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## **Body image, desired weight and body figure preferences of Aboriginal and non-Aboriginal Australian women across the lifespan.**

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### **ABSTRACT**

In an Australian context, body image has been shown to be the major concern for young people, causing this to be an important area for health education and promotion. Further, Aboriginal Australians are known to be more likely to be overweight, obese or underweight than the rest of the population. Little is known however, about the body image perceptions and influences of Aboriginal Australians and how they might differ from the mainstream ideals held by other Australians. Considering the vast health and education gaps that exist between population groups in Australia, this study seeks to gain a greater understanding of the body image perceptions, influences and concerns of Aboriginal Australian women of various ages compared to those of non-Aboriginal women. This is important in order to understand the implications these perceptions have on chronic disease (such as obesity and diabetes). The study examines the relationships between age and Aboriginal/non-Aboriginal heritage with body image perceptions and satisfaction via a self-report questionnaire. Participants are Aboriginal women (n=134) and non-Aboriginal women (n=181) from urban and rural locations within NSW, with age range groups of <30; 30-55 and >55 years. The study found that whilst Aboriginal women were more likely to be overweight or obese, they generally perceived their weight status accurately, were less likely than their non-Aboriginal counterparts to desire weight loss and were more likely to perceive a larger body size as being ideal for women. Obese Aboriginal women were less likely to perceive themselves as 'too fat' than their non-Aboriginal counterparts. Despite differences in body image, there was no difference in the desired weight of Aboriginal and non-Aboriginal participants. Implications are discussed.

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## INTRODUCTION

Body image is a known concern for many women across the Western world, particularly during adolescence. In the Australian context, body image has been shown to be among the top three issues of concern for young people, which increased with age as 40.3% of 20-24 year olds rated this as a top concern (Mission Australia, 2010). Tunaley, Walsh and Nicolson (1999) found that body image is not just an issue for young people, as many older women were also dissatisfied with their body size. Little is known however, about the body image perceptions and influences of Aboriginal Australians and how they might differ from the mainstream ideals held by other Australians, as there are few specific studies in this area. It is known that Aboriginal cultures and views are often strikingly different from Western culture (Reynolds, 2005); hence it follows that cultural differences may also affect their self-perceptions.

Moreover, whilst there is a general lack of data on minority populations, it has been shown that the desire for the 'perfect' Westernized body may permeate traditional cultures, as dieting, food preoccupation and restriction and social pressures are found among such populations (Germov & Williams, 1999; McCabe, Ricciardelli, Waqa, Goundar, & Fotu, 2009) and Indigenous Australians (Ricciardelli, McCabe, Ball, & Mellor, 2004). On the contrary, Cinelli and O'Dea (2009) found that Indigenous Australian girls had a greater desire for 'bigness', a lesser perception of themselves as 'too fat' and a lesser desire for thinness than their non-Indigenous counterparts. Further, whilst it is known that higher proportions of Indigenous Australian adolescents are overweight than their non-Indigenous counterparts, little is known about Indigenous Australians' perceptions of their body weight (Cunningham, O'Dea, Dunbar, & Maple-Brown, 2008) or about the associated behaviours and attitudes (McCabe, Ricciardelli, Mellor, & Ball, 2005). This underrepresentation needs to be addressed in order to target actions to redress some of the health and education inequities facing the Indigenous Australian populations.

An Australian qualitative study of 47 Indigenous male and female adolescents found that Indigenous adolescents placed less consequence on body size and shape, with the girls reporting less dissatisfaction with their body shape, and weight compared to existing data on non-Indigenous male and female adolescents (Mellor, McCabe, Ricciardelli, & Ball, 2004). This disparity indicates the need for greater investigation into the issue. Obesity is a salient risk factor for many health conditions including Type 2 diabetes and cardiovascular disease

that disproportionately affect Aboriginal Australians (Cunningham et al., 2008), hence this acceptance of 'bigness' is a concern and requires further clarification.

Considering the vast health and education gaps that exist between population groups in Australia, and the known links between education and Indigenous wellbeing (ABS, 2011), this study seeks to gain a greater understanding of the body image perceptions, influences and concerns of Aboriginal Australian women of various ages compared with those of non-Aboriginal women.

## **METHOD**

The study examined the relationships between age and Aboriginal/non-Aboriginal heritage with body image perceptions and satisfaction via a self-reported questionnaire specifically developed for this research. Specifically, the body image, weight and shape perceptions of Aboriginal and non-Aboriginal Australian of three age groups: <30, 30-55, and >55 were explored. The accuracy of these perceptions were examined as measured against the World Health Organisation (WHO, 2000) classifications of underweight, normal weight, overweight and obesity.

### **Participants**

Participants (n=315) were all Australian women who self-identified as Aboriginal (n=134, 42.5%) or non-Aboriginal (n=181, 57.5%) from a variety of urban (Sydney) and rural towns within NSW. No participants were from remote communities. There was no significant difference in the age of Aboriginal (M=36.62, SD=14.37, range 11-78) and non-Aboriginal women (M=37.67, SD=16.51, range= 12-90;  $t(313)=-0.592$ ,  $p=0.55$ , two-tailed).

### **Instrument**

The questionnaire was developed using questions from the Body Image and Body Change Inventory (Ricciardelli & McCabe, 2001) and other body image studies of adolescents (Cinelli & O'Dea, 2009; Mellor et al. 2004; O'Dea & Wilson, 2006); young women (Mission Australia, 2010) and children (Rolland et al,1997).

The questionnaire measures socio-demographic details such as age, rural or urban location, weight perceptions, desired body weight, and Stunkard Silhouette figure preferences (Stunkard, Sorensen, & Schlusinger, 1983). Height (to nearest 0.1cm) and weight (to nearest 0.1kg) were also measured to calculate Body Mass Index (BMI).

The Stunkard Silhouette Scale is a figure rating scale displaying nine male and female body silhouettes ranging from very thin (1) to very obese (9) (Stunkard et al., 1983). This was used to measure perceptions of current weight/shape, desired weight/shape, and the ideal male and female figures. In previous research, BMI has been used in conjunction with the Stunkard Scale to check the accuracy of participants' body image perceptions (Scagliusi et al., 2006). Body image was measured using a categorical item: "Do you think you are: too thin (1), about right (2), or too fat (3)?" and desired body weight was measured using a Likert scale- "Would you like your body weight to be: A lot heavier (1); a little heavier (2); same as at present (3); a little lighter (4); a lot lighter (5)".

### **Procedure**

Passive snowball sampling was used with participants invited through chain-referral. The questionnaire was completed at a time and place convenient to the participants. The researcher was present to assist. Ethics approval was obtained from the University of Sydney Human Research Ethics Committee.

### **Statistical analysis**

Data were entered in SPSS (Version 19). Descriptive data of frequencies and results of the body image variables are presented in tables in three age categories (<30 years; 30-55 years; >55 years).

Analyses were run using ANCOVA comparing Aboriginal and non-Aboriginal women for all continuous, dependent variables with age added as a covariate. Pearson's Chi-square ( $\chi^2$ ) analyses are used to compare differences between categorical data such as BMI category, age category, and body image variables.

## **RESULTS**

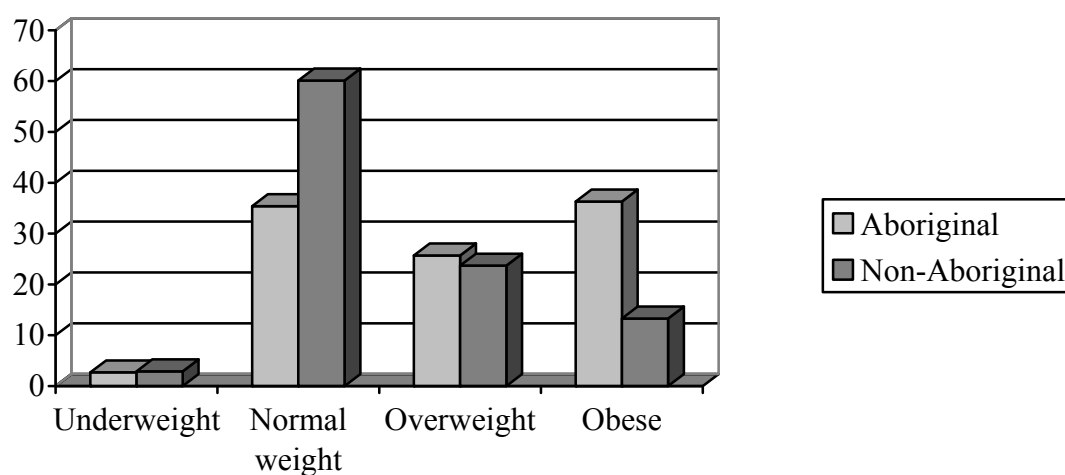
The age category of the participants is shown in Table 1. Results show that the two groups of women were of similar age ( $\chi^2=2.298$ ,  $df=2$ ,  $p=0.317$ ).

**Table 1**  
**Aboriginal and non-Aboriginal women distributed by age category**

Age Category	Aboriginal (N=134)	Non-Aboriginal (N=181)	Total
	% (n)	% (n)	
1. <30	39.6 (53)	44.8 (81)	42.5 (134)
2. 30-55	49.3 (66)	40.9 (74)	44.4 (140)
3. >55	11.2 (15)	14.4 (26)	13.0 (41)

BMI was calculated based on measured weight and height ( $\text{kg}/\text{m}^2$ ) and categorized as underweight (BMI  $<18.5$ ), normal weight (BMI  $\geq 18.5$  to  $<24.99$ ), overweight (BMI  $\geq 25$  to  $<29.99$ ) or obese (BMI  $\geq 30$ ) (WHO, 2000) to provide objective BMI classifications. The weight status of Aboriginal and non-Aboriginal participants, using these four BMI categories is illustrated below in Figure 1.

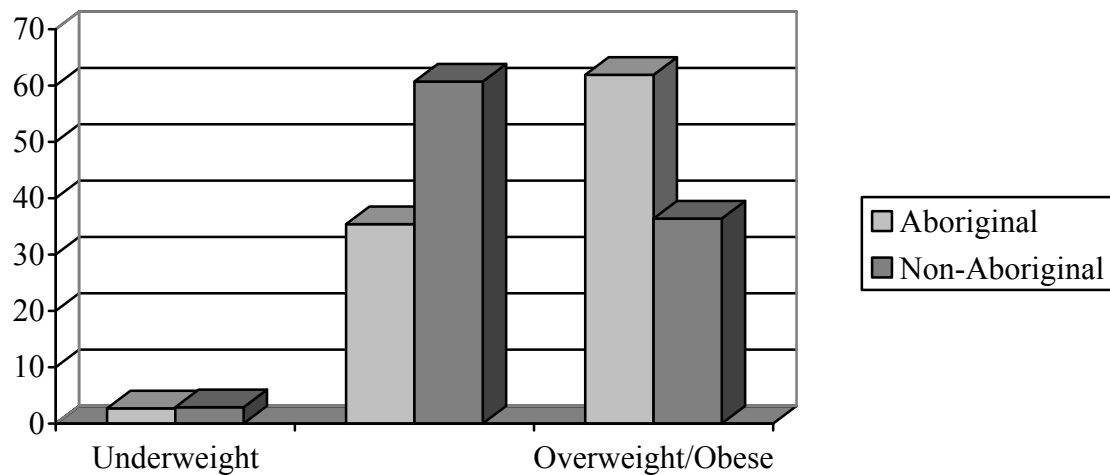
**Figure 1**  
**Weight status of Aboriginal and non-Aboriginal women.**



There was a significant difference in the weight status of Aboriginal and non-Aboriginal women participants ( $\chi^2=24.557$ ,  $df=3$ ,  $p=0.000$ ). Aboriginal women were less likely to be of normal weight (35.4% versus 60.1%) and more likely than non-Aboriginal women to be obese (36.3% versus 13.3%). There was no significant difference in the number of Aboriginal or non-Aboriginal women who were underweight or overweight, but not obese.

The weight status of Aboriginal and non-Aboriginal women according to three weight categories is represented in Figure 2.

**Figure 2**  
**Weight status of Aboriginal and non-Aboriginal women**  
**within three weight categories.**



When the overweight and obese groups were combined into one weight category of overweight/obese as per common epidemiological methods (AIHW, 2007; WHO, 2000) the difference between Aboriginal and non-Aboriginal women was statistically significant ( $p < 0.000$ ) with more Aboriginal women overweight or obese (61.9% versus 36.4%,  $df=2$ ,  $\chi^2=18.221$ ,  $p=0.000$ )

### **Stunkard Figures**

Results of ANOVA are presented in Table 2 and show that there was a greater mean BMI in Aboriginal versus non-Aboriginal women, but no difference in mean age. Table 2 shows differences in mean scores for the Stunkard Figure Scale.

**Table 2**  
**Comparison of the BMI, age and Stunkard Scale Body Silhouette scores of Aboriginal and non-Aboriginal women.**

	Aboriginal women (N= 134)		non-Aboriginal women (N=181 )		F or t statistic	P value
	Mean	SD	Mean	SD		
BMI	28.49	7.77	24.82	4.89	23.447	0.000***
Age	36.62	14.37	37.67	16.51	3.07	0.08
<b>Stunkard Scale</b>						
Figure most like you	4.37	1.76	4.02	1.42	14.792	0.000***
Figure you'd like to look like	2.86	1.02	2.71	0.96	12.656	0.000***
Female figure looks best	2.71	0.98	2.49	0.78	8.111	0.000***
Male figure looks best	3.50	0.89	3.51	0.82	0.118	0.889
Obese women						
Stunkard Scale scores for obese women	Aboriginal women (N=41)		non-Aboriginal women (N=23)		F or t statistic	P value
	Mean	SD	Mean	SD		
Figure most like you	5.90	1.55	6.05	1.27	0.302	0.740
Figure you'd like to look like	3.52	1.05	3.70	0.90	0.428	0.654
Female figure looks best	3.25	1.00	3.02	0.78	0.444	0.643
Male figure looks best	3.95	0.84	3.65	0.83	1.360	0.265

\*\*\* $p < 0.0000$

F value shows results for Univariate Analysis of Variance, controlling for age as a covariate.

Whilst both groups of women desired a body smaller than how they currently perceived themselves, the Aboriginal women were more likely to perceive themselves as bigger, to desire a larger ideal female body and think a larger female body looks better than the smaller sizes selected by non-Aboriginal women.

The Aboriginal women chose a significantly larger Stunkard Silhouette for the 'figure most like you', 'figure you'd like to look like', and 'female figure that looks best'. There was no significant difference between Aboriginal and non-Aboriginal women for the ideal male Stunkard Figures (Table 2).



Table 2 also presents the Stunkard figures for obese women. There was no difference in the perceived ideal female figure between obese Aboriginal and obese non-Aboriginal women. Mean scores for both obese Aboriginal and non-Aboriginal women on the figure rating scales were higher for all components, than were the mean scores for all women regardless of BMI.

### Body image and desired weight

Table 3 shows the body image and desired weight of Aboriginal and non-Aboriginal women.

**Table 3**  
**Body image and desired weight of Aboriginal and non-Aboriginal women.**

	Aboriginal women (N= 134)	non-Aboriginal women (N= 181)	X <sup>2</sup>	P
	%(n)	% (n)		
<b>Body image</b>			21.946	0.000***
‘Too thin’	5.2 (7)	1.1 (2)		
‘About right’	40.3 (54)	65.7 (119)		
‘Too fat’	54.5 (73)	33.1 (60)		
<b>Desired weight</b>			3.031	0.220
‘heavier’	7.5 (10)	3.3 (6)		
‘same’	14.2 (19)	12.7 (23)		
‘lighter’	78.4 (105)	84.0 (152)		

\*\*\* p<0.001

Results in Table 3 show that the body image of Aboriginal women was significantly different to that of non-Aboriginal women ( $X^2=21.946$ ,  $df=2$ ,  $p=0.000$ ). More Aboriginal women perceived themselves to be ‘too fat’ (54.2% versus 33.1%) and ‘too thin’ (5.2% versus 1.1%), and fewer perceived themselves to be ‘about right’ (40.3% versus 65.7%). Aboriginal women were more likely to desire a ‘heavier’ weight (7.5% versus 3.3%), or ‘same as at present’ (14.2% versus 12.7%) and less likely to desire their weight to be ‘lighter’ (78.4% versus 84%), but these differences did not reach statistical significance.

Table 4 represents the body image and desired weight of Aboriginal and non-Aboriginal women by three age categories; <30 years, 30-55 years, and >55 years. Desired weight was collapsed into three groups ‘heavier’, ‘same as present weight’ and ‘lighter’. Few respondents

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thought they were 'too thin' or desired to be 'heavier', although Aboriginal women in all age groups were more likely to report being too thin. This was not statistically significant ( $p=0.053$ ). Further, a greater proportion of Aboriginal participants across all age categories perceived themselves to be 'too fat'.

For the under 30 years age category, a greater proportion of non-Aboriginal women desired to be 'lighter', and less desired to remain the 'same' or be 'heavier' than did Aboriginal women ( $\chi^2=6.645$ ,  $df=2$ ,  $p=0.036$ ). For the 30-55 age category, the difference in body image of Aboriginal and non-Aboriginal women also reached statistical significance ( $\chi^2=13.337$ ,  $df=2$ ,  $p=0.001$ ).

The difference between desired weight for women aged 30-55 for Aboriginal and non-Aboriginal women ( $\chi^2=13.307$ ,  $df=3$ ,  $p=0.004$ ) and the body image perceptions of women aged >55 years ( $\chi^2=12.695$ ,  $df=2$ ,  $p=0.002$ ) reached statistical significance.

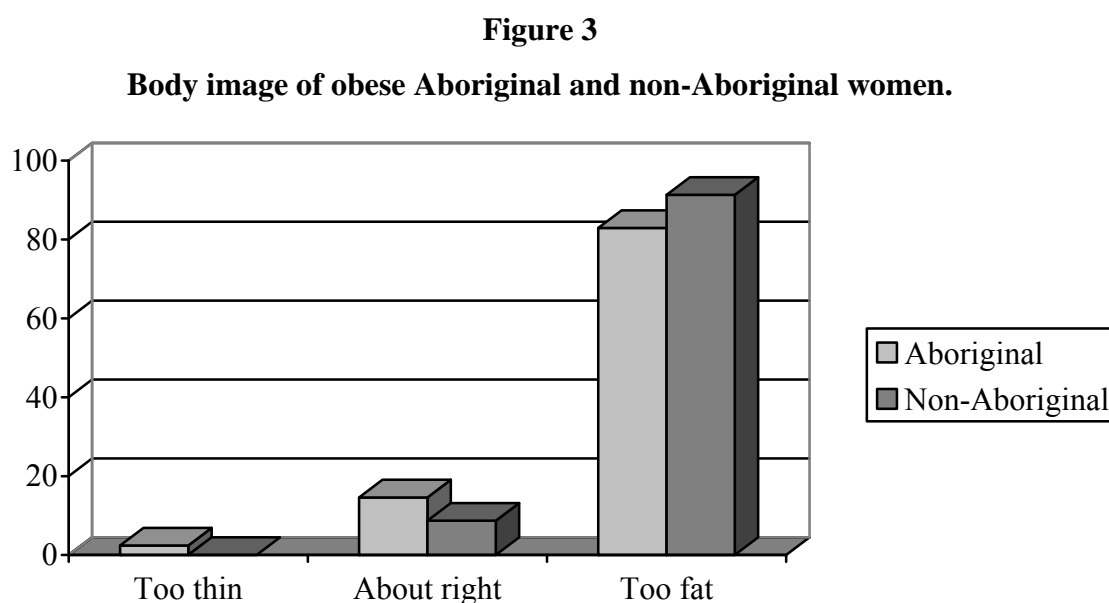
**Table 4**  
**Comparison of body image and desired weight of Aboriginal and non-Aboriginal women within each age category.**

	Aboriginal women (n= 134) %(n)	non-Aboriginal women (n= 181)* % (n)		
<u>Age category: &lt;30 yrs</u>			X <sup>2</sup>	P
Body image			5.876	0.053
‘Too thin’	3.8(2)	1.2(1)		
‘About right’	52.8(28)	73.8(59)		
‘Too fat’	43.4(23)	26.3(21)		
Desired weight			6.645	0.036*
‘heavier’	9.4(5)	3.7(3)		
‘same’	22.6(12)	9.9(8)		
‘lighter’	67.9(36)	86.4(70)		
<u>Age category: 31-55 yrs</u>				
Body image			13.337	0.001***
‘Too thin’	4.5(3)	0(0)		
‘About right’	34.8(23)	63.5(47)		
‘Too fat’	60.6(40)	36.5(27)		
Desired weight				
‘heavier’	4.5(3)	2.7(2)	1.826	0.401
‘same’	9.1(6)	16.2(12)		
‘lighter’	86.4(57)	81.1(60)		
<u>Age category: &gt;55 yrs</u>				
Body image			4.110	0.128
‘Too thin’	13.3(2)	3.8(1)		
‘About right’	20.0(3)	50.0(13)		
‘Too fat’	66.7(10)	46.2(12)		
Desired weight			1.426	0.490
‘heavier’	13.3(2)	3.8(1)		
‘same’	6.7(1)	11.5(3)		
‘lighter’	80(12)	84.6(22)		

\*p<0.05, \*\*\* p<0.001

### Body image in obese Aboriginal and non-Aboriginal women

Figure 3 shows the body image perceptions of obese Aboriginal and non-Aboriginal women.



Obese Aboriginal women were less likely to perceive themselves as 'too fat' or 'too thin' and less likely to perceive themselves as 'about right' than obese non-Aboriginal women. Of the 41 obese Aboriginal women, 82.9% perceived themselves as 'too fat', 14.6% perceived themselves as 'about right', and one (2.4%) perceived herself as 'too thin'.

As shown in Figure 3, 91.3% of the obese non-Aboriginal women thought they were 'too fat' (n=21) ( $\chi^2=1.097$ , df=2, p=0.578). After dividing the obese participants into three age groups (<30, 30-55, and >55) a comparison of Aboriginal and non-Aboriginal women by BMI category revealed no significant differences in body image.

## DISCUSSION

This study investigated the weight status and perceptions of body image among Aboriginal and non-Aboriginal Australian women. The main findings suggest that even though Aboriginal women were more likely to be overweight or obese, they generally perceived their weight status accurately, were less likely than their non-Aboriginal counterparts to desire weight loss and were more likely to perceive a larger body size as being ideal for women.

Owing to the likely diversity of socio-demographic status within and between Aboriginal and non-Aboriginal groups, these results must be interpreted with caution because socio-economic status is known to affect obesity prevalence. Despite these limitations, some

important trends are apparent in this sample of women. Regardless of Aboriginality or actual weight status, the majority of women in the current study were unlikely to perceive themselves as 'too thin', and the majority in every age category desired a weight which was 'a little lighter' than their current weight. This finding is unsurprising given previous studies of Australian women's body image (Germov & Williams, 1999; Lake, Staiger, & Glowinski, 2000) as well as the unrealistic focus on thinness that is entrenched in many women living in current Westernised societies (Ball & Kenardy, 2002; Snapp, 2009; Soh, Touyz, & Surgenor, 2006).

The current study showed that most women selected figures smaller than their own as ideal. This is consistent with a plethora of previous international and Australian studies detailing females' desires to be thinner (Ball & Kenardy, 2002; Rolland, Farnill, & Griffiths, 1997; Soh et al., 2006; Wang, Byrne, Kenardy, & Hills, 2005).

It was surprising to discover that overall, this group of Aboriginal women were generally accurate in their self-perceptions of being 'too fat' as well as their desire to be 'lighter', given previous findings that traditional Indigenous populations in Australia (e.g. Cinelli & O'Dea, 2009; Mellor et al., 2004) and abroad (Lynch, Heil, Wagner, & Havens, 2007; Yates, Edman, & Aruguete, 2004) place less consequence on, and receive more conflicting messages about body weight, size and shape.

Despite the greater prevalence of obesity among Aboriginal women and the general accuracy of their weight perceptions, it was interesting that nearly 15% of the obese Aboriginal women demonstrated a positive body image by considering themselves to be 'about right'. Snapp (2009) provides the possible explanation for greater acceptance that cultural minority women may not feel as judged by Western cultural ideals, and that this lack of engagement with Western cultural norms may be related to their greater body satisfaction. In contrast, it is recognised that Australian Aboriginal culture may somehow create a buffer to the effects of negative body image due to the pervasiveness of these ideals via the mass media (e.g. McCabe et al., 2005) and the current study certainly suggests that the current generations of Aboriginal women in Australia may be somehow protected from the pervasive and unhealthy Western body ideals of extreme thinness.

The figure rating scale also provided significant support for the notion that Aboriginal women may be more satisfied with their larger bodies, in that the mean ideal figures selected

were all larger than those selected by non-Aboriginal women. This may relate to the more wholistic life view of Aboriginal culture. Interestingly, there was close agreement in both Aboriginal and non-Aboriginal women about the ideal male body figure, suggesting no difference in perceptions of ideal male masculinity. It is interesting to note that body dissatisfaction seems unaffected by age, in that despite the similar proportions of women across age groups who thought they were 'about right', far greater proportions wished to be 'lighter' and not many wished to remain the 'same as at present'. This is unsurprising given that Tunaley et al. (1999) reported that many older women were dissatisfied with their size and that the thin ideal has a cross-generational influence.

Owing to the heterogeneity of different Aboriginal groups within Australia, the findings of this study are not intended to be generally indicative of the perceptions and attitudes of the Australian Aboriginal population, but rather may serve as an indication of the beliefs of some Aboriginal women. Further the research may present an idea of where further research might be useful to gain a greater understanding.

### **Implications for policy and practice**

Understanding that Aboriginal Australians are more likely than others to view the human body from a more culturally wholistic world view is an important factor to consider. Aboriginal women in previous reports and in the current study were more likely to be obese (AIHW, 2007) but less likely to believe they were 'too fat', and this different world view has important implications for the current paradigm of health education for Type 2 diabetes and cardiovascular disease prevention which currently focus on weight loss. Investigating the body image perceptions of Aboriginal Australians is essential as there is little information on which to base culturally appropriate health and nutrition education messages. Further, delivery of healthcare and education must be done in a culturally sensitive and appropriate manner, with input from and collaboration with Aboriginal people, in order to have a positive impact and to be relevant to Aboriginal populations. Hence, the further study of body image perceptions within a wholistic Aboriginal cultural view is a recommendation from the current study.

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