

Exposure to Westernization and Dieting: A Cross-Cultural Study

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Abstract: Objectives: *The study aimed to establish whether an index of exposure to westernization would predict dieting behavior over and above the predictors of body mass index (BMI) and social influences. The study also sought to compare dieting behaviors among adolescents from three different cultural backgrounds. Method:* A total of 100 females from Beijing, China, 60 females of Chinese heritage living in Sydney, Australia, and 100 female Australians of no Chinese background were assessed. The exposure to westernization index incorporated the country of birth, the predominant language spoken at home, the country of birth of one's parents, and the country of residence. **Results:** *Exposure to westernization was found to be a significant predictor of dieting status. The westernization index remained an important predictor when BMI and social influences to diet were taken into account. Interestingly, the Chinese Australian girls dieted the least, although the Chinese girls living in China perceived more influence from their peers to diet, despite their lower BMI. Conclusion:* *The exposure to westernization index provides a useful assessment of important influences on dieting in adolescent females. © 2001 by John Wiley & Sons, Inc. Int J Eat Disord 29: 289–293, 2001.*

Key words: *westernization; dieting behavior; Australian girls; Chinese Australian girls*

INTRODUCTION

Dieting and its related disorders have long been known to be widespread among young women in Western societies. Yet the claim that they are culture bound (Prince, 1985) has been challenged by recent findings among young women in several nonwestern countries (Nasser, 1997). Several factors have almost certainly contributed to the apparent spread (Lee, Lee, Leung, & Yu, 1997; Lee & Lee, 1996). One of the most plausible hypotheses to account for the phenomenon is that increased exposure to westernization is associated with an increased likelihood of dieting. A systematic test of this hypothesis requires a

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comparison of those from similar ethnic backgrounds with varying degrees of exposure to westernization. Support for the hypothesis would be provided if an increase in westernization was found to be predictive of more dieting.

In principal, objective indices of exposure to westernization include country of birth, primary language spoken at home, parents' country of birth, and country of residence. We believed that it is important to comprehensively index the cumulative effect of westernization, or its absence, by adopting all of these measures simultaneously. We sought to establish whether the index would predict dieting behavior. We were interested not only in a simple bivariate prediction, but also in whether exposure to westernization could be shown to contribute to dieting severity over and above such known predictors as body mass index (BMI; Grigg, Bowman, & Redman, 1996) and specific social influences that encourage dieting (Huon, Lim, & Gunewardene, in press).

A second goal of the study was to compare Chinese adolescents in China with Chinese Australians and Caucasian Australians in terms of the various predictors of dieting behavior. Specifically, comparisons involved their BMI and the important influences on dieting from parents (namely, conformity and compliance) and from peers (namely, modeling, and competitiveness), following Huon et al. (in press), as well as the dieting behavior itself.

METHOD

Participants

Two hundred sixty adolescent females participated in this study. Their ages ranged from 12 to 16 years, with a mean of 14.4 years ($SD = 1.2$). One hundred were Chinese secondary school girls living in Beijing. One hundred and sixty girls were recruited from several Sydney high schools. One hundred of the Australian girls were Caucasian. The other 60 were carefully selected to cover Chinese Australian adolescents with varying degrees of exposure to westernization.

Measures

Exposure to westernization was indexed from a composite score that incorporated four categories: the country of residence (where 0 referred to China and 1 to Australia), the country of birth (0 = China, 1 = Australia), the parents' country of birth (0 = China, 1 = Australia), and the main language spoken at home (0 = Chinese, 1 = English). The total westernization index was then computed by summing the separate responses on each of those four categories; a higher score represents greater influence of a western culture, or more specifically, of an Australian culture. Scores therefore ranged from 0 (for the girls living in Beijing, for whom all categories were Chinese) to 4 (with all categories being Australian). Thus, the sample included 100 subjects with a score of 0, 20 with a score of 1, 20 with a score of 2, 20 with a score of 3, and 100 with a score of 4.

Dieting Status Measure (DiSM; Strong & Huon, 1997) was designed to classify individuals into dieting status categories. Subjects are asked to indicate which statement best describes their dieting status over the past 6 months. Those descriptive categories refer to 1 = never dieters, 2 = triers and ex dieters, 3 = sometimes dieters, 4 = often dieters, and 5 = always dieters.

BMI is calculated by dividing each girl's weight (kg) by her height squared (m^2). From

their BMI, subjects were categorized as very underweight (less than 18), underweight (18–19), normal (20–25), overweight (26–30), and very overweight (more than 30; Grigg et al., 1996).

Parents social influences covered conformity and compliance. Conformity was examined by first asking participants to what extent their parents approved of or endorsed their dieting (1 = *strongly disagree* to 5 = *strongly agree*). Compliance was assessed by asking subjects to rate the frequency with which their parents tell them that they should diet to lose weight (1 = *never* to 5 = *always*).

Peer social influences examined modeling and competitiveness. For modeling, participants were asked to name their five closest friends, to state whether each of them diets regularly (0 = *no*, 1 = *yes*), and for those who do diet, to estimate their level of commitment to it (1 = *not at all committed* to 4 = *strongly committed*). Peer modeling influence was calculated by multiplying those two scores together for each friend. The scores for the five friends were then summed to compute a total peer modeling score. The Dieting Peer Competitiveness (DPC) scale is a recently developed measure that has been shown to have good reliability and validity (Huon, Piira, Hayne, & Strong, 2000). The 9-item Likert format measure assesses the extent to which girls compare their appearance, especially their body image and eating habits, with their friends. A high total score indicates that the subject is competitive with her peers about weight control issues.

The questionnaires were translated and scribed in Chinese by one of the authors, who is a native Chinese-speaking person (RZ), and then back translated by a second native Chinese-speaking person. The wording of the back translation was carefully checked to compare the authenticity of the Chinese to English translation with the original English version.

RESULTS

When entered in a simple bivariate regression, exposure to westernization significantly predicted dieting status ($\beta = .19$; $t = 3.17$, $p < .01$). Although there was only a modest R^2 of 0.04, $F(1, 256) = 10.02$; $p < .01$, the beta weight indicates that it is a strong contributor. In a second regression, exposure to westernization was also an important predictor ($\beta = .24$; $t = 4.16$, $p < .001$), although peer competitiveness was found to play an even stronger role ($\beta = .42$; $t = 7.52$, $p < .001$). Peer modeling ($\beta = .21$; $t = 4.02$, $p < .001$), BMI ($\beta = .18$; $t = 3.06$, $p < .01$), and parental compliance ($\beta = .13$; $t = 2.12$, $p < .05$) were also significant predictors of dieting when all variables were taken into account; the overall R^2 was 0.431, $F(6, 232) = 29.28$; $p < 0.001$.

Westernization index scores ranged from 0 to 4. Granted the small number of subjects with scores 1 through 3, however, those three groups were collapsed to form one Chinese Australian group. A series of contrasts then compared the Chinese, the Chinese Australians, and the Australians in terms of dieting status, BMI, and the various forms of social influence. The mean scores tested in the one-way analyses of variance (ANOVAS) are presented in Table 1. To take account of differences in group size, relevant adjustments were made for unequal variances, and a Bonferroni adjustment to the critical F value acknowledged the multiple comparisons ($\alpha = 0.017$).

The comparison of dieting status revealed that the Australians dieted significantly more than the Chinese ($t = -3.19$; $p < .017$) and more than the Chinese Australians ($t = -4.59$; $p < .017$). Although the Chinese Australians dieted less than the Chinese girls, that difference was not significant.

Table 1. Means and standard deviations for dieting, BMI, and significant forms of social influence for the three main groups of varying exposure to westernization

Dependent Variable	Sample					
	Chinese (N = 100)		Chinese Australians (N = 60)		Australians (N = 100)	
	M	(SD)	M	(SD)	M	(SD)
Dieting	1.59	(0.84)	1.38	(0.67)	2.05	(1.16)
BMI	1.96	(0.83)	2.25	(0.88)	2.44	(1.02)
Parental conformity	2.28	(1.16)	2.02	(1.08)	1.78	(1.16)
Parental compliance	1.49	(0.90)	1.37	(0.71)	1.54	(0.90)
Peer modeling	6.09	(4.24)	1.89	(2.30)	3.78	(3.59)
Peer competitiveness	24.01	(5.77)	21.40	(5.46)	22.86	(8.40)

Note. BMI = body mass index.

Comparisons of the groups' mean BMIs were significant overall, $F(2, 252) = 6.72$; $p < .017$. The Australians had a significantly higher mean BMI compared with the Chinese ($t = 3.58$; $p < .017$), although they did not differ from the Chinese Australians.

Interestingly, when compared with the Australian girls, the Chinese girls perceived significantly more pressure from their parents to conform to a particular body image ($t = 3.06$; $p < .017$), although the groups did not differ in self-reported parental compliance, $F(2, 256) = 0.78$; $p > .017$.

In contrast, when we compared the groups on the measure of peer modeling, the Chinese girls reported more peer modeling than the Chinese Australians ($t = 7.90$; $p < .017$) and the Australians ($t = 4.05$; $p < .017$). The Australian girls reported significantly greater peer modeling than the Chinese Australians ($t = -3.88$; $p < .017$).

The comparisons of the groups' peer competitiveness scores showed that the Chinese girls were significantly more competitive with their peers about dieting than were the Chinese Australian girls ($t = 2.86$; $p < .017$).

DISCUSSION

We sought to establish the usefulness of a cumulative index of exposure to westernization status. We found that the westernization index was a powerful predictor of dieting, even when tested simultaneously with BMI, parental conformity, parental compliance, peer modeling, and peer competitiveness. This striking finding provides empirical support for the claim that differences in cultural context account for differences in dieting behavior.

When the Australian girls, the Chinese girls, and the Chinese Australian girls were compared, we found that the Australian girls diet significantly more, on average, than the other two groups. That result confirms our hypothesis that a greater level of exposure to westernization would be predictive of more serious dieting and provides further evidence that dieting is more common among western females (Nasser, 1997; Lee, Chiu, & Chen, 1989).

Yet, this study goes beyond existing knowledge. The application of the index allows us to demonstrate that the effect is not simply linear. The Chinese Australians dieted less than either the Australians or the Chinese. Chinese girls living in Australia may perceive themselves to be less fat than their Australian peers whose BMI on average is higher. They may, therefore, perceive less competition among their peers and consequently feel less social pressure to diet. In contrast, Chinese girls living in China and the Australian girls are comparing themselves to those of a similar BMI. It is possible that this results in greater peer competitiveness about body shape. Indeed the plausibility of those claims is supported by the finding that the Chinese Australians reported significantly less peer competitiveness than the Chinese and less peer modeling influences than the Chinese or the Australians. Nevertheless, the proposal warrants more careful investigation if we are to understand how the Chinese Australians might be protected from dieting.

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