson, 1992). This partly explains the high rate of disordered body image amongst the dancers and gymnasts.

Despite the rising prevalence of disordered eating and body image amongst female athletes (Fogelhom & Hilloskorpi, 1999., Leon, 1991., Davis, 1992 & Rosen et al., 1988), the present study suggests adolescent athletes' participating at a sub-elite level may in fact present with a more positive body image in comparison to those adolescent girls not participating in any regular physical activity.

Current Attempts at Weight Loss

The results indicated that the non-athletes were more concerned about their weight than athletes. These concerns are consistent with the number of actual attempts employed by non-athletes to lose weight. Approximately half (n = 33) of the non-athletes were currently trying to lose weight. In comparison, approximately one third of the athletes (n = 18) were trying to lose weight.

However, it is interesting to note that a greater proportion or approximately half (n =29) of the athletes had previously tried to lose weight. The netballers, rowers, gymnasts and dancers had recorded the highest number of attempts. The fact that the number of current attempts had now decreased, with the exception of the gymnasts and dancers, suggests that on average, athletes may now hold more realistic or healthy views towards their own body weight.

A recent Australian study of 1000 females aged between 14 and 21 years, found that 3 in 5 participants had dieted (Ferrari, cited in Tebbel, 2000). This rate is similar to the non-athletes in this study. Many adolescent females are dissatisfied with their body shape and are continually comparing themselves to unrealistic images portrayed in the media. According to Clarke (2000) up to 40% of girls are dieting by the age of seventeen in order to achieve this look.

Perception of Weight

Dissatisfaction with body weight and shape is common in our society, especially in adolescent males and females. Females generally want to be thinner, and males more muscular (Deakin, 1998). The athletes in this study, with the exception of dancers and gymnasts, perceived themselves to be of the right or a suitable weight for height. This finding is similar to Rao and Overman's (1986) study which found that athletes competing in sports such as basketball, softball and tennis generally expressed more positive attitudes towards their body shape and weight than athletes competing in aesthetic type sports.

Results indicated that many of the non-athletes in this study had misconceptions about their 'true' or accurate body weight, despite the average BMI for this group being within the healthy weight range. The majority of non-athletes perceived themselves to be a little to moderately overweight. This supports the finding that many female adolescents may exhibit high levels of body dissatisfaction during adolescence. The effect of being unfit as

a result of not participating in regular physical activity can be itself a barrier to participation as one is concerned about exposing one's body in public or feeling clumsy and uncoordinated (Desmond, Price Gray & O'Connell, 1986., Greenfield, Quilan, Harding, Glass & Bliss, 1987., Moore, 1988., Fabian & Thompson, 1989., Carruth & Goldberg, 1990., Booth et al., 1997). In contrast, Davis (1992) discovered that athletes were dissatisfied and non-athletes satisfied with their body weight. However, Davis (1992) assessed mainly aesthetic sporting populations such as dance and gymnastics, and all the participants were competing at an elite level. The present study only included two aesthetic sports.

The dancers and gymnasts in this study perceived themselves to be moderately overweight despite the average BMI of these groups being underweight. Petrie (1992), suggested that an athlete's decision to lose weight is more related to the individual's perception of her weight, than her actual weight. Perceptions of own weight can stem from comparing oneself to other athletes and the fact that they are judged on how they look and are constantly wearing tight fitting uniforms. Misconceptions or gross differences between, actual and perceived weight may be caused by additional pressures from the media.

Weight Loss Methods

The results indicated that the athletes were employing weight loss behaviors less frequently than the non-athletes, approximately once a month. The non-athletes were

attempting to lose weight on average a few times a month. The most common weight loss behaviours for the athlete group included exercising more and cutting out certain foods. The use of exercise may have also been interpreted by respondents as normal training, so reported rates may have actually been lower than what actually occurred. These results are in contrast to the majority other studies where there has been a more frequent use of weight control behaviour amongst athletes than non-athletes. But it does offer support to the finding by Koff and Bauman (1997), that regular participation in physical activity may provide adolescent females with a positive attitude toward their own health and well being therefore, resulting in a decrease in the need for one to lose weight.

It is important to note that the dancers and several gymnasts were an exception to the relatively low frequency of weight loss attempts used by the other athlete groups. Dancers and gymnasts used weight loss behaviours more frequently and had reported the use of vomiting. Rosen et al. (1986) and Taub and Benson (1994) also reported the use of vomiting and laxatives but rates in this study were lower. Drummer et al. (1987) believed that the majority of research on weight control in female sports has been centered on gymnasts, dancers, track and field and ice-skating. These sports are typically the lowest body fat levels of all athletes.

For the non-athlete group who on average were using weight control behaviours a few times a month, the most common methods were eating smaller meals, skipping meals and cutting out certain foods. Griggs et al. (1994) reported a large percentage of adolescent Australian females commonly using several weight control practices. In his study of Australian school girls aged 14-17 years (n = 869), skipping meals (46%) and food avoidance (47%) were the major strategies implemented to control or lose weight. No

survey of this size has been conducted, investigating athletes of similar age. However, this present study is in contrast to other studies with the majority of athletes on average, displaying healthier eating behaviours than non-athletes. This could be due to the fact that the athletes are better educated today on the effect of a poor diet on athletic performance as part of their training program (Leech, 1995).

Of concern is the use of more extreme disordered behaviours (vomiting and use of laxatives) by the non-athletes. While the rates are slightly lower (3.3%) than that reported by Griggs et al. (1994) (5%), the fact many non-athletes had misconceptions about their body weight may account for a higher frequency of weight control methods and the use of more extreme methods.

Reasons for Using Weight Loss Behaviour(s)

Almost half (n = 29) the athletes claimed they were using or would use a weight loss method to improve their own appearance or body shape. However, no athlete in the study was overweight according to BMI standards. A similar proportion of athletes also wished to lose weight 'to look better in clothes' (40%, n = 24). Twenty five percent did so (n = 15) to be more 'socially accepted' by peers and 14% (n = 9) to 'please parents/guardians.' The main reason that female athletes want to lose weight is often based on appearance rather than performance (Drummer et al., 1987).

A finding which was of concern in this study was that several of the swimmers (n = 7), gymnasts (n = 8) and dancers (n = 9) would use or were using weight control behaviours to look better in their sporting uniform. These sports may present their own unique set of pressures that result in participants believing they need to lose weight. While swimming is not a sport in which appearance is judged as part of the performance, the need to constantly be in brief swimsuits both in front of peers at training and large crowds at carnivals may force females to believe that a thin body type is essential to feeling more comfortable or confident. However, overall the swimmers in this study were still happy with their body shape yet still indicated they would contemplate using a weight control behaviour to look better in a swimsuit. This feature reinforces Drummer et al.'s (1987) finding that a swimmer's perceived appearance rather than desire for improved performance was the main reason for desiring weight loss.

The gymnasts and dancers were more likely to be currently using the weight loss behaviours than participants competing in other sports. Other researchers (Thorton, 1990., Taub & Benson, 1992) also stated that disordered eating behaviours and body image were more likely to occur in athletic activities emphasising body contours in competitive attire and emphasis appearance in overall competition evaluation. The majority of the gymnast and dancers in this study reported using weight control behaviors to improve competitiveness, performance and appearance. The fact that these athletes are judged on how they look and are constantly comparing themselves to other athletes may lead to them wanting to lose weight. It does appear from this study that perception of an individuals weight has a greater impact on one wanting to lose weight regardless of their

actual weight. These findings support the literature review which showed that athletes competing in aesthetic type sports may experience additional pressures to lose weight for body image reasons compared with regular athletes from other sports.

However, it important to highlight that in this particular study that the dancers and the gymnasts were an exception amongst all of the sporting groups. The majority of the other athlete sub-groups were adopting healthier behaviours in relation to eating, and had a more positive attitude towards their own body in comparison to the non-athletes.

Over half, or 59% (n = 35) of the non-athletes in this study said they would use or were using weight control methods to improve their own appearance or body shape. Other reasons were 'to look better in clothes' 52% (n =31), 30% (n = 18) be more ' socially accepted by peers,' and 16% (n = 10) to please their parent or guardian. Many researchers have been cited as believing that a combination of society's repulsion of obesity and constant evaluation of body shape for flaws or deviations from the ideal are factors which drive many females to believe that thin is most acceptable and desirable (Greer, 1993., Pipher, 1996). As is evident from the results occurring in this study both athletes and non-athletes claim to want to lose weight for similar reasons, and improve their own body shape. The non-athlete group did however express stronger desires to lose weight compared with the athletes. This may be due to the fact that the athletes experienced enhanced body image as a result of their participation in physical activity.

Health Risks of Using Weight Control Behaviour(s)

The results showed that both the athlete and non-athlete groups held similar views in response to the possible health risks associated with using weight control behaviours. Both groups deemed these behaviours to be a low to moderate risk to their own health. This may indicate that their nutritional knowledge is poor. Collison et al. (1996) found that athletes who had poor nutritional knowledge were not aware of the dangers associated with dieting and using weight control behaviours. "No" risk = no harm, "low" risk = minor harm, "moderate" risk = some harm to body and "high" risk = dangerous to body. Of concern is the fact that both groups deemed the use of weight control behaviours could pose possible risks to their health, but would and do use them in order to obtain an ideal image.

Messages Received From Others About Athletes and Non-Athletes Weight

The athletes who had been told to lose weight were told so by parents 17% (n = 10), friends 12% (n = 7), with one athlete reporting having been told to lose weight by a coach. These results are in contrast to other studies mentioned in the literature review where a larger percentage (56%) felt pressure from their coach lose weight (Harris & Greco, 1992). The results do in part indicate that external pressures can be exerted on some athletes to lose weight and become leaner.

Many athletes and coaches seem to believe that thinner athletes perform better. Falls and Humphrey's (1978) study found that gymnasts who had lower body fat values were more

successful in the competition. However, Thacker (1996) suggested that netball players require normal body fat levels to be able to effectively perform. This finding highlights the pressure that specific sports place on their athletes.

In contrast, more non-athletes (78%) than athletes (30%) reported being told they need to lose weight. Forty three percent (n = 26) were told so by parents/guardian, 25% (n = 15) siblings and 10% (n = 6) friends. Comments can have a negative effect as adolescents may interpret negative comments made to them about their body shape and weight as a form of negative reinforcement. It is a concern however, that this group were being told to lose weight when the majority were within the normal weight range. This highlights further sources of social pressures to conform to the thin ideal image (O'Connor, 2000). Women and girls are continually comparing self and or others to these images (Tebull, 2000). To receive further negative comments from others about one's own weight could be enough to trigger an eating disorder in an adolescent female (Fabian & Thompson, 1989; Levine et al., 1994). Evidence suggests that body dissatisfaction is now occurring at a younger age, with children as young as five dieting to lose weight (Allen, 2002).

Of interest is the finding that more athletes than non-athletes had been told to gain weight. It is not known if the reason for this was sports or appearance related. Twenty two percent of athletes (n = 13) had been told by parent/guardians, which raises the question of the 'ugly parent syndrome' (Thorton, 1991). Seventeen (n = 10) were told to gain some weight by friends and 12% (n =7) by boyfriends. In comparison only 10% (n = 6) of the non-athletes had been told to gain weight by parents/guardians. The average

weight for the athletes was 20.2 and the non-athletes 23, which indicates that both groups were within the healthy weight range.

Any participants with misconceptions about their weight and or general dissatisfaction with their body shape may have misinterpreted messages that they received from others and this may be attributed to the messages that they received from others, as both groups on average were within the healthy weight range, yet had received conflicting comments from others regarding their weight.

Perceptions of Female Body Shape Portrayed in the Media

Both athletes and non-athletes groups held similar views in relation to how female body shapes are generally portrayed in the media. On average, both groups believed that female body shapes portrayed in the media are generally 'a little underweight.' Both groups reported that these images are generally 'a little lighter than their own shape.' An exception included the dancers and gymnasts who thought that female body shapes in the media were 'moderately lighter than them.' It is hard to speculate why the dancers and gymnasts felt this way when they were actually closer to the BMI lighter of women most likely to be portrayed in the media. However a recent report showed that many of the women seen frequently in the media do actually have low BMIs for example Susie O'Neill BMI = 19.9, Elle Macpherson BMI = 17.3 and Kylie Minogue BMI = 16.4 (Patty, 2000). The average BMI for non-athletes was 23 and athletes 21 (swimmmers 21.3, netballers 22.2, rowers 20.5, tennis 23, gymnasts 19.9 and dancers 19.8). Whilst interviews were not part of this study, it would be interesting for further comparative

research to explore the different perceptions of media images by normal weight and slightly underweight females.

Both groups also held similar views in that they 'would quite like to have that body shape' of female body shapes portrayed in the media. Adolescent females are significantly influenced by the media's portrayal of female thin stereotypes (Feld et al., 1999). As long as the media continues to pursue a fantasy that ignores the reality of our physical diversity, many adolescent females will persist with trying to live up to that fantasy that it portrayed in the media (Tebbel, 2000).

Eighty percent of athletes (n = 48) and 88% of non-athletes (n =53) felt that the media places pressure on them to be thinner. A high proportion of each group held this perception. Many women in western cultures believe that in order to be most successful or attractive one needs to be thin. While females are constantly being bombarded with unrealistic images from the media or other role models, the pressure to be thin will not decrease (Tebbel, 2000).

Feld et al. (1999) found that pictures in magazines had a strong impact on a girl's perception of her weight and body shape. Of those surveyed, 69% reported that magazine pictures influenced their idea of the perfect body shape, and 47% reported wanted to lose weight because of magazine pictures (n = 548). However, aspiring to look like underweight models or artificially airbrushed images of in magazines may have deleterious psychological and physical consequences for the individual. This includes

anaemia due to a lack of iron which can result in fatigue. Severe loss of weight can cause cessation of menstruation which can result in early onset osteoporosis, depression, constipation and dehydration. Ongoing patterns of dieting can result in more serious forms of eating disorders and further complications may result, as outlined in Chapter 2.

Surprisingly similar results existed between athletes and non-athletes in their perception of the existence of sporting pressures to lose weight. 55% (n = 33) of athletes and 53% (n = 32) of non-athletes felt that sport placed pressure on athletes to be thinner. The fact that these figures were also quite high may be due to the fact that we are now seeing more elite athletes in all forms of the media (Tebbel, 2000). For example, athletes are now seen in general magazines and in professional role model and commentary roles on TV. Also, this study was conducted within 6-12 months of the 2000 Olympic games and there was still surrounding media hype. It is also important to remember that the media may pressure not only athletes but non-athletes to live up to a fit and toned physique (Cooke, 1994.,Wolf, 1990). It is a 'general' pressure that has been shown to pervade the minds of all women in society (Wolf, 1990; Tebbel, 2000).

It is important to note however, that the largest reports of perceived pressure from sport applied to athletes to lose weight came from the dance and gymnast sub-groups. This is similar to Harris and Greco's (1992) study who found that gymnasts felt that more pressure existed to be thinner than did athletes from other sports. The individual environment or unique nature of the sports may have lead to the gymnasts and dancers in this study feeling more pressure and as a result being more weight conscious than the

other athletes. The fact that the other athlete sub-groups reported lower levels of pressures from sport for athletes to lose weight may be due to the fact that their sport does not require them to be at as low a body weight. Due to the small sample size, it is a possibility that the other athletes may also have each had a more realistic body image, or resiliance to messages from the media or sport.

Peterson (1998) found that state representative netball players did not believe that the media placed pressure on them to be thinner. Participation in physical activity and sport may play a protective influence in terms of body image, self esteem and eating behaviours (Cross, Smith & Smith, 2001; Peterson & Currie, 2001, 2002). This means that these individual's may 'build up' a healthy body image and regard for self. These individuals in turn, may be less fragile in terms of effect of negative media or role model messages. However, elite netball players are often in normal weight categories to their intensive training regimes.

The media could serve a more positive public health role by using role models at a healthy weight range. Unfortunately, many of the athletes coming from sports such as netball or cricket are rarely given the same media exposure as those athletes who are deemed 'sexy' or wear skimpy uniforms, such as in beach volleyball, track and field or tennis.

Frequency of Personal Thoughts About Own Weight and Body Shape

The athletes were less concerned and spent less time thinking about their body weight than the non-athletes. On average the athletes were "sometimes" thinking about their weight in comparison to the non-athletes who thought about it "quite a lot." Participation in physical activity can lead to many physical, social and mental benefits. The fact that the athletes were thinking about their weight "less often" could be attributed to these benefits. Perhaps the athletes in this study had a higher self-concept and self-esteem. Does 'mastery' gained through participation in sporting activities lead to improved body satisfaction? The fact that the majority of the athletes were more 'satisified' with their body shape than the non-athletes is also likely to be why they were not as consumed with thoughts about their weight and body shape (Martinsen & Morgan, 1997). Perhaps the fact that they were fitter may have meant on average they were fitter and in shape and therefore more comfortable and less worried their own shape.

However, it is a concern when comparing the athlete sub-groups with each other that the gymnasts and dancers were on average thinking about their body weight "quite a lot" to "all the time." This is similar to Thorton's (1990) study which found athletes who are more concerned with weight and constantly thinking about it, were more likely to participate in sports which are individual, involved aerial movements and exposed contours and body shape in competition uniform. It is possible that the dance and gymnastic athletes participating in this study were also continually reminded about body shape and the need to look good at training.

Satisfaction with Body Shape and body Image

In contrast to other studies, the athletes in this study were generally more satisfied with their own body shape and body image and felt that their body was 'OK,' compared with the non-athletes. The non-athletes were generally dissatisfied and uncomfortable with their body. Body dissatisfaction has been associated with dieting, inadequate nutrition, disordered eating and low self-esteem (Garner, 1997). This is evident in this study, as the non-athletes were using weight loss weight more frequently the athletes. Having a poor body image does appear to prevent many females from being more physically active. The extent to which this downward cycle prevents females from participating in physical activity is difficult to determine and would need to be further investigated. However, perhaps the non-athletes in this study were more dissatisfied and uncomfortable with their bodies due to the fact they were not gaining the benefits associated with participating in regular physical activity.

Conclusion

In contrast to other studies conducted on athletes, this study has found that the majority of athletes displayed a positive body image, were generally satisfied with their overall body shape and were less likely to employ weight loss behaviours than non-athletes. This could be due to the fact the athletes in this study were competing at sub-elite level, as opposed to elite level. The non-athletes may have poorer body image due to the fact being inactive they are not gaining the health benefits attributed to participating in physical activity.

When the athlete sub-groups are compared, it is most concerning that the dance and gymnast groups were less healthy in their body image perceptions than the other athletes. Environment, training, coaching, uniform and nature of competition in these sports may create more pressures for the individual to conform to the thin ideal. Both dance and gymnastics are aesthetic sports, and this may create intense pressure as they are constantly being judged on presentation and aesthetic qualities. Previous researchers also shown that athletes participating in aesthetic sports are more likely to show disordered body image, perceive themselves to be overweight and employ weight loss behaviours than other athletes competing in other sports (Brooks-Gunn, Warren, & Hamilton, 1987; Petrie, 1993; Bassett & Ricciardelli, 2001).

The next chapter will contain the conclusions and recommendations of the study.

CHAPTER SEVEN

CONCLUSION

Introduction

This chapter provides a summary of the major findings of the study. It presents the theoretical significance of the findings, limitations of the study, areas for future research and practical policy implications.

Summary of Major Findings

This study was designed to investigate body image and dieting behaviours in a group of athletes and non-athletes. The results showed that the athletes were generally happier with their body image and adopted healthier eating behaviours than the non-athletes. Congruent with the findings contained in previous sports research, this study showed that gymnasts and dancers were more subject to feeling pressure to gain personal thinness and were generally more concerned about their weight than the other athletes in the study who were satisfied with their body image (Petrie, 1993, Pierce & Daleng, 1998).

Overall, the non-athletes in this study were more dissatisfied with their body shape and displayed less healthy eating patterns than the athletes. This was found to be a consequence of the pressures placed on females by media, advertising and society which constantly portray a slim ideal. Family and peers also played a role in this study in placing pressures on the adolescent female to conform to the ideal standard.

With the exception of the gymnasts and dancers, athletes in this study had more positive attitudes towards their eating, felt better about their body and used less radical weight control behaviours compared with non-athletes. This suggests that participation in regular physical activity at a sub-elite level may have a positive effect on the overall well-being of the adolescent female leading to a more positive body image and better eating habits.

Both the athletes and non-athletes held similar views that the media places pressure on them to be thinner. The athletes may have experienced less pressure to lose weight compared with the non-athletes, the athletes were less concerned and spent less time thinking about their body weight. Unfortunately, it is a concern that the gymnasts and dancers were an exception, as they were concerned about their weight and thought about their weight quite a lot to all the time. However, the non-athletes were concerned about their weight and thinking about quite a lot.

The athletes in this study were generally satisfied with their body shape and body image The non-athletes were generally dissatisfied. Regular participation in physical activity may be related to improved body image and dieting behaviours in adolescent females, however this relationship will have to more closely examined in future studies. The non-athletes who were dissatisfied and had a poor body image were perhaps not gaining the positive effects of regular physical activity on one's well-being. Adolescent females who choose to be inactive or experience other barriers to physical activity may miss out on the

benefits that exercise provides in terms of healthy body image and mental wellbeing (Garner, 1997).

The adolescent females participating in this study were aware of the pressure placed by society to be thin in order to appear attractive. This study has highlighted the trend that this pressure may be greater amongst non-athletes or inactive adolescent females. The study did find that regular physical activity may be related to positive body image and eating behaviours. This was the case for the majority of the athletes with the exception of the gymnasts and dancers.

The socio-ecological health perspective, recognises the influence of the environment. The adolescent female's social environment including media, family, peers, community and coaches, can influence and affect her body image and dieting behaviours. This suggests that poor body image and disordered eating may be largely a socio-ecological phenomenon. An individual's perception about his/her body are mainly determined by the environment (Bassett & Ricciardelli, 2001).

Theoretical Significance of the Findings

The majority of research studies conducted in the area of body image and dieting behaviours in female adolescent athletes and non-athletes have consistently revealed that adolescent females are, in general, dissatisfied with their body shape (Carruth & Goldberg, 1990, Petrie, 1993, Folelholm & Hiilloskorpi, 1999; Thompson et al., 1999).

However, the present study was able to discern that on average, a group of adolescent females who participated in regular physical activity at a sub-elite level were more satisfied with their body image than the group of inactive females. Non-athletes were dissatisfied with their body image and would employ unhealthy eating behaviours as a means to lose weight.

This study is one of few to investigate adolescent female's body image and dieting behaviours from varying sporting populations and compare them with non-athletes. From the socio-ecological health promotion perspective, it would appear evident that environmental factors may influence human behaviour (Black, 1991). Those who were active in this study were generally more happy with their body shape compared to those who were inactive. Some researchers have found that participation in physical activity may offer a means of increasing body image and acceptance of one's body shape (Dinubile, 1993; Steptoe & Butler, 1996; Peterson & Currie, 2001).

It was also surprising to find that the females in this study had very little knowledge about the dangers of using weight control behaviours. This was evident from the majority of respondents claiming that using such behaviours had a "low to moderate" risk to their health. It seems that on average, the non-athletes (and many of the dancers and gymnasts) did not feel comfortable with their body shape. Even many of the athletes in this study who were satisfied indicated they would attempt to use a weight loss method in an effort to improve their own appearance or body shape. Both groups felt that there was pressure from the media to obtain a body shape similar to the thin ideal. The findings contained in this study suggest that many adolescent females are not fully satisfied with their body

shape. Perhaps the reason the athletes were more satisfied than the non-athletes and were not using weight loss behaviours to the same extent, was due to the emotional and physical benefits they gained through regular participation in physical activity.

Another important issue raised in this study was the effect that the media and certain aesthetic sports may have on personal body image and dieting behaviours. It is appears many of the participants that felt they needed to conform to the ideal image portrayed in the media and deemed acceptable by society, rather than accepting their own unique self and body shape. Do adolescent females participating in sports such as gymnastics and dance feel more dissatisfied than other sports participants or even inactive girls because they experience double pressures from the media and what their sport dictates? This study has highlighted how important regular physical activity can be in terms of providing a protective influence on body image and dieting behaviours. The majority of the athletes felt satisfied with their body shape, were not adopting unhealthy eating behaviours and were not thinking about their body all the time. However, perhaps the training involved and the nature of the competition and scoring in aesthetic sports such as dance, exposed this particular group of girls to a range of intense pressures not experienced by the others.

Black and Burkes-Miller (1988) found that environmental factors seem to influence the occurrence and maintenance of unhealthy attitudes and eating behaviors in athletes. These factors require further investigation, as there are a number of important, but as yet, unanswered questions. Future research might examine the specific environmental

demands of particular sports to determine the relationship between specific demands and eating behaviours among athletes. Interventions need to be approached form a socio-eclogical perspective by changing the athletes environment, e.g. concentrate more on health as opposed to appearnce for performance goals. By identifying the environmental demands that are place on athletes and non-athletes this would allow one to modify the environment in order to decrease the incidence of disordered body image and eating behaviours. It would be helpful for future research to clarify which environmental factors may cause eating disorders among adolescents (Black, 1991) in, particular adolescent athletes.

Limitations

The main limitations identified in the current study lack of estblished reliability and validity measures for the questionnaire. However, the researcher attempted to increase the instrument's validity and reliability by designing and piloting it in accordance with those used in similar studies by Drummer et al. (1987), Harris and Greco (1992), and Peterson (1998).

Limitations were also evident in the way the statistics were reported. This study basically used ordinal data. As a result there was no way of measuring the exact difference between some questions asked. For example, very overweight, moderately overweight or a little overweight. Other measures of centrality such as mode and median were not utilised. While the statistical methodology used during this are mathematically reliable, more powerful methods would provide increased reliability in results.

Therefore, an evaluation of simple frequency differences between athletes and controls cannot yield any evidence of actual statistically significant difference. Hence, no definite conclusions about the relative differences between the two groups – a central goal of the study – can be made in the absence of these statistical tests of significance.

Due to the relatively small sample size of each group (n = 10 per sport), no generalisation can be drawn from the study to wider sporting populations. However, the survey was only intended to be an initial investigation and only utilised a convenience sample. As no comparison of age of participants was made, it was not discovered if older adolescents were less satisfied than younger girls, or vice versa. Previous studies reveal there may be differences in body satisfaction and dissatisfaction amongst age groups for females.

Nonetheless, this study has pointed to the positive benefits of participating in physical activity on one's body image. In order to determine whether these benefits could be validated it be suggested that a random group of non-athletes engage in an exercise programme and compare measurements with a control group of inactive females.

The athletes used in this study were all of a sub-elite level. This limited the findings to a certain extent as it would be necessary to investigate athletes from an elite, sub-elite and social level to determine whether there were any differences in relation to pressures and the amount of time spent on exercise had on the athletes eating behaviours and body image.

The majority of the non-athletes used in this study were from a non-English- speaking background (NESB). The students were from the Liverpool/Fairfield district where a large percentage of the community are of a NESB. This may have in some may limited the findings of the results, as generally many girls from these backgrounds do not regularly participate in sports (Lee & Brown, 1998). Including a random sample of schools and students would have given a wider range of opinions. Also this study was conducted not long after the 2000 Olympics and this could have influenced both the athletes and non-athletes. The athletes may have felt inspired and positive about sports participation, or aspirations or admiration of athletes at the elite level. However, the non-athletes may have felt worse about their appearance as a result of constantly being bombarded with media images of successful, fit, and toned athletes.

Future Research

Several recommendations for future research have been identified from this study. Research findings could be compared amongst different age groups. In addition, researchers may want to examine the eating continuum from a developmental perspective to determine whether athletes (elite, sub-elite or social) move from less to more severe disordered eating body behaviours over time, or vice versa.

Further research is needed with other sporting populations such as. hockey, cricket and at different levels of competition to determine whether the current investigation's findings

apply to other females or if specific participation in a specific sporting environment contributes to some athletes being more at risk of developing and eating disorder.

Focus could be made not only on the relationship between body image and physical activity, but include socio-cultural differences aswell. More research is needed on the reasons why some females are more satisfied and others dissatisfied with their bodies. By doing so, it may then be possible to determine ways of enhancing satisfaction and reducing dissatisfaction, which may lead to a better overall body image.

There are a lack of longitudinal studies in this area to fully investigate and validate the possible relationship between physical activity participation and positive body image that this study has recognised. Further investigation would allow for the discovery of how perception of body weight develops and if certain characteristics of body weight perception in different sporting groups (at elite, sub-elite and social level) may lead to the development of more serious eating disorders in later adolescence, and as individuals develop greater autonomy and control over their dietary habits.

Only females were used in this study. Evidence suggests that males also face similar pressures in relation to dieting and body image. More research is needed in this area, as it is overlooked in much of the literature. Finally, more research on the development of eating disorders, treatment and prevention must be considered a priority.

Practical and Policy Implications

The findings of this investigation have many practical implications. From a health point of view, female adolescents need to become more accepting of their body image and the genetic limitations of their body shape. They also need to be made aware of the positive effects that exercise can have on their self-image. It is important that adolescent females develop health and consumer literacy skills to be more able to directly identify and scrutinise the pressures and images presented to them. This may seem impossible when the media constantly bombard us with images of the 'body beautiful.'

Females need to understand and relate positively (that is, love!) their own bodies and realise that the majority of people are not biologically suited to slenderness. This fact applies also to elite athletes who may not be totally suited to the ideal somatotype for their chosen sport and are often pressured to maintain a certain image for their sport. It is vital that adolescent females, including athletes participating in aesthetic sports based centrally on 'appearance' become more accepting and satisfied with themselves. Females need to increase personal self-esteem and confidence regardless of their body shape. Regular participation in physical activity can increase self-esteem and body satisfaction and in turn help to adopt safe and nutritional eating behaviours (Garner, 1997; Daley & Buchanan, 1999).

Education plays an important role and has the ability to create awareness, change attitudes and provide students with a sound knowledge base (Whyld, 1983, cited in Hill and Brakenridge, 1989; Rehr 2002). In order to overcome the issue of weight concern and

body dissatisfaction amongst adolescent female athletes and non-athletes it is necessary to develop and implement educational strategies. The most relevant place to begin would be within the school curriculum area of Personal Development, Health and Physical Education (PDHPE) and also within the various sporting associations. This could be done in a number of ways:

- Striving to ensure all adolescent females develop and maintain a positive image through reassessing the competitive and elitist ethos of elite sport as being the 'be all and end all' of sports participation. Participation at fun, social levels and for simple enjoyment is important and benefical too. A belief can be promoted that it is possible to attain a high skill level base and excel in sport regardless of whether on has the 'ideal' body shape which in many cases, is not srtong enough to compete successfully in sport anyway.
- Education and promotion on the positive effects that regular participation in physical activity can have upon the individual.
- Creating exercise environments, including at school, for people of all shapes, sizes and fitness levels. Placing an emphasis on well-being as opposed to appearance.
- Providing nutritional education for all females that focus on healthy nutrition and weight through adequate physical activity, being exposed to nutrition and rest.
- Primary and high school girls being exposed to continuing education regarding natural weight/fat gain during puberty.
- Body image is a topical media issue. Females need to be made more 'consumer literate' in being aware of and able to detect the myths and unrealisitc images and pressures that exist. The print media aimed at young girls could serve a public health

role by refraining from relying on models who are severely underweight and printing more articles on the benefits of moderate physical activity and healthy eating.

- Research has shown that eating disorders are occurring at younger ages. Females need to be educated of the dangers of dieting, as this may reduce the frequency of unhealthy eating practices. This education should not only be limited to females. Both males and females should be able to talk openly about their weight concerns.
- Teachers, coaches and parents need ongoing education about their role and how they treat students and athletes.
- Developing a protocol to advise teachers and coaches of how to identify symptoms and refer students and athletes who may be at risk of developing an eating disorders.
- Providing adolescent females with appropriate role models both sporting and non-sporting and with a diverse range of body types may serve to decrease body dissatisfaction.
- PDHPE programs that address body image issues need to integrate information on the benefits of physical activity. Since completing the study, the researcher has developed a program addressing this need (see Appendix 6). This program engaged the students in discussion and debate at a youth forum (see Appendix 7).
- Those who coach athletes from aesthetic sports need to be held more accountable. A code of behaviour needs to be applied so that these athletes are protected and treated appropriately.

For adolescent females to develop a positive image and develop sound nutritional practices, it is essential that intervention strategies, such as those above, develop and

target all girls. In particular, attention needs to be focused on non-athletes and athletes from aesthetic sports. These strategies will benefit not only adolescent females, but also males. By providing education about dieting and body image, adolescent females may hold more realistic standards in terms of personal body image which will lead to more confidence and healthier lifestyles.

Conclusion

Research into the relationship between body image and physical activity in a variety of sports in Australia is at an early stage. Results of the present study should be considered as simply a starting point in contributing to the larger body of knowledge in the area. The study has initiated more questions that might be answered through further investigation. The purpose of this study was to look at body image and dieting behaviours in athletes from variety of sports that and non-athletes to make comparisons between the two groups, and within each sporting group.

Participation in physical activity at a sub-elite level may have a protective influence in terms of body image and dietary behaviours. However, further research using larger random samples would be advisable. The athletes in this study were generally more satisfied and employed weight loss behaviours less frequently than the non-athletes.

However, previous research has indicates that gymnasts and dancers may be subject to intense pressures for thinness and are generally more concerned about their weight than

other athlete groups. This negative trend was replicated in this study. Of concern is the fact that many of the non-athletes were using weight control behaviours when in fact they were not even overweight. Adolescent girls need to gain improved nutritional knowledge to reduce ignorance of the dangers of dieting. Education on nutrition and the benefits of exercise needs to be extended not only to schools, but also the broader community including sporting associations.

Society still places pressures on females to be thin. In order to change this traditional perception it is vital that education occur in school, at home and within sporting organizations. The media also has a responsibility to provide ideal role model that emphasis the importance of obtaining a healthy realistic weight. Female athletes and non-athletes need to be made aware of the positive benefits of regular physical activity on their overall well-being. Most importantly, they need to know that life is for living, and is far too short to be constantly worried about food and preoccupied with weight.

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APPENDIX 1

AUSTRALIAN CATHOLIC UNIVERSITY

HUMAN RESEARCH ETHICS COMMITTEE
ETHICS CLEARANCE FOR A RESEARCH PROJECT – APPROVAL FORM

Principal Supervisor:	**Dr Janet Currie, MacKillop Campus**
Student Researcher:	**Ms Vanessa Peterson, MacKillop Campus**
HREC Number:	**N2000/01-10**
Project Title:	***DIETING BEHAVIOURS AND BODY IMAGE: A STUDY OF ADOLESCENT FEMALE ATHLETES AND NON-ATHLETES.***

Ethics clearance has been provisionally granted for the project:
For the period: 14/11/2000 to 10/11/2001

subject to the following conditions as stipulated in the *National Statement on Ethical Conduct in Research Involving Humans, 1999, issued by the National Health and Medical Research Council (NHMRC) in accordance with the NHMRC Act, 1992 (Cth).*

b) *that principal investigators provide reports annually, on the form supplied by the Institutional Ethics Committee, on matters including:*
   - *security of records*
   - *compliance with approved consent procedures and documentation*
   - *compliance with other special conditions; and*

b) *as a condition of approval of the protocol, require that investigators report immediately anything which might affect ethical acceptance of the protocol, including:*
   - *adverse effects on subjects*
   - *proposed changes in the protocol*
   - *Unforeseen events that might affect continued ethical acceptability of the project*

A Final Report Form will need to be completed and submitted to the University Human Research Ethics Committee within one month of the completion of the project.

Please sign, date and return this form (with any additional information or material, if requested by the Committee) to the Administrative Officer (Research and Ethics) to whom you submitted your application, for approval to be confirmed.

Signed: ..... Date: 15 November, 2000
Administrative Officer (Research and Ethics), HREC

(To be completed by the Principal Investigator or Student and Supervisor, as appropriate)

The date when I/we expect to commence contact with human participants or access their records is: 15/12/00

I/We hereby declare that I/we am/are aware of the conditions governing research involving human participants as set out in the Human Research Ethics Committee's *Guidelines for Researchers* and agree to the conditions stated above.

Signed: ..... Date: 7.12.00
(Principal Investigator or Supervisor, as appropriate)

Signed: ..... Date: 12 12 00
(Researcher, if student)

APPENDIX 2

BODY IMAGE AND DIETING QUESTIONNAIRE

1. **Are you currently involved in competitive sports?**

   YES

   NO (If No, go to question 4)

2. **In what sport are you presently competing?** ----------

3. **How long have you been competing in this sport?** ---------- **years.**

4. **How old are you ?** ---------- **years.**

5. **At anytime in the last year have you tried to lose weight?**
   (Please circle one response only)

   YES

   NO

6. **Are you currently trying to lose weight? (within the last month)**
   (Please circle one response only)

   YES

   NO

7. **Do you see yourself as?**
   (Please circle one number only)

Very overweight?	1
Moderately overweight?	2
A little overweight?	3
Just about right?	4
A little underweight?	5
Moderately underweight?	6
Very underweight?	7

8. In the last month, how often have you done the following things to try and lose weight?
(Please circle one number in each row that best describes how often in the last month you have tried this method of losing weight).

	Every Day	A few times a Week	About once a week	A few times a month	About once a month	Never
a. Eaten smaller meals	1	2	3	4	5	6
b. Skipped meals	1	2	3	4	5	6
c. Vomited after a meal	1	2	3	4	5	6
d. Taken laxatives	1	2	3	4	5	6
e. Exercised more	1	2	3	4	5	6
f. Cut out certain foods ie dairy	1	2	3	4	5	6

9A. If you are using or were to use the weight control behaviour(s) listed in Q8, would it be to:
(Please circle one number only in each row that best describes your response)

	Yes	No
To improve my own appearance/body shape	1	2
To look better in my clothes	1	2
To be more socially accepted by my peers	1	2
To please my parents/Guardian	1	2
Other (Please specify)	----------	

<u>If you don't play sport, please go to Q10. Sports participants, please answer the following (Q9B):</u>

9B. If you are using or were to use the weight control behaviour(s) listed in Q10, would it be to:
(Please circle one number only in each row that best describes your response)

	Yes	No
To improve my sporting performance	1	2
To improve my own appearance/body shape	1	2
To look better in my sporting uniform e.g. swimmers	1	2
To please my coach	1	2
Other (Please specify)	----------	
	----------	

10. Do you believe that using weight control behaviour(s) is?
(Please select one only)

No risk to my health	1
Low risk to my health	2
Moderate risk to my health	3
High risk to my health	4

11. Have any of the following people suggested that you need to lose weight?
(Please circle appropriate response(s). More than one response is possible)

Parent (s) or guardian	1	
Brother(s)/sister(s)	2	
Team-mates	3	
Friends	4	
Boyfriend	5	
Coach	6	
Other	7	(Please specify) ----------

12. Have any of the following people suggested that you need to gain weight?
(Please circle the appropriate response(s). More than one response is possible)

Parent (s) or guardian	1	
Brother(s)/sister(s)	2	
Team-mates	3	
Friends	4	
Boyfriend	5	
Coach	6	
Other	7	(Please specify) ----------

13. When you see pictures of attractive women in advertisements or on TV, do you usually think they are:
(Please circle one number only)

Very overweight?	1
Moderately overweight?	2
A little overweight?	3
Just about right?	4
A little underweight?	5
Moderately underweight?	6
Very underweight?	7

14. When you see pictures of attractive women about the same height as you in an advertisement or on TV are they usually?
(Please circle one number only)

Much heavier than you?	1
Moderately heavier than you?	2
A little heavier than you?	3
About the same as you?	4
A little lighter than you?	5
Moderately lighter than you?	6
Much lighter than you?	7

15.Do you ever wish you had the same body shape as attractive women you see in magazines or on TV?
(Please only circle the one number that best describes your answer)

YES, I would really like to have that body shape	1
YES, I would quite like to have that body shape	2
NO, I don't really wish to have that body shape	3
NO, I don't at all wish to have that body shape	4

16. Do you feel that sport places pressure on participants to be thinner?
(Please circle one number only)

Yes	1
No	2

17. Do you feel that the media places pressure on you to be thinner?
(Please circle one number only)

Yes	1
No	2

18. How would you characterise yourself in regard to thoughts about your weight?
(Please only circle the one number that best describes your answer)

I hardly ever think about it	1
I think about it sometimes	2
I think about it quite a lot	3
I think about it all the time	4
I can never get it off my mind	5

19. How would you characterise yourself in regard to thoughts about your body shape?
(Please only circle the one number that best describes your answer)

I hardly ever think about it	1
I think about it sometimes	2
I think about it quite a lot	3
I think about it all the time	4
I can never get it off my mind	5

20. How satisfied do you feel about your body shape?
Please circle one only)

I feel very satisfied with my body shape	1
I feel satisfied with my body shape	2
I feel dissatisfied with my body shape	3
I feel very dissatisfied with my body shape	4

21. How would you describe your body image?
(Please circle only the most appropriate response)

I like my body and feel very comfortable about it	1
My body's 'OK' I feel comfortable about it	2
I don't like my body and feel uncomfortable about it	3
I don't like my body at all and feel very uncomfortable about it	4
Other (please describe) ----------	5

THE FOLLOWING QUESTIONS ASK FOR YOUR HEIGHT AND WEIGHT. THESE WILL BE TAKEN BY THE *RESEARCHER*

22a. Your height (in cm) is: ----------
22b. Your weight (in kg) is: ----------

APPENDIX 3

AUSTRALIAN CATHOLIC UNIVERSITY

DIETING BEHAVIOURS AND BODY IMAGE: A STUDY OF FEMALE ADOLESCENT ATHLETES AND NON-ATHLETES

NAME OF SUPERVISOR: DR JANET CURRIE

NAME OF RESEARCHER: VANESSA PETERSON

This study is being undertaken to find out more about athletes' and non-athletes' eating behaviours and their attitudes towards their body image as part of research for my Master of Health Science degree. Participants will be invited to complete a questionnaire, which will take approximately 10 to 15 minutes. They will also be invited to have their body weight and height measurements recorded, which will be done in a private and confidential manner. All results will be reported in an anonymous fashion. Comparisons of aggregated data from various sports may be possible.

It is hoped that this research will provide an insight into body image and eating behaviours of both athletes and non-athletes. It is hoped that the study will contain recommendations beneficial to coaches, teachers and parents who deal with both athletes and non-athletes on a regular basis.

Participation in this study is purely voluntary and the participant is free to withdraw consent and to discontinue participation in the study at any time without giving a reason. Withdrawal of students/athletes from the research will not prejudice the participant's future care or academic/sporting progress. There is a possibility of personal embarrassment regarding weight measurements or reflections on suffering an eating disorder. In this instance, Dr John Meadth is available for assistance, 28 Wellbank Street, Concord, NSW, 2137 Ph: (02) 97461315.

Any questions regarding this project can be directed to the Reseacher, Vanessa Peterson, or the Supervisor, Dr Janet Currie Ph: 97392368;

School of Human Movement
Australian Catholic Univerisity
40 Edward Street
North Sydney 2060.

This study has been approved by the Human Research Ethics Committee at Australian Catholic University. In any event that you have any complaint about the way you have been treated during the sudy, or a query that the researcher or supervisor have not been able to satisfy, you may write care of the nearest branch of the Office of Research:

Chair, Human Research Ethics Committee
C/o Office of Research
Australian Catholic University
25A Barker Rd
Strathfield 2135.

Any complaint made will be treated in confidence, investigated fully and the participant informed of the outcome.

If you agree for your daugther to participate in this project, you should sign both copies of the Informed Consent Form,
retain one copy for your records and return the other copy to the researcher.

APPENDIX 4

Australian Catholic University

DIETING BEHAVIOURS AND BODY IMAGE: A STUDY OF ADOLESCENT FEMALE ATHLETES AND NON-ATHLETES

Dear

I am undertaking a study to find out more about athletes' and non-athletes' eating behaviours and attitudes towards their body shape as part of my research for my Master of Health Science degree. This study will be conducted during February/March 2001 and will involve females between the age of 13-16 years. I am requesting permission to conduct this study at your club/school.

The participants will be invited to answer anonymous questionnaire and have their body weight and height measurements recorded, which will be done in a private and confidential manner. All individual results will remain confidential and reported in an aggregated fashion whereby only sporting categories or non-athlete status can be identified

It is anticipated that only two visits will be required involving:

- Visit 1: Participants handed parental consent form and information letter inviting participation in the study.
- Visit 2: Upon return of signed consent forms, questionnaires will be handed out for participants to complete. This will take approximately 10 to 15 minutes, followed by the private recording of weight and height measurements. These procedures can take place either at lunch-time or prior/following training practice.

It is hoped that this research will provide an insight into body image and eating behaviours of both athletes and non-athletes, with recommendations beneficial to coaches, teachers and parents who deal with both athletes and non-athletes on a regular basis. This research has been approved by the ACU Human Research Ethics Committee.

I would greatly appreciate your support and permission to contact teachers and/or coaches at your school/club

Yours Sincerely,

Vanessa Peterson
(Student Researcher)

APPENDIX 5

Australian Catholic University

PARENT/GUARDIAN'S COPY

DIETING BEHAVIOURS AND BODY IMAGE: A STUDY OF FEMALE ADOLESCENT ATHLETES AND NON-ATHLETES

NAME OF SUPERVISOR: DR JANET CURRIE

NAME OF RESEARCHER : VANESSA PETERSON

I ..... (the parent/guardian) have read *and understood the information provided in the Letter to the Participants and any questions I have asked have been answered to my satisfaction. I agree for my daughter to participate in this activity, realizing that she can withdraw at any* time without giving a reason.
I agree that research data collected for the study may be published or provided to other researchers in a form that does not identify her in any way.

NAME OF PARTICIPANT (student/athlete) .....

SIGNATURE ..... DATE.....

NAME OF PARENT/GUARDIAN .....

SIGNATURE ..... DATE.....

NAME OF RESEARCHER: Vanessa Peterson

SIGNATURE ..... DATE.....

APPENDIX *6*

Example of a Personal Development, Health and Physical Activity Program

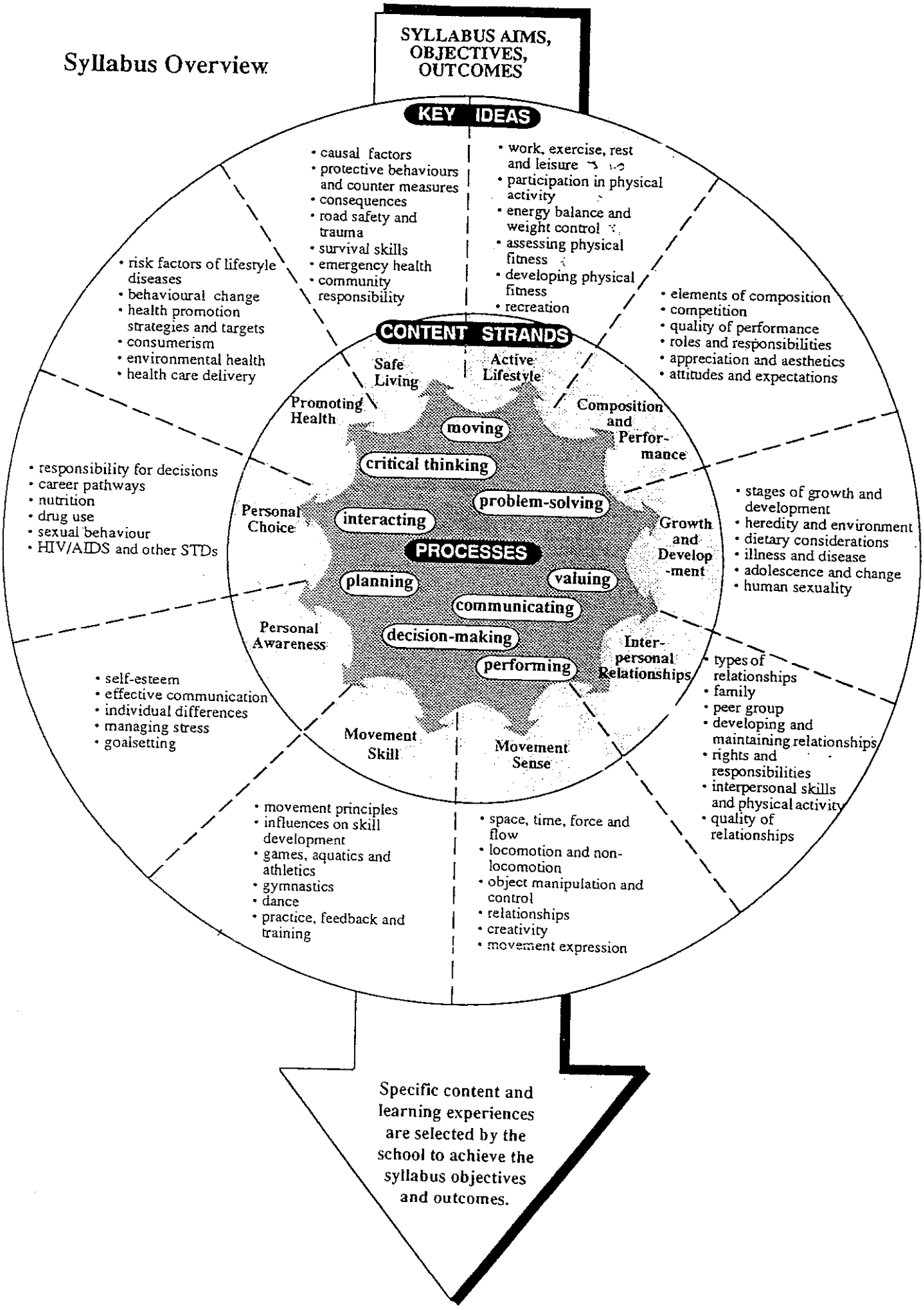
The syllabus is concerned with developing the knowledge and skills and fostering the attitudes that will empower students to adopt healthy lifestyles. It is founded on a broadly based notion of health, which encompasses the total well-being of the individual. The syllabus is organised around three elements: processes, content strands and key ideas. These form the basis for achieving the syllabus aims, objectives and outcomes. (BOS, 1991).

Each school will develop their own individual programs using the syllabus as a guide. There are 10 content strands which must be studied in both stage 4 (years 7-8) and stage 5 (years 9-10) so that students experience a coherent pattern of study for four years (BOS, 1991). As a result of this each school will approach the teaching of body image, eating disorders and dietary behaviours in different ways. However, many schools fail to align the positive benefits of exercise with body image and dietary behaviours. The program which has been included as example has attempted to address the above problem by looking at all the elements: body image, eating disorders, self-esteem, energy needs, physical activity, and unrealistic images portrayed in the media. This particular program also allowed for the year 9 students (at the researchers school) to attend the 2002 "Tyranny of Image" Youth forum, which looked at body image and eating disorders. The students gained from this immensely as they felt empowered to speak out on the issue of body image and the unrealistic images that constantly bombard them in the media. One of the students from the researchers school spoke out at the forum and challenged a magazine editor to put her on the cover of her magazine, this resulted in a fair amount of media attention (see newspaper articles) and even featured on "A Current Affair." This

highlights that students are passionate about this issue and that is why it is important that schools provide effective programs that allow students to not only be informed but let them make decisions and act upon them in a positive way.

The syllabus states; For school Personal Development, Health and Physical Education programs to succeed in influencing student behaviours they need to take account of the attitudes and values which from the basis of these decisions (BOS, 1991)

Syllabus Overview



Syllabus Years 7-10
Board of Studies NSW Australia (1991)

MARY MACKILLOP COLLEGE	PERSONAL DEVELOPMENT, HEALTH AND PHYSICAL EDUCATION	2002
UNIT TITLE: Your Physical Wellbeing 2	YEAR: 9	NO. OF LESSONS: 12

UNIT OBJECTIVES: **Students will develop;**
- a sense of their own worth and dignity as individuals
- a sense of belonging
- skills in thinking critically about personal and community lifestyle issues
- knowledge and understandings about the physical, social and emotional changes that occur throughout life

CONTENT STRANDS
- Personal awareness
- Growth and development
- Personal choice
- Active lifestyle

KEY IDEAS:
- self-esteem
- individual differences
- heredity and environment
- dietary considerations
- nutrition
- energy balance and weight control

SYLLABUS OUTCOMES:
Students will;
- accept themselves as they grow and change
- express a realistic perception of their personal capabilities
- distinguish between fact and opinion related to lifestyle issues
- describe how quantity and quality of food affect growth and development

CATHOLIC VALUES:
- It is important to understand and accept our own strengths and weaknesses and to build a strong sense of self.
- We value the varied gifts and talents that God has given us.
- We should aim to develop ourselves to our full potential.
- Healthy self-esteem and bodily care are affected by how much we are convinced that we are made in the image and likeness of God
- The area of nutrition is inevitably linked on a sacramental level with the Eucharist.
- The right to be fed adequately and to other human rights is ultimately connected to nourishment at the Eucharist table to which every person

KEY COMPETENCIES:
- Collecting, analysing & organising data
- Communicating ideas and information
- Planning and organising activities
- Working with others and in teams
- Using mathematical ideas
- Problem solving
- Using technology

RESOURCES
- National Heart Foundation All About Heart Health Series.
- Totally Gorgeous CD-Rom
- Unreal Images kit , NSW Department of Health

1	Australian Dietary Guidelines	Complete the cloze passage on Australian Dietary Guidelines for Children and Adolescents. (L)		Page 3	Communicating critical thinking planning	
	Dietary Analysis	Students are to analyse the own diets according to these guidelines. Use the chart on page 7. (L, N)		Page 4 and 7		
		Discuss the Australian Guide to Healthy Eating. Draw examples of each food group into the pie chart. (L, N)		Page 4, 5, 6		
	Energy	Read the information on energy.		Page 8		
		Rank the foods according to their kilojoule content. Discuss rankings. (L, N)		Page 8		
		Discuss the difference between energy density of foods. Complete the table. (L, N)		Page 9		
2	Energy needs	Discuss energy needs. Read the information on energy values of food and energy expenditure. (L)		Page 9, 10, 11	critical thinking moving problem-solving valuing	
		Complete the questions on this.		Page 12		
	Energy Balance	Students are to draw pictures to relate to energy balance. (L)		Page 13		
		Complete the cracker test - see Teacher's Resource for explanation.		Page 14		

	CONTENT	TEACHING STRATEGIES	OUTCOMES	WORKBOOK	PROCESS	REGISTRATION
3	Body weight	Jigsaw activity - see Teacher's resource for information. (L) Analyse the different methods of determining body weight using the PMI tables. Discuss students' findings. (L)		Page 15 Page 17, 18	Critical thinking valuing problem-solving planning	
	Body Mass Index	Calculate BMI and compare this with the height/weight chart. Discuss the short-comings of this method. Complete the questions. (N, L)		Page 19 Page 20		
	Dietary Problems	Internet activity: students are to look up a website on eating disorders. Note: if this site is not accessible, ask students to do a search for the keywords. (T) Some websites are actually pro-anorexia. Students must be made aware of the mis-information at such sites.		Pages 21, 22, 23		
4	Disordered Eating	Jigsaw activity: see Teacher's Resource for information. (L) Students are to complete the worksheet from their understanding gained through the jigsaw activity. (L) Read the article on bulimia. Complete the report scaffold. (L) Finish for homework.		Page 24 Page 25 Page 26 Page 27	Critical thinking Planning communicating	

	CONTENT	TEACHING STRATEGIES	OUTCOMES	WORKBOOK	PROCESS	REGISTRATION
5	Eating disorders	Students are to write a script relating to one of the given eating disorder scenarios. In small groups, they are to role play these for the class. (L)		Page 30 Page 27	Communicating critical thinking decision-making interacting planning performing	
6	Obesity	Read and complete the question on obesity. Discuss student responses. (L)		Page 30	critical thinking planning problem solving Valuing	
	Medical Diets	Discuss the different types of medical diets that people may have to follow.		Page 30		
	Dietary Choices	Read the information on food allergies and dietary choices based on religion. (L, CV)		Page 31, 32		
	Dieting	Students are to participate in a discussion on diets and dieting. Use the questions in the book and media pictures in Teacher's Resource. (L)		Page 33		
7	Self-esteem and body image	Complete the word-wheels for the characteristics of someone who has high or low self-esteem. (L, CV)		Page 34	Valuing Critical thinking Problem solving Interacting communicating	
		Read the definition of body image.		Page 34		
		Complete the "Shaping Up" activity. See Teacher's Resource for information. Complete the questions after the activity. (L)		Page 35		
		Homework: Complete the sentences.		Page 36		

	CONTENT	TEACHING STRATEGIES	OUTCOMES	WORKBOOK	PROCESS	REGISTRATION
8	Body Types	Read the definitions of the 3 body types. Complete the questions on body types. Discuss answers. (L) Complete a media analysis of the "perfect" body for each gender. Answer the questions based on this activity. Complete the "If this was me..." ranking activity. (L)		Page 37, 38 Page 39, 40 Page 41	Communicating critical thinking decision-making interacting *planning* performing critical thinking *planning* problem solving Valuing	
9	Totally Gorgeous	Complete the activities using the Totally Gorgeous CD-Rom. (T) Allow time for students to explore the different areas within the CD-Rom.		Pages 42, 43, 44, 45		
10	Unreal Images	Watch the video "Unreal Images" and complete the worksheet based on the models being selected for the fashion shoot. Complete the questions on models. Compare answers with the rest of the class. (L) Watch the next section of the video about computer enhancement of models. Complete the worksheet and questions. Discuss as a class. (L)		Page 46, 47 Page 48, 49	Valuing Critical thinking Problem solving Interacting communicating	

	CONTENT	TEACHING STRATEGIES	OUTCOMES	WORKBOOK	PROCESS	REGISTRATION
11 & 12	Magazine Creation Extra activities	In small groups, students are to create a body image friendly teenage magazine. (L, CV) Complete the find-a-word. Complete the worksheet on energy balance.		 Page 50 Page 51	Communicating critical thinking decision-making interacting planning	

APPENDIX 7

Sticking it to the stick-thin

SASSY Sydney students ripped the concealing kaftan from the fashionistas' obsession with thinness — by mercilessly grilling industry bigwigs at a public forum.

Up to 2000 young 'uns packed the Eating Disorder Support Network Youth Forum last week.

A good few were gunning for the media — whose sole representative was guest speaker and *Cosmo* editor **Mia Freedman**.

Freedman was on the panel with *Good Girls Do Swallow* author **Rachael Oakes-Ash**, **Dr Rick Kausman** and **Darrianne Donnelly** from Big Gals modelling agency.

Last year Freedman was slammed for what many saw as relegating voluptuous *Big Brother* bum dancer Sara-

Grilled . . . Mia Freedman

Marie Fedele to the back cover of her mag. Critics said Fedele didn't make the front (graced by a taut **Britney Spears**) for sizing reasons.

This year girls in the crowd demanded to know why Freedman allows weight loss pills to be advertised in the magazine. They then turned on Donnelly, asking why she only employs size 14-16 models in her "Big Gals" agency.

One size 14-plus girl dared Freedman to put her on the cover of *Cosmo's* next issue.

Freedman diverted the flak by publicly challenging *New Woman* editor **Sue Wheeler** to a debate based on this month's *New Woman Body Issue*, which applauds **Geri Halliwell's** unattainably skinny frame.

Things got heated on the panel when Oakes-Ash turned on fellow member **Emanuel Perdis**, from make-up shop Napoleon, who had said "don't buy into the images being presented to you, vote with your wallet".

Oakes-Ash reminded Perdis that if girls did that he would soon be out of a job.

A student from the researcher's school challenged Cosmo editor Mia Freedman to put her on the cover of her magazine. A few days after the forum the following two articles appeared in two Sydney newspapers (The Daily Telegraph, 21st August, 2002 and The Sun Herald, 25th August, 2002). This forum really engaged students from schools in Sydney to voice their opinions in relation to body image.

Finally, the real Jamie Lee Curtis is standing up

By MIA FREEDMAN
EDITOR, COSMOPOLITAN

JAMIE Lee Curtis has just done a very brave thing. She stripped down to her underwear and allowed herself to be photographed.

This is the woman who used to be known as The Body and starred in a movie titled *Perfect* in the 1980s. Now she is admitting that it took a whole lot of time, money and surgery to look that way.

She tried liposuction, Botox, dieting . . . Ultimately, she was smart enough to realise there's no such *thing as the "perfect" body and that* one size certainly doesn't suit all. She is presenting a realistic image of her body and has become an advocate for a more sensible approach.

Her thoughts resonated in Sydney last week at a youth forum organised by the Eating Disorder Support Network. The subject was The Tyranny Of Image and in the audience were thousands of girls from Sydney high schools.

I was there to speak about *Cosmopolitan*'s Body Image Policy – how, for the past two years, we have featured "real" bodies in sizes 6 to 16 every month.

Afterwards, many of the girls expressed frustration at the unrealistic body image they saw in the media and blamed magazines *for promoting insecurity.*

They told me they were angry and confused when someone such as Geri Halliwell, who has practically dieted herself into oblivion and is a self-confessed bulimic, is held up as a role model for young women.

One large, confident girl challenged me to prove my commitment to Body Love by putting her on the cover of *Cosmo*.

Ten years ago, when I started work as a features assistant on a well-known women's magazine, my first task was to help compile the annual diet special. It was a guaranteed sales booster and featured six diets, including the Drop A Dress Size By Saturday Diet. I hated it because I felt *that diets just exploited female insecurity and nutritionists agree*

SEX APPEAL: Model Natalie Wakeling.

they're mostly useless anyway. Happily, *Cosmopolitan* has not published a diet for more than six *years. Nor has Cleo. As editors of* young women's magazines, we should promote a healthy relationship with food – not a tortured one.

Obesity is a bigger health crisis in Australia than eating disorders. But behind the anorexia and bulimia statistics there are millions of women who just feel lousy about their bodies.

We may not starve ourselves, throw up or exercise obsessively but hands up who's never felt guilty after ordering dessert or having another Tim Tam. Hands up who has never looked in the mirror and frowned at what they saw. Hands up who has never had to brace herself for that long walk from beach towel *to the water's edge.*

I've never subscribed to the theory that magazines cause eating disorders. Nor do health professionals, eating disorder experts or the sufferers. Yet it would be naive to think we don't have a big social responsibility when we're read by millions of Australian women every month.

The good news is that we can *learn from our mistakes. Twenty* years ago magazines featured models smoking. Our models were often a deep mahogany colour and we ran stories about how to sunbake to "maximise your tan". Now the *only cigarettes in magazines are in* Quit stories and the only tans we promote are fake ones.

When I became editor of *Cosmopolitan*, the first thing I did was to stop publishing diets and start introducing images of women larger than size 8.

The girls I spoke to at the forum were unanimous: they're sick of seeing *only one type of body in* magazines and on TV.

This isn't about bashing up skinny chicks and calling anyone smaller than size 10 anorexic. News flash: not all slim women love their bodies. But they do have one advantage over their size 10+ sisters; bodies like theirs are the norm in the mainstream media.

All I'm trying to do in *Cosmo* is present some diversity, an alternative image of the female body. Happily, we're meeting a demand: *Cosmo* has increased readership by more than 250,000 since I implemented Body Love.

But let's be clear: magazines are a business, not a community service announcement. As I told the girl who challenged me to put her on my *cover, I don't choose covers by size,* I choose them on fame and commercial value. If I put her, or indeed myself, on the cover of *Cosmo*, our mothers may buy a few issues but the rest of Australia wouldn't find us interesting enough to pay $5.95.

My job is to sell magazines and my challenge is to do that in a socially responsible and body positive way. By promoting a more realistic image of women's bodies, I'm trying my damedest to meet that challenge.

Could I sell more magazines if I printed diets? Probably. But it's exploitative and damaging to women. I'd prefer to empower them by running a fashion story with star *Cosmopolitan* model Natalie Wakeling, who demonstrates that *size has nothing to do with sexy.*

Poster girl's attack ugly, say doctors

By DANIELLE TEUTSCH

SHE was once the poster girl for the body beautiful, but Jamie Lee Curtis's attack on cosmetic surgery holds little attraction for Sydney practitioners.

"I've had a little Botox," Curtis told US magazine *More*. "And you know what? None of it works. None of it."

Double Bay cosmetic surgeon Dr Anoop Rastogi, who does about 150 liposuction cases each year, defended the industry against Curtis's criticism.

Dr Rastogi, secretary of the Australian College of Cosmetic Surgeons, said modern liposuction techniques left skin "smooth and even", and removed fat for good.

"The idea that fat removed during liposuction comes back somewhere else is a fallacy," he said.

"If it's not done properly you can be left looking lumpy, so you need someone experienced."

Sydney cosmetic surgeon Dr Ranjit Thind said that fat cells, once removed, could not return to the same place but fat cells could expand to double their original size. Dr Thind said it was possible to put on weight in other areas after liposuction if the person did not exert discipline in their diet.

"It is not the answer to everything," he said.

'THE REAL ME': *Actor Jamie Lee* Curtis, once known Hollywood as The Body, in her underwear for the *More* magazine article in which she said it took a lot of time, money and surgery to look that way.

2002 Youth Forum:
The Tyranny of Image

After many months of planning, phone calls, letters and meetings, the third annual EDF Youth Forum became a reality on August 13, 2002. Located at the Sydney Town Hall, the seminar attracted close to 2000 high school students from across Sydney. The forum, titled 'The Tyranny of Image', highlighted the issues surrounding negative body image and the pressures that many teenagers face while trying to conform to a popular 'look'.

A particularly inspiring presentation was delivered by Nicole Kullen. Nicole's story, and her amazing strength to overcome obstacles encouraged students to accept themselves for who they are. Personally, Nicole helped me to appreciate the life that I have. She helped to highlight many of the things that I take for granted and really put any feelings of inadequacy and self-consciousness in perspective. In essence, she taught the audience that emphasis on self-image should come secondary to the value that is placed on health, family, friends, happiness, talents and personal achievements.

The forum also provided students with the opportunity to express their views regarding issues of body image. Many spoke passionately about their struggles to understand the inconsistencies that appear within the media. Although some demanded answers from media representative Mia Freedman (Cosmopolitan Magazine), it was clear from the thunderous applause and loud cheers that the efforts she is making to promote realistic body shapes, is greatly appreciated.

All in all, the day was not only a success, but also educational, inspiring and most importantly - useful. Comments from students confirmed the feelings of confusion and inadequacy that many youth feel about their bodies. Students are continually being educated about the need to accept their shapes, develop self-esteem and self-confidence based on personal talents. Ironically, media and peer pressures to look and act certain ways continue to attract teenage attention. These negative influences can lead to unhealthy and potentially dangerous eating habits. As a result, students and teachers commended EDF on its commitment to promoting a healthy way of life. They were greatly appreciative of the opportunity to explore and discuss these important topics.

On a more personal note, I would like to thank EDF for the opportunity to participate in this wonderful event. It is so inspiring to have the opportunity to work with such committed and enthusiastic individuals who are succeeding at making a worthwhile contribution to society.

Tammy Rosman

...it made me realise that beauty is really within and that it's your clothes job to fit you, not you to fit them...
Burwood Girls High

...it made me realise I am beautiful and to accept myself the way I am. It inspired me t help other people...
The Macdonald College

..that your worth is more than just what you look like...
St Joseph's – Albion Park

...there is always hope...
MLC Burwood

...self worth...
Kincoppal Rose Bay

...the self confidence to stick up for myself when someone comments negatively on my appearance...
Anonymous

...it has helped me to see that to be a good person you don't have to have the 'perfect' body...
Ravenswood

...I learned that I am beautiful in my own unique way...
Mary Mackillop College

...a little bit more self confidence...
St Scholastica's

...believing more in myself 'cause I am beautiful no matter what other people say...
Cumberland High

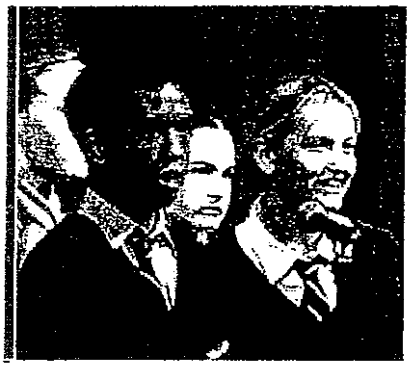
...inspiration and motivation to change my own and other women's body image...
University of Wollongong

...life is too precious to waste on obsessing about your body image. Comfor is more important than image...
All Saints Catholic College – Liverpool

...it doesn't matter what size you are – you are a superstar...
Canterbury Girls High

...all the people you invited today.. They were all inspirational...
Picnic Point High

2002 Youth Forum:
The Tyranny of Image



...It was thought provoking on many levels and really made me think about who I really am...
Hurlstone Agricultural

.... Just be proud of who I am...
Macdonald College

...make it a world wide program...
Holy Spirit College – Lakemba

...forums are the best idea—it's hard to change by yourself...
Kambala

...I feel a lot better about myself. I am who I am and that's cool...
Macdonald College

...to stop dieting...
Stella Maris College

...advice, a laugh, peace of mind...
Loreto Kirribilli

...nothing is worth starvation...
Beverly Hills Girls High

...self – acceptance...
SCEGGS Redlands

...a better feeling about my cerves [sic]...
Santa Sabina

...I learnt to accept me and everyone else fo. who they are...
Tara

...eat slowly – enjoy it!....
Inaburra

...it made me feel better about myself and made me think...
International Grammar School

...the inspiration I needed....
Ravenswood

...accepting all differences...
The Forest High

...to appreciate myself for who I am and what I am and not what I think everyone wants me to be...
Monte Sant Angelo College

...the knowledge not to be scared...
Ravenswood

...I learnt that it is OK not to feel guilty about eating...
Loreto Kirribilli

...that you can be hurt by dieting...
Loreto Normanhurst

...I'm reconsidering a lot of stuff...
The Hills Grammar School

...a lot of self confidence, pleasure and answers...
Asquith Girls High

... a new awareness...
Mercy College – Chatswood

...not to judge myself with skinny people...
PLC Armidale

...it was the best – no room for improvement...
Tangara

...it doesn't matter what you look like – it's how you feel...
Endeavour Sports High

... a confidence boost and reality check... Killarney Heights High

...the confidence to believe in myself more... Queenwood

...to not put myself down...
Barker College

2002 Youth Forum:
The Tyranny of Image

Young People's Challenge—Mia Replies

Jamie Lee Curtis has just done a very brave thing. She stripped down to her underwear and allowed herself to be photographed.

This is the woman who used to be known as The Body and starred in a movie titled *Perfect* in the 1980s. Now she is admitting that it took a whole lot of time, money and surgery to look that way.

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Mia Freedman
The Sun Herald
August 25 2002

Natalie Wakeling