Conclusion The findings corroborate the minority stress theory, but they also generate new questions for researchers around when and why these inequalities emerge.

P36 REGIONAL AND SOCIOECONOMIC DISPARITIES IN CHILD-TO-ADOLESCENT GROWTH TRAJECTORIES ACROSS GENERATIONS IN CHINA

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10.1136/jech-2020-SSMabstracts.130

Background China has experienced rapid economic development since the 1990s, which has led to regional development inequality and could have an impact on the physical growth in Chinese children. Study about changes in growth trajectories across generations by region and socioeconomic (SES) factors is needed for informing policy to reduce inequality.

Methods We used the longitudinal data of 5118 children from China Health and Nutrition Survey (CHNS), who were born during 1981–2000 and whose height and weight were measured between 7–18y during 1991–2015. Four birth cohorts were derived (1981–85, 86–90, 91–95 and 96–2000) and mixed-effects fractional polynomial functions were applied to estimate child-to-adolescent growth trajectories by gender and cohort. Growth trajectories were further stratified by region (west, central, east and northeast) and urban/rural separately. Finally, both geographic and parental SES determinants (log-household income, parental occupation and maternal education) were adjusted to estimate their association with childhood physical growth across cohorts.

Results Mean growth trajectories for height and BMI both shifted upwards across cohorts. The increase in BMI between the oldest (1981–85) and youngest (1996–2000) cohorts was ~0.8 kg/m² at 9 y (both genders) and remained in boys while narrowed in girls since late adolescence (0.4 kg/m² at 17 y). The increase in height widened pre-puberty (5.7 cm in boys and 4.4 cm in girls at 13 y) and decreased thereafter. There were evident regional disparities in growth: gender/cohortspecific BMI trajectories for children from the east region lay above those from the northeast region, followed by those for children from central/west areas. Height trajectory from northeast was the highest, followed by east, central and west regions. Growth increment across cohorts showed a similar regional pattern (e.g. children in west experienced the smallest growth increment across cohorts).

Urban children had higher BMI, were taller and had greater BMI increment while smaller height increment across cohorts than their rural counterparts, thus the urban-rural difference widened in BMI while narrowed in height across generations. Higher parental SES was associated with higher BMI and taller stature. The strength of relationship between maternal education with children’s height was stronger in younger than in older cohorts.

Conclusion While children from urban and east region had higher BMI and greater BMI increment across cohorts, children from underdeveloped western China remain to be the shortest and should be maximized their potential of linear growth. The positive relationship between parental SES and children’s BMI, which was opposite to the evidence in Western countries, may reflect a different mechanism in developing countries.