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Eating and Body Image Disturbances Across Cultures: A Review

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Objective: To critically review the literature examining the impact of acculturation, socio-economic status, family functioning and psychological control in relation to eating and body image disturbances across cultures.
Method: A review of the literature on eating disorders, eating and body image disturbances, psychological control, body composition, socio-economic status and family functioning on different cultural groups.
Results: Of the empirical studies undertaken, few investigated a cultural group's eating pathology in both its country of origin and a Western country using the same methodology. To date, the research findings are mixed and it is still unclear if the presentation of an eating disorder differs across cultures. Acculturation has not been consistently taken into consideration and psychological control has not been examined in relation to eating disturbances in non-Western groups.
Discussion: This review focuses on some of the methodological limitations of previous research and attempts to delineate the salient issues which warrant further scientific enquiry.

Keywords: body image; cross-cultural; eating disorders; psychological control

INTRODUCTION

Although eating disorders, and particularly anorexia nervosa (AN), have long been identified in Western societies (Vandereycken & van Deth, 1994), in the non-Western world such disorders have only been described in the international literature since the late 1970s. In explanation, it is often argued that eating disorders are 'Western culture-bound syndromes' and that individuals from non-Western societies have some immunity to such disorders (Gordon, Perez, & Joiner, 2002; Lai, 2000; Nasser, 1997; Timimi & Adams, 1996; Tsai, 2000; Wildes, Emergy, & Simons, 2001).

The stereotypical AN patient is depicted as young, North-European Caucasian, female, well educated and from the upper socio-economic class. Conventional wisdom dictates that it is the influence and adoption of Western values that has led to the rise of eating disorders in the non-Western world (Rieger, Touyz, Swain, & Beumont, 2001; Weiss, 1995). There have been a number of reasons put forward as to why eating disorders were thought to be rare in such societies, including the following: non-Western societies traditionally did not greatly value thinness and instead valued plumpness (Afifi-Soweid, Najem Kteily, & Shediac-Rizkallah, 2002; Buhrich,

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1981; Lee, Leung, Lee, Yu, & Leung, 1996; Nasser, 1997; Tsai, 2000); the collectivistic structure of family and society offered some degree of protection (Lee & Lee, 1996; Tsai, 2000); and that eating disorders simply were not recognised within the society and in turn, were not brought to the attention of the appropriate clinicians (Becker, Franko, Speck, & Herzog, 2003; Buhrich, 1981; Gordon et al., 2002; Silber, 1986; Striegel-Moore & Smolak, 2000; Tsai, 2000).

However, variants of eating disorders have been known in the non-Western world for some centuries. For example, *fushokubyo*, or 'non-eating illness', was described by Kagawa in 17–18th century Japan (Nishizono-Maher, 1998; Nogami, 1997). Most of the patients were women and the condition was thought to have a psychological origin. Nogami (1997) reported that, before World War II, no articles on AN were found in Psychiatria et Neurologia Japonica, the official journal of the Japan Association of Psychiatry and Neurology, and that only one case of AN in Japan was documented in 1941. The comparison of prevalence figures for eating disorders across cultures is complicated by the variety of diagnostic criteria used as well as changes in criteria over time. Nonetheless, the data suggest that while the prevalence of eating disorders tends to be lower in non-Western countries, it has not been consistently reported as such (Figures 1 and 2). Furthermore, there are also differences in prevalence within countries and communities (Fichter, Elton, Sourdi, Weyerer, & Koptagel-Ilal, 1988).

There is a strong debate regarding whether eating disorders in non-Western patients presents differently when compared to eating disorders patients of North-European backgrounds, not least because of differing cultural values and family environment. Much of the research into eating pathology and body image disturbance in ethnic minority groups has been conducted on the African-American group (Crago, Shisslak, & Estes, 1996; Wildes et al., 2001). Numerous Japanese studies were published after 1970 (Nogami, 1997), albeit in the Japanese language, but otherwise relatively little work has been undertaken in non-Western groups. Also, few studies have investigated such groups in both their country of origin as well as a Western country (Wildes et al., 2001) and to our knowledge, no study has yet been undertaken on Western groups now living in a non-Western country.

This review is organised around key questions and issues frequently addressed in the literature. It will first focus on comparing eating and body image disturbance profiles between Western and non-Western societies, then discuss the impact of culture and socio-economic status on the apparent emergence of eating pathology and eating disorders in non-Western society. It will then summarise the speculated differences in the presentation of eating disorders, particularly between Asian and Western patients, and then move to suggest that core constructs such as psychological control and acculturation may provide a way forward in further teasing out the relationships between eating disorders and culture. Finally, it will discuss the potential impact of differences in body composition across ethnic groups on the management of eating disorders

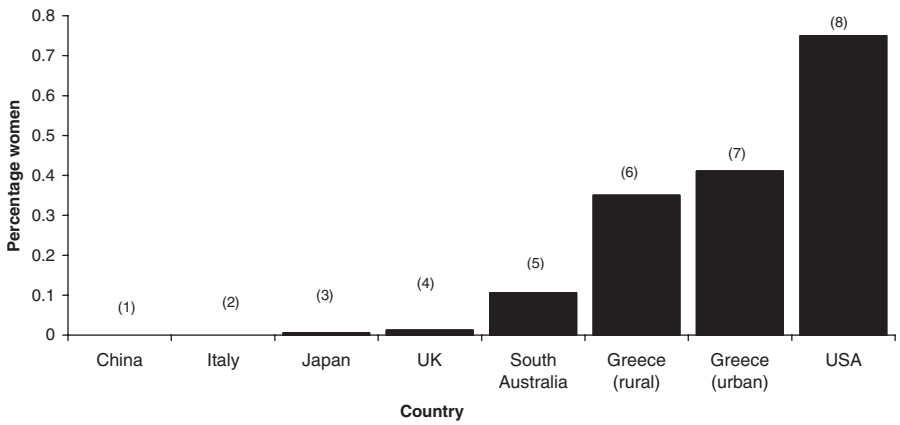

Figure 1. Prevalence of anorexia nervosa in women
[1]Chun et al., 1992; [2]Santonastaso et al., 1996; [3]Nakamura et al., 2000; [4]Pyle, 1983; [5]Ben-Tovim & Morton, 1990; [6]Fichter et al., 1988; [7]Fichter et al., 1988; [8]American Psychiatric Association, 1994.

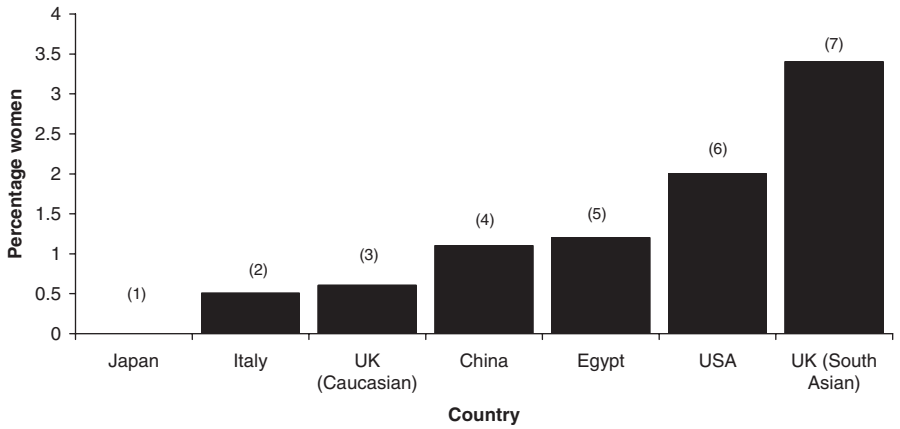

Figure 2. Prevalence of bulimia nervosa in women
[1]Nakamura et al., 2000; [2]Santonastaso et al., 1996; [3]Mumford & Whitehouse, 1988; [4]Chun et al., 1992; [5]Nasser, 1994; [6]American Psychiatric Association, 1994; [7]Mumford & Whitehouse, 1988.

and summarise the implications for research in eating and body image disturbances across cultures.

EATING AND BODY IMAGE DISTURBANCES: BY GEOGRAPHY

Studies investigating eating disorders and eating pathology in different cultural groups have been mostly conducted within Western nations, with many of these studies suggesting that ethnic minority groups in such countries have the lower risk of eating pathology. This is possibly due to a lower level of acculturation to the mainstream society, acculturation being the adoption of another culture's values, attitudes and society standards on exposure to them and embodies physical, biological, political, economic, cultural and psychological changes in identity and attitude (Berry, 1989). Examples of such studies have found North-European Caucasian women to have greater levels of body dissatisfaction compared to their Asian and African-American counterparts and to be more likely to attempt to lose weight (Altabe, 1998; Lowry, Galuska, Fulton, Wechsler, Kann, & Collins, 2000). Asian women who had moved to the USA and were studying at a college were found to have lower levels of restrained eating (16%) compared to their USA counterparts (33%) (Tsai, Hoer, & Song, 1998). Similarly, in a study of female university students in Australia, Hong Kong-born women who were more acculturated to Western culture were found to have more positive eating attitudes than Australian-born women (Lake, Staiger, & Glowinski, 2000), suggesting that the Asian women had the lower risk of eating pathology.

A number of studies undertaken in Western countries found no difference across ethnic groups. A cross-sectional study in the USA conducted with public school students from five different ethnic groups found that they had similar levels of eating pathology (French et al., 1997). Similarly, Australian-born Greek- and Anglo-Australian year eight schoolgirls showed no significant difference in their profiles for eating disorder risk factors, despite 33% of the Greek–Australian girls speaking predominantly Greek at home (Mildred, Paxton, & Wertheim, 1995). However, other studies found that ethnic minority groups expressed greater frequencies of eating disturbances when compared to North-European Caucasians. Although Wildes' (2001) meta-analysis found little difference across ethnic groups for bulimia nervosa (BN), it found that ethnicity played a more significant role in subclinical eating disturbances. Schoolgirls of South Asian background living in the UK have been found to have significantly more unhealthy attitudes to eating than their North-European counterparts (McCourt & Waller, 1995; Mumford & Whitehouse, 1988). Also in the UK, the level of acculturation in male and female students was not associated with Bulimia Investigation Test Edinburgh (BITE) scores within each sample of three different ethnic groups: North-European, African–Caribbean and

South Asian. However, South Asian subjects yielded the highest raw BITE scores and were more likely to keep fasts, feel that their lives were dominated by food, to think about food and to be compulsive eaters, although they did not have evident concerns about their body weight (Bhugra & Bhui, 2003). In the USA, Hispanic–American women were found to have a 9.6% prevalence of binge-eating disorder (BED), compared to 3.9% for Africa–American women and only 1.8% for North-European American women (Fitzgibbon et al., 1998); Hispanic women were also significantly more dissatisfied with their bodies than North-European women (Robinson et al., 1996).

Studies undertaken solely in an ethnic group's country of origin have also yielded mixed findings. For example the incidence of AN in Curaçao was found to be similar to that of Western nations, despite Curaçao having a culture in which it is socially acceptable to be overweight (Hoek, van Harten, van Hoeken, & Susser, 1998). In a similar vein, there was no difference in drive for thinness in Japanese schoolgirls before they left Japan for 1 year abroad as exchange students and when they returned (Furukawa, 2002); however, 90% of the female subjects already wanted to be thinner before they left Japan. There was also no significant difference in the drive for thinness between Singaporean Chinese schoolgirls and USA undergraduate women, although the former had a higher level of body dissatisfaction than the female undergraduates in the USA (Kok & Tian, 1994a). In contrast, the 16% of secondary school girls in Saudi Arabia who scored above the screening threshold for the drive for thinness subscale of the Eating Disorders Inventory were more likely to have lived in a Western country for at least six months and/or speak a Western language (Al-Subaie, 2000), both markers of exposure to Western culture. Also, a preference for thinness was associated with speaking English at home in Singaporean Chinese first-year undergraduate women (Wang, Ho, Anderson, & Sabry, 1999). Yet in Hong Kong undergraduate women, 27% wanted to weight *more* than they already did, compared to just 3.1% of USA women (Lee et al., 1996).

It is worth noting that when such studies make comparisons between countries, they often do so by comparing with the research data from other studies, instead of comparing with data from the same study using the same methodologies. However, studies which do utilize the same methodology in a particular ethnic group in both a Western and non-Western country have again produced mixed results. For example Chinese girls in Beijing dieted more than Chinese girls in Sydney, although this difference was not significant and their Anglo-Saxon Sydney counterparts still dieted significantly more than either group (Gunewardene, Huon, & Zheng, 2001). In another study, Kenyan-South Asians still living in Kenya responded more positively to obese silhouettes than Kenyan-South Asians living in Britain, the latter having similar responses to their British Caucasian counterparts (Furnham & Alibhai, 1983). In contrast, a study of Iranian women living in Iran and in the USA revealed that, despite Western media being banned in Iran since 1978 and that by law women must wear some form of dark, full-body covering that obscures body shape and size, there were relatively few differences in eating pathology symptoms between the two groups. Of the differences present, it was the women living in Iran who were more likely to exercise vigorously to control their weight or shape and more likely to desire an empty stomach (Abdollahi & Mann, 2001). While the authors noted that their subjects' mothers would have been exposed to Western media and culture prior to the revolution, they did not address the phenomenon that in Middle-Eastern societies where women wear full-body coverings in public, the women have a great deal of interest in personal appearance and the fashions they wear beneath (Mahmoody & Hoffer, 1987; Sasson, 1992). Also supporting the theme of higher levels of eating and body image disturbances in individuals with less acculturation to Western society, a study of Taiwanese women in both Taiwan and the USA found that those in Taiwan not only identified significantly more strongly with Taiwanese culture than those in the USA, but they also exhibited significantly higher body dissatisfaction and eating disturbances (Tsai, Curbow, & Heinberg, 2003). In both samples, eating and body image disturbances were significantly and positively associated with *greater* identification with *Taiwanese* culture, contradicting the view that traditional cultural values offer protection to eating disturbances.

Thus, exposure to Western culture is not irrefutably associated with eating disturbances, nor with body image issues and their associated desire for slimness which are commonly appearing variables in aetiological models of eating disorders. However, interpretation of the results is hampered as many cross-cultural studies only take ethnicity into account and do not quantitate the degree of acculturation to Western society or the level of retention of traditional values (Altabe, 1998; French et al., 1997; Lowry et al., 2000; McCourt & Waller, 1995). How a particular culture itself is defined is complex,

spanning a wide range of characteristics beyond ethnicity, such as language proficiency and preference, duration and place of residence, choice of clothing and food, social class, age, number of generations spent in a specific society and preference in friends (Anderson et al., 1993; Suinn, Rickard-Figueroa, Lew, & Vigil, 1987; Triandis, Kashima, Shimada, & Villareal, 1986). Studies into eating and body image disturbances which have included acculturation indices incorporated items such as dominant or preferred language (Abdollahi & Mann, 2001; Bhugra & Bhui, 2003; Gunewardene et al., 2001; Mildred et al., 1995; Mumford, Whitehouse, & Platts, 1991), dress and food preferences (Bhugra & Bhui, 2003; Mumford et al., 1991), country of birth (Furnham & Alibhai, 1983; Gunewardene et al., 2001; Lee et al., 1996), parental country of birth (Gunewardene et al., 2001), duration of residence in a specific country (Abdollahi & Mann, 2001; Al-Subaie, 2000; Ball & Kenardy, 2002; Furnham & Alibhai, 1983; Furukawa, 2002). However, some studies did not analyse the effect or association of these indices with body image and eating disturbances (Fitzgibbon et al., 1998). Furthermore, the strength of association between a particular index and the level of acculturation requires consideration: for example the duration spent by an individual in a particular society is not directly proportional to the level of adoption of that society's values (Ball & Kenardy, 2002). Only a few studies had implemented a formal scale of acculturation in their methodology, such as the Ethnic Identity Scale in Lake's study (2000) and the Taiwanese Ethnic Identity Scale in Tsai's study (2003).

CULTURE CHANGE RATHER THAN CULTURE BOUND

The experience and exposure to the *difference* between two cultures, rather than a particular culture itself, is also hypothesised to contribute to the aetiology of eating and body image disturbances. That is, a clash between a traditional culture and adopted culture may heighten the risk for eating and body image disturbances in susceptible individuals (Bhugra, Bhui, & Gupta, 2000; Thomas, James, & Bachmann, 2002; Tsai et al., 2003). DiNicola (1990) noted that AN could be initiated in individuals from immigrant families living in Western societies by a change in culture, leading him to describe AN as a 'culture-change syndrome'. Over-identification with Western norms and values has also been hypothesised as a reason for increased eating pathology (Furnham & Alibhai, 1983; Rathner et al., 1995).

IMPROVED SOCIO-ECONOMIC STATUS

Socio-economic status (SES) has long been considered a risk factor for eating disorders, with women of higher SES more likely to diet and have a lower body weight (Rogers, Resnick, Mitchell, & Blum, 1997). In the Western world, the pressure to be slim increases with SES (Furnham & Alibhai, 1983) and it is plausible that populations in non-Western nations, as they become more affluent, will in turn be more at risk of eating disorders, irrespective of ethnicity or cultural background. Previously, AN had not been reported in ethnic minority groups in the USA, which were at the time the less affluent sectors of society (Bruch, 1973). More recently, however, African–American women from higher SES backgrounds have reported similar levels of body dissatisfaction to North-European American women (Polivy & Herman, 2002), suggesting that body dissatisfaction is associated with SES more powerfully than with ethnicity.

Across Asia, there is also support for an association between SES and eating pathology. Comparing three socio-economic zones in China, Lee and Lee (2000) found that although the BMI values were similar, schoolgirls in the more affluent Hong Kong zone had the greater body dissatisfaction and eating disturbance. Only 17.6% of the Hong Kong subjects wanted to weigh more than they already did, compared to 33.7% of the subjects in the rural Hunan zone. However, 44.3% of the Hunan subjects wanted to weigh *less* than they already did, compared to 74.3% of Hong Kong subjects (Lee & Lee, 2000). It is worth noting that Hong Kong has had a greater level of exposure to Western culture than the other two regions, although the Chinese language is the main medium for communication in all three zones. In Singapore, which has an even higher level of Western cultural influence and uses English as the teaching medium, eating disorder patients tend to come from professional backgrounds (Ung, Lee, & Kua, 1997). But there is also a suggestion that SES has an effect independent of cultural exposure: Taiwan is an Asian society of high SES but has had less exposure to Western culture than Hong Kong, yet 51.4% of their female college students perceived themselves as overweight or obese when only 16.2% actually were (Wong & Huang, 1999). In addition, 65.5% of 10–14 year old Taiwanese girls wanted to

be thinner and 38% had attempted to lose weight (Wong, Bennink, Wang, & Yamamoto, 2000).

But wealth itself does not automatically mean an increased prevalence of eating disorders (Nasser, 1997). The treasured ideal of slimness has percolated through all levels of society via the media (Polivy & Herman, 2002), lending further credence to the hypothesis that eating pathology is no longer restricted to the higher SES (Fear, Bulik, & Sullivan, 1996). Feasibly, once a certain level of affluence has been achieved in a particular society, the association of high SES with eating disorders may no longer hold, owing to globalisation and a blurring of the boundaries between the socio-economic classes in contemporary times.

DIFFERENCES IN PRESENTATION: BODY IMAGE, WEIGHT CONCERN AND ''FEAR OF FATNESS''

A repeated theme in research is that eating disorders may present differently in patients with a non-Western background due to factors such as differing cultural values, family structure and body composition. Prominent among these arguments is whether 'fear of fatness' or weight concern should be included as criteria for a diagnosis of an eating disorder. Some authors have highlighted that the original accounts of AN by Gull (1973) and Lasègue (1973) made no mention of weight concern (Lee, 1993; Palmer, 1993; Rieger et al., 2001). Palmer (1993) commented that concern about shape and weight are not necessarily present in Western cases. Polivy and Herman (2002) also noted that while it is difficult to imagine an eating disorder developing without body dissatisfaction, there are many individuals who are dissatisfied with their bodies and yet never go on to develop an eating disorder.

Traditional Indian, Chinese and Arabic cultures have been cited as examples where at the very least thinness was not emphasised as a requirement for feminine beauty (Khandelwal, Sharan, & Saxena, 1995; Nasser, 1988). The preference for plumpness was thought to protect against eating disorders in such communities. However, several lines of thought suggest that the degree to which women in non-Western societies admire a plump figure has been exaggerated by Western observers. First, historically the non-medical literature suggests that although a certain degree of fullness in the body may have been traditionally desirable, being 'fat' was not universally admired across all traditional non-Western societies. Nogami (1997) described women being depicted as slender in Ukiyoe prints, a form of art characteristic of early 17th to late 19th century Japan. The heroine Lin Dai Yu in the 18th century Chinese literary classic Dream of the Red Mansion has been cited as an example of a slender ideal for Chinese women (Kok & Tian, 1994a) and in addition, the description of an ideal for Chinese feminine beauty at the turn of the 20th century included 'slender figure and sloping shoulders' (Chang, 1991; pp. 30–31). Second, body image dissatisfaction may not be as critical a risk factor for eating disorders in some groups of non-Western women (Lake et al., 2000). Rieger et al's (2001) retrospective analysis of 14 Asian patients treated for eating disorders in Australia found that all 14 showed weight concern. In Singapore, 90% of eating disorder cases showed fear of fatness and 84% displayed disturbances in body image (Ung et al., 1997), but a retrospective study of AN patients in Hong Kong showed that only 41% displayed fear of fatness (Lee, Ho, & Hsu, 1993). In a review of five AN patients in India, only one showed concern regarding being overweight, as well as conscious dieting and exercising (Khandewal et al., 1995). The other four did not display body image disturbance, fear of maintaining a normal weight, a desire for thinness or a history of pre-occupation with food—all hallmarks of AN—but at the same time these patients were not discontent with their emaciated weights. All five patients had lost at least 25% of their premorbid weight, four had amenorrhoea and three had spontaneous vomiting. The authors considered that 'fear of fatness may be a common but inessential feature of anorexia nervosa', a theme supported by Fairburn and colleagues (Fairburn, Shafran, & Cooper, 1998).

This is not to say that fear of fatness is not expressed in non-Western settings and patients. A prevalence study of first-year medical students in China found that 78.1% of the female students expressed a fear of being fat, compared to 42.5% of male subjects (Chun et al., 1992). Also, in Romania, 33 cases of eating disorders reported from 1990–1993 were found to be similar to those reported in literature, despite occurring in a context outside of Western cultural influence (Joja, 2001). A review of five Arab AN patients also found that weight concern, expressed in terms of body image and fear of fatness (concern regarding looking ugly and being overweight) was present in four of the five patients (Abou-Saleh, Youmis, & Karim, 1998).

It is conceivable that while weight concern in the form of fear of fatness is not necessary for an eating disorder to develop and/or be maintained, it is more

likely to be expressed in patients who have had greater exposure to Western culture and society.

DIFFERENCES IN PRESENTATION: FAMILY STRUCTURE AND ENVIRONMENT

From at least the 19th century, it has been speculated that disturbed family functioning is associated with AN (Weiss, 1995). AN patients have been typically depicted as emerging from cohesive and overprotective family environments (French et al., 1997; Minuchin, Rosman, & Baker, 1978), while families of BN patients have been depicted as poorly organised and non-cohesive (Vandereycken, 1995). In both North-European and African-American adolescent schoolgirls, a low level of family connectedness has been associated with frequency of dieting (French et al., 1997), supporting the BN family structure described above.

However, a review of the literature regarding parental care and protection and family environment, in Caucasian and other ethnic groups, has not provided consistent conclusions. A study into women with a chronic eating disorder (AN, BN or eating disorders not otherwise specified) found that their perceived level of maternal care to be significantly lower than that of partially recovered, fully recovered and control women. Their level of paternal care was also perceived as significantly lower than that of women fully recovered from an eating disorder and control women (Bulik, Sullivan, Fear, & Pickering, 2000). The authors put forward two interpretations: that the chronic nature of the eating disorder itself has a detrimental effect on the family structure as well as causing bias in the person's perception of her parents; or that the absence of adequate parental care truly contributes to the chronicity of the condition. Hodges, Cochrane, and Brewerton (1998) found that AN, BN and binge-eating disorder (BED) subjects perceived their family environment to be less cohesive and supportive than normal population subjects. However, the authors found that BED subjects perceived a significantly higher level of control in the family than did normal subjects and a trend for this high level of control was noted for AN and BN subjects as well. In contrast, Harding and Lachenmeyer (1986) found that family environment factors did not contribute significantly to eating disturbance levels in AN patients. Likewise, Kent and Clopton (1002) found no difference across BN, subclinical BN or control undergraduate women in terms of family cohesion and control or levels of paternal and maternal care or overprotection.

Few studies have examined parental overprotection issues cross-culturally, let alone explored such issues in eating disorder populations. McCourt and Waller (1995) found that South Asian schoolgirls in the UK had a significantly higher level of perceived maternal overprotection than their North-European counterparts. The South Asian sample had significantly unhealthier eating attitudes, upon which their perception of maternal overcontrol had a significant effect (McCourt & Waller, 1995). However, none of the studies discussed so far investigated the participants' preferred family environments.

Although the traditional picture of an AN family is one of rigidity and enmeshment, some studies that investigated eating pathology and ideal family functioning found interesting discrepancies between perceptions of family members. Dare, le Grange, Eisler, and Rutherford (1994) investigated family cohesion and adaptability in AN and BN adolescent outpatients and their families, finding that the parents viewed their families as flexible and separated. This was in contrast to the patients themselves, who saw their families as less cohesive than their parents did but more structured than their fathers perceived. However, the family structures identified by both parents and patients as their ideal were similar, with a desire for greater cohesion and flexibility. The authors found that the relationship between adaptability and cohesion showed little uniformity across families and when they investigated the difference between the perceived and ideal scores, they found that most of the families showed a sense of isolation and constraint. A similar finding was made in a study of Singaporean schoolgirls: in this non-clinical sample, there was a preference for families to be structured and connected, irrespective of whether the subjects had a low or high drive for thinness. Thus the subjects desired more flexibility and more cohesion than they currently perceived their families to have (Kok & Tian, 1994b).

Given the cross-sectional and retrospective nature of the above studies, as well as that of as others (Blair, Freeman, & Cull, 1995; Brookings & Wilson, 1994), caution needs to be exercised in extrapolating their findings or concluding that family cohesion and rigidity are aetiological factors in eating disorders. At least, however, such results do not universally support the classic family models proposed by Minuchin (1978), but nor do they reveal consistent support for a particular family structure for eating disorders, eating disturbances or ethnic groups.

Furthermore, the empirical research has been conducted on eating disorder as well as community population samples. It is worth noting that even if a certain type of family structure or functioning were commonly found in eating disorder families, it does not indicate that it is part of the condition's aetiology (Dare et al., 1994). Also, families are not necessarily pathological, even if their functioning is at an extreme, as long as their members all expect and support such a pattern (Olson, 2000). As Tsai (2000) notes, 'What is perceived as parental overcontrol in one culture may be construed differently in another'. High levels of cohesion and overprotection are the norm in Asia and are seen as desirable (Bhugra et al., 2000; Kok & Tian, 1994a), yet the incidence of AN is low. It is still debated whether or not the collectivistic nature of Asian families and societies reduces or increases the risk of eating disorders (Lee & Lee, 1996; Tsai, 2000), but the above studies suggest that the level of satisfaction with the perceived family environment, and patterns preferred by different members of the family, should be examined more closely in relation to body image and eating disturbances.

DIFFERENCES IN PRESENTATION: PSYCHOLOGICAL CONTROL

It has been hypothesised that an individual's need for control over their body is an essential feature in the development of an eating disorder (Polivy & Herman, 2002), and for example that 'an extreme need to control eating' is necessary to maintain AN (Fairburn et al., 1998). AN may be considered a disorder originating from control issues, such as lack of control over the individual's life and emotions, a fight or extreme need for self-control, or control within a family setting (Surgenor, Horn, Plumridge, & Hudson, 2002). Fairburn and colleagues (1998) hypothesised that the AN patient's initial need for general self-control soon becomes dominated by the need to have control over eating and that control of eating is chosen as the means of control because it provides direct, tangible evidence of self-control. They highlight that dietary restriction has connotations of being in control and that this is encouraged in Western society.

As noted recently (Surgenor et al., 2002), the presumed close relationship between AN (and eating disorders in general) and issues of psychological control has not been tested in non-Western populations, which may deem quite different control styles and mechanisms as pathological. Fairburn et al. (1998) took the link further and hypothesised that eating disorder cases which do not display shape and weight concern would more likely be found in non-Western countries and that the disorder would more probably be driven by matters of self-control.

Importantly in such speculations, it should be noted that the meaning and expression of control vary across countries and cultures. For example Western cultures emphasise primary or internal control while Japanese culture emphasises secondary or external control. European Americans and those of higher SES report more internal control while the Japanese report more external control; Hispanic cultures also commonly hold external locus of control beliefs, which may be stronger in those of a lower SES (Marks, 1998). Chinese students studying in Australia and Asian-Australian migrant students were also more likely to endorse an external locus of control than Anglo-Saxon Australian students (Leung, 2001). Levels of acculturation also affect the perception of control: first generation Japanese students in the USA have been found to score more externally in their control while third or later generation students were more internally orientated (Marks, 1998).

Such different expressions of and preferences regarding psychological control has been explained by recourse to various cultural traditions and values. For example the agrarian heritage of the Chinese is seen as lending itself to collectivism, whereas the hunting and herding heritage of Europeans favours autonomy and a looser social structure (Ji, Peng, & Nisbett, 2000). The East Asian individual does not view things in isolation and a sense of personal control is less important to an East Asian individual than to a Western individual. The East Asian individual aims to 'conform to the reality' while the Western individual tries to make 'the reality conform to him' (Ji et al., 2000). Chan (1989) examined locus of control in Hong Kong Chinese undergraduate students, who are considered more Westernised in their values. This group was found to be more externally oriented than those from a variety of Western countries. In Hong Kong, success is linked to various geomancy factors such as time of an individual's birth, location of ancestors' graves and the layout of the house. Thus, in Hong Kong society, there is an emphasis on external control where an individual should work hard on their present task and 'fate' would take care of the rest (Leung, Salili, & Baber, 1986).

In sum, psychological control is clearly important in understanding eating disorders, but as suggested by Surgenor et al. (2002), it may be that the degree of

deviation from the control profile norm of a particular culture has more of an association with eating disorders than the absolute profile itself. In the same way that constructs of psychological control differ across cultures, the traditional associations between such constructs and eating disorders may function differently in these cultures.

DIFFERENCES IN PRESENTATION: BODY COMPOSITION

It is now recognised that universal cut-off points for body mass index (BMI) values are not suitable for use across all ethnic groups. Italian women have higher body fat percentages than Danish women for the same BMI (De Lorenzo, Andreoli, Testolin, Oriani, & Svendsen, 2000) and Chinese women have also been found to have higher body fat percentages (Deurenberg, Yap, & van Staveren, 1998; Ko et al., 2001). Compared to the World Health Organization's cut-off points of 25 BMI points and over for overweight and 30 and over for obese (World Health Organization, 2000), new lower cut-off values of 23 for overweight and 26 for obese have been suggested for Hong Kong Chinese (Ko et al., 2001). In Singapore, a cut-off of 27 for obesity was proposed (Deurenberg-Yap, Schmidt, van Staveren, & Deurenberg, 2000). To our knowledge, cut-off points to define what is underweight in different ethnic groups have not yet been established. Ethnic differences in body composition may be of clinical significance in managing eating disorder patients of different ethnic backgrounds in that modified weight and BMI targets may need to be implemented.

SUMMARY AND RESEARCH IMPLICATIONS

The aetiology of eating disorders is still not well understood and there are relatively few prospective studies reported in the literature. Only a handful of studies have examined patients diagnosed with an eating disorder while others have rather investigated subclinical levels of eating pathology. Common notions that acculturation to Western culture induces eating pathology and body image disturbances in non-Western societies is further complicated by cultural differences in family environment and the encroaching similarity of socio-economic levels. Classic features of eating disorders, such as body image dissatisfaction, affluence, high family cohesion and rigidity and weight concern, are not universally present in Western patients, let alone non-Western ones, and eating disorders were not unknown in the non-Western world, nor was a slim stature in women necessarily unfavoured these societies.

Most of the studies on eating pathology and body image disturbances in non-Western subjects have been undertaken in Western nations rather than the country of origin, and often the degree to which an individual had retained their traditional cultural values or absorbed the mainstream Western society's values were not considered. Few studies measured the level of acculturation and the methods used have not been consistent across the literature. Also, few studies have been conducted in both a Western and non-Western nation using the same set of assessment tools. Psychological control profiles in the non-Western individual have not been investigated in relation to eating disturbances and the differences in body composition across ethnic groups warrants examination in regard to clinical management. Further scientific enquiry into these areas is strongly encouraged and will hopefully contribute to understanding and managing eating disorders, which are now increasingly recognised in individuals of different cultural backgrounds.

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