

# ASSOCIATION BETWEEN EXPOSURE TO MEDIA AND BODY WEIGHT CONCERN AMONG FEMALE UNIVERSITY STUDENTS IN FIVE ARAB COUNTRIES: A PRELIMINARY CROSS-CULTURAL STUDY

ABDULRAHMAN O. MUSAIGER\*†<sup>1</sup> AND MARIAM AL-MANNAI‡

*\*Nutrition and Health Studies Unit, Deanship of Scientific Research, University of Bahrain, †Arab Center for Nutrition, Bahrain and ‡Department of Mathematics, College of Science, University of Bahrain, Bahrain*

**Summary.** Mass media play an important role in changing body image. This study aimed to determine the role of media (magazines and television) in body weight concern among university females in five Arab countries. A total sample of 1134 female university students was selected at convenience from universities in five Arab countries: Bahrain, Egypt, Jordan, Oman and Syria. The females' ages ranged from 17 to 32. A pre-tested questionnaire was used to assess the exposure to mass media regarding weight concerns. For the variables on exposure to mass media, girls were divided into two groups: infrequently exposed and frequently exposed. In general, the females who were exposed to mass media had a greater risk of having dieted to lose weight and changing their ideas of a perfect body shape than those who were not exposed or infrequently exposed. The association of exposure to magazines with having dieted to lose weight was only significant among females in Bahrain ( $p < 0.044$ ), Egypt ( $p < 0.001$ ) and Jordan ( $p < 0.001$ ). Exposure to television had a weaker association than exposure to magazines with body weight concerns of females. The association of exposure to television with females' idea of a perfect body shape was only statistically significant in females in Egypt ( $p < 0.019$ ) and Oman ( $p < 0.019$ ). The pressure from mass media on the body weight concern of female university students may lead these women to practise unhealthy weight control diets.

## Introduction

The prevalence of obesity in Arab countries has reached an alarming level. It has been reported that adults in the Middle East have the second highest mean body mass index in the world after North American adults (Yusuf *et al.*, 2005). In general, obesity is

<sup>1</sup>Corresponding author. Email: amusaiger@gmail.com

more prevalent among women than men. Approximately 30–82% of women in the Arab world are overweight and obese compared with 25–70% of men (Musaiger, 2011). This phenomenon may lead Arab women to become more concerned about their weight. In addition, media and advertising outlets promote the thin body shape as a sign of attractiveness (Neighbors & Sobal, 2007), which has altered the standard of beauty because thinness has become more socially preferable in the Arab community (Abdel-Fattah *et al.*, 2008).

Studies in some Arab countries have indicated a major shift from preferences for plumpness to a thinner body shape, particularly among women (Rasheed, 1998; Eapen *et al.*, 2006). Musaiger & Al-Mannai (2013) found that 81% of university females in Kuwait believed that men preferred thin women. The rate of dissatisfaction with body shape was found to be higher among women than men, regardless of ethnicity (Demarest & Allen, 2000). Women suffer more frequently from negative body image than men, and this suffering increases with increases in weight status (Schwartz & Brownell, 2004). For example, in Saudi Arabia, obese women reported body images that were significantly more negative than those of non-obese women (Abdel-Fattah *et al.*, 2008). This phenomenon may play an important role in increasing the prevalence of eating disorders among these women (Hill, 2007). A recent study of adolescents aged 15–18 in seven Arab countries indicated that the risk of eating disorders among obese female adolescents was two to three times higher than that of non-obese adolescents (Musaiger *et al.*, 2013).

The mass media's focus on thinner women as a preferable model has encouraged this image. Although the role played by mass media in body weight concern has been well-documented in Western countries (Morry & Staska, 2001; Groesz *et al.*, 2002), studies of this phenomenon in the Arab world are notably limited. In Egypt, it was found that exposure to fashion magazines and television was significantly associated with body dissatisfaction and desire to be thinner for women (Ragab, 2012). In Jordan, Madanat *et al.* (2011) demonstrated that media have a great influence on preferences for thinner women. In the present study it is hypothesized that female Arab university students who are exposed frequently to women's magazines and fashion television channels have greater body concern than those who are not exposed, or infrequently exposed, to these media.

## Methods

Female university students in five Arab countries – Bahrain, Egypt, Jordan, Oman and Syria – were the target groups in this study. The minimum sample size required from each university was 200. This represented the assumption that the positive association of media with weight concern is 50%, and the margin of error is 6%, with a 90% confidence interval, taking into consideration the inter-group differences. The sample sizes were 254, 210, 220, 249 and 201 females in Bahrain, Egypt, Jordan, Oman and Syria, respectively (total sample size was 1134 females). One university was selected in each country: Bahrain, Ain-shames, Hashemite, Qaboos and Aleppo universities, respectively. The age of females ranged from 17 to 32. The females were selected at convenience during break times, between class times or during lunch breaks. They were interviewed by trained nutrition students from their universities. One student interviewer was recruited

at each university with a response rate that ranged from 80% to 90%. Data were collected in 2008.

Pre-tested questions on mass media and weight concern were used (Field *et al.*, 1999). The questionnaire consisted of three sections: (1) the influence of media on dieting and women's ideas of a perfect body shape; (2) exposure to media; and (3) body weight concern. The current paper focuses on the first two sections. Two questions were used to assess the associations between media and dieting: 'Does reading women's magazines/watching fashion television make you diet to lose weight?' (Yes/No). Two questions were used to consider media impact on females' idea of a perfect body shape: 'Does reading women's magazines/watching fashion television influence what you consider the perfect body shape?' (Yes/No). Exposure to media was assessed through the questions: 'How often do you read women's magazines/watch fashion television?' The options were: frequently, moderately, infrequently, rarely or never. However, to avoid bias related to differences in self-estimation of exposure frequencies, the exposure to media was grouped into two categories: infrequently and frequently exposed. For the purpose of analysis, the infrequent category also included the 'rarely' or 'never' categories.

The questionnaire was first translated into Arabic and then two questions related to exposure to television were added because the original questionnaire was focused only on exposure to magazines. The Arabic questionnaire was tested on 20 females from Bahrain University to assess their ability to understand the questions. No substantial changes were made after this test. To examine the reliability of the Arabic version of the questionnaire, it was given to 245 females at Bahrain University. The inter-item reliability then was assessed by calculating Cronbach's alpha coefficient. The findings revealed that the values of Cronbach's alpha coefficient were 0.753 and 0.708 for the factors related to the influence of media on dieting and on the idea of a perfect body shape, respectively.

The data were analysed using SPSS Statistical Package Version 15. A chi-squared test was calculated to determine the association between exposure to media and body weight concern. Odds ratios with 95% confidence intervals were also calculated to determine the students' risk of having dieted to lose weight and the risk that media exposure influenced girls' ideas of perfect body shape.

## Results

The risk of weight concern due to reading women's magazines among female university students in five Arab countries is displayed in Table 1. In general, the females exposed frequently to women's magazines were more likely to be concerned with their weight than those who were exposed infrequently. Although the risk of dieting to lose weight was two to six times higher among students who read women's magazines frequently than among those who read them infrequently, the association was only statistically significant for females in Bahrain ( $p < 0.044$ ), Egypt ( $p < 0.001$ ) and Jordan ( $p < 0.001$ ). With regard to the association between women's magazines and female students' ideas of perfect body shape, the association was highly statistically significant among females in all countries except Bahrain. The risk that pictures in women magazines would influence girls' ideas of a perfect body shape was two times higher among females who were

**Table 1.** The risk of weight concern due to reading women’s magazines among female university students in five Arab countries

Risk of reading women’s magazines	Country	Response	Frequency of reading				Odds ratio ( $\pm 95\%$ CI)	<i>p</i> -value
			Infrequent		Frequent			
			<i>n</i>	(%)	<i>n</i>	(%)		
Have dieted to lose weight because of reading women’s magazines	Bahrain	No	76	(90.5)	137	(80.6)	Ref.	0.044
		Yes	8	(9.5)	33	(19.4)	2.29 (0.95–5.68)	
	Egypt	No	106	(94.6)	73	(74.5)	Ref.	
		Yes	6	(5.4)	25	(25.5)	6.29 (2.21–17.39)	
	Jordan	No	111	(95.7)	84	(80.8)	Ref.	
		Yes	5	(4.3)	20	(19.2)	5.29 (1.78–16.83)	
	Oman	No	95	(97.9)	141	(92.8)	Ref.	
		Yes	2	(2.1)	11	(7.2)	3.71 (0.75–24.79)	
	Syria	No	115	(95.0)	70	(87.5)	Ref.	
		Yes	6	(5.0)	10	(12.5)	2.74 (0.87–8.92)	
Pictures in women’s magazines influence girls’ ideas of a perfect body shape	Bahrain	No	32	(38.1)	64	(37.7)	Ref.	0.944
		Yes	52	(61.9)	106	(62.3)	1.02 (0.57–1.81)	
	Egypt	No	78	(69.6)	43	(43.9)	Ref.	
		Yes	34	(30.4)	55	(56.1)	2.93 (1.60–5.39)	
	Jordan	No	80	(69.0)	46	(44.2)	Ref.	
		Yes	36	(31.0)	58	(55.8)	2.80 (1.56–5.06)	
	Oman	No	60	(61.9)	55	(36.2)	Ref.	
		Yes	37	(38.1)	97	(63.8)	2.86 (1.63–5.02)	
	Syria	No	94	(77.7)	46	(57.5)	Ref.	
		Yes	27	(22.3)	34	(42.5)	2.57 (1.33–5.00)	

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exposed to women's magazines (odds ratios ranged from 2.57 in Syria to 2.93 in Egypt) than for those who were exposed infrequently to magazines.

The risk of developing weight concern due to watching fashion television among female university students in five Arab countries is presented in Table 2. Television appears to have less association with weight concern than magazines. Although the risk of dieting to lose weight was higher among females who were frequently exposed to fashion television channels (odds ratios ranged from 1.67 to 2.21), the association between exposure to television and dieting to lose weight was only statistically significant in Bahrain ( $p < 0.035$ ) and Egypt ( $p < 0.032$ ). The association of television exposure with females' ideas of a perfect body shape was only statistically significant in females in Egypt ( $p < 0.019$ ) and Oman ( $p < 0.019$ ). The odds ratios were 2.05 ( $\pm 95\%$  CI, 1.07–3.94) and 2.41 ( $\pm 95\%$  CI, 1.09–5.48).

### Discussion

The current study indicated that exposure to women's magazines and fashion television had a positive association with female university students dieting to lose weight and with influencing females' ideas of a perfect body shape. However, the associations with media were not the same in the five Arab countries included in the study.

The tradition of plumpness being a sign of beauty in Arab culture has changed, with thinner women now considered more appealing (Rasheed, 1998; Eapen *et al.*, 2006). It is believed that mass media have played a key role in this change (Madanat *et al.*, 2007). The rapid socio-cultural changes and nutritional transitions that have occurred in Arab countries in the past two decades have introduced Western norms for body shape, particularly among women. The greater their exposure to Western models, the more Arab women want to be thinner. In Jordan, Madanat *et al.* (2011) indicated that Western advertising and media influenced Jordanian women to want to be thinner. In Saudi Arabia, it was determined that having lived in Western countries was among the most significant factors associated with dieting behaviour in young girls (aged 12–21) (Al-Subaie, 2000). Our findings are comparable with earlier studies in Western countries, where exposure to fashion magazines (Hawkins *et al.*, 2004) and fashion television (Tiggemann, 2005) have been found to be highly associated with weight concern, leading to body dissatisfaction among women.

The variation in the influence of media among female university students in the five Arab countries can be attributed to the difference in socio-cultural factors and variability of the prevalence of obesity among women in these countries. A review of obesity in Eastern Mediterranean countries (Musaiger, 2011) indicated that women in Bahrain and Egypt were most likely to be overweight or obese, followed by women in Jordan, Syria and Oman. Several studies in Western countries demonstrated that obesity is associated with increased occurrences of body dissatisfaction (Shelly & Shibley, 2006; Schwartz & Brownell, 2007). A study of female university students in Kuwait showed that 81% of obese females were dissatisfied with their current weight, compared with 30% of non-obese females (Musaiger & Al-Mannai, 2013).

Females from a higher socioeconomic class have more opportunities to watch satellite television instead of local satellite, which means they have greater exposure to Western channels. Rapid socio-cultural transition and Westernization in Arab countries affects

**Table 2.** The risk of weight concern due to watching fashion television among female university students in five Arab countries

Risk of watching fashion television	Country	Response	Frequency of watching				Odds ratio (± 95% CI)	p-value
			Infrequent		Frequent			
			n	(%)	n	(%)		
Have dieted to lose weight because of watching fashion television?	Bahrain	No	97	(84.9)	104	(74.3)	Ref.	0.035
		Yes	17	(15.1)	36	(25.7)	1.98 (1.00–3.94)	
	Egypt	No	77	(86.5)	90	(74.3)	Ref.	
		Yes	12	(13.5)	31	(25.7)	2.21 (1.01–4.92)	
	Jordan	No	76	(80.8)	89	(70.6)	Ref.	
		Yes	18	(19.2)	37	(29.4)	1.76 (0.88–3.51)	
	Oman	No	155	(91.2)	68	(86.1)	Ref.	
		Yes	15	(8.8)	11	(13.9)	1.67 (0.68–4.11)	
	Syria	No	59	(86.2)	97	(74.6)	Ref.	
		Yes	12	(13.8)	33	(25.4)	1.67 (0.78–3.73)	
Models on fashion television channels influence girls' ideas of a perfect body shape	Bahrain	No	19	(16.0)	14	(10.0)	Ref.	0.117
		Yes	95	(84.0)	126	(90.0)	1.80 (0.81–4.02)	
	Egypt	No	33	(37.1)	27	(22.3)	Ref.	
		Yes	56	(62.9)	94	(77.7)	2.05 (1.07–3.94)	
	Jordan	No	31	(33.0)	31	(24.6)	Ref.	
		Yes	63	(67.0)	95	(75.4)	1.51 (0.80–2.84)	
	Oman	No	47	(27.6)	10	(12.7)	Ref.	
		Yes	123	(72.4)	69	(87.3)	2.41 (1.09–5.48)	
	Syria	No	19	(21.8)	26	(22.8)	Ref.	
		Yes	68	(78.2)	88	(77.2)	0.95 (0.46–1.95)	

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the lifestyle of Arab people and their attitudes and beliefs about body shape (Madanat *et al.*, 2011). It is believed that young people in most Arab countries struggle with the influence of Westernization in relation to cultural and traditional habits and beliefs, which influences body weight concern among those populations. Most Arab women believe that the Western body image that appears in the media is the ideal body shape and is more acceptable in their communities (Rasheed, 1998; Madanat *et al.*, 2007). Nevertheless, due to the lack of information on the role of media in weight concerns in Arab countries, it is difficult to provide a sufficient interpretation of the socio-cultural factors associated with body weight concern.

There are two limitations of this study that should be considered in future studies. First is the challenge of self-measuring exposure to media rather than establishing criteria for frequency of exposure. Despite this difficulty, this study showed a trend in exposure to media and weight concern, which suggests that the participants' estimation of media exposure is acceptable. A second limitation is that the question required women to answer 'yes' or 'no'. With regard to dieting to lose weight or the influence of media on females' ideas of a perfect body shape, there is likely to be a bias toward an answer of 'yes', whereas a more neutral question might give different results.

Due to high exposure to various types of media and Westernized programmes, concern regarding body weight and shape has increased, particularly among women in Arab countries. This concern may put pressure on women to consider a thinner body shape ideal, which may lead many women to control their weight by following unhealthy diets. The substantial concern regarding body shape is associated with eating disorders (Killen *et al.*, 1996; Patton *et al.*, 1999). Evidence from many studies in the Arab world has demonstrated a rise in the prevalence of eating disorders among adolescent girls (Al-Subaie, 2000; Afifi-Soweid *et al.*, 2002; Mousa *et al.*, 2010). Therefore, programmes to prevent and control eating disorders in the Middle East should take into consideration the role of various mass media in body weight concern. Studies on the impact of media on knowledge, attitudes and practices related to weight concern should be considered in Arab countries. Factors that may be associated with influence of mass media, such as socioeconomic status, cultural norms and women's reproductive behaviour, should also be considered. This preliminary study provides baseline data for those interested in conducting more comprehensive studies on this issue.

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