

Parental Perceptions of Children's Body Shapes

M S Zalilah, PhD, H A Anida, BSc, Ang Merlin, BSc

Department of Nutrition and Health Sciences, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Serdang 43400 Selangor

Summary

The aim was to determine the differences in parents' perceptions of boys' and girls' body shapes and the explanations for the emphasis on body shape care of children. Subjects were low-income parents (n=158) of preschoolers attending preschools in Kuala Lumpur, Malaysia. Parental perceptions of children's body shapes were assessed based on their rankings (scale of 1 to 7) of four attributes (ideal, healthy, fat and thin) for boy and girl figures. Parental responses to five questions on the importance of body shape were also obtained. Parental rankings of ideal and healthy body shapes were significantly lower for girls than boys ($p < 0.001$). However, mothers' and fathers' rankings of boys' and girls' body shapes were not significantly different. For both boys and girls, parental ratings for ideal body shape were significantly lower than for healthy body shape ($p < 0.001$). The majority of parents indicated that children's body shape is important for their future health, self enhancement, social interaction and career. With the increasing prevalence of body dissatisfaction among Malaysian children, these findings contribute to the understanding of parental roles in the development of body image and perhaps, in the etiology of body dissatisfaction among children.

Key Words: Body image, Parental perception, Eating disorder, Preschooler

Introduction

Body image has been defined as one's perception of his or her body and this includes feelings, attitudes and perceptions towards weight, size, shape and satisfaction of various body parts. Various factors such as culture, gender, peers, mass media, parents and maturation stage have been shown to contribute to the development of body image^{1,2}. For example, in a culture that emphasizes thinness as the standard of beauty for women, the emphasis may have a negative effect on body image. Disturbances in the perception of body image may consequently lead to poor self-esteem, body dysmorphic disorders, eating disorders and compulsive exercise. In fact, dieting behaviour observed in many countries has been reported to be attributed to body dissatisfaction or distortion³.

With the rising prevalence of obesity and obesity-related diseases, body image concerns or dissatisfactions and

dieting behaviour among children, it has become increasingly important to examine parental roles in the development of these problems. Studies have shown that parents, especially mothers may be influential towards food preferences, intake patterns, body image and physical activity of their children^{4,5,6,7}. Parents may pressure their children especially girls to be concerned of becoming fat. These direct or indirect pressures may consequently encourage their children to adopt unhealthy dieting behaviour or dietary restraint and may contribute to the development of body concerns or body image disturbances of their children, particularly among girls.

It has been suggested that investigation of mothers' attitudes towards their children's body shapes is important⁸ - first, mothers may put their children at risk of eating disorders when they communicate their preferred or 'ideal' body shapes to their children through verbal remarks and dietary restraint of mothers and

This article was accepted: 17 June 2003

Corresponding Author: Zalilah Mohd Shariff, Department of Nutrition and Health Sciences, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Serdang 43400 Selangor

children^{9,10}. Second, their attitudes towards their children's body shape may be influenced by their beliefs about and understanding of growth and development of children. For example, a fat baby is perceived as healthy whereas an ideal body shape for a female adolescent is thin. Finally, certain cultural health beliefs on children's body shapes and growth may eventually lead to health-seeking actions by the mothers.

On the premise that parents may transmit sociocultural messages regarding the ideal body shapes or images and even dieting behaviour to their children¹¹, this study was conducted to investigate both fathers' and mothers' perceptions of children's body shapes and the relationship between culture and body image concerns of the parents.

Materials and Methods

The subjects of this study were parents of preschool children attending the Taman Sang Kancil under the NADI program. The NADI program (City Hall's Squatter Upgrading Program) was initiated by the City Hall of Kuala Lumpur with the objective of improving the quality of life of the urban poor in low-income areas of Kuala Lumpur by improving family health, welfare services and environmental conditions and developing community and family life. The Sang Kancil program was established to provide preschool education for children (Taman Sang Kancil) and health services for mothers and children (Sang Kancil clinic). The activities of Sang Kancil clinic include immunization for children, prenatal care, health and nutrition education for mothers and family planning¹². Currently, there are ten locations of Taman Sang Kancil in the vicinity of Wilayah Persekutuan, however, only nine were in operation during the data collection.

All of the preschoolers (n=217) were from low-income households based on the household income criterion (< RM1000 a month) set by the NADI program. However, for households with incomes exceeding this amount, other factors would be considered such as household size, employment status of parents, health status of the parents and children and accessibility to other preschools in the vicinity. The majority of the preschoolers were Malays (n=189) followed by Indians (n=26) and Chinese (n=2). However, only 192 parents of the preschoolers gave their consent to participate in the study. As this study was part of a larger research project, 192 questionnaires (which consisted of both questions pertinent to this study and the larger project) were

distributed to the parents. One hundred and eighty one (181) questionnaires were returned with 86.2% (n=156) from Malay, 12.7% (n=23) Indian and 1.1% (n=2) Chinese households. However, only the data of 158 households were included and analyzed as some households had more than one child attending the Taman Sang Kancil. Children with health problems (Down syndrome), female headed households and children who lived with their relatives were also excluded. All of these households had both parents and the children were in the age range of 4-6 years old.

A structured questionnaire was developed by the researchers to obtain the demographic and socioeconomic data and responses to questions related to body image perceptions and concerns of the parents. The parental perceptions of children's body shapes were assessed by asking them to rank four attributes (ideal, healthy, fat and thin) on a scale of 1 to 7 from pictures of male and female children adapted from Collins¹³. Parents were also asked to answer five questions on the importance of body shapes in relation to culture for their children. The body image concerns were developed based on focus group discussions (n=27) with mothers attending three Sang Kancil clinics in Kuala Lumpur. The structured questionnaire was then pre-tested with another group of mothers (n=19) from the other six Sang Kancil clinics prior to the data collection. The pre-test was to assess the readability of the questionnaire and the appropriateness of both the schematic figures and body image concerns of the parents.

The research was conducted in September - November 1999 and the study protocol was approved by the NADI Urusetia, City Hall of Kuala Lumpur. Upon the distribution of questionnaires (n=192) to the households, house visits were conducted by researchers with the help of teachers from each Taman Sang Kancil. The purpose of the house visit was to establish rapport with the respondents and to assist them in the completion of the questionnaires. For questions on body image perceptions and concerns, both parents were asked separately at different times so as to avoid any bias or duplication in responses. If the returned questionnaires were not completed or filled accordingly, other scheduled house visits were arranged with the respondents.

All data were first analyzed using descriptive statistics. Wilcoxon matched-pairs signed-ranks test was utilized to analyze the rank data of mothers' and fathers' perceptions of children's various body shapes. Parental responses towards the importance of children's body

shapes were reported as frequency data. All of the analyses were done using SPSS 10.0. Significance level was set at $p < 0.05$.

Results

The majority of parents in this study were below 40 and the mean age of mothers and fathers were 33.4 ± 5.7 and 37.1 ± 6.3 years, respectively. The mean years of schooling for both mothers (9.6 ± 2.7) and fathers (9.9 ± 2.2) were equivalent to lower - upper secondary levels of education. Taking RM2162 as the average monthly household income for the urban Malays¹⁴, approximately 90% of the households had incomes in the range of RM1 - 2162. Using RM150 as the poverty level income per capita in Kuala Lumpur, 30% of the households could be considered as living in poverty (Table I).

Mothers' perceptions of ideal and healthy body shapes were significantly different (Wilcoxon matched-pairs signed-ranks test, $p < 0.001$) between boys and girls (Table II). Median scores for both body shapes were lower for girls (ideal = 4 [range 3 - 5.5]; healthy = 4.5 [3 - 6.5]) than for boys (ideal = 4.5 [3 - 5.5]; healthy = 5 [4 - 7]). Similarly, fathers' perceptions of boys and girls body shapes differed significantly for ideal and healthy shapes (Table III) with fathers' ratings for girls being lower than

that for boys (Wilcoxon matched-pairs signed-ranks test, $p < 0.001$). There was no significant difference between mothers' and fathers' perceptions of various body shapes for boys and girls (Table IV). It is worthwhile to note that for thin and fat body shapes for boys and girls, both mothers and fathers were more likely to report the extreme body shapes. The majority of the parents (79-83%) perceived figures 1 and 7 as thin and fat body shapes for boys and girls, respectively.

Table V and VI present mothers' and fathers' different perceptions of ideal and healthy body shapes of boys and girls. For both boys and girls, parental ratings for ideal body shapes were significantly lower than for healthy body shapes (Wilcoxon matched-pairs signed-ranks test, $p < 0.001$). In general, parental perception of ideal body shape is slimmer than that of healthy body shape.

This study found that parents did advice their children on the care of body shape and this advice is being given as early as during the preschool years (Table VII). Despite the disagreement of half of the parents on the negative impact of children unattractive body shape on parents' self portrayal, it was interesting to observe that the majority of the parents agreed that body shape is important for their children's self confidence, self portrayal, health, physical attractiveness, ability to mix with people and career.

Table I: Demographic and Socioeconomic Information of Respondents (n=158)

Variable		n		%	
		Mother		Father	
Age (Years)		n	%	n	%
	- 20 - 29	45	28.5	14	8.9
	- 30 - 39	91	57.6	98	62.0
	- 40 - 49	21	13.3	38	24.0
	- > 50	1	0.6	8	5.1
Education Level	- Primary School	31	19.6	23	14.6
	- Lower Secondary	42	26.6	45	28.5
	- Upper Secondary	78	49.4	82	51.9
	- Diploma / Degree	7	4.4	8	5.0
Household Income (RM) °	- 1 - 2162	142	89.6		
	- > 2162	16	10.4		
Household Size	- 2 - 5	74	46.8		
	- 6 - 9	78	49.4		
	- > 10	6	3.8		
Income Per capita (RM) °	- 1 - 150	47	29.9		
	- 151 - 300	73	46.1		
	- > 301	38	24.0		
Gender of Child	- Male	72	45.6		
	- Female	86	54.4		

° RM 3.8 = USD 1

Table II: Mothers' Perception of Boys' and Girls' Body Shapes (n=158)

Body Shape	Boys Median (Range)	Girls Median (Range)	z ^a	p
Ideal	4.5 (3.0 - 5.5)	4.0 (3.0 - 5.5)	-3.72	0.00 ***
Healthy	5.0 (4.0 - 7.0)	4.5 (3.0 - 6.5)	-4.79	0.00 ***
Fat	7.0 (5.0 - 7.0)	7.0 (3.0 - 7.0)	-2.88	0.77
Thin	1.0 (1.0 - 4.0)	1.0 (1.0 - 4.0)	-1.37	0.17

^a Wilcoxon Signed Ranks Test

*** p < 0.001

Table III: Fathers' Perception of Boys' and Girls' Body Shapes (n=158)

Body Shape	Boys Median (Range)	Girls Median (Range)	z ^a	p
Ideal	4.5 (3.0 - 5.5)	4.0 (3.0 - 5.5)	-3.21	0.00 ***
Healthy	5.0 (3.0 - 6.5)	4.5 (3.0 - 6.5)	-3.97	0.00 ***
Fat	7.0 (3.0 - 7.0)	7.0 (3.0 - 7.0)	-0.66	0.51
Thin	1.0 (1.0 - 4.0)	1.0 (1.0 - 3.5)	-0.29	0.77

^a Wilcoxon Signed Ranks Test

*** p < 0.001

Table IV: Mothers' and Fathers' Perceptions of Boys' and Girls' Body Shapes (n=158)

Body Shape	Boys Median (Range)		z ^a	Girls Median (Range)		z ^a
	Mother	Father		Mother	Father	
	Ideal	4.5 (3.0 - 5.5)		4.5 (3.0 - 5.5)	-0.351	
Healthy	5.0 (3.0 - 7.0)	5.0 (3.0 - 6.5)	-0.423	4.5 (3.0 - 6.5)	4.5 (3.0 - 6.5)	-0.484
Fat	7.0 (3.0 - 7.0)	7.0 (3.0 - 7.0)	-0.356	7.0 (3.0 - 7.0)	7.0 (3.0 - 7.0)	-0.979
Thin	1.0 (1.0 - 4.0)	1.0 (1.0 - 4.0)	-0.069	1.0 (1.0 - 4.0)	1.0 (1.0 - 3.5)	-1.351

^a Wilcoxon Signed Ranks Test

Table V: Mothers' Perception of Children's Body Shape as Ideal and Healthy (n=158)

Gender	Body Shape		z ^a	p
	Ideal	Healthy		
Boys Median (Range)	4.5 (3.0 - 5.5)	5.0 (4.0 - 7.0)	-6.561	0.00 ***
Girls Median (Range)	4.0 (3.0 - 5.5)	4.5 (3.0 - 6.5)	-6.001	0.00 ***

^a Wilcoxon Signed Ranks Test

*** p < 0.001

Table VI: Fathers' Perception of Children's Body Shape as Ideal and Healthy (n=158)

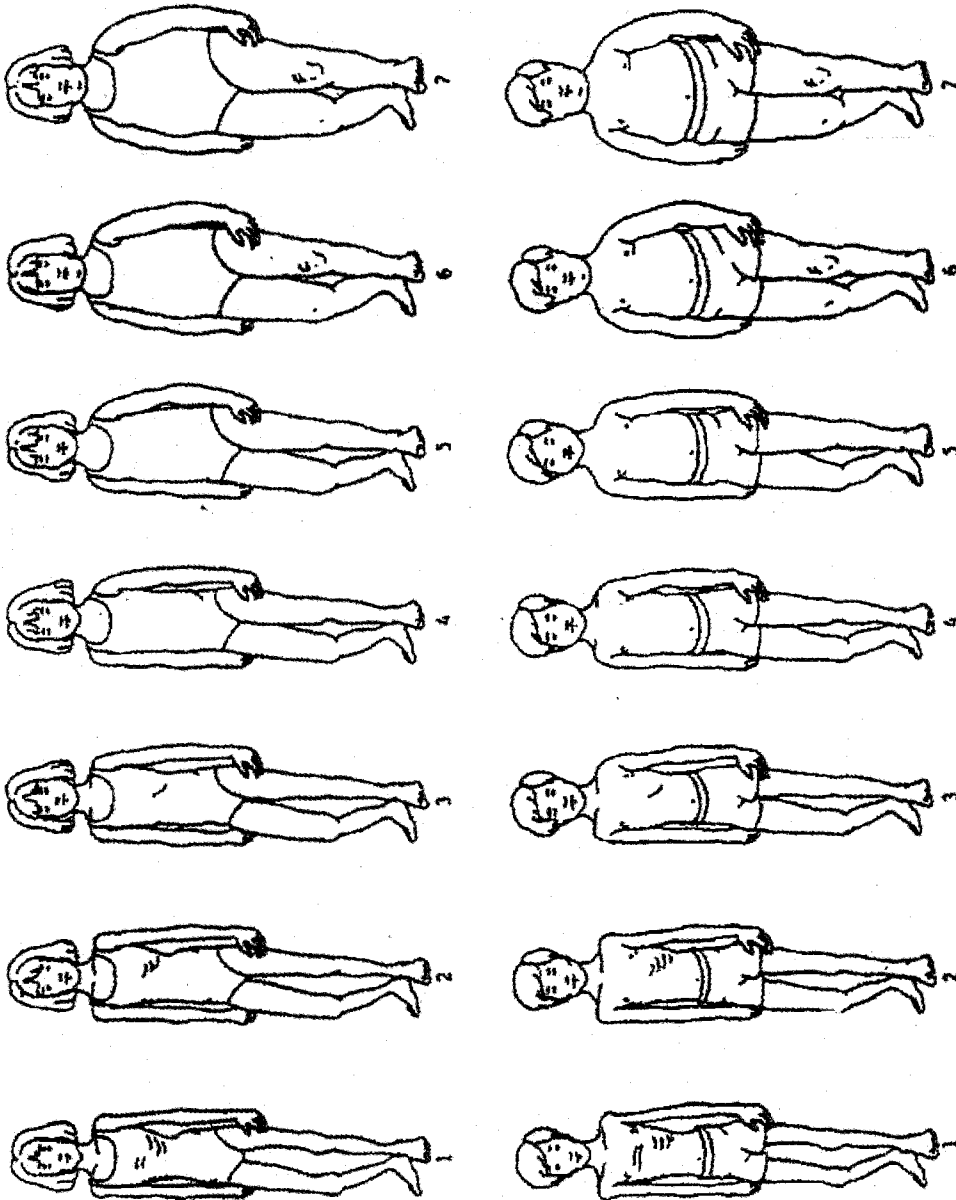
Gender	Body Shape		z ^a	p
	Ideal	Healthy		
Boys Median (Range)	4.5 (3.0 - 5.5)	5.0 (3.0 - 6.5)	-6.561	0.00 ***
Girls Median (Range)	4.0 (3.0 - 5.5)	4.5 (3.0 - 6.5)	-6.001	0.00 ***

^a Wilcoxon Signed Ranks Test

*** p < 0.001

Table VII: Mothers' and Fathers' Responses Towards the Importance of Children's Body Shapes (n=158)

Item	Mother n(%)	Father n(%)	Item	Mother n(%)	Father n(%)
1. Children's body shape should be given attention to by:					
a. Mother	5 (3.2)	7 (4.4)	b. Self confidence	104 (65.8)	101 (64.0)
b. Father	0 (0.0)	0 (0.0)	Agree	54 (34.2)	26 (16.4)
c. Both parents	150 (94.9)	145 (91.8)	Disagree	0 (0.0)	31 (19.6)
c. Others	3 (1.9)	6 (3.8)	c. Self portrayal	95 (60.1)	110 (69.6)
2. As parents, do you advise your child (ren) on how to take care of their body shape?			Agree	36 (22.8)	28 (17.7)
a. Yes	155 (98.1)	152 (96.2)	Disagree	27 (17.1)	20 (12.7)
b. No	3 (1.9)	6 (3.8)	d. Health	149 (94.3)	146 (92.4)
3. If yes, when did you first advise your child (ren)?			Agree	9 (5.7)	12 (7.6)
a. Preschool – primary years (5 – 12 years old)	123 (79.3)	119 (78.3)	Disagree	0 (0.0)	0 (0.0)
b. Lower to upper secondary years (13 – 17 years old)	26 (16.8)	30 (19.8)	e. Physical attractiveness	83 (52.5)	85 (53.8)
c. Early adulthood (18 – 25 years old)	6 (3.9)	3 (1.9)	Agree	75 (47.5)	49 (31.0)
4. Unattractive body shape will affect the parents' self portrayal			Disagree	0 (0.0)	24 (15.2)
a. Agree	52 (32.9)	53 (33.5)	f. Ability to mingle with people	82 (51.9)	86 (54.4)
b. Disagree	83 (52.5)	80 (50.7)	Agree	56 (35.4)	72 (45.6)
c. Maybe	23 (14.6)	25 (15.8)	Disagree	20 (12.7)	0 (0.0)
5. Care of your child's body shape is important for his/her:			Maybe	91 (57.6)	126 (79.7)
a. Ability to find marriage partner	60 (38.0)	61 (38.6)	Disagree	25 (15.8)	32 (20.3)
Agree	98 (62.0)	97 (61.4)	Maybe	42 (26.6)	0 (0.0)
Disagree	0 (0.0)	0 (0.0)			
Maybe					



Source: From "Body Figure Perception and Preferences Among Preadolescent Children", by M.E. Collins, 1991, *International Journal of Eating Disorders*, 10, pp. 199-208. Copyright © 1991 by John Wiley & Sons, Inc.

Discussion

Two main findings from this study are that both mothers and fathers perceived that girls should be slimmer than boys for ideal and healthy body shapes and parental perception of ideal body shape is somewhat slimmer than that of healthy body shape. Hodes et al.⁸ reported that mothers from the UK, South Asia, Caribbean and Africa did not find slimmer body shapes in girls as more attractive, healthy or unhealthy than boys. On the other hand, Mediterranean mothers indicated that healthy girl figures were slimmer than boy figures. It was also found that mothers evaluated their children differently for being attractive and healthy. For both boys and girls, mothers indicated that attractive body shape constitutes a slimmer figure than a healthy body. As risk factors for body dissatisfaction are dependent on cultural factors, the urban low-income parents in this study may have adopted similar western values common to countries that are currently undergoing the process of westernization³. Perhaps the process of modernization and urbanization may have exposed these individuals to the environment which emphasizes thinness as the cultural ideal beauty.

In some cultures, while wealth is related to health and fatness is perceived as healthy and attractive, the current concern on health risks of obesity may contribute to the different ratings of healthy, attractive and ideal. In a study by Furnham and Baguma¹⁵, while Ugandan subjects rated heavy obese figures as attractive and healthy, the British subjects considered the heavier figures as ugly and unhealthy. However, for all subjects (particularly the Ugandans), the ratings of 'attractive' were not necessarily similar to 'healthy' especially for the fatter figures which are considered more unattractive than healthy. In other words even though the obese figures were less attractive, they symbolize the equation of health to wealth.

Cultural connotations of healthy, attractive or ideal may also depend on age, for example, chubbiness is equated as healthy or ideal in infants or toddlers. However, as the child progresses into adolescence or young adulthood, fatness is no longer healthy or desirable. These connotations may also differ for males and females in relation to thinness and muscular firmness. In this study, the parental perception that girls should be slimmer than boys is consistent with the findings that ideal female body image is typified by thinness while that of male body image is muscularity^{16,17,18}.

In this study, a majority of the parents chose extreme body shapes (figures 1 and 7) in response to thin and fat body shapes for boys and girls. It is surprising that the parents chose thinnest and fittest figures although the questions merely asked for their perceptions on thin and fat body shapes (figure 4 is normal while figures 1-3 and 5-7 reflected the degree of thinness and fatness). The implication of this finding is that incorrect perceptions of children's body shapes and growth may delay parental health-seeking actions e.g. an overweight (figure 6) or underweight (figure 2) child may not be brought for medical attention until late (figure 7 or 1).

Various studies have shown that parental feedback on the physical appearance of their children may influence body image dissatisfaction among children. For example, Schwartz et al.¹⁹ reported that weight teasing by both parents is a predictor of daughter's body image and that parents conveyed significantly more appearance-related messages to their daughters than sons. Similarly other studies with younger children, adolescents and young adults have also suggested that parents', especially mother's perception of body image and verbal criticism or concern of weight and physical appearances are significant predictors of their children's body image^{10, 20, 21, 22}.

While many studies supported the influence of mothers in body dissatisfaction among adolescent females, only few studies have shown similar influence of fathers. Moreno and Thelen²³ reported that both parents were similar in giving dieting encouragement to their daughters. Similarly, Schwartz et al.¹⁹ indicated that fathers provided significantly more appearance-related feedback to their daughters. Our findings that both mothers and fathers did not differ significantly in their perceptions of children's body image should further be explored as to whether both may transmit similar body image and appearance-related messages to their children. As it is, the majority of these parents did advise their children on the care of body shape as early as during the preschool years as preparation for their future health, self enhancement, social interactions and career development.

Food preferences developed during preschool period are influenced primarily by parents and eventually these preferences may be the basis for the children's food preferences and intakes during adulthood^{5, 24, 25}. For example, parents' preferences and intakes of fruits and vegetables or the availability of these food in their homes will determine their children's actual intakes of

fruits and vegetables. Similarly, parental attitudes towards body shapes and weights of their children may consequently be transmitted to their children or transformed into child feeding behaviour that would have negative impacts on the physical, psychological and social development of the children^{4,7,26}.

This study has limitations that should be addressed in future studies. First, the study involved only urban Malay low-income parents and thus, the study findings cannot be generalized to other ethnic and socioeconomic groups. Second, the use of the schematic figures to assess the four attributes (ideal, healthy, thin and fat) may produce errors in parental ratings of the figures. For example, parents may find it difficult to differentiate normal from thin or fat as the figures look similar in size. Further validation of the schematic figures may be necessary so that the instrument can be used in future studies on body image perceptions of parents and also children. Finally, parental concerns and perceptions of body shapes of children can also be influenced by their own experiences e.g. mothers themselves have body image distortion, dissatisfaction or eating disorders. However, the present study did not attempt to assess these experiences among the parents.

To date, no published study is available on Malaysian parents' perception of their children's body image. With the rising prevalence of obesity, body dissatisfaction and dieting among Malaysian children, it is imperative that further research is conducted to investigate the role of parents in the development of children's body image and acceptance and to explore this relationship within the cultural context. Also, the different body shape preferences and perceptions of healthy, attractive and ideal may need to be understood in relation to parental health-seeking behaviors for their children. The knowledge will then contribute to the awareness among health professionals working with children and parents in promoting healthy culture-specific eating patterns and physical health and consequently to the effectiveness of child health intervention.

Conclusion

We would like to thank the NADI program and the Taman Sang Kancil staff from Dewan Bandaraya Kuala Lumpur for their continuous assistance and support of this research.

References

1. Vander Wal JS, Thelen MH. Predictors of body image dissatisfaction in elementary-age school girls. *Eating Behaviors* 2000; 1: 105-22.
2. Ferron C. Body image in adolescence: Cross-cultural research - results of the preliminary phase of a quantitative survey. *Adolescence* 1997; 32(127): 735-44.
3. Jaeger B, Ruggiero GM, Edlund B, et al. Body dissatisfaction and its interrelations with other risk factors for bulimia nervosa in 12 countries. *Psychotherapy and Psychosomatic* 2002; 71: 54-61.
4. Carper JL, Fisher JO, Birch LL. (2000). Young girls' emerging dietary restraint and disinhibition are related to parental control in child feeding. *Appetite* 2000; 35: 121-29.
5. Fisher JO, Mitchell DC, Smiciklas-Wright H, Birch LL. Parental influences on young girls' fruits and vegetable, micronutrient and fat intakes. *Journal of The American Dietetic Association* 2002; 102: 58-64.
6. Klesges RC, Eck LH, Hanson CL, Haddock CK, Klesges LM. Effects of obesity, social interactions and physical environment on physical activity in preschoolers. *Health psychology* 1990; 9: 435-49.
7. Usmiani S, Daniluk J. Mothers and their adolescent daughters: Relationship between self-esteem, gender role identity and body image. *Journal of Youth and Adolescence* 1997; 26: 45-62.
8. Hodes M, Jones C, Davies H. Cross-cultural differences in maternal evaluation of children's body shapes. *International Journal of Eating Disorders* 1996; 19: 257-63.

9. Pike KM, Rodin J. Mothers, daughters and disordered eating. *Journal of Abnormal Psychology* 1991; 100: 198-204.
10. Striegel-Moore RH, Kearney-Cooke A. Exploring parents' attitudes and behaviors about their children's physical appearance. *International Journal of Eating Disorders* 1994; 15: 377-85.
11. Dunkley TL, Wertheim EH, Paxton, SJ. Examination of a model of multiple sociocultural influences on adolescent girls' body dissatisfaction and dietary restraint. *Adolescence* 2001; 36: 265-79.
12. Khairuddin Y. Sang Kancil - Care for urban squatters in Malaysia. *World Health Forum* 1982; 3: 278-81.
13. Collins ME. Body figure perception and preferences among preadolescent children. *International Journal of Eating Disorders* 1991; 10: 199-208.
14. Malaysian Department of Statistics. *Year Book of Statistics*. Kuala Lumpur: Department of Statistics, 1997.
15. Furnham A, Baguma P. Cross-cultural differences in the evaluation of male and female body shapes. *International Journal of Eating Disorders* 1994; 15(1): 81-89.
16. Cohn LD, Adler NE, Irwin CE, Millstein S, Kegeles SM, Stone G. Body-figure preferences in male and female adolescents. *Journal of Abnormal Psychology* 1987; 110: 276-79.
17. Brodie DA, Slade PD, Riley VJ. Sex differences in body-image perceptions. *Perceptual and Motor Skills* 1991; 72: 73-74.
18. Chen W, Swalm RL. Chinese and American college students body image perceived body shapes and body affect. *Perceptual and Motor Skills* 1998; 87: 395-403.
19. Schwartz DJ, Phares V, Tantleff-Dunn S, Thompson J.K. Body image, psychological functioning and parental feedback regarding physical appearance. *International Journal of Eating Disorders* 1999; 25(3): 339-43.
20. Hendy HM, Gustitus C, Leitzel-Schwalm J. Social cognitive predictors of body image in preschool children. *Sex Roles: A Journal of Research* 2001; 44: 557-69.
21. Smolak L, Levine MP, Schermer F. Parental input and weight concerns among elementary school children. *International Journal of Eating Disorders* 1999; 25: 263-71.
22. Davison KK, Birch LL. Weight status, parent reaction and self concept in five-year-old girls. *Pediatrics* 2001; 107: 46-53.
23. Moreno A, Thelen MH. Parental factors related to bulimia nervosa. *Addictive Behaviors* 1993; 18: 681-89.
24. Birch LL. The relationship between children's food preferences and those of their parents. *Journal of Nutrition Education* 1980; 12(1): 14-18.
25. Birch LL, Fisher JO. Development of eating behaviors among children and adolescents. *Pediatrics* 1998; 101(Suppl): 539-49.
26. Fisher JO, Birch LL. Parents' restrictive feeding practices are associated with young girls' negative evaluation of eating. *Journal of The American Dietetic Association* 2000; 100: 1341-346.