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# Will cognitive-dissonance methods developed in the West for combatting the 'thin ideal' be helpful in slowing the epidemic of eating disorders in non-Western cultures?

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**Summary:** Eating disorders are common, life-threatening conditions in Western countries, but until relatively recently they were regarded as uncommon in non-Western cultures. However, the prevalence of eating disorders in many of the more affluent non-Western countries is rising rapidly as community members, particularly young women, internalize the 'thin ideal' that has been widely promoted by the international media. This review discusses the factors involved in the development of eating disorders in non-Western settings with a particular emphasis on the influences of urbanisation, modernisation, Westernization, and the resulting changes in women's roles. The cognitive dissonance programs developed in Western countries that have proven successful in countering the negative effects of the thin idea are described and their potential application to East Asia and other non-Western countries are discussed.

## 1. Introduction

Eating disorders tend to predominately affect young women,<sup>[1,2]</sup> though the number of males suffering from these conditions is steadily increasing.<sup>[3]</sup> Eating disorders – which profoundly disrupt the life of the sufferers and their close associates – have the highest case-fatality rate of any psychiatric disorder.<sup>[4]</sup> There are ongoing efforts aimed at identifying interventions that can successfully prevent the development of eating disorders in at-risk populations.

Research in this area has found that sub-threshold levels of psychopathology related to eating in which there are elevated concerns about eating, weight or shape that do not meet diagnostic criteria for an eating disorder are common; these subsyndromal conditions are, moreover, associated with marked impairments.<sup>[5]</sup> These individuals constituted an important high-risk group because many of them will subsequently progress to manifest clinically significant eating disorders. Therefore, attempts to reduce levels of sub-threshold eating psychopathology represent an intuitively logical step in the prevention of eating disorders.

Until relatively recently, reports of eating disorders have indicated that the prevalence is much higher

in Western countries than elsewhere in the world. However, more recently the prevalence of clinical and sub-clinical forms of eating disorders has been increasing in Asian cultures and in other non-Western countries.<sup>[6,7]</sup> This change may be a by-product of the Westernisation of non-Western cultures. There are several critical aspects of the process of Westernisation that could change the profile of risk factors for eating disorders in the communities undergoing Westernization, including rapid economic development, urbanisation, and changing gender roles. Perhaps most importantly, the increase in exposure to Western-derived media influences, specifically those that portray very thin body shapes as the epitome of attractiveness, desirability, and success, have been shown to be important social risk factors for the development of eating disorders.<sup>[8]</sup>

The aims of this narrative review are three-fold. The first is to discuss the existence of a 'thin ideal' across cultures, how Westernisation has changed women's roles in non-Western cultures, and how this may be related to the increasing rates of eating disorder symptoms in East Asian countries. The second is to describe the cognitive-dissonance prevention programs targeting thin-ideal idealisation that have been implemented in the West and their relative

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effectiveness; given cross-cultural similarities in the developing trajectory of the psychopathology of eating behaviours, there may be benefits to adapting these approaches in Asian cultures. The third aim is to provoke discussion about the process of developing culturally sensitive prevention programs for the coming epidemic of eating disorders in non-Western countries.

## 2. The meaning of 'thin ideal' in changing cultures

Embedded within every culture is a dominant view of what constitutes the 'perfect' physique. Understanding what is regarded as beautiful in different cultures is important in understanding how eating problems might develop. This is particularly true in cultures where the promoted ideal is associated with a continued pursuit of thinness. McCarthy<sup>[9]</sup> examined cross-cultural data on eating disorders and concluded that eating disorders only occur in cultures that have the thin ideal. Where this ideal is not present or relevant, eating disorders are not found.

For many years the reported prevalence of eating disorders in non-Western cultures had been much lower than that in Western cultures; the presumed explanation was that the desire to be thin was more common in the West.<sup>[10]</sup> However, historically, East Asian cultures had a clear preference for small body features in women. In ancient China smaller body shapes in women were prized for being associated with femininity and beauty<sup>[11]</sup> and common practices such as foot binding and waist binding reflect this preference. Reports of women in harems starving themselves during the *Chun Chiu* period (722–481 B.C.) in order to achieve the body shape deemed desirable by the ruling Emperor<sup>[12,13]</sup> illustrate the influence that perception of beauty had on women. However, there were also periods in China, such as during the *Tang* Dynasty (618–907 A.D.), when larger bodies in women were in favour<sup>[14]</sup>; indeed, Yang Guifei, one of the four great beauties reported in ancient Chinese history was overweight.<sup>[15]</sup> In many cultures where resources are scarce, thinness is often regarded as a sign of poverty and poor health and larger body sizes are admired in the belief that they signal wealth and prosperity.<sup>[16,17]</sup> Supporting this cross-cultural difference in ideals, older studies that compared females' attitudes towards 'ideal' body weights and sizes in different cultures found that Western girls report ideal body weights 5% lower than that of Chinese girls of the same height.<sup>[18]</sup>

More recently China and many other developing countries are increasingly affluent. They have experienced rapid economic development and, in tandem with development, an increasing influence of Western culture. A commonly cited explanation for the increase in eating disorders and associated risk factors in these countries is the influence of Westernisation and the promotion of Western ideals of beauty that encompasses the thin ideal. Several studies have reported higher levels of abnormal eating attitudes in

the girls who are most exposed to Western culture.<sup>[19]</sup> In line with this, the level of urbanisation appears to be an important factor when assessing the development of eating problems. For example, Swami and Tovee<sup>[20]</sup> found that men and women from both Britain and Malaysia who lived in urban areas showed a preference for significantly lower BMIs than those who lived in rural areas. Similar findings have also been reported between Chinese adolescents living in urban versus rural communities.<sup>[21]</sup> In support of this hypothesized relationship between Westernization, urbanization and eating disorders, Japan – the most industrialised and Westernised of the East Asian countries – is experiencing significant increases in the rates of both anorexia and bulimia nervosa.<sup>[22,23]</sup> Reported preferences of both Asian males and Asian females suggest that these increasing rates are related to changing cultural attitudes about ideal body size. In one study Japanese male participants asked to select their preferred female body size chose one that was significantly smaller in terms of BMI, compared to that chosen by British males.<sup>[24]</sup> Similarly, Japanese women asked to select the ideal body size of both Japanese and American females, chose a thinner ideal body for Japanese women compared to what they thought was ideal for American women and, notably, they selected an even thinner shape when they were asked what they believed Japanese men would view as the ideal.<sup>[25]</sup>

These similarities in attitudes about ideal body shape and in the prevalence of eating disorders between Western countries and the more urbanised non-Western countries suggests that problematic eating behaviours will become more prevalent in other non-Western societies as they become more urbanized and Westernized. Further evidence for this can be found in recent reports that show that levels of weight pre-occupation, body dissatisfaction, and disordered eating in a sample of children (aged 3–15 years) from mainland China do not differ from those of their Western peers,<sup>[26]</sup> over half of the children in both locations were dissatisfied with their bodies, despite being of a healthy weight and size. The same appears to be true for Chinese university students and their Western counterparts.<sup>[27]</sup> Similarly, Musaiger and colleagues<sup>[6]</sup> have reported similar levels of disordered attitudes about eating in adolescent girls from seven Arab countries (Algeria, Jordan, Kuwait, Libya, Palestine, Syria, and UAE) compared to those reported by adolescent girls in Western countries (Greece, Spain, and USA). Interestingly, they found the highest levels of unhealthy attitudes among girls from Kuwait, Jordan, and UAE—the Arab countries that are considered to be the most open to Western culture and lifestyle.

One way in which urbanisation and Westernisation may be linked to the development of eating disorders is via increased exposure to international media that promotes the thin ideal. The Western media still tends to objectify women, placing much more emphasis on their perceived beauty – which is often closely related

to being thin – than on their achievements. (The influence of the media on ideal body image also puts psychological pressure on men who are expected to conform to or, at the least, aspire to a ‘healthy’ muscular physique.<sup>[28]</sup>) Women who internalise this media message and measure their own self-worth in terms of the extent to which they achieve this physical ideal may be more vulnerable to developing disturbances with body image and, as a result, more likely to have problematic attitudes towards eating. For example, in Taiwan a study of adolescents found that thin-ideal images were viewed on average twice a week and that thin-ideal media pressure and body dissatisfaction predicted restrained eating and unhealthy weight controls behaviours.<sup>[29]</sup> Greater problems with self-esteem and disordered eating behaviours have also been associated with exposure to and identification with thin-ideal messages in adolescents in Hong Kong.<sup>[30]</sup> Similarly, in a sample of mainland Chinese medical students, the most significant correlate of disordered eating attitudes was concern about body image.<sup>[31]</sup>

The historical idealization of small body size for women from the higher socioeconomic classes in China and, possibly, in other Asian cultures may make East Asia a particularly fertile ground to promulgate the current Western thin ideal and, thus, accelerate the rate at which disordered attitudes about eating progress to full blown eating disorders.

### 3. The meaning of Westernisation for women

A fundamental question relevant to the relationship of Westernization and eating disorders relates to the actual effects of Westernization on the lives of community members in non-Western cultures – that is, the practical *meaning* of ‘Westernization’. Westernization clearly has a substantial effect on the roles of both men and women, changing fundamental cultural expectations within family units and about the functioning of other social systems. Many of these changes stem from the significant change in the role of women. In more Westernized settings women increasingly take on non-traditional roles such as gaining higher education and working outside of the home; this has corresponding effects on their role within the family. For some, such changing roles may be a source of conflict between two routes in life; the modern and the traditional.<sup>[32]</sup> In Japan, liberated, modern, working women are still expected to adopt a more conservative role within the family,<sup>[33]</sup> a contradiction which can result in increased psychological stress.

Gender roles are changing at differing rates in different East Asian countries. A study by Jung and Forbes<sup>[34]</sup> compared American, Chinese, and Korean females on measures of disordered eating and body dissatisfaction with the goal of determining whether cross-cultural differences in these measures could be better predicted by exposure to Western ideals or by

the rate of change in women’s roles. They hypothesized that if the level of Westernization was most important the US sample would report the most problems and the Chinese sample the least, since the thin ideal is most and least prominent in these cultures; alternatively, if the rate of change of women’s roles was most important the Korean sample would report the most problems, as they have undergone the most recent and rapid change in women’s roles. Their findings supported the second hypothesis, that is, changing expectations of women’s roles (both perceived and real) were a more important factor in the development of eating problems than the degree of acceptance of the Western thin ideal.

Modern women in East Asian countries are finding themselves in increasingly competitive environments. The ability to deal with such competition and the associated pressures is likely to be a key factor in the development of eating problems. Exposure to other competitive females has been found to be associated with greater levels of body dissatisfaction and more restrictive eating attitudes than exposure to less competitive (i.e., lower status) females.<sup>[35]</sup> Within this new competitive environment, women are also required to have a set of skills and interpersonal competencies that were not required of women in the generations before them. A systematic review by Arcelus and colleagues<sup>[36]</sup> found that women’s difficulties in expressing feelings and giving priority to other people’s feelings is associated with restrictive eating behaviours, whereas difficulties with trust, negative interactions and conflict tend to be associated with more bulimic symptomology. Working women are regularly exposed to criticism; those who have high levels of social sensitivity (i.e., excessive awareness of and sensitivity to the feelings and actions of others<sup>[37]</sup>) are more likely to experience heightened negative emotional responses to such criticism.<sup>[38]</sup> In Westernised cultures, such increased sensitivity to criticism is associated with disturbed eating attitudes and body dissatisfaction<sup>[39,40]</sup> and, in school-age girls, with bulimic symptomology.<sup>[41]</sup> Steiger and colleagues<sup>[41]</sup> argue excessive awareness and sensitivity to others may be associated with reliance upon external standards of performance and appearance as measures of self-worth. More recently, social sensitivity has been shown to be related to body dissatisfaction and acceptance of the thin ideal among girls living in Guatemala City,<sup>[42]</sup> a city that has undergone rapid urbanisation and modernisation within a country that traditionally favours heavier body sizes;<sup>[43]</sup> this suggests that Western influences have played a substantial role in the change in attitudes, but no comparison sample of girls from less Westernized areas of Guatemala were available to test this hypothesis.

Being exposed to more criticism in schools, the workplace and, possibly, in the home may also lead women to engage in more self-evaluation than in previous generations. It follows that different aspects of appearance are more likely to be evaluated by the individual in terms of ‘achieving’ an ideal. For example,

Jackson and Chen<sup>[44]</sup> found that compared to matched controls, Chinese individuals with eating-related disturbances had significantly more concerns about social pressure and social comparisons and, importantly, a greater preoccupation with facial appearance; this suggests that appearance concerns not directly related to weight and shape are associated with eating disturbances. Other authors have reported similar findings and suggest that body dissatisfaction may not be simply due to a preoccupation with weight and shape, but it may also include other aspects of Western beauty ideals, such as blonde hair, larger breasts and taller height.<sup>[33]</sup> In support of this hypothesis, Yates and colleagues<sup>[45]</sup> found that Japanese university students in Hawaii had higher rates of body dissatisfaction and the highest rates self-loathing compared to other ethnic groups (Caucasian, African American, Filipino, Chinese, Hawaiian, and multiethnic) despite having very low BMIs.

Understanding the causal trajectories of eating disorders is of paramount importance to the development of effective, culture-specific prevention programs. Like many other behavioural disorders, eating disorders are multi-determined, involving biological, psychological and social factors. One important factor is the thin ideal, a cultural construct that waxes and wanes in different locations and in different time periods. The mechanisms by which this cultural ideal interacts with the psychological and biological determinants of eating disorders remain unknown, but there is increasing evidence from Western countries that the thin ideal can be challenged and that such efforts can decrease the prevalence and severity of these life-threatening conditions.

#### 4. Prevention of eating disorders in Western societies

Eating disorders are not easy to treat and even after successful treatment relapse is common. Thus many academics and clinicians have focused their efforts on devising interventions that can prevent the onset of these disorders, particularly in certain high-risk groups. There are, however, potential negative consequences of programs that focus increased attention on concerns about weight,<sup>[46]</sup> so careful assessment of outcomes for such programs need to include evaluation of long-term unintended consequences. A meta-analytic review of 12 randomized controlled trials about preventing eating disorders in children and adolescents found that the interventions had neither positive nor negative effects.<sup>[47]</sup>

Two other meta-analytic reviews<sup>[48,49]</sup> of trials summarised two decades of eating disorder prevention programs in the West. These reviews only included controlled trials in which potential subjects were randomly assigned to the intervention group or the control group. The overall finding from the most recent review<sup>[49]</sup> integrated the findings of 81 separate trials, and concluded that 51% of the programs reduced the

prevalence of risk factors for eating disorders and 29% of the programs reduced the future occurrence of eating disorders. In addition, these reviews identified several aspects of successful intervention programs that should be considered when designing prevention programs in the future: older age of participants (over 15 years); programs exclusively focussed on females; interactive (not didactic) programs, multi-session (not single-session) programs; programs focussed on high-risk individuals (not on the general population); and programs provided by professional (not lay) counsellors. Interventions that tend to deviate from these parameters had little or no effects, suggesting that interventions are only effective when administered to high-risk groups.

Importantly, these reviews also concluded that programs focussed on body acceptance and dissonance-inducing content related to the thin ideal produced larger effects than those that did not address these issues. Cognitive dissonance interventions aim to change an individual's beliefs about the thin ideal by having them actively challenge these beliefs. This can be done by asking individuals to participate in exercises (verbal, written or behavioural) in which they critique the thin ideal. By doing so, they create a state of discomfort between their own acceptance of this ideal and the arguments against it that they are generating. This discomfort – the dissonance – may then motivate the individual to alter their own idealisation of the thin ideal in order to reduce the discomfort. Undoubtedly, the content of dissonance-based programs would need to be culturally relevant in order to be effective.

Stice and colleagues<sup>[50]</sup> have reported a number of effective interventions based on this approach in which dissonance-inducing exercises are completed over three or four 1-2 hour sessions. These interventions have consistently reported positive effects, with significant reductions in thin-ideal idealisation, body dissatisfaction and a range of other measures related to eating disorders and attitudes. Long-term follow-up has shown that the positive effects on body dissatisfaction and on relapse of eating disorders can persist two to three years after termination of the program.<sup>[51-53]</sup> Given the relative brevity of the interventions (three to four sessions that last one to two hours each) these long-term beneficial effects – which have been replicated in several studies – are impressive. Cognitive dissonance appears to be an effective tool for modifying the long-term negative trajectories of dysfunctional beliefs about body image.

However, there are a number of factors that appear to moderate these effects. Muller and Stice<sup>[54]</sup> report three studies in which they explored moderator effects and found that individuals with higher initial levels of thin-ideal idealisation and those who already meet threshold or subthreshold criteria for an eating disorder at baseline experienced significantly greater reductions in thin-ideal idealisations than those with lower baseline scores or no eating disorder. Similarly, reductions in

eating disorder symptomology was greater for those with a DSM-5 eating disorder, compared to those that did not meet the diagnostic criteria. The authors also found that reductions in body dissatisfaction were greater for young adults and older adolescents than for younger adolescents. These findings are compatible with the conclusions of the meta-analytic reviews reported previously<sup>[48,49]</sup> and with many studies that report greater treatment effects in those with elevated symptoms at baseline.<sup>[52,55,56]</sup> Furthermore, programs that produce a higher level of cognitive dissonance (i.e., those that require increased effort to complete tasks, that expect public reporting of dissonant opinions, etc.) tend to produce greater reductions in eating disorder symptoms from pre-to-post-test than programs that have less intensive methods of generating cognitive dissonance,<sup>[57,58]</sup> but these differences did not persist at the 3-month follow-up.<sup>[58]</sup> Other authors have also reported minimal effects when the dissonance procedure was relatively weak.<sup>[59]</sup>

Another issue that may influence the effectiveness of cognitive dissonance programs is the characteristics of the individuals who administer the program. Whilst clinicians or researchers may develop and evaluate the programs, when rolled-out in the real-world delivery they are likely to be under the management of other professionals or volunteers. Stice and colleagues assessed the outcomes of programs delivered by school staff<sup>[51,60]</sup> and by undergraduate peers,<sup>[61]</sup> they found that compared to control groups both methods of delivering the cognitive dissonance program were associated with significant reductions in body dissatisfaction, dieting, and some eating disorder risk factors, though the effect sizes were generally smaller than in programs delivered by clinicians and attendance at the sessions, particularly in the sessions run by peers, is somewhat lower. Being able to identify, recruit, and train facilitators to deliver a program effectively represents one of the challenges in bringing such intervention programs into mainstream arenas (for a discussion see Marchand and colleagues<sup>[62]</sup>), but the likely benefits are high.

The Sorority Body Image Program, a peer-delivered program for American college students, appears to have had success in engaging motivated peer facilitators and achieving results (for a review see Becker et al.<sup>[63]</sup>). This program targets social systems (i.e., college sororities) to engage with at-risk individuals and focusses on delivering a prevention program in a real-world environment by using peer facilitators. The program consists of two 2-hour sessions (shorter than four-session model used by Stice and colleagues). Across a number of studies, Becker and colleagues<sup>[64-67]</sup> have evaluated the effectiveness of this program and concluded that cognitive-dissonance programs run by peers are effective in reducing eating disorder risk and that the semi-mandatory approach (participation is required as part of the sorority induction but completing the research questionnaires is voluntary) is not detrimental to the outcomes. Significant reductions

in body dissatisfaction, thin ideal internalization, dietary restraint, and the use of the media as a source of information about beauty have been reported up to one year after the program has terminated,<sup>[68]</sup> again illustrating the longer-term effectiveness of such a short program. In addition, there is some evidence that this program may be effective for both high- and low-risk individuals<sup>[66]</sup> and can be successfully tailored for other niche groups, such as athletes.<sup>[69]</sup>

A (non-systematic) review of the literature identified other cognitive-dissonance-based interventions that have been evaluated over the last decade. For example, mirror exposure work has been used to assess how different approaches (cognitive dissonance, neutral, and mindfulness) impact body checking, body image avoidance and body satisfaction. Consistent with the other applications of cognitive dissonance, it appears to be superior to the neutral or mindfulness approach and is associated with longer duration of positive effects.<sup>[70]</sup> It has also been delivered via the internet, with reported positive effects comparable to those seen with a face-to-face group intervention.<sup>[71]</sup> This, along with other internet-based interventions that report positive findings,<sup>[72]</sup> is encouraging and reflects a potential route by which eating disorder prevention can be disseminated in countries where mainstream prevention efforts are currently limited but where rapid modernisation permits easy access to online material. A recent review of the use of technology to deliver treatment within the clinical setting found it to be useful and supports the suggestion that technology can be harnessed to reach those who cannot reach specialist clinical settings,<sup>[73]</sup> a finding that is particularly relevant for large, developing countries such as China and India. Other technologies such as virtual reality are also being developed as novel approaches to deliver treatment for eating disorders and other disturbances related to body image.<sup>[74]</sup>

As described earlier, the objectification of women's bodies is regarded as one way in which the message of the thin ideal may be transmitted. Feminist views that counter the objectification of women may provide some protection against this. A recent study by Kroon Van Diest and Perez<sup>[75]</sup> explicitly measured self-objectification, thin ideal idealisation, and eating disorder symptomology in 177 undergraduate college sorority females. The authors found that thin-ideal idealisation and self-objectification were closely associated; both the thin-ideal and self-objectification predicted body dissatisfaction; and body dissatisfaction, in turn, predicted eating disorder symptoms. The authors implemented a cognitive-dissonance based program and found that this significantly reduced all measures, with reductions in self-objectification lasting up to five months after the end of the intervention and reductions in other measures lasting for at least one year after the intervention. These results suggest that self-objectification is an important component underpinning internalization of the thin ideal that needs

to be addressed in prevention efforts. Since the effects of cognitive dissonance sessions on self-objectification appear more short-lived than the other effects more emphasis may be needed to focus upon this component of the thin ideal. The critique of self-objectification in standard cognitive-dissonance sessions does not include a feminist perspective, so adding this perspective may be one way to enhance the effectiveness of the sessions in reducing body dissatisfaction,<sup>[76,77]</sup> particularly in countries where there has been a rapid change in women's roles and a corresponding increase in the objectification of women's bodies.

These findings convincingly demonstrate that explicitly addressing the concept of the thin ideal and body dissatisfaction should be a fundamental aspect of eating disorder prevention programs. Indeed, discussions with adolescents in the UK have revealed that body dissatisfaction and dieting can be explained by four themes: peer acceptance, social comparison online, pressure from family, and pressure from the media and fashion industries. As such, recent recommendations highlight the need for prevention programs to include a component on 'learning to be critical of the media.'<sup>[78]</sup> The findings reported above strongly suggest that it is better to present this component of the prevention program in a cognitive-dissonance format rather than as psycho-education.<sup>[79]</sup>

Identification of specific subgroups that respond best to the cognitive dissonance training will help ensure the most efficient use of limited resources by focussing efforts on those who will receive the greatest benefit from the interventions. But those at lower risk, such as younger adolescents, may also benefit because the training could decrease the proportion of them who subsequently progress into the high-risk category – the ultimate goal of prevention programs. These types of effects are difficult to assess in relatively short-term studies; long-term cohort studies are needed to determine what age cognitive dissonance training programs should be initiated to most effectively counter the negative effects of the thin ideal and other counter-productive beliefs promoted by the media. In the UK anti-thin ideal idealisation and media literacy education is being introduced independently, outside of scientifically-evaluated eating disorder prevention programs. For example, in 2010 the UK Government launched the Body Confidence Campaign and developed education packs for schools and parents in conjunction with a not-for-profit company called Media Smart (<http://www.mediasmart.org.uk>). These packs encourage children to think critically about the images they see in the media, understand that they are not necessarily achievable, and explore the different techniques used for digital enhancement and manipulation of images. A recent report stated that these packs have been downloaded 30,000 times.<sup>[80]</sup> Whilst it is too early to evaluate what impact this particular strategy is having, the mainstream nature

of it means that it is being received by a range of children and adolescents, regardless of gender and risk status. The findings of Becker and colleagues<sup>[65]</sup> that semi-mandatory participation in their peer-delivered cognitive-dissonance program as part of sorority induction did not adversely affect outcomes is also encouraging in this context as it supports proposals to deliver such interventions as part of the mandatory school curriculum.

Overall, cognitive dissonance-based programs appear to be effective in reducing thin ideal idealisation and problematic eating behaviours and cognitions. The literature appears to support the robustness of these effects when delivered across different settings, by various personnel, and through various mediums. There is evidence that such programs are effective in reducing eating disordered behaviours and symptoms in individuals from a range of ethnic backgrounds in Western countries.<sup>[81]</sup>

### 5. The applicability of preventative programs for eating disorders in non-Western societies

To our knowledge there are no published studies reporting the use of cognitive-dissonance programs in non-Western countries. Given the increasing prevalence of eating problems and disorders in these countries, there is an urgent need to make culture-specific adaptations of primary prevention strategies such as the cognitive-dissonance programs described above and to systematically assess their feasibility and cost-effectiveness. There are several factors that would need to be considered when making this adaptation. For example, cognitive dissonance involves a degree of self-confrontation that may not be effective or easy to engage in in cultures that do not value this attribute, particularly among women. And critiquing a thin ideal that is entwined within a rich cultural history (such as the ancient preference for small-featured women in China) may pose greater challenges than critiquing a thin ideal that has been created by recent popular culture.

The extent to which cognitive dissonance-based programs might be feasible in East Asian cultures and whether or not such prevention efforts could yield comparable results to those seen in the West is, at present, unknown. However, the characteristics of some East Asian cultures suggest that such programs might hold promise. Firstly, East Asian cultures promote self-reflectiveness, so individuals in these cultures may find it relatively easy to engage in dissonance-inducing activities that require them to be open to critiquing their ideals. Secondly, East Asian cultures and the educational systems within these countries emphasize respect for and obedience to authority; disseminating cognitive dissonance programs within schools and colleges in East Asian cultures would probably be effective since participation rates are likely to be high, particularly if

the programs were mandatory. Third, despite the lack of eating disorder specialists, it should be relatively easy to recruit school staff or students to assist in the delivery of the programs, though the effectiveness of such methods of delivering the programs would need to be tested. Fourth, the continued importance of family networks in these cultures – where most youth remain dependents until their marriage – may make it feasible to integrate parental participation in or support for the cognitive dissonance interventions. And finally, the rapid expansion in the use of the internet by youth in the more affluent East Asian countries proves the opportunity to develop and test novel approaches to delivering internet-based cognitive dissonance programs that, if effective, could be rapidly up-scaled for large numbers of youth.

## 6. Conclusion

The increasing adoption of the thin ideal in non-Western countries and cultures is closely associated with an increasing prevalence of eating disorders. But there is little research from these countries on programs that aim to prevent eating disorders by slowing or reversing acceptance of the thin ideal. The current emphasis in these countries is on treating the growing number of individuals affected by eating disorders, not on retarding the cultural changes that have promoted this epidemic. There are, however, strategies employed in Western countries that could help shift the focus in non-Western countries from treatment to prevention. If the cognitive-dissonance based programs that have proven successful in the West can be successfully adapted to other cultures, the internet—the same source that carries the thin ideal images— may prove to be the most effective means of decreasing body dissatisfaction around the world.

## Conflict of interest

The author reports no conflict of interest related to this manuscript.

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