used. Body mass index (BMI) was calculated using self-reported height and weight; obesity = BMI ≥ 30. Neighbourhood was defined as a 2 km radial buffer; food outlets and physical activity facilities were sourced (2012) from Ordnance Survey Points of Interest (Pol) and categorised into ‘fast-food’, ‘large supermarkets’, ‘convenience and other food retail outlets’ and ‘physical activity facilities’. Parks were sourced from Open Street Map. Latent class analysis (LCA) was conducted on these five environmental variables. Logistic regression was then conducted to predict obesity based on the five neighbourhood types identified within LCA. Models adjusted for age, gender, ethnicity, area-level deprivation and rural or urban classification of the neighbourhood.

Results A five-class solution fitted the dataset best and was interpretable. Neighbourhood typologies were labelled as; “low exposure” (19.0% of study population); “moderate exposure” (33.3%); “moderate PA, limited food” (12.2%); “saturated” (13.6%); “moderate PA, ample food” (21.2%). For associations with obesity, those within the low exposure typology were exposed to the food environment may result in poorer dietary intake. Compared to the low exposure, one typology showed lower odds of obesity (“saturated”, OR=0.86 [0.75,0.99]) and one showed increased odds of obesity (“moderate exposure, OR=1.18 [1.05,1.32]).

Discussion Meaningful neighbourhood typologies were derived from a range of food and physical activity measures using latent class analysis which explained differences in obesity in large UK based sample of adults. This study suggests that neighbourhoods were not wholly unhealthy or healthy, they were characterised by neighbourhood features that are both health-promoting and health-constraining and this resulted in complex associations with obesity.

P27 CAN WE BETTER CAPTURE LONGITUDINAL EXPOSURE TO THE NEIGHBOURHOOD ENVIRONMENT? A LATENT CLASS GROWTH ANALYSIS OF THE OBESOGENIC ENVIRONMENT IN NEW YORK CITY, 1990–2010

Background Recent research has demonstrated that neighbourhood features such as fast-food outlets and supermarkets may co-occur. However, little research has investigated the combined influences of both the built food and physical activity (PA) environments and associations with body mass index and obesity. This study aims to use latent class analysis within a large UK adult population to investigate associations between the combined environment and obesity.

Methods Cross-sectional, individual-level data (n=22,889) from Wave 1 of The Yorkshire Health Study (2010–2012) were