

**Publication****Body silhouettes as a tool to reflect obesity in the past****JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 4482043**Author(s)** Lønnebotn, M.; Svanes, C. Igland; Franklin, K. A.; Accordini, S.; Benediktsdottir, B.; Bentouhami, H.; Blanco, J. A. G.; Bono, R.; Corsico, A.; Demoly, P.; Dharmage, S.; Dorado Arenas, S.; Garcia, J.; Heinrich, J.; Holm, M.; Janson, C.; Jarvis, D.; Leynaert, B.; Martinez-Moratalla, J.; Nowak, D.; Pin, I.; Raheison-Semjen, C.; Sanchez-Ramos, J. L.; Schlunssen, V.; Skulstad, S. M.; Dratva, J.; Gómez Real, F.**Author(s) at UniBasel** [Dratva, Julia](#) ;**Year** 2018**Title** Body silhouettes as a tool to reflect obesity in the past**Journal** PLoS ONE**Volume** 13**Number** 4**Pages / Article-Number** e0195697**Mesh terms** Adult; Area Under Curve; Body Height; Body Image; Body Mass Index; Body Weight; Europe; Female; Follow-Up Studies; Humans; Longitudinal Studies; Male; Middle Aged; Obesity, psychology; ROC Curve; Retrospective Studies; Self Report; Young Adult

Life course data on obesity may enrich the quality of epidemiologic studies analysing health consequences of obesity. However, achieving such data may require substantial resources. We investigated the use of body silhouettes in adults as a tool to reflect obesity in the past. We used large population-based samples to analyse to what extent self-reported body silhouettes correlated with the previously measured (9-23 years) body mass index (BMI) from both measured (European Community Respiratory Health Survey, N = 3 041) and self-reported (Respiratory Health In Northern Europe study, N = 3 410) height and weight. We calculated Spearman correlation between BMI and body silhouettes and ROC-curve analyses for identifying obesity (BMI  $\geq$  30) at ages 30 and 45 years. Spearman correlations between measured BMI age 30 (+/- 2y) or 45 (+/- 2y) and body silhouettes in women and men were between 0.62-0.66 and correlations for self-reported BMI were between 0.58-0.70. The area under the curve for identification of obesity at age 30 using body silhouettes vs previously measured BMI at age 30 (+/- 2y) was 0.92 (95% CI 0.87, 0.97) and 0.85 (95% CI 0.75, 0.95) in women and men, respectively; for previously self-reported BMI, 0.92 (95% CI 0.88, 0.95) and 0.90 (95% CI 0.85, 0.96). Our study suggests that body silhouettes are a useful epidemiological tool, enabling retrospective differentiation of obesity and non-obesity in adult women and men.

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