

Holiday waistline

Jolly, fit and fat: Should we be singing the “Santa Too Fat Blues”?

ABSTRACT

Santa Claus’s apparent weight gain, much chronicled in the popular media, raises the question of whether his jolly persona could be at risk. We investigate why Santa remains jolly, even though he is becoming obese, and what factors could be keeping him upbeat. Measures of body mass, mental health and physical activity were collected from a representative cohort of Canadian adults surveyed in 1988 and again 15 years later. Remaining sedentary was generally associated with a low jolly quotient (JQ). In addition, a “healthy weight” pattern and remaining “sedentary” was associated with higher odds of a low JQ than remaining or becoming obese (from overweight) while staying active. Although mechanisms for understanding how Santa remains active are yet to be elucidated, we have uncovered a few clues and conclude that Santa indeed remains jolly particularly because he is active, and that a GIFT (graduated intensity fitness training) is good for combating the “Santa Too Fat Blues.”

Radio stations are again playing upbeat songs^{1,2} about Santa Claus this Christmas, but media images suggest that this seasonal jolliness may be only superficial. With his predilection for the energy-dense cookies provided by millions of children worldwide, Santa’s apparent weight gain has been chronicled from earlier thinner depictions of St. Nick to his recent characterization as overweight or obese. Santa’s jolly HOHO (Happy, Overweight → Happy, Obese) persona could be at risk. Because obesity is strongly related to poor mental health outcomes, such as depression,^{3,4} and US researchers have concluded that Santa’s “Jolly Fat” stereotype is likely a myth,⁵ we ask if we should be singing the “Santa Too Fat Blues” (see Appendix 1 to read the lyrics and listen to the song, available online at www.cmaj.ca/cgi/content/full/175/12/1563/DC1) this Christmas? In particular, we undertook a weighty investigation into why Santa remains jolly, and what might account for his resilience in the face of growing girth.

As it is universally acknowledged that Santa Claus lives at the North Pole in Canada,⁶ we examined prospective Canadian population data to explore whether a HAHA (Happy, Active → Healthy, Active lifestyle) factor could balance the HOHO attributes, and whether this in turn might explain why Santa remains upbeat, even if he is not trim.



Fred Sebastian

Methods

We surveyed 2511 Canadian adults between September 2002 and April 2004⁷ who were part of a randomly recruited cohort established in 1988.⁸ Those who were identified as depressed (Center for Epidemiologic Studies-Depression Scale value > 15, $n = 114$) at baseline were excluded from the study. In total, 1098 participants aged 15–69 years in 1988 completed the 1988 anthropometric measures and answered the questionnaires at baseline and again in 2002–2004. Early examination showed no selection bias among participants.⁷

Jolliness in 2002–2004 was assessed by the standardized mental health subscale of the SF-36 health survey.^{9,10} A low jolly quotient (JQ) was defined as a below-median score. Height and weight were self-reported in 2002–2004 and

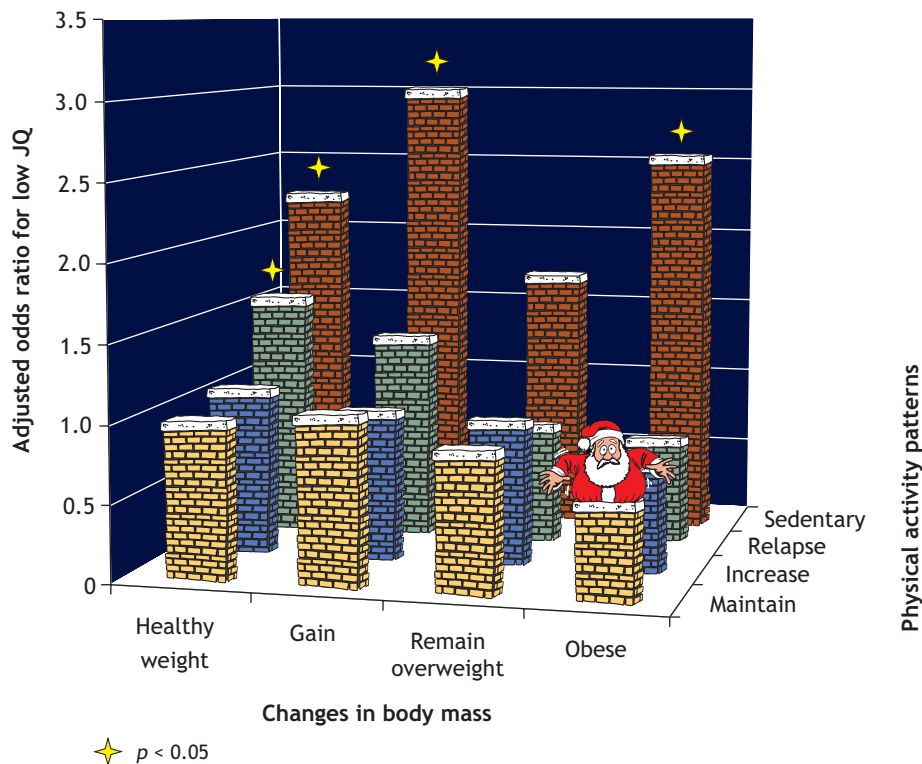


Fig. 1: Adjusted odds of low jolly quotient (JQ)* in 2002–2004 by changes in body mass index and physical activity patterns since 1988 in Canadian adults.
*Below median standardized mental health score.

were measured in 1988 using standardized protocols.¹¹ Standardized and validated adaptations of the Minnesota Leisure-Time Physical Activity Questionnaire^{12,13} were administered in 1988 and 2002–2004.⁷ This measure was checked for being good or bad, and it was found to be good, for goodness sake.¹³

Body mass index (BMI) was calculated from height and weight and classified as “healthy” (< 25), “overweight” (25–29) and “obese” (≥ 30). Four BMI patterns over the 15-year period were categorized as (a) “healthy weight”: maintaining or reducing to a healthy weight; (b) “gained”: becoming overweight/obese from a healthy weight; (c) remaining “overweight,” including reduced from obese; and (d) remaining “obese” or became obese from overweight. An energy expenditure score was calculated by summing the products of the metabolic cost of each type of physical activity reported, its duration in hours and the average number of occasions per week.¹³ Levels were defined in kilocalories per kilogram of body weight per day (KKD) as “sufficient” (≥ 1.5 KKD, equivalent to dancing and prancing about 15 minutes daily); “low” (0.5–1.4 KKD); and “sedentary” (< 0.5 KKD). Four patterns of physical activity over the 15-year period were created: (a) “maintain”: remaining sufficiently active; (b) “increase”: increasing from low or sedentary to sufficiently active; (c) “relapse”: decreasing to low or low activity at both times; and (d) “sedentary”: either reducing to or remaining sedentary.

Adjusted odds ratios of a low JQ were predicted from the

patterns of BMI and physical activity over the 15-year period, controlling for age and sex. The healthiest combination, “healthy weight” and “maintain,” served as the referent.

Results

Fig. 1 depicts the relation between differing patterns of body mass and physical activity over the 15-year period. Table 1 indicates that following a sedentary lifestyle in both 1988 and 2002–2004 is generally associated with an increased odds of a low JQ regardless of changes in body mass. Indeed, having a “healthy weight” pattern with a long-term “sedentary” lifestyle was associated with higher odds of a low JQ than was remaining or becoming obese (from overweight), while maintaining an active lifestyle.

Interpretation

This analysis helps to explain why an active, albeit overweight, Santa Claus is as likely to be as jolly as a “healthy weight” adult. The mechanisms for understanding how Santa remains active have yet to be elucidated. Could Santa have managed to buck the odds, with the help of activity-supporting reindeer?

Consider these clues. It is undoubtedly the team leader who coaches the reindeer for the annual Reindeer Games.¹⁴ This would require at least a low level of activity. However, to have the stamina to travel at light speed,¹⁵ Santa must follow a strict fitness regime like other racing drivers.¹⁶ Furthermore, ELF

Table 1: Adjusted odds of low jolly quotient (JQ) in 2002-2004 by changes in body mass and activity patterns since 1988 in 1098 Canadian adults

Change in body mass and activity pattern, 1988 to 2002-2004	No. of adults	AOR*	95% CI	p value
Healthy weight pattern†				
Maintained activity	224		Reference	
Increased activity	88	1.08	0.66-1.79	0.75
Relapsed (including remained at a low level of activity)	112	1.59	1.01-2.52	0.047
Remained sedentary	54	2.25	1.22-4.14	0.009
Gained weight				
Maintained activity	76	1.07	0.63-1.82	0.80
Increased activity	27	0.97	0.43-2.20	0.95
Relapsed (including remained at a low level of activity)	41	1.35	0.69-2.64	0.38
Remained sedentary	19	3.00	1.10-8.19	0.032
Remained overweight‡				
Maintained activity	130	0.89	0.56-1.41	0.62
Increased activity	55	0.94	0.51-1.73	0.84
Relapsed (including remained at a low level of activity)	65	0.77	0.43-1.39	0.39
Remained sedentary	34	1.71	0.82-3.54	0.15
Obese§				
Maintained activity	54	0.62	0.32-1.18	0.14
Increased activity	31	0.69	0.31-1.54	0.37
Relapsed (including remained at a low level of activity)	49	0.68	0.35-1.31	0.25
Remained sedentary	39	2.55	1.26-5.19	0.010

Note: AOR = adjusted odds ratio, CI = confidence interval.

*Adjusted odds of low JQ (below median health score) among the asymptomatic population at baseline, controlling for age group and sex.

†Retained or achieved a healthy weight.

‡Remained overweight or reduced from obese to overweight.

§Remained obese or increased to obese from overweight.

(Enhanced Lung Function) appears to be associated with GIFT (Graduated Intensity Fitness Training) programs. Finally, the ability to race from rooftop to rooftop and contort through chimneys of all shapes and sizes indicates that although Santa may be cheerful, he is also likely to practise JOLLY (JOgging and Life-Long Yoga). This is the secret of Santa's persona.

We conclude that Santa Claus indeed remains jolly, because he is active. The carousing Christmas corollary for us and our coronaries is to ask Santa to bring us all the special GIFT of an active lifestyle. It is good medicine to combat the "Santa Too Fat Blues."

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