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RESEARCH REPORT

Young people's theories of anorexia nervosa and obesity

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ABSTRACT *One hundred and forty-seven participants completed a 108-item questionnaire, based on that used by Furnham and Hume-Wright in 1992 (Journal of Clinical Psychology, 48, 20-36) that looked at their beliefs about the causes and cures of anorexia nervosa and obesity. The four parts of the questionnaire were individually factor analysed and an interpretable factor structure emerged for each. While age and knowing someone with anorexia nervosa or obesity did not correlate with the factors obtained, sex, actual body size, estimated body size and having experience of an eating disorder were found to correlate significantly with a number of factors. Factors of cause and cure were not correlated regarding anorexia nervosa, but were for obesity. Several correlations within cause and cure, across both disorders, were also significant. The implications of these findings and how they relate to the theories described in the Introduction are considered in the Discussion.*

Introduction

The increase in both the scientific literature and popular press about eating disorders (especially anorexia nervosa) and obesity attests to increasing interest in this topic. Anorexia nervosa and obesity have many things in common. The prevalence of both is increasing; both are considered to have specific health risks and many researchers have made attempts to deal with the two together as eating disorders (Bruch, 1973; Stock & Rothwell, 1982; Brownell & Foreyt, 1986).

Anorexia nervosa is defined as a condition in which the patient has an abnormally low body weight, 25% below the original body weight, a disturbance of body image, an intense fear of becoming fat, no known medical illnesses leading to weight loss and other features such as amenorrhoea, suggesting a disordered physiology (Palmer, 1980). The disorder is sometimes also divided into primary and secondary anorexia. The sex ratio of female to male sufferers lies between 20:1 and 15:1 (Thompson, 1993). The higher incidence of anorexia nervosa in females is suggested to be because of social factors affecting them (Hsu, 1983), which are different to those affecting males. The mortality rates are described by some as 'alarmingly

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high' (Malson, 1992) at 10–15%, and while some may recover symptomatically, there is concern over whether many can be described as fully recovered.

There are a number of different theories of the cause of anorexia prevalent in the academic literature. One of these, and indeed one of the oldest, is that of *family pathology*, whereby anorexia nervosa is seen 'in a broader context as a link in a chain of non-linear, circular and self-regulatory interactions among all family members' (Strober, 1986). While many emphasize potential problems with family pathology theory—that the studies are retrospective (Hsu, 1983), few are properly controlled and that anorexia nervosa is a heterogeneous syndrome (Garfinkel & Garner, 1982)—few would deny that it has many potentially useful aspects. There are several models of the 'anorexic family'. One popular idea is that of the family being characterized by a dominant mother and an inoffensive or aloof father (Crisp, 1980), although others disagree and prefer to describe a 'typical anorectic family interaction pathology' (Hsu, 1983; p. 232). Garner and Garfinkel see the family as 'culture bearers', positioning them as a 'significant force in adapting the growing child to his culture' (Garfinkel & Garner, 1982, p. 175), which, they suggest, also raises the question of whether families magnify aspects of culture and whether this might be a predisposition to the illness. Family dynamics and characteristics could be seen to create and maintain the condition of anorexia nervosa (Malson, 1992), but this approach alone is not sufficient to explain the complexities of such a heterogeneous disorder as anorexia nervosa. Further, lay people still endorse this theory (Furnham, 1988).

An attempt to account for the sexual inequalities of the disorder is the *socio-cultural theory* of anorexia nervosa. The fact that anorexia nervosa is more common in a particular sex, age and social class, and that the incidence of the disorder is increasing, suggests that socio-cultural factors play a large part in determining the disorder in those who are predisposed to it (Garfinkel & Garner, 1982; Fallon & Rozin, 1985). Evidence that anorexia nervosa is more common in dance and modelling students, where there is an exaggerated pressure to be slim, might support this view (Garner & Garfinkel, 1980). Many of these theorists, however, have stressed that, since many more women experience these pressures than become anorexic, the ones who do become anorexic must be in some way predisposed.

There have also been many attempts to formulate a *physiological*-based theory of anorexia nervosa. One such theory looks at the way in which, before the onset of puberty, both males and females are very much alike in their physical appearance and size (Crisp *et al.*, 1982). However, females begin developing more dramatically around 2 years before their male counterparts. Consequently, the adolescent female, in her bigger form, attempts to minimize the difference by reducing her shape by dieting, when nutritionally her needs have increased (Furnham & Hume-Wright, 1992). Within the field of *physical theories*, particular interest has been directed towards the study of *primary hypothalamic disorder*. Hormone changes occurring at puberty have far-reaching biochemical influences, which can influence eating behaviour (Strober, 1986). However, a direct relation of hypothalamic disorder to anorexia nervosa has not been established and this approach has been criticized by many. The lack of separation of cause and effect is a fault noted by various writers

(Garfinkel & Garner, 1982; Logue, 1991) who cite evidence of the recovery of normal hypothalamic function after weight gain and normal eating has resumed, the craving of food and experience of hunger that anorexics feel which sufferers of hypothalamic tumours do not (Hsu, 1983), while others have criticized it for its lack of an explanation of the gender bias of the disorder (Malson, 1992).

A fourth theory that looks at the adaptation to change by the anorexic, as well as reactions of family and peers, is the theory of '*maladaptive psychosocial adjustment to the challenges of adulthood*' (Furnham & Hume-Wright, 1992). There are numerous links between food and emotion (Bruch, 1973), and meals play an important part in family life. It is the symbolic link between emerging sexuality and eating, biological maturity and the implications for the family, in which the development of anorexia nervosa is embedded (Crisp, 1980). Anorexia nervosa is preceded by a maturational crisis, which the subsequent illness serves to resolve. Anorexia nervosa is seen as an attempt to eradicate the biological signals of impending adulthood and emancipation, avoiding independence and its consequences (Wallen *et al.*, 1989). Refusing food enables the child to stay within the safety of childhood, where others care for them as they did when they were children.

An alternative theory regarding anorexia nervosa is *feminist theory*, which has taken various forms. One of the most often cited feminist theories is that of the conflict between the traditional female role and that of the liberated woman who takes control of her own life, in a culture that praises thinness and fragility in women (Orbach, 1979). Women are encouraged to become more competitive in relation to men and to achieve in their professional careers, yet at the same time are expected to take care over their appearance and often cope with caring for others. Their changing bodies during adolescence is completely out of their control and may result in feelings of confusion, fear or powerlessness. Denying the feelings of hunger they may have may be one area in which they are winning, gaining control or power. The various conflicts leave the growing woman feeling out of phase with what is going on and, paradoxically, the power to overcome hunger, to become strong, has left her in a position where she becomes weak and even more reliant on others (Thompson, 1993).

These theories of the cause of anorexia are not mutually exclusive and several researchers stress the importance of a multi-dimensional perspective (Hsu, 1983). Each theory advocates a specific therapy according to their specific constructs, but the therapies, like the theories, overlap.

Just as there are various theories of anorexia nervosa, there are a range of suggestions as to the aetiology of obesity. Some of them have points in common with the theories regarding anorexia nervosa, but the overall emphasis in the literature seems somewhat different. Obesity is described as a condition in which the energy stores of the body are excessively large (Garrow, 1986). The condition is commonly characterized by use of the Body Mass Index (BMI), a system in which body mass is expressed in terms of weight in kilograms divided by height in metres squared, and has been shown to provide the best estimates of total body fat content, correlations being 0.7 and 0.8 between the BMI measures and body fat measures of body density.

Obesity, like anorexia nervosa, is considered a growing problem, both in the US and in Great Britain, and is thought to be generally increasing in Western societies (Report of the Royal College of Physicians, 1983). The prevalence is suggested to depend on the criteria used to define it. Some have suggested that the ratio of obesity in females of low and high socio-economic status is 6 to 1, with the ratio in men being 2 to 1. There are many different types of obesity, some of which have clear genetic determinants, others which may have underlying genetic factors which are influenced by environmental variables (Thompson, 1993). There are a small number of patients whose obesity is due to a specific disease or condition (Stock & Rothwell, 1982). There are also abnormalities of fat distribution and obesity related to mental retardation and physical disability (Jung, 1991).

Twin studies have been performed in order to look at whether there is a *genetic substrate* upon which environmental influences act. Evidence does seem to exist that monozygotic twins are more likely to be of similar weights, whether raised together or apart (Thompson, 1993). This, alongside evidence of siblings from the same environment displaying marked differences in weight, has been taken to suggest that the tendency to be obese is inherited (Craddock, 1978). But such evidence does not account for the resemblance in fatness between unrelated spouses and pets and their owners (Dietz, 1987).

There has been much interest in the mechanisms of *energy storage* in obese patients, particularly the role of brown fat or adipose tissue and metabolic rate. It has been suggested by some that obesity is a condition where the adipose tissue (the lipid store of the body) is enlarged (Bjorntorp, 1987). This is claimed to be due to genetic, endocrine and metabolic factors. Others, however, suggest that this generalization from animal experimentation may be premature (Jequier, 1987), and in any case would be inadequate to explain the aetiology or persistence of obesity (Garrow, 1986).

Several different *psychological* theories have been suggested for obesity, with some writers going so far as saying that 'in the long run, all obesity is psychological' (Dally & Gomez, 1980). Some have suggested that the obese have certain *personality* characteristics, one psychoanalytic description being, 'passive dependence and a wish for bigness and exaggerated growth'. This theory also emphasizes the overvaluation of food as soothing anxiety and frustration.

There have also been several suggestions as to *family variables* in the development of obesity. Obesity has been found to be related to lower socio-economic class and level of parental education and has a reciprocal relationship with family size, as it is most prevalent in only children, and decreases in prevalence as family size increases (Dietz, 1987). Childhood obesity has also been suggested to be linked to the separation of the child from its mother (Kahn, 1973). Bruch (1973) characterizes the obese 'family frame', which is characterized by much family discord and open fighting. She suggested that food can come to stand for love, satisfaction, security or power and can express rage and hate and be a substitute for sex. Such uses of food are suggested to arise from the *learning* that goes on in early infant-caregiver interaction (Bruch, 1973).

The *externality hypothesis*, prompted by Bruch's suggestion that obese individuals are unable to differentiate among internal arousal states and frequently interpret such states as hunger, claims that while normal-weight individuals' eating behaviour was influenced by internal cues of hunger, obese people are affected by external cues such as the taste and sight of food. There are various suggestions as to how appetite, hunger and satiety can be affected by variables such as palatability, eating styles and situational determinants. Suggestions have been made that obesity is related to locus of control and delay of gratification (Striegel-Moore & Rodin, 1986). It has also been suggested that a number of obese patients show a distortion in *body image*, which often persists after excess weight has been lost (Stunkard & Mendelson, 1973). This often presents itself in a loathing of the body. Bruch (1973) suggests that there are previously obese individuals who may be called 'thin fat people', for whom loss of weight could pose mental health hazards.

There are clearly many different interpretations of the causes of obesity: genetic factors, disruptions in fat storage and maintenance, personality characteristics, family variables and the related learning of food behaviour, mistaken cues of eating behaviour, distorted body image and obesity as a reaction to stress. In addition, some have suggested that lack of exercise plays a subsidiary but important part. Some of these theories seem to have parallels with theories of anorexia nervosa, as do the treatments, which are varied and tend to relate to the specific causal theory which is adopted.

This study is about lay people and their theories—in this case, a population at risk—theories of the causes and cures of both anorexia nervosa and obesity. Both are eating disorders that affect young people and may have serious health consequences. There has been an increasing interest during the last few years in the perceptions of the lay individual regarding various psychological issues such as delinquency (Furnham & Henderson, 1983), homosexuality (Furnham & Taylor, 1990) and phobia (Furnham, 1995). In response to the suggestion that studying the perceived efficacy of various 'cures' and 'therapies' is of practical and theoretical importance Furnham and Henley (1988) and Furnham and Hume-Wright (1992) have looked at lay theories of anorexia nervosa in the belief that it would yield 'valuable insights into the cognitive and behavioural strategies that people use when experiencing a problem or helping others' which may, in addition, 'suggest methods of enhancing the effectiveness of psychological therapies' (p. 21). While the study of anorexia nervosa is gaining considerable interest, it might be claimed that there is still a paucity of research into lay people's understanding of eating disorders, especially the notion of obesity as an eating disorder. It would seem, then, that lay people have adequate opportunities to formulate beliefs about the causes and cures for obesity as they have with anorexia nervosa (Furnham & Hume-Wright, 1992). Some researchers have suggested that lay and medical opinion on the cause and proper treatment of obesity vary, with lay people placing more value on the efficacy of dieting (Dwyer *et al.*, 1973).

Clearly, lay theories are important: they are related to how they perceive those with anorexia and obesity, and the theories of sufferers could contain insights which clinicians should heed. The aim of this study was to:

- (1) To look at the range, type and agreement with a number of statements reflecting lay theories of anorexia nervosa, and similar statements regarding obesity, in 16–19 year olds.
- (2) To look at the factor structure underlying these responses to see which of the proposed 'scientific' theories emerge and their similarity to those found by Furnham and Hume-Wright (1992)
- (3) To examine the relationship between the factors found for the four parts of the study (anorexia: cause and cure, and obesity: cause and cure) both within and between disorders.
- (4) To examine various demographic correlates of the lay theories of anorexia nervosa and obesity.

The rationale for this particular study is fourfold. It was hypothesized that the factor-structure of the lay theories of anorexia would be very similar to that found by Furnham and Hume-Wright (1992). It was also hypothesized that the factors emerging from the factor analysis of the causes of obesity would be interpretable in terms of the major theories in the area. Finally, it was hypothesized that theories of cure and cause would be logically and statistically correlated.

Method

Participants

In total, 147 pupils attending a coeducational, state-run Sixth Form College in Norfolk took part in this study, 71 of whom were male and 76 were female. The age range was 16–19, with a mean age of 17.16 ($SD = 0.60$). The mean height was 68.39 inches ($SD = 3.94$), while the mean weight was 144.26 pounds ($SD = 3.94$). Altogether 46 considered themselves overweight, 17 underweight and 84 'about right'. Nine (6.1%) said that they had at some time experienced an eating disorder, while 63 (42.9%) said that they knew, or had known, somebody who suffered from anorexia nervosa and 123 (83.7%) said that they knew, or had known, someone who was obese. Five (3.4%) believed that they knew a lot about eating disorders and 61 (41.5%) said they knew quite a lot, while 80 (54.4%) believed that they knew a little and 1 said that they knew nothing. However, 109 (74.1%) reported that they could distinguish between anorexia, bulimia and compulsive eating. Eighty-five (57.8%) believed that obesity was simply the reverse of anorexia nervosa. Twenty-three wrote additional comments on the back of their questionnaires, 13 of which wrote about the issues raised, while 10 wrote about the questionnaire itself (structure, length etc.). In a question asking why the participants thought that mainly females and not males become anorexic, 60 (41%) mentioned the pressure on females to be thin, 67 (46%) believed that it involved women being more concerned about their appearance than men and 79 (54%) wrote about 'ideal' and 'perfect' images of supermodels in magazines and the media. Other ideas mentioned were those of peers and family teasing females about fatness, diet campaigns being aimed at women, sexual abuse and rape, emotional problems, vulnerability and fear at puberty and anorexia nervosa as a means of control. It was also mentioned that male role models are often more muscular and that the pressure on men was of a different kind.

Questionnaire

Participants were asked to complete a four-part, 108-item questionnaire on the subject of different eating habits. Each of the four parts contained 27 items, which were to be responded to on a 7-point scale (7 = agree, 1 = disagree) with an additional option for 'don't know' responses. The first section was headed 'beliefs about anorexia nervosa—causes', the second 'anorexia nervosa cures', the third 'beliefs about obesity—causes', and the fourth 'obesity cures'. The anorexia nervosa questions were based on those used by Furnham and Hume-Wright (1992) who had previously carried out in-depth interviews to derive a list of the causes of anorexia nervosa, the typical behaviour of anorexics and how to 'cure' anorexics, with the most common statements being retained for use in their questionnaire. The 'cause' and 'cure' sections of this questionnaire were taken and slimmed down in order to make it more suitable for use with 16–18 year olds. This was carried out in consultation with several individuals, some of whom were from the targeted age group. The chosen statements were then assessed for their appropriateness in a questionnaire regarding obesity. The statements either remained the same as they were in the anorexia nervosa questionnaire, or otherwise individual words were changed which altered the participant (i.e. from anorexia, thinness, etc., to obesity, fatness, etc.), to make the statement relevant to obesity, but did not change the ideas behind the individual statements. Some of the anorexia nervosa questions had no obvious equivalent in terms of obesity and were also left out of the questionnaire. This was not common and their omission did not seem to affect the overall content of the questionnaire. The final questions were again shown to around half a dozen individuals in order to assess its comprehensiveness and its suitability for the chosen age group. The resulting questionnaire therefore represented a wide range of beliefs that lay people have about 'causes' and 'cures' of anorexia nervosa, with equivalent questions representing the same ideas but in a form relevant to the subject of obesity.

Procedure

All participants were asked to complete the questionnaire during the same tutorial period, which lasted 50 minutes, at their Sixth Form College. Most of the questionnaires handed out were returned, and the majority (94%) of the returned questionnaires were completed correctly.

Results

Factor analysis of the 'causes' of anorexia nervosa

Table I shows the results of the first part of the study, the 'anorexia nervosa cause' section. The statements are arranged in descending order of agreement. It seems that there were quite a wide range of responses, and differing amounts of non-responses, from 2 to 34, which could be considered quite low. Participants tended to agree most with statements regarding societal pressures and those concerning the anorexic's beliefs that thinness is good. In contrast, statements regarding the family were most commonly rejected, and the item for which most participants replied 'don't know' (23%) was concerned with the anorexic's mother usually being quiet and passive.

These items were then treated to a Varimax rotated factor analysis to reveal the underlying factor structure, following Furnham and Hume-Wright (1992). Nine factors were found that had eigenvalues > 1 . Four of these factors emerged from a scree slope test as being satisfactory and accounted for 39.3% of the variance. The first factor that emerged was labelled *Rebellion*, as the statements which loaded on it at 0.40 and above were concerned with rebelling against parents and coping with adulthood and change. The second factor to emerge was labelled *Social Pressure*, as

items loading onto it were concerned with the anorexic's pursuit of thinness as a result of society's ideals. A third causal factor was labelled *Family*, as statements loading highly onto it were concerned with family determinants of the disorder. The fourth factor was labelled *Coping*, as items loading upon it involved ideas of how anorexia might be used to get attention in an attempt to solve other problems.

Factor analysis of the 'cures' of anorexia nervosa

Table II shows the results of the second part of the study, the 'anorexia nervosa cure' section. The statements most frequently endorsed by participants seemed to be those concerned with psychotherapeutic treatment, i.e. those involving the development of self-worth and confidence, and involving the family in treatment. Those least often endorsed were those suggesting medical interventions involving drugs and strict regimes. Treatments which were perceived to be most effective also seemed to have the most frequent endorsement. The number of non-responses ranged from 1 to 37. The item with the highest number of non-responses (25%) was concerned with the anorexic's feelings of conflict.

The Varimax analysis yielded eight factors with eigenvalues > 1 , and from a scree test five of these, which accounted for 44% of the variance, were extracted. The first factor which emerged was labelled *Self-Worth*, as the items which loaded upon it were concerned with promoting personal worth and confidence and helping the anorexic and the family understand her/his actions. A second factor was labelled *Authoritarian*, as it involved bed rest and drug treatments, with the doctor being in control. *Change* was the label given to the third factor as items loading upon it were concerned with the need for the anorexic her/himself to want to change. The fourth factor that emerged was labelled *Food* as it involved the need to change the eating habits of the anorexic. The fifth factor was labelled *Freedom*, as the items loading upon it suggested that the disorder itself was the concern of the sufferer and should not be interfered with.

Factor analysis of the 'causes' of obesity

Table III shows the results of the third part of the study, the 'obesity cause' section. The statements most frequently agreed with seemed to involve many different theories, mainly those concerning food, societal pressures and stress at change. Family-orientated statements were once again rejected most frequently. Interestingly, the scores were, on the whole, much lower than those for the 'anorexia nervosa cause' statements. The number of non-responses ranged from 6 to 35 and seemed, on the whole, slightly higher than those from any other part of the questionnaire. The item which elicited the highest number of 'don't know' responses (24%) was again the statement concerned with an obese person's mother being quiet and passive.

Seven factors emerged from the Varimax analysis with eigenvalues > 1 . A scree test suggested that five of these factors were appropriate and accounted for 50.9%

TABLE I. Means, standard deviations, number of 'don't know' responses and factor loadings from the Varimax analysis of Part 1 of the questionnaire. Causes: possible causes of anorexia nervosa and factors more likely to contribute to the development of the disorder

Statements	M	SD	Unknown	Factors			
				1	2	3	4
People who get anorexia think that to be thin will bring them happiness	5.99	1.18	4		0.75		
Anorexia is due to a distortion in how sufferers see their bodies	5.82	1.49	6		0.49		
People get anorexia because of a fear of getting fat	5.48	1.43	2		0.43		
Anorexia is a result of Western ideals of physical thinness	5.15	1.70	20		0.57		
Anorexia grows from a belief that to lose weight is always good	5.04	1.52	6		0.52		
Anorexics are people who are affected negatively by society's emphasis on health and fitness	4.87	1.54	9		0.64		
Anorexics are people who cannot cope with the social pressure to be slim	4.75	1.65	6		0.51		
Anorexia in women reflects a need for status and self esteem as a woman	4.41	1.53	14		0.47		
People are less likely to get anorexia if they have seen a sibling suffer from it first	4.31	1.72	22	0.42			
Anorexia could perhaps be described as a reaction to stress at puberty	3.79	1.58	10				
You are more likely to get anorexia if food was used as a way of rewarding good behaviour or punishing bad behaviour in childhood	3.25	1.80	31	0.70			
Anorexia reflects an inability to cope with change	3.21	1.52	15	0.48			
Anorexics lose weight to get attention so that others will help them work out how to live their lives	3.13	1.66	3				0.69
People get anorexia because their mothers fixed how much, what and when they should eat so they did not learn to control their eating	3.07	1.56	17	0.49			- 0.41
Anorexia reflects a desire to stay within the family and not move into more public peer relationships	2.55	1.36	32				
Anorexia in women reflects the rejection of the role of a woman	2.54	1.47	25	0.41		0.48	
Anorexics are rebelling against their parents' ideas of what is right	2.53	1.49	8	0.65			
Anorexics are trying to prove they are able to cope with the responsibilities of adulthood	2.48	1.44	19	0.58			

TABLE I (continued)

Statements	M	SD	Unknown	Factors				
				1	2	3	4	
Anorexics come from families where the members are not very caring towards one another	2.18	1.35	12			0.63		
Anorexia results from children not being allowed to change from children into adults by their family	2.15	1.28	17			0.46		
Anorexia reflects a child's refusal to accept a mother's love by refusing her cooking	2.03	1.38	11	0.50				
The anorexic's mother is usually quiet and passive, allowing the more dominant father to control the family	2.02	1.46	34	0.60				
Anorexia results from children not being given privacy by their family	2.01	1.10	15				0.52	
If someone in your family is very fat you will probably not get anorexia	1.80	1.45	2			0.53		
Anorexics cannot help becoming thin—it's in their genes	1.59	1.10	7			0.45		
Anorexics come from mainly uneducated families	1.42	1.00	8			0.60		
A person who becomes anorexic was probably quite difficult and naughty as a child	1.38	0.75	11	0.44				
Scale: Agree 7 6 5 4 3 2 1 Disagree				Eigenvalue	4.82	2.65	1.57	1.56
				Variance (%)	17.9	9.8	5.8	5.8

of the variance. The first of these factors, which accounted for over a quarter of the variance, was labelled *Coping* as items loading upon it were concerned with the way in which sufferers might use their excess weight as a way of dealing with various stresses. The second factor was labelled *Family*, as items loading upon it were concerned with various aspects of the family of the obese person. *Apathy* was the name given to the third factor, as it involved ideas of how the obese person rejects social norms and how they may have been passive and accepting. The fourth factor was entitled *Size Perception*, as items loading upon it were concerned with how the obese person might perceive themselves and weight. The fifth factor was labelled *Change*, as items loading upon it were concerned with how the disorder might be due to poor coping abilities regarding change.

Factor analysis of the 'cures' of obesity

Table IV shows the results of the 27 'obesity cure' statements. Participants seemed to prefer the psychotherapeutic-type treatments, as they did with the anorexia nervosa cures. Once again, therapies involving drug treatment and strict behavioural regimes were considered the least effective. Non-responses in this section ranged

TABLE II. Means, standard deviations, number of 'don't know' responses and factor loadings from the Varimax analysis of Part 2 of the questionnaire. Cures: possible outcomes of anorexia nervosa and therapies that might contribute to the anorexic's improvement

Statements	M	SD	Unknown	Factors				
				1	2	3	4	5
Parents and family need to be helped to a greater understanding of the problem and need to become involved in treatment	5.92	1.24	2	0.52				
One problem in trying to cure anorexia is that the doctor wants them to put on weight but the anorexic does not want to	5.89	1.48	3	0.47				
Treatment should involve a way for the anorexic to develop personal worth and self-image as being adequate and successful in solving conflict and problems	5.88	1.23	6	0.57				
The most important thing to do to help anorexics is to get to understand their way of thinking	5.88	1.36	2	0.42				
To be fully cured, anorexics would probably have to grow in confidence in their ability to solve their daily problems	5.54	1.38	1	0.64				
Anorexics must have some wish for change or escape from their illness before they can get better	5.40	1.56	6	0.44		0.51		
It is important that someone who exerts some kind of authority points out that a person is anorexic as early as possible	5.01	1.60	12	0.55			0.43	
If the whole family is involved in therapy it is probable that the anorexic will get better a lot quicker	5.01	1.48	5			0.61		
The problem with trying to help severely ill anorexics is that they will not be able to imagine ways of getting better	4.81	1.56	14			0.54		
It is probably possible to help anorexics by telling them why they are doing what they are doing	4.78	1.47	11	0.56				
Anorexics could be said to be better when their lives no longer revolve around maintaining control over their food	4.73	1.58	19				0.61	
Only when anorexics realize they are sick will they seek treatment	4.63	2.11	3					0.62
The therapist should be clear and particular in telling sufferers to eat sensibly to improve their health	4.61	1.59	12	0.46	0.43			
A complete cure would probably involve moving out of a demanding environment into one where self-satisfaction is easier to attain	4.50	1.57	12	0.55				
Pointing out a possible anorexic before you are sure could be encroaching on their right to do as they think fit with their own bodies	4.34	1.74	22					0.63

TABLE II (continued)

Statements	M	SD	Unknown	Factors					
				1	2	3	4	5	
Bed rest and rewarding weight gain with greater freedom and privileges is probably the best way to treat anorexia	4.10	1.77	25						
It is probably rather difficult to help anorexics until they are severely ill physically	3.73	2.05	11		0.41	0.50			
An anorexic's mother should make all the family eat the same, thereby maintaining family solidarity	3.59	1.70	19				0.62		
An anorexic has to learn to give up demanding attention from being anorexic	3.53	1.59	17			0.58			
A good therapy would be bed rest and a high calorie diet until the patient reaches their 'appropriate' weight (calculated on the basis of height, age and build)	3.31	1.99	19		0.52				
Anorexia probably should not be treated psychiatrically, as this may represent defeat and weakness and be a personal stigma	3.18	1.73	19		0.51				
The best form of therapy would probably be to take control for what anorexics eat out of their own hands	3.14	1.70	13				0.40	-0.41	
It is probably impossible to work on anorexics' feelings of conflict until they are at a more viable weight	3.07	1.66	37		0.41				
It is probably not necessary to have the anorexic's co-operation early in therapy; the doctor should take control	2.75	1.73	14		0.60				
The use of drugs that increase appetite is probably a good way of treating an anorexic	2.51	1.76	15		0.53				
An authoritarian approach, i.e. telling sufferers they must eat, is probably the best approach in therapy	2.34	1.71	5		0.66				
The only way anorexics can actually die of the disorder is if they get so depressed they commit suicide	1.58	1.14	8						
Scale: Agree 7 6 5 4 3 2 1 Disagree				Eigenvalue	4.47	3.03	1.59	1.42	1.37
				Variance (%)	16.6	11.2	5.9	5.3	5.1

from 3 to 28, the statement with the most 'don't know' responses (19%) was that concerning obese people demanding attention from being obese.

The Varimax analysis yielded eight factors, while a scree test suggested that five factors provide a satisfactory model, accounting for 48.8% of the variance. The first

TABLE III. Means, standard deviations, number of 'don't know' responses and factor loadings from the Varimax analysis of Part 3 of the questionnaire. Causes: possible causes of obesity and factors more likely to contribute to the development of the disorder

Statements	M	SD	Unknown	Factors				
				1	2	3	4	5
You are more likely to become obese if food was used as a way of rewarding good behaviour or punishing bad behaviour in childhood	4.02	1.71	13			0.52		0.43
Obesity is due to a distortion in how sufferers see their bodies	3.75	1.93	9				0.63	
Obesity could perhaps be described as a reaction to stress at puberty	3.74	1.70	14					0.68
Obesity sufferers are people who are not affected by society's emphasis on health and fitness	3.62	1.87	9			0.52		
People become obese because their mothers fixed how much, what and when they should eat so they did not learn to control their eating	3.37	1.82	9					
Obesity reflects an inability to cope with change	3.28	1.56	11					0.65
People are less likely to become obese if they have seen a sibling suffer from it first	3.25	1.86	15				0.66	
Obesity sufferers are people who cannot cope with the social pressure to be slim	3.01	1.98	15		0.60			
Obese people cannot help being fat—it's in their genes	2.91	1.87	7			0.54		
Obesity reflects a desire to stay within the family and not move into more public peer relationships	2.88	1.68	32	0.54		0.42		
People who become obese think that being fat will bring them happiness	2.83	1.75	8				0.67	
Obesity grows from a belief that to put on weight is always good	2.77	1.63	10	0.62			0.40	
Obese people are demonstrating that they are unable to cope with the responsibilities of adulthood	2.74	1.65	9		0.53			0.42
Obesity is a result of rejecting Western ideals of physical thinness	2.73	1.66	21	0.57				
Obesity in women reflects the rejection of the role of a woman	2.72	1.73	14			0.40		
Obesity in women reflects no wish for status or self esteem as a woman	2.72	1.75	6		0.46	0.41		
Obese people gain weight to get attention so that others will help them work out how to live their lives	2.65	1.57	11	0.64				
Obesity reflects a child's acceptance of a mother's love by accepting her cooking	2.60	1.54	10			0.48		

TABLE III (continued)

Statements	M	SD	Unknown	Factors				
				1	2	3	4	5
Obese people are rebelling against their parents' ideas of what is right	2.47	1.51	9	0.55				
A person who becomes obese was probably quite passive and well behaved as a child	2.44	1.63	30			0.58		
Obesity results from children being forced to change from children into adults by their family	2.39	1.34	20	0.73				
Obesity sufferers come from families where the members are not very caring towards one another	2.39	1.58	12		0.56			
People become obese because of a fear of becoming too thin	2.31	1.74	7	0.58			0.51	
Obesity results from children not being given privacy by their family	2.22	1.36	17		0.68			
The obese person's mother is usually quiet and passive, allowing the more dominant father to control the family	2.12	1.48	35	0.49		0.41		
If someone in your family is very thin then you will probably not become obese	2.07	1.57	6		0.63			
Obese people come from mainly well educated families	1.88	1.43	13		0.73			
Scale: Agree 7 6 5 4 3 2 1 Disagree			Eigenvalue	7.44	2.01	1.52	1.43	1.36
			Variance (%)	27.6	7.4	5.6	5.3	5.0

factor was entitled *Understanding* as items loading upon it were concerned with the promotion of understanding in parents, therapists and the sufferer. The second factor was labelled *Authoritarian*, as items loading upon it were concerned with doctors taking control of the situation and an authoritarian approach to treatment. The third factor was labelled *Self Realization*, as items loading upon it involved ideas about how the sufferer must come to terms with their illness. *Eating* was the label given to the fourth factor, as it involved the items suggesting that the obese person must control their food, and also how the problem was not a psychiatric one. The final factor was entitled *Exercise*, as items loading upon it were concerned with the use of exercise in treatment.

Correlations between factors and various demographic variables

In order to examine the demographic determinants of beliefs about the causes and cures of anorexia nervosa and obesity, various correlations were computed. Table V shows the correlations of each of the factors obtained from the Varimax analysis,

TABLE IV. Means, standard deviations, number of 'don't know' responses and factor loadings from the Varimax analysis of Part 4 of the questionnaire. Cures: possible outcomes of obesity and therapies that might contribute to the obese person's improvement

Statements	M	SD	Unknown	Factors				
				1	2	3	4	5
The most important thing to do to help obese people is to get to understand their way of thinking	5.42	1.56	5	0.47		0.57		
Parents and family need to be helped to a greater understanding of the problem and need to become involved in treatment	5.42	1.56	4	0.68				
Treatment should involve a way for the obesity sufferer to develop personal worth and a self image as being adequate and successful in solving conflict and problems	5.17	1.60	13	0.57				
To be fully cured, obese people would probably have to grow in confidence in their ability to solve their daily problems	5.12	1.56	8	0.52		0.55		
Obese people must have some wish for change or escape from their illness before they can get better	5.05	1.80	7	0.43				
If the whole family is involved in therapy it is probable that the obese person will get better a lot quicker	4.97	1.67	3	0.56				
The problem with trying to help severely ill obese people is that they will not be able to imagine ways of getting better	4.68	1.60	11			0.59		
It is probably possible to help obese people by telling them why they are doing what they are doing	4.62	1.72	9	0.59				
Only when obesity sufferers realize that they are sick will they seek treatment	4.55	1.82	12			0.69		
The therapist should be clear and particular in telling sufferers to eat sensibly to improve their health	4.46	1.64	9	0.59				
Pointing out a possible obese person before you are sure could be encroaching on their right to do as they think fit with their own bodies	4.36	1.73	22			0.51		0.46
It is important that someone who exerts some kind of authority points out that a person is obese as soon as possible	4.35	1.66	14	0.53				
Obese people could be said to be better when they are more concerned with maintaining control over their food	4.18	1.64	14				0.43	
A complete cure would probably involve moving out of a demanding environment into one in which self-satisfaction is easier to attain	4.17	1.68	13	0.69				

TABLE IV (continued)

Statements	M	SD	Unknown	Factors				
				1	2	3	4	5
A good therapy would be exercise and a low calorie diet until the patient reaches their 'appropriate' weight (calculated on the basis of height, age and build)	4.16	1.90	7					0.71
Exercise and rewarding weight loss with greater freedom and privileges is probably the best way to treat obesity	4.10	1.69	12					0.57
One problem in trying to cure obesity is that the doctor wants them to lose weight but the obese person does not want to	4.09	2.16	8		0.60			
An obese person's mother should make all the family eat the same, thereby maintaining family solidarity	3.56	1.68	17				0.62	
An obese person has to learn to give up demanding attention from being obese	3.33	1.62	28		0.48			
It is probably rather difficult to intervene to help obese people until they are severely ill physically	3.31	1.85	11		0.62			
Obesity probably should not be treated psychiatrically, as this may represent defeat and weakness and be a personal stigma	3.10	1.64	22				0.63	
The best form of therapy would probably be to take control for what obese people eat out of their own hands	2.81	1.56	15		0.46		0.42	
It is probably impossible to work on obese people's feelings of conflict until they are at a more viable weight	2.79	1.44	16		0.54		0.40	
It is probably not necessary to have the obese person's co-operation early in therapy; the doctor should take control	2.65	1.68	11		0.71			
The use of drugs that decrease appetite is probably a good way of treating an obesity sufferer	2.49	1.66	11		0.46			
The only way obesity sufferers can die of the illness is if they get so depressed that they commit suicide	2.38	1.87	13			- 0.45		
An authoritarian approach, i.e. telling sufferers they must not eat, is probably the best approach in therapy	2.36	1.78	4		0.61			
Scale: Agree 7 6 5 4 3 2 1 Disagree			Eigenvalue	5.31	3.63	1.58	1.40	1.26
			Variance (%)	19.7	13.5	5.8	5.2	4.7

TABLE V. Correlations between the factors and various demographic variables

	Sex	Age	Size	Estimation	History	Acquaintance
Correlations between anorexia nervosa cause factors and demographic variables						
1. Rebellion	-0.11	-0.01	-0.13	0.05	-0.07	-0.10
2. Social pressure	-0.21*	0.04	-0.15	-0.01	-0.10	0.05
3. Family	0.27***	-0.07	0.19*	-0.08	0.21**	0.04
4. Coping	-0.15	0.15	-0.03	0.20*	-0.13	-0.13
Correlations between anorexia nervosa cure factors and demographic variables						
1. Self-worth	-0.14	0.24**	-0.18*	-0.04	-0.19*	0.01
2. Authoritarian	0.30***	-0.09	0.17*	-0.08	0.11	0.06
3. Change	-0.08	0.10	0.10	0.09	-0.04	-0.14
4. Food	0.03	0.03	0.10	-0.04	0.06	-0.06
5. Freedom	-0.16	0.03	-0.07	0.03	0.05	-0.08
Correlations between obesity cause factors and demographic variables						
1. Coping	0.14	-0.07	-0.13	-0.03	0.08	-0.03
2. Family	0.14	0.00	0.11	-0.11	0.12	0.07
3. Apathy	0.20*	-0.02	0.25**	0.05	-0.10	-0.07
4. Size perception	-0.06	0.01	-0.06	-0.12	0.10	0.13
5. Change	-0.30***	-0.13	-0.13	0.19*	-0.24**	0.10
Correlations between obesity cure factors and demographic variables						
1. Understanding	-0.17	0.06	-0.11	0.03	-0.05	0.07
2. Authoritarian	0.13	-0.18*	0.06	0.07	0.00	-0.03
3. Self realization	-0.23**	0.09	-0.13	-0.05	-0.21*	0.05
4. Eating	0.14	-0.03	0.05	-0.03	0.08	0.04
5. Exercise	-0.03	0.12	0.07	-0.01	0.01	0.09

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

with each of the subject demographic variables of age, sex and size, as well as correlations with the participants' assessments of their size as overweight, underweight or about right (Estimation), whether they had suffered from an eating disorder (History) and whether they knew anyone who had suffered from anorexia nervosa or obesity, where appropriate (Acquaintance).

The variables most related to causal beliefs about anorexia nervosa were sex of participant and not having suffered from an eating disorder. While females are more likely to see social pressure as a causal factor, males are more likely to consider the family as an important determinant of the disorder. Not having suffered from an eating disorder was also related to a belief that the family was involved in the development of the disorder, as were larger participants. Those who considered themselves overweight are more likely to see anorexia as a way of getting attention in order to cope with problems. Demographic correlates of beliefs about the cure of anorexia nervosa showed that male participants put particular emphasis on an authoritarian-type approach, while older participants were more likely to favour the promotion of self-worth, as did smaller participants and those who had had experience of an eating disorder. Larger participants, like the males, seemed to put more emphasis on an authoritarian approach towards the disorder.

Demographic correlates of the beliefs about the causes of obesity showed that while males and larger participants regarded obesity as a problem characterized by the sufferer's passive nature, females were more likely to see it as a problem caused

by poor coping abilities regarding change. Participants who saw themselves as overweight, along with those who had personal experience of an eating disorder, also considered stress at times of change as an important causal factor. The variable that related most to beliefs about the cures of obesity was sex. Females were more likely to favour treatment which involved helping the sufferer and family understand the problem, and also believed that the obese person must realize they are sick and learn to come to terms with their illness, as did those who had suffered from an eating disorder. Younger participants were more likely to favour an authoritarian approach to the illness.

Relationships between 'causes' and 'cures' of anorexia nervosa and obesity

In order to examine the relationship between the various beliefs regarding the causes and cures of anorexia nervosa and the causes and cures of obesity, a partial correlation was computed between all factors, partialling out those demographic variables found in Table V to relate to these factors, namely sex, size, self-assessment of size and history of an eating disorder. Table VI shows the partial correlations between beliefs about the causes and cures of anorexia nervosa. The highest correlation found was between the belief that anorexia is caused by rebellion and coping with adulthood (anorexia cause factor 1) and the idea of the anorexic needing to change (anorexia cure factor 3). This causal factor was also correlated with the belief in an authoritarian approach to treatment (anorexia cure factor 2). The belief in the need to promote self-worth in anorexia sufferers (anorexia cure factor 1) was correlated both with the idea of anorexia being caused by social pressure (anorexia cause factor 2) and by family determinants (anorexia cause factor 3). The notion of social pressure as a causal factor (anorexia cause factor 2) was also correlated with a belief in the need to change the anorexic's eating habits (anorexia cure factor 4). The belief that the family was in some way responsible for the disorder (anorexia cause factor 3) was also correlated both with the idea that the anorexic should change her/his eating habits (anorexia cure factor 4) and the notion of the disorder itself being the concern of the sufferer her/himself (anorexia cause factor 5). This curative factor regarding personal freedom (anorexia cause factor 5) was also found to be correlated with the causal factor that characterized anorexia as being a way in which the sufferer attempts to cope or signals problems in doing so (anorexia cause factor 4).

Table VII shows the partial correlations between beliefs about the causes and cures of obesity. A belief in an authoritarian approach in treatment (obesity cure factor 2) correlates most highly with the idea that family characteristics are in some way responsible for the disorder (obesity cause factor 2). It also correlates significantly with the belief that obesity is a way of coping with stress (obesity cause factor 1), that it is characterized by a passive nature (obesity cause factor 3) and with the idea that obesity is a result of how the sufferer might perceive themselves (obesity cause factor 4). The belief that obesity might be cured by helping the sufferer and her/his family to understand the problem (obesity cure factor 1) was correlated with the notion of inability to cope with change (obesity cause factor 5),

TABLE VI. Partial correlates between cause and cure factors of anorexia nervosa, partialling out effects of sex, size and having suffered from an eating disorder

Anorexia cure factors	Anorexia nervosa cause factors			
	Rebellion	Social pressure	Family	Coping
1. Self-worth	0.14	0.32***	-0.23**	-0.02
2. Authoritarian	0.26**	0.04	0.10	-0.10
3. Change	0.35***	0.15	-0.03	0.03
4. Food	-0.06	0.18*	0.18*	-0.07
5. Freedom	0.03	0.11	-0.20*	0.17*

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

the perception the sufferer might have regarding her/his size (obesity cause factor 4) and negatively correlated with the belief in the family as a causal factor (obesity cause factor 2). A belief that obesity might be a way of coping with various pressures (obesity cause factor 1) was found to correlate with the curative factors involving eating control (obesity cure factor 4) and the need for exercise (obesity cure factor 5). The belief that the obesity sufferer is characterized by a passive nature (obesity cause factor 3) is also correlated with the need to control eating (obesity cure factor 4), and the belief that obesity reflects an inability to cope with change (obesity cause factor 5) is correlated with the notion that obesity sufferers must come to terms with their illness (obesity cure factor 3).

Table VIII shows the correlations between beliefs about the causes of anorexia nervosa and the causes of obesity. The highest correlation found was between the idea of anorexia nervosa being an attempt to rebel and cope with adulthood (anorexia cause factor 1) and obesity as a way of coping (obesity cause factor 4). This belief regarding anorexia was also found to correlate significantly with obesity signifying a passive character (obesity cause factor 3) and obese people having problems in coping with change (obesity cause factor 5). A belief in anorexia as being caused by social pressure (anorexia cause factor 2) was found to correlate highly both with the notion of obese people being unable to cope with change (obesity cause factor 5) and to a slightly lesser extent with the way obese people perceive their size (obesity cause factor 4). A belief in anorexia being caused by family determinants (anorexia cause factor 3) correlated highly with both the belief that obesity was caused by various aspects of the family (obesity cause factor 2) and the passive nature of obesity sufferers (obesity cause factor 3).

Table IX shows the partial correlations between beliefs about the 'cures' of anorexia nervosa and obesity. The most significant correlation, indeed the most significant of all the partial correlations, was between the beliefs of an authoritarian approach to the treatment of both anorexia nervosa and obesity (anorexia cure factor 2; obesity cure factor 2). Both of these factors also had very similar items loading upon them. The authoritarian approach to anorexia was also correlated with the need for obesity sufferers to control their eating (obesity cause factor 4) and negatively correlated with a belief that the obese person must come to terms with

TABLE VII. Partial correlates between cause and cure of obesity, partialling out effects of sex, self-assessment of size and having suffered from an eating disorder

Obesity cure factors	Obesity cause factors				
	Coping	Family	Apathy	Size perception	Change
1. Understanding	0.06	- 0.23**	0.00	0.25**	0.31***
2. Authoritarian	0.31***	0.44***	0.28***	0.33***	0.11
3. Self-realization	0.02	- 0.05	- 0.16	0.00	0.24**
4. Eating	0.18*	0.07	0.20*	0.11	0.06
5. Exercise	- 0.23**	0.12	0.10	0.11	- 0.06

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

their illness (obesity cure factor 3). A belief in the need to promote self-worth in anorexia sufferers (anorexia cure 1) was correlated most highly with the promotion of understanding of the disorder in obesity sufferers and their families (obesity cure 1) and to a lesser extent with the need for exercise (obesity cure factor 5). A belief that anorexics must want to change was correlated with an authoritarian approach to obesity treatment (obesity cure factor 2) and with a belief that the obesity sufferer must come to terms with the illness (obesity cure factor 3). A belief that the anorexia is the concern of the sufferer (anorexia cure factor 5) is highly correlated with the belief that the obesity sufferer must come to terms with the illness (obesity cure factor 3).

Discussion

The results of this study suggest that young people in the 16–19-year-old age group hold moderately accurate beliefs about the causes and cures of both anorexia nervosa and obesity. While similarities were found between this study and Furnham and Hume-Wright (1992) regarding the type of statements most agreed with the

TABLE VIII. Partial correlates between the causes of anorexia nervosa and obesity, partialling out effects of having suffered from an eating disorder, size and self-estimate of size

Obesity cause factors	Anorexia nervosa cause factors			
	Rebellion	Social pressure	Family	Coping
1. Coping	0.37***	- 0.01	0.10	0.16
2. Family	0.16	- 0.04	0.32***	- 0.05
3. Apathy	0.17*	0.13	0.24**	0.12
4. Size perception	- 0.04	0.28***	- 0.01	0.01
5. Change	0.18*	0.35***	0.04	- 0.03

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

TABLE IX. Partial correlates between the cures of anorexia nervosa and obesity, partialling out effects of sex, and having suffered from an eating disorder

Obesity cure factors	Anorexia nervosa cure factors				
	Self-worth	Authoritarian	Change	Food	Freedom
1. Understanding	0.42***	0.08	0.14	0.13	0.04
2. Authoritarian	0.09	0.49***	0.23**	0.08	-0.11
3. Self-realization	0.14	-0.17*	0.19*	0.10	0.36***
4. Eating	0.02	0.35***	-0.04	0.11	0.13
5. Exercise	0.32***	0.07	-0.05	0.03	-0.08

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

consensuality of beliefs (evident from the standard deviations), there were fewer 'don't know' responses on the whole, and the underlying factor structure of the anorexia nervosa items seemed quite different, especially in the way they related to one another.

The lay participants in this sample, like those in the study by Furnham and Hume-Wright (1992), seemed to see the factor of social pressure affecting the development of anorexia as most important. This mirrors the responses participants gave at the beginning of the questionnaire, where 41% mentioned the pressure on women to be thin, and 54% mentioned the influence of the media in explaining the preponderance of female anorexics, suggesting that this might also be the way in which many of them acquire their beliefs. In addition to the factor of social pressure, the factor analysis of the 'anorexia causes' section of the questionnaire also yielded the factors of rebellion, family and coping. The factor labelled *rebellion* has similarities with the ideas of Bruch (1973), in that there are important emotions connected with food, which a person might use as a weapon against her/his parents or which might be used by parents themselves. This factor might also be seen as having certain points in common with the theory of maladaptive psychosocial adjustment to adulthood. The factor labelled *family* seems similar to other family systems theories and to a certain extent that of Crisp *et al.* (1982), and was also present in the factors found by Furnham and Hume-Wright (1992). The factor labelled *coping* has similarities with the factor labelled rebellion; however, the emphasis of this factor suggests that anorexia is a result of difficulties in coping and may have parallels with the psychophysiological theory of anorexia.

The participants in this study hold various different beliefs about the possible 'cures' of anorexia. The factor labelled *self-worth* was considered to be the most important and was similar to the factor identified as self-worth in the study by Furnham and Hume-Wright (1992). The factors identified as being concerned with food-related and authoritarian cures of anorexia suggest that young people are aware of different medical treatments for anorexia, although these factors had low mean ratings and were not supported as important, as in the Furnham and Hume-Wright (1992) study. The participants in this study were also aware of the need to promote

ideas of change in the anorexic, that the anorexic must want to change in order for treatment to be effective. This suggests that young people appreciate the problems involved in trying to get people who are wilfully starving themselves to eat and gain weight. This is emphasized by the finding of a fifth factor, labelled *freedom*, which suggests that the participants in this study thought that anorexia may be seen as a personal choice and is unlikely to be treated until the sufferers themselves seek treatment.

A range of responses were also found regarding the causes of obesity, which were different in many ways to those regarding anorexia nervosa. There was a much lower endorsement of all statements involved, suggesting that they did not adequately describe what the participants felt to be the issues behind the development of obesity, or perhaps a lack of exposure to such theories. The notion of obesity being genetically caused was not widely supported by participants. The factor analysis yielded factors concerning coping, family, apathy, size perception and change. On the whole, these factors do not seem as well supported as those concerning anorexia, which underlines the observation made above. The first factor, coping, seems to contain ideas about how obesity might be a result of attempts to cope with various stresses, which might be seen as similar to ideas of compulsive or comfort-eating (Craddock, 1978), notions of stress-induced or 'reactive obesity' (Bruch, 1973) and also elements of personality theories. As in the anorexia section of this study, a factor was obtained which seems to suggest the importance of the family in the development of the disorder. Although this factor had certain elements in common with Bruch's (1973) idea of a 'family frame', there were several elements which were different, such as the significance of food which did not appear to be included in this factor. The notion of the obese person as suffering from some kind of apathy was also found to be a factor characterizing the way in which young people in this study regard the disorder. This factor included ideas of how an obese person may have been passive and accepting, while rejecting social norms of the desirability of thinness, and has similarities with personality theories of obesity. A factor of size perception was also identified, which suggested that obese people somehow see weight or being fat differently, which is reminiscent of the neurotic personality theory. The belief that obesity may be caused by problems in coping with various changes in life might also be said to have similarities with ideas of obese people having certain personality characteristics. It seems that young people's theories of the causes of obesity are largely related to various different perceived personality characteristics of the obesity sufferers themselves.

As was found with anorexia, the most favoured treatment regarding obesity seemed to involve ideas of promoting self-worth and understanding the disorder, which has similarities with behavioural self-control programmes (Thompson, 1993). The young people in this study were also aware of the idea that obesity might be a personal choice, which reflects the need to understand the sufferer and help them develop confidence and ways of getting better. They also identified a factor that suggested that obese people would not want to lose weight and would often be severely ill before intervention was sought, which would require an authoritarian approach. Participants also supported a view that obese people should relinquish

control over their eating, with doctors, not psychiatrists, taking charge of them. In addition, participants identified a factor of exercise, which was concerned with the use of rewarding weight loss and exercise in treatment. The fact that the first two factors mentioned in this section were rated more highly than the second three factors suggests that young people favour more psychotherapeutic approaches towards the disorder.

As was found in the study regarding anorexia nervosa by Furnham and Hume-Wright (1992), the most salient demographic correlate of lay beliefs about anorexia nervosa and obesity was that of sex of participant. However, unlike the aforementioned study male participants tended to hold strong beliefs about the causes and cures of anorexia, while females tended to hold stronger beliefs about the causes and cures of obesity, although neither of these trends were particularly consistent, with females favouring social pressure as a cause of anorexia and males supporting the notion of the passive nature of obesity sufferers. Although sex did seem to be a significant demographic correlate of the causes and cures of anorexia and obesity, it did not seem to be consistently significant over the range of factors and despite the fact that males and females did seem to differ in their beliefs about the causes and cures, it might be argued that this age group were fairly homogeneous in their beliefs.

Unlike the study by Furnham and Hume-Wright (1992), significant correlations were also found with size of subject and experience of an eating disorder. Not having had experience of an eating disorder seemed to lead to a belief in the importance of family determinants of anorexia, it seems that those who have experience of an eating disorder were more likely to hold strong beliefs about the cures of anorexia and the causes and cures of obesity. Considering that a most of those who indicated that they had suffered from an eating disorder will have suffered from either anorexia or bulimia, it seems that this experience has not helped them to understand the causes of the disorder, but may have helped them formulate ideas about the treatment of the disorder and may also have lead them to form ideas about the causes and cures of obesity.

Neither age nor acquaintance with someone who has suffered from anorexia nervosa or obesity had a consistent significant effect on beliefs held, suggesting that beliefs did not differ significantly in the 16–19-year-old age range and that knowing someone with either disorder had not enabled the individual to achieve any greater insight into the disorder.

Correlations between the various factors yielded some interesting findings. In contrast to the findings of Furnham and Hume-Wright (1992), the anorexia cause and cure factors yielded many fewer significant correlations, suggesting that young people do not hold many beliefs that link cause and cure of the disorder. Unlike the study by Furnham and Hume-Wright (1992), there did not seem to be a belief in physiological treatments regardless of which causal factor they favoured, although between them the authoritarian and food curative factors did correlate with three out of the four causal factors. The relationship between causes and cures of anorexia seems to be more specific for this age group compared to those in the aforementioned study.

There were also a number of significant correlations between the perceived causes and cures of obesity. On the whole the correlations seem more significant than those for anorexia. An authoritarian approach to treatment was significantly correlated with all but one of the perceived cause factors, suggesting that authoritarian approaches to obesity are considered relevant whatever their cause. However, an approach which includes the promotion of understanding was also significantly correlated with notions of obesity being caused by the perception of weight and poor coping abilities in the face of change, and negatively correlated with the notion of obesity being caused by family variables.

Correlations within cause and cure for both anorexia and obesity revealed that participants perceived the two disorders as having certain factors in common. Within-cause correlations were found between the causal factor of family regarding anorexia and both the idea of obesity being a result of family variables and of apathy regarding social norms. Clearly, the participants in this study considered the family as having an important role in the development of both the disorders. The notion of social pressure as causing anorexia was also found to correlate with differences in size perception of obesity sufferers and problems in coping with change, suggesting that social or external factors were deemed to be common to both. In addition, a significant correlation between the anorexia causal factor of rebellion and the obesity causal factor of coping suggest that the notion of an eating disorder being used in some way, or being symbolic of something, is common to both.

Within-cure correlations seem to signify important similarities in the perception of treatment of the two disorders, suggesting that beliefs about cure are somewhat more distinct. The most significant correlation was between the authoritarian approach in treatment of both the disorders, suggesting that a similar authoritarian approach to treatment is considered appropriate for both disorders. An approach that involves the promotion of understanding and self-worth also seems to be supported for both disorders, while ideas regarding the disorders as a result of free will to behave in a certain way was also a common element. However, there were important differences, especially regarding the factors of food, eating behaviour and exercise, which, although one might expect them to be correlated, were not. The similarities between these factors suggest that young people believe in, and favour, treatment which helps the sufferer (and the family) to understand her/his problem, and acknowledge the importance of the sufferer's co-operation in therapy, for both obesity and anorexia nervosa, while also believing that an authoritarian approach is applicable to both disorders.

Although the young people in this study shared some of the beliefs about causes and cure of anorexia nervosa expressed in the study by Furnham and Hume-Wright (1992), and held several beliefs comparable to the so-called 'scientific' theories of both anorexia and obesity, findings suggest that lay persons of this age group do not have a coherently structured view of the disorders, or that they hold more specific ideas about the disorders. Similarities were found between the beliefs participants had about both anorexia nervosa and obesity, with notions such as family causes and authoritarian cures being common to both. However, findings such as the decline in agreement with all of the proposed causes of obesity, as well as differences in

underlying factor structure, suggest that lay persons of this age group believe that there are important differences underlying the two disorders, despite the fact that 57.8% of participants initially stated that they believed anorexia to be simply the reverse of obesity.

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