

What Does Fatness Bring to Our Life and Our World?



CCGL9043 Obesity: Beyond a Health Issue
Lecture 10

Discrimination – to further explore

QOL – mental well being

Academic performance

Sexual attitude

Life style - Food & Tobacco connection

Is the world getting fatter, healthier but still unequal?

Can J Diabetes 37 (2013) 205–209



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Review

Inequities in Healthcare: A Review of Bias and Discrimination in Obesity Treatment

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ABSTRACT

This review is based on an exploration of the published literature over the past 20 years in the area of weight bias, stigma and discrimination and its association with obesity treatment. National and international obesity organizations have identified obesity stigma as a key barrier to effectively addressing the obesity epidemic and have called for theory driven interventions to reduce it. Both the Canadian Obesity Network (<http://www.obesitynetwork.ca>) and the Obesity Society (<http://www.obesity.org>) have strategic directions, mission statements and collaborations that strongly oppose weight bias and recognize the potential of such bias to negatively impact obesity treatment. Comprehensive reviews of the literature in the area of weight bias have been published and have subsequently raised awareness of the potential impact of weight bias and discrimination on the health and well-being of individuals living with obesity. The purpose of this review is to highlight drivers of weight bias and to discuss its impact on obesity treatment.

Forhan & Salas. *Can J Diabetes* 37:205-209, 2013

Patients seeking treatment for obesity are faced with anti-fat attitudes and beliefs by healthcare providers at the point of entry to the healthcare system and also throughout their healthcare journey including specialty care and long-term care.

a survey of family physicians show that only one-third of physicians surveyed perceived themselves to be primarily responsible for treating obesity and identified a lack of time, training and challenges with reimbursement as barriers to effectively managing obesity in their practice (26,27).

discrimination and its association with obesity treatment. National and international obesity organizations have identified obesity stigma as a key barrier to effectively addressing the obesity epidemic and have called for theory driven interventions to reduce it. Both the Canadian Obesity Network (<http://www.obesitynetwork.ca>) and the Obesity Society (<http://www.obesity.org>) have strategic directions, mission statements and collaborations that strongly oppose weight bias and recognize the potential of such bias to negatively impact obesity treatment (1–5).

Forhan & Salas. *Can J Diabetes* 37:205-209, 2013

Best Practice & Research Clinical Endocrinology & Metabolism 27 (2013) 139–146



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4

The impact of obesity on quality of life



An important association exists between obesity and mental illness that impacts all aspects of an individual's quality of life. This association can begin early in the developmental trajectory and we do not yet completely understand all the mechanisms linking obesity and mental illness. What we do know is that physical health factors that often occur secondary to obesity, combined with societal attitudes toward those that are obese coupled with iatrogenic treatment factors linked to psychiatric pharmacotherapy and a number of biologic mediators result in an important and increasing common comorbidity. Recognizing this association is essential for the proper management of both conditions. The following review addresses this issue and provides clinical pearls to help deal with this issue.

Practice points

1. It is necessary to be aware of the fact that obesity and psychiatric illness are often comorbid with each other. This is especially important when planning treatment programs for each condition separately, since weight issues can impact compliance with psychiatric treatments and psychiatric illness can influence adherence to interventions designed to address weight management.
2. It is important to recognize that medical issues such as chronic pain and impaired mobility can mediate the association between obesity and psychiatric illness, impacting QoL.
3. The role of weight bias and stigma cannot be ignored in this population. It is important to ensure patients are aware of it and their own reactions to it. It is also essential to help individuals with obesity learn healthy coping strategies to try to mitigate the impact of bias and stigma on their own QoL.
4. Be aware that the association between obesity and mental illness can begin in childhood. Stigma is an important factor in this association and it is important to ensure efforts are made to prevent this type of behavior from developing at a young age.
5. Ensure that proper scales are used to measure QoL and psychological distress in an obese population. The multifaceted etiology of this illness, coupled with its many comorbidities, require time is spent to choose the best measurement instruments to use in this population.

JOURNAL OF SCHOOL HEALTH



RESEARCH ARTICLE

Perception of Overweight Is Associated With Poor Academic Performance in US Adolescents*

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ABSTRACT

BACKGROUND: To improve understanding of the mechanisms affecting the relationship between adolescent obesity and poor academic performance, we examined the association of overweight or perceived weight status with academic achievement.

METHODS: We performed a cross-sectional study of 14-17-year-olds ($N = 11,012$) from the nationally representative 2003 Youth Risk Behavior Survey. The main outcome measure was self-reported grades (mostly A, B, C, D, or F). The primary independent variables were medically defined overweight (body mass index [BMI] ≥ 85 th percentile), obesity (BMI ≥ 95 th percentile), and participants' perception of their weight status.

RESULTS: Medically defined overweight youth were less likely to report higher grades in unadjusted analysis (OR 0.67, 95% CI: 0.60-0.76, $p < .001$) and after adjustment for demographics, depression, television and video game use, and physical activity (OR 0.83, 95% CI: 0.74-0.94, $p = .003$). Statistically significant results also were seen with medically defined obese participants. Youth who perceived themselves as overweight were less likely to report higher grades (OR 0.82, 95% CI: 0.73-0.92, $p = .001$) in unadjusted analysis and after adjustment for the same variables (OR 0.79, 95% CI: 0.68-0.91, $p = .002$). The perception of overweight was a more significant determinant of academic performance (OR 0.81, 95% CI: 0.69-0.95, $p = .012$) compared to medically defined obesity (OR 0.90, 95% CI: 0.77-1.05, $p = .174$).

CONCLUSIONS: Perceived overweight status is negatively associated with academic performance, regardless of actual weight status. These findings suggest that perception of overweight may be a mechanism for prior results indicating a negative association of obesity and academic achievements, and have implications for the academic health of these adolescents.

Florin et al. *J School Health* 81:663-670, 2011

Table 3. Ordinal Logistic Regression Analyses: Odds of Reporting Achievement of the Next Higher Grade Level

	Medically Defined Overweight (BMI \geq 85th Percentile)			Medically Defined Obese (BMI \geq 95th Percentile)			Perceived Overweight		
	Odds Ratio	95% CI	p-Value	Odds Ratio	95% CI	p-Value	Odds Ratio	95% CI	p-Value
Model 1 (grades)	0.67	0.6–0.76	<.001						
Model 2 (grades, adjusting for confounders*)	0.78	0.69–0.89	<.001						
Model 3 (grades, adjusting for confounders and mediators†)	0.83	0.74–0.94	.003						
Model 4 (grades)				0.61	0.52–0.72	<0.001			
Model 5 (grades, adjusting for confounders*)				0.72	0.61–0.84	<0.001			
Model 6 (grades, adjusting for confounders and mediators†)				0.81	0.69–0.95	0.013			
Model 7 (grades)							0.82	0.73–0.92	.001
Model 8 (grades, adjusting for confounders*)							0.73	0.65–0.83	<.001
Model 9 (grades, adjusting for confounders and mediators†)							0.79	0.68–0.91	.002
Model 10 (grades, adjusting for confounders, mediators, BMI \geq 85th percentile)	0.91	0.81–1.02	.012				0.83	0.71–0.97	.02
Model 11 (grades, adjusting for confounders, mediators, BMI \geq 95th percentile)				0.9	0.77–1.05	0.174	0.81	0.69–0.95	.012
Model 12 (grades, adjusting for confounders, mediators, BMI z-score)							0.87	0.74–1.02	.08

BMI, body mass index.

*Confounders = age, sex, race.

†Mediators = depression, television use, video game use, meeting CDC physical activity recommendation.

Florin et al. *J School Health* 81:663–670, 2011

Any association between fatness and risky sexual behaviour?

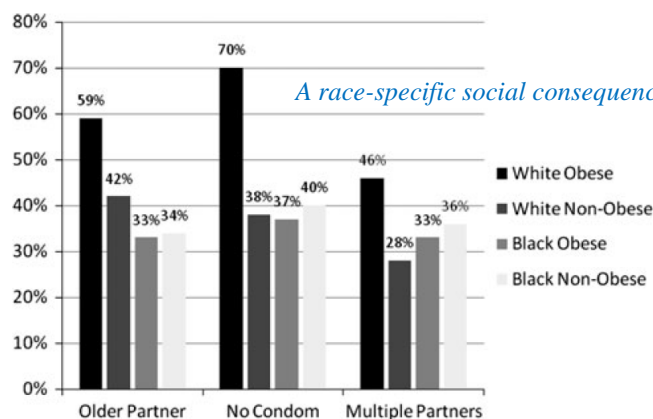


Fig. 1 Rates of risky behavior by race and obesity status, matched to obese white participants' propensity scores. *Note:* According to bias-corrected, 95% confidence intervals, white obese is significantly different from all other groups except black non-obese rates of multiple partners

Leech & Dias. *J Youth Adolescence* 41: 41–52, 2012

Weight discrimination promotes weight gain

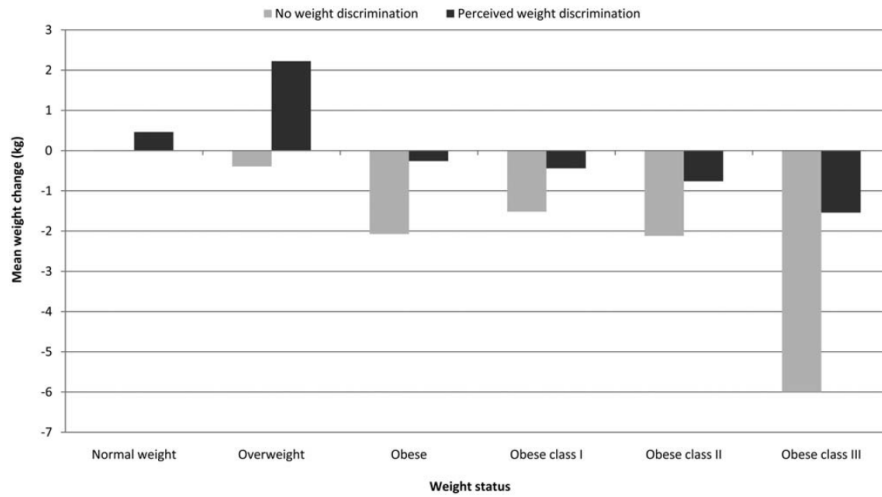


Figure 1 Associations between perceived weight discrimination and weight change, by baseline weight status.

Jackson et al. *Obesity* 24: 2485-2488, 2014

Nestle owns >2,000 brands from cereal, frozen food, chocolate to infant formula



Unilever owns >400 brands producing food, beverages, cleaning agents and personal health care products

McDonald's has ~35,000 outlets in some 120 countries



Altria Group - Philip Morris Companies Inc. – kraft
(connect in someway in the past and /or present)



http://culturewav.es/public_thought/87735

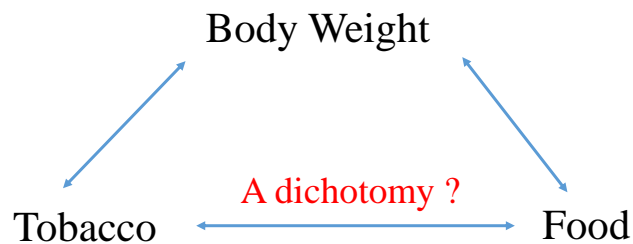


TABLE 1—Odds Ratios for Baseline Smoking among Adolescent Girls and Boys, by Weight Concerns and Dieting Behaviors

	OR	95% CI
Girls (n = 877)		
High eating restraint	2.04	0.95, 4.39
High eating disorder symptom score	2.36	1.15, 4.85
Tried to lose weight	2.98	1.43, 6.19
Constant thoughts about weight	1.70	0.87, 3.32
Fear of weight gain	2.29	1.02, 5.17
Wish to be thin	2.87	1.43, 5.77
Boys (n = 828)		
High eating restraint	0.78	0.39, 1.55
High eating disorder symptom score	1.34	0.66, 2.69
Tried to lose weight	1.16	0.48, 2.77
Constant thoughts about weight	0.99	0.44, 2.24
Fear of weight gain	1.93	0.89, 4.21
Wish to be thin	2.39	1.08, 5.27

Note. Odds ratios (ORs) were estimated by logistic regression and adjusted for grade, body mass index, and father's occupation. CI = confidence interval.

TABLE 2—Odds Ratios for Smoking Initiation among Adolescent Girls and Boys (Baseline Nonsmokers), by Weight Concerns and Dieting Behavior

	OR	95% CI
Girls (n = 799)		
High eating restraint	1.57	0.84, 2.94
High eating disorder symptom score	2.15	1.16, 3.97
Tried to lose weight	2.09	1.15, 3.79
Constant thoughts about weight	1.96	1.08, 3.53
Fear of weight gain	1.44	0.77, 2.66
Wish to be thin	1.51	0.84, 2.71
Boys (n = 758)		
High eating restraint	0.69	0.37, 1.28
High eating disorder symptom score	1.67	0.91, 3.07
Tried to lose weight	0.86	0.38, 1.92
Constant thoughts about weight	0.90	0.42, 1.93
Fear of weight gain	1.15	0.53, 2.48
Wish to be thin	0.72	0.28, 1.90

Note. Odds ratios (ORs) were estimated by logistic regression and adjusted for grade, body mass index, and father's occupation. CI = confidence interval.

Gender differences among adolescents on smoking behaviour

French et al.

Am J Public Health 84: 1818-1820, 1994

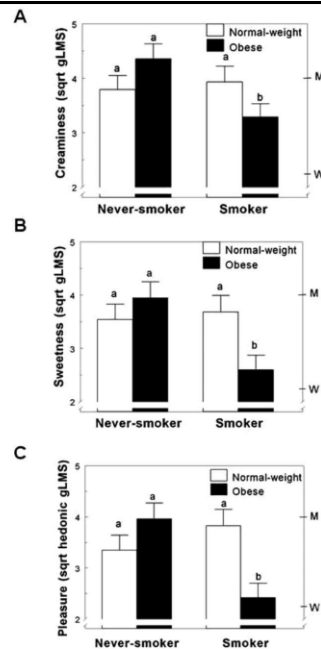
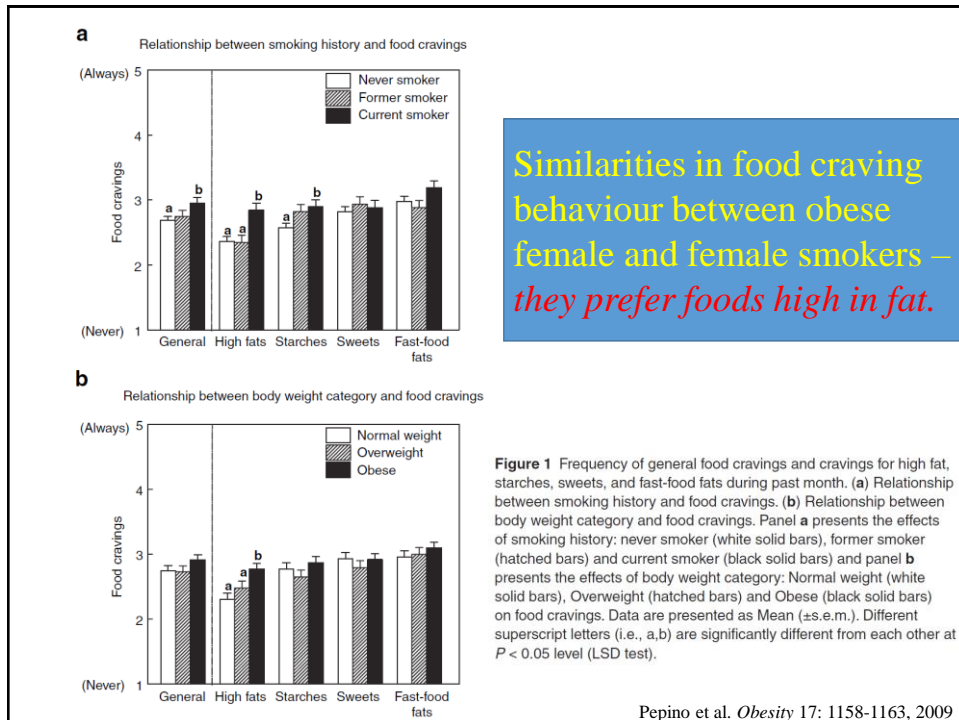


Figure 2. gLMS ratings of creaminess (A) and sweetness (B) and hedonic gLMS ratings of pleasure (C) of puddings by smoking and obesity status. Data are mean values \pm SEM. Data collapsed across all puddings. Groups that do not share a subscript differ by post hoc test. W, weight; M, moderate.

Obese female smokers perceived less creaminess, sweetness, and pleasure while tasting puddings.

Would this cause them to overeat?

Pepino et al. *Obesity* 22: 1050-1055, 2014



Similarities in food craving behaviour between obese female and female smokers – they prefer foods high in fat.

Is it not that cigarette (nicotine) would suppress appetite and therefore keep smokers slim?

Would smokers gain weight when they quit?

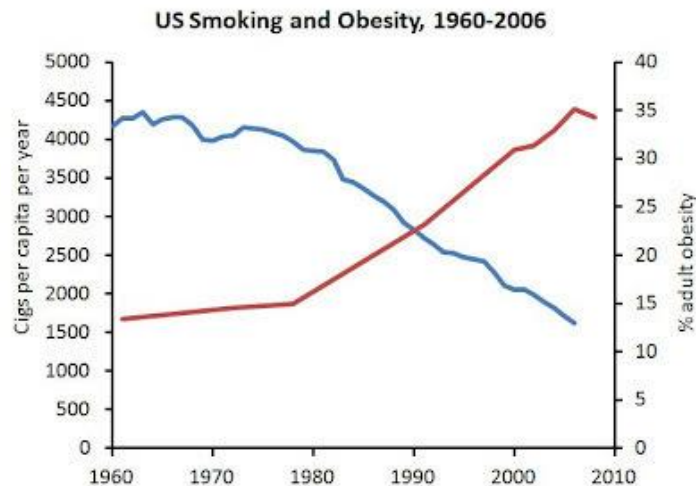
Baum and Chou. The Socio-economic cost of obesity

ABSTRACT

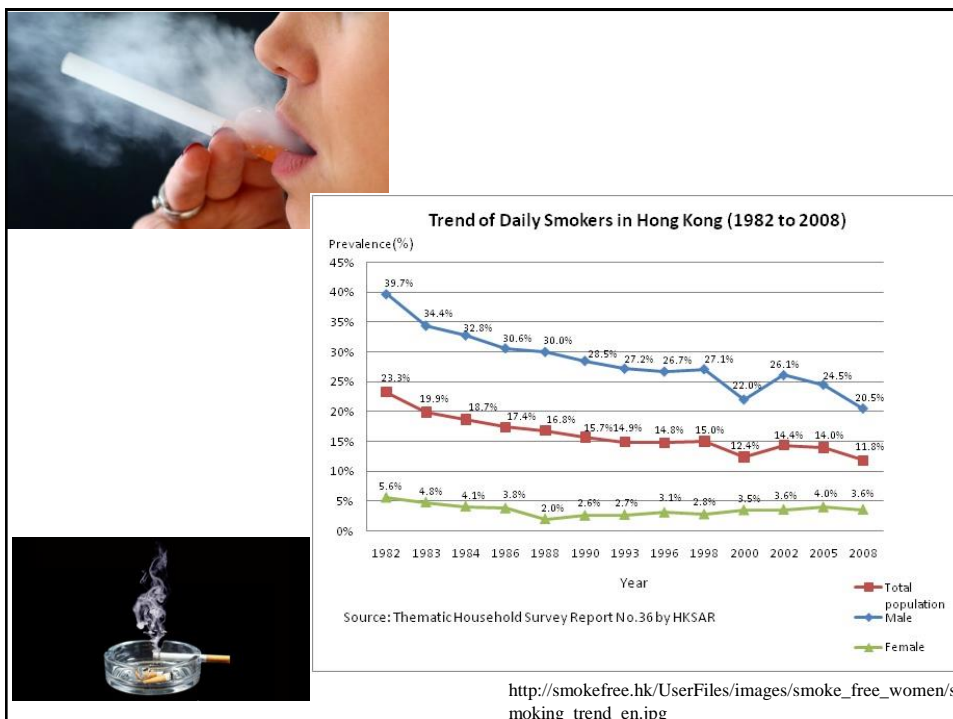
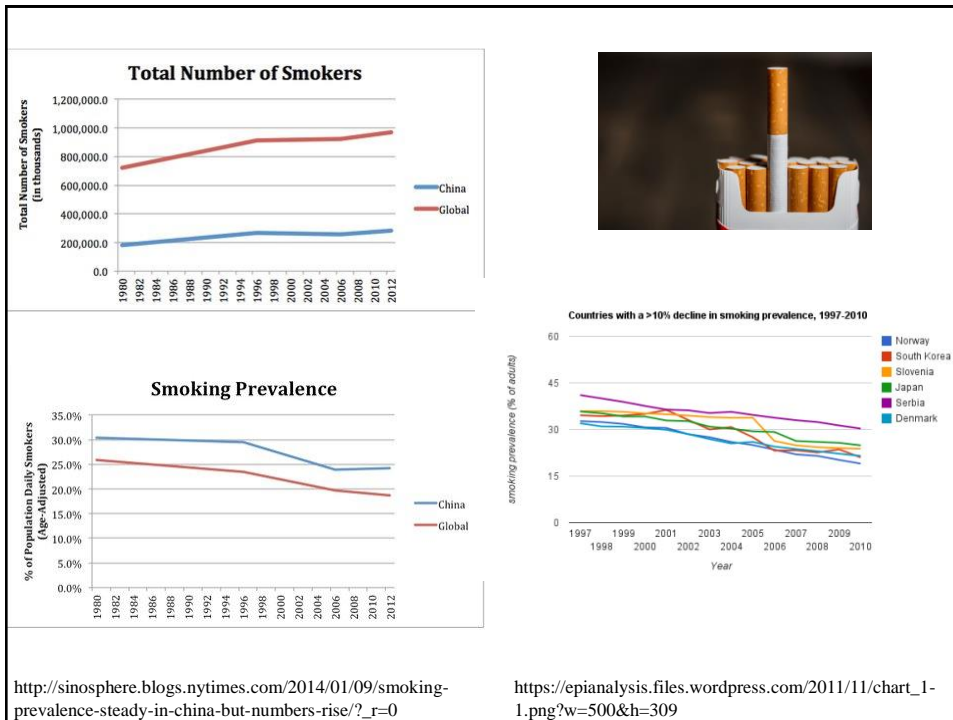
An increasing number of Americans are obese, with a body mass index of 30 or more. In fact, the latest estimates indicate that about 30% of Americans are currently obese, which is **roughly a 100% increase from 25 years ago**. It is well accepted that weight gain is caused by caloric imbalance, where more calories are consumed than expended. Nevertheless, it is not clear why the prevalence of obesity has increased so dramatically over the last 30 years.

We simultaneously estimate the effects of the various socio-economic factors on weight status, considering in our analysis many of the socio-economic factors that have been identified by other researchers as important influences on caloric imbalance: employment, physical activity at work, food prices, the prevalence of restaurants, cigarette smoking, cigarette prices and taxes, food stamp receipt, and urbanization. We use 1979- and 1997-cohort National Longitudinal Survey of Youth (NLSY) data, which allows us to compare the prevalence of obesity between cohorts surveyed roughly 25 years apart. Using the traditional Blinder-Oaxaca decomposition technique, we find that **cigarette smoking has the largest effect: the decline in cigarette smoking explains about 2% of the increase in the weight measures**. The other significant factors explain less.

National Bureau of Economic Research. Working paper17423, 2011



<http://wholehealthsource.blogspot.hk/2012/02/cigarette-smoking-another-factor-in.html>



Nanjing study confirming the Inverse relationship between smoking and BMI prevalence

Table 2. Prevalence (%) of overweight (BMI \geq 24) among Chinese men, by smoking status, TACS level, age, and urban/rural residence

		Smoking Status (%)			TACS Tertiles among smokers (%/N)		
		Non-smoker (5557)	Ex-smokers (548)	Current-smokers (7358)	Lower- TACS (2593)	Middle- TACS (2661)	Upper-TACS (2652)
Overall		39.9 (2217/5557)	39.2 (215/548)	33.0 (2431/7358)	37.8 (979/2593)	32.5 (864/2661)	30.3 (803/2652)
Age	35-49	39.3 (844/2147)	39.0 (39/100)	33.5 (1257/3748)	37.7 (645/1710)	29.7 (462/1556)	32.5 (189/582)
	50-64	42.6 (837/1966)	45.0 (86/191)	35.4 (898/2539)	40.6 (265/652)	37.8 (292/772)	32.7 (427/1306)
	65+	37.1 (536/1444)	35.0 (90/257)	25.8 (276/1071)	29.9 (69/231)	33.0 (110/333)	24.5 (187/764)
Residence	Urban	45.6 (1884/4131)	51.3 (173/337)	41.6 (1863/4481)	42.9 (794/1849)	41.2 (671/1630)	42.6 (571/1339)
	Rural	23.4 (333/1426)	19.9 (42/211)	19.7 (568/2877)	24.9 (185/744)	18.7 (193/1031)	17.7 (232/1313)

TACS=Total amount of cigarette smoked.

Xu et al. *Asia Pac J Clin Nutr* 16:240-247, 2007

Cigarette smoking and overweight in Chinese adults

Male ex-smoker also had a higher risk of central obesity

Table 3. The association between overweight, central obesity and smoking (OR and 95% CI) in Chinese men

		Overweight (BMI \geq 24)		Central obesity (waist \geq 85cm)	
		Prevalence (%)	Adj OR (95% CI)*	Prevalence (%)	Adj OR (95% CI)*
TACS	Level				
	Non-Smokers (ref)	39.9 (2217/5557)	1.00	39.4 (2189/5557)	1.00
	Lower	37.8 (979/2593)	0.88 (0.79, 0.98)	35.9 (932/2593)	0.94 (0.92, 1.05)
	Middle	32.5 (864/2661)	0.77 (0.69, 0.86)	32.3 (860/2661)	0.92 (0.82, 1.02)
	Upper	30.3 (803/2652)	0.77 (0.69, 0.86)	32.3 (857/2652)	0.97 (0.87, 1.08)
Smoking	Status				
	Non-Smoker (ref)	39.9 (2217/5557)	1.00	39.4 (2189/5557)	1.00
	Ex-Smoker	39.2 (215/548)	1.05 (0.87, 1.27)	45.1 (247/548)	1.38 (1.10, 1.74)
	Current-Smoker	33 (2431/7358)	0.79 (0.73, 0.86)	32.6 (2402/7358)	1.02 (0.92, 1.12)

TACS=Total amount of cigarette smoked. *Adjusted for age, urban-rural residence, education, occupation, family average income, alcohol drinking, consumption of cooking oil, red meat and vegetable, occupational physical activity, and leisure-time physical activity in our logistic regression models.

Xu et al. *Asia Pac J Clin Nutr* 16: 240-247, 2007

In mice cigarette smoke exposure and insulin resistance

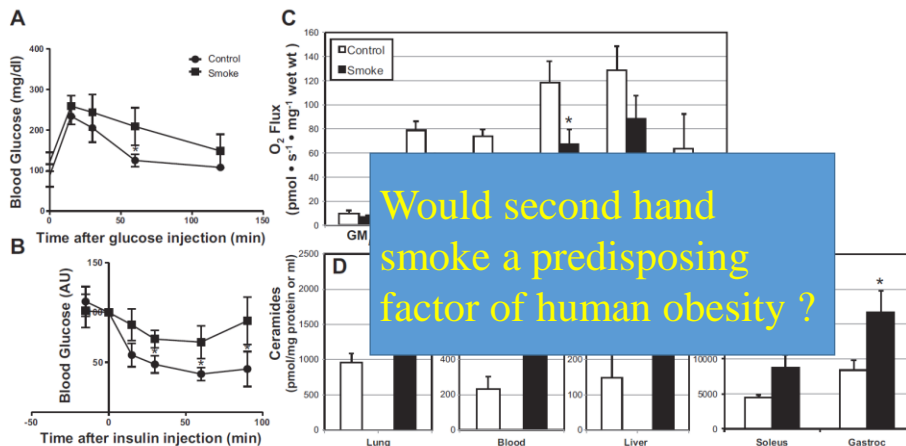


Fig. 6. Cigarette smoke (CS) increases tissue ceramides and causes insulin resistance and reduced mitochondrial respiration. Adult male C57Bl/6 mice were exposed to restraint (Control) or sidestream CS (Smoke) daily for 6 wk. Glucose (A; 1 g/kg body wt ip) and insulin (B; 0.75 U/kg body wt ip) tolerance tests were performed and mitochondrial respiration analyzed in red gastrocnemius according to the protocol outlined in MATERIALS AND METHODS (C). Ceramides were determined in lung (D; $P < 0.05$, $n = 4$), blood (E; $P < 0.05$, $n = 4$), liver (F; $P = 0.07$, $n = 4$), and soleus ($P < 0.05$, $n = 8$) and gastrocnemius ($P < 0.05$, $n = 7$) (G). * $P < 0.05$ for smoke vs. control.

Thatcher et al. *AJP Endocrinol Metab* 307: E919-E927, 2014

For the first time in history, there are more overweight/obese than underweight person worldwide

That means in many countries (particularly the developed countries) overweight and obese are the majority.

Would this sway public view and lessen the social stereotyping ?



Barbie doll (original 1959)

Creating bias, stigma, discrimination over the years?

Latest version with different shapes and skin tone (market driven?)



SOCIETY

Plus-size model sees no reason to ban ultra thin

Patron of Paris' larger women catwalk thinks fashion world's obsession with small goes too far

Agence France-Presse in Paris

France's waif obsession meant its fashion sector snubbed many women with bigger body types, but there was no need for a ban on ultra-thin models, said the patron of a plus-size Paris catwalk show held over the weekend.

"It's a cultural blockage," explained Clementine Desseaux, a 26-year-old French model who lives in New York.

The size-14 brunette gets year-round catalogue and campaign modelling work in the US, where she emigrated four years ago, compared to rare jobs in France as American department stores recognise that most women aren't slim, she says.

"In the United States, it's a market apart. You can make a career as a plus-size model. In France, it's not a career, it's a hobby; there are no clients," Desseaux said.



But, she added: "It's not for lack of demand; there are a lot of round women here. Parisian women are round, too. You mustn't think they are all small and thin."

The data backs her up. According to the French Institute for Textile and Clothing, size 40 is the most-sold size in France, and 40 per cent of French women wear size 44 or over.

In an effort to rebalance the scales, Desseaux was the star model at the third Pulp Fashion Week, an event held over the weekend in Paris that featured larger women on the catwalk.

Twenty-four models were walking the podium in some 20 labels to show that fashion was not only for the slimmest of customers. Such initiatives are also held in the US, Britain and Germany, with greater success.

The organiser of the Paris event, Blanche Kazi, said the refusal by major plus-size fashion labels was the main stumbling block. "They are the ones who could really shake things up with big sponsor budgets and financial partnerships," she said.

She and the models, though, are determined to instill a sense of pride in plus-size women in France, and to push French clothing stores to cater to larger sizes. "Here, the image of big-size women is horrible. There's a lot of work to be done," Desseaux said. "I want to make things change. One day I'd like to return to Paris, but I'm not ready yet."

In France, the model said: "I don't fit into anything. And yet, I'm not huge. In the United States, I fit into size M or L. There are a lot more sizes – nothing stops at size 42 in the US."

For all her morphological militancy, Desseaux is against France's mooted legislation to ban ultra-thin models who are under a certain body mass index (BMI). The measure was voted

Parisian women are round, too. You mustn't think they are all small and thin

CLEMENTINE DESSEAU (ABOVE)



A model appears at a Paris fashion show. Photo: Reuters

this month by lawmakers in the French parliament's lower house and could well become law if the upper house backs it.

Desseaux believes the natural thinness of many top catwalk models is being wrongly mixed up with anorexia.

"For me, it's just as dumb to say you're too thin as it is to say you're too fat – it's the same thing," she said.

The problem is not a model's BMI," she said, adding that a more concrete issue was the insistence of certain fashion labels to hire only underfed models. Desseaux said a friend who used to work at one of France's most recognisable top fashion houses told her about a heavy door it had at its entrance.

"If a model arrived and was able to open the door by herself, they didn't hire her – that meant that she was too strong."

That belittled strength, however, is exactly what Desseaux and other XL models are now using to open the door for the French fashion world to accept larger frames – and it's a door they intend to open wide.

SCMP – 13 April 2015

Resisting body dissatisfaction: fat women who endorse fat acceptance

Abstract

Fat women who endorsed fat acceptance ($N = 128$) were recruited from *Radiance Magazine*. Relationships between objectified body consciousness (OBC), body esteem, and psychological well-being for the mostly European American sample were similar to those found in other samples. OBC was independently related to body esteem when weight dissatisfaction was controlled. **Those who endorsed the need for social change in attitudes towards fat people had higher body esteem and self-acceptance, and lower body shame, than those who endorsed personal acceptance of body size only.**

Table 2

Fat acceptance group differences on body experience and psychological well-being

Scales	Fat acceptance group		Effect size
	Personal acceptance ($N = 26$) M (SD)	Social change ($N = 45$) M (SD)	
Body Esteem	2.81 (0.13)	3.35 (0.11)	0.15*
Body Surveillance	4.41 (0.22)	3.91 (0.18)	0.05
Body Shame	4.06 (0.25)	2.86 (0.21)	0.19***
Control Beliefs	3.64 (0.18)	3.56 (0.15)	0.00
Weight Discrepancy	0.37 (0.03)	0.28 (0.03)	0.07*
Autonomy	4.75 (0.19)	5.45 (0.15)	0.11**
Environmental Mastery	4.55 (0.24)	4.94 (0.18)	0.02
Self-Acceptance	4.36 (0.25)	5.26 (0.19)	0.11**
Personal Growth	5.20 (0.17)	6.05 (0.13)	0.19***
Positive Relations	5.31 (0.23)	5.61 (0.18)	0.02
Purpose in Life	5.10 (0.18)	5.44 (0.14)	0.03

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

McKinley NM. *Body Image* 1: 213-219, 2004

Obesity Paradox

Worldwide obesity prevalence

	1975	2014
men	3.2	10.8
women	6.4	14.9

Global life expectancy at birth increased
from < 59 years to 71 years!

So, what's wrong with being overweight and obese?