Conclusions

Adverse socioeconomic conditions in childhood are related to poor general health in adulthood. Unhealthy psychological attributes (personality factors and coping styles) are more common in people who reported low childhood social class. Specific psychological attributes contribute substantially to the association between childhood social class and adult health. Perceived control may be the underlying psychological characteristic. When the influence of childhood socioeconomic conditions on adult health is examined the role of specific psychological attributes is worth further exploration, in addition to factors related to fetal development, early growth, and biological and behavioural mechanisms.

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- 1 Davey Smith G, Hart C, Blane D, Gillis C, Hawthorne V. Lifetime socioeconomic position and mortality: prospective observational study. BMJ 1997;314:547-52.
- Davey Smith G, Hart C, Blane D, Hole D. Adverse socioeconomic conditions in childhood and cause specific adult mortality: prospective observational study. BMJ 1998;316:1631-5.
- Kaplan GA, Salonen JT. Socioeconomic conditions in childhood and ischaemic heart disease during middle age. BMJ 1990;301:1121-3.
- Lundberg O. The impact of childhood living conditions on illness and mortality in adulthood. Soc Sci Med 1993;36:1047-52.
- Rahkonen O, Lahelma E, Huuhka M. Past or present? Childhood living conditions and current socioeconomic status as determinants of adult health. Soc Sci Med 1997;44:327-36.
- Forsdahl A. Are poor living conditions in childhood and adolescence an important risk factor for arteriosclerotic heart disease? Br J Prev Med
- Barker DJP. Fetal and infant origins of adult disease. London: BMJ Books,
- Forsdahl A. Living conditions in childhood and subsequent development of risk factors for arteriosclerotic heart disease. J Epidemiol Con Health 1978;32:34-7
- Blane D, Hart CL, Davey Smith G, Gillis CR, Hole DJ, Hawthorne VM. Association of cardiovascular disease risk factors with socioeconomic position during childhood and during adulthood. BMJ 1996;313:1434-8.
- 10 Lynch J, Kaplan G, Salonen J. Why do poor people behave poorly? Variation in adult health behaviours and psychosocial characteristics by stages of the socioeconomic lifecourse. Soc Sci Med 1997;44:809-19.
- 11 Mheen H van de, Stronks K, Looman CWN, Mackenbach JP. Does childhood socioeconomic status influence adult health through behavioural factors? Int J Epidemiol 1998;27:431-7.
- 12 Wannamethee SG, Whincup PH, Shaper G, Walker M. Influence of father's social class on cardiovascular disease in middle-aged men. Lancet 1996;348:1259-63.
- 13 Lundberg O. Childhood conditions, sense of coherence, social class and adult ill health: exploring their theoretical and empirical relations. Soc Med 1997;44:821-31.
- 14 Schwartz JE, Friedman HS, Tucker JS, Tomlinson-Keasey C, Wingard DL, Criqui MH. Sociodemographic and psychosocial factors in childhood as predictors of adult mortality. Am J Public Health 1995;85:1237-45.

 15 McAdams DP. The person. An introduction to personality psychology. New
- York: Harcourt Brace Jovanovich, 1990. 16 Shaffer DR. Social and personality development. Pacific Grove, CA: Brooks/
- 17 Scheier M, Bridges M. Person variables and health: personality predispo-
- sitions and acute psychological states as shared determinants for disease. Psychosom Med 1995;57:255-68. 18 Ben-Shlomo Y, Davey Smith G. Deprivation in infancy or adult life: which
- is more important for mortality risk? Lancet 1991:337:530-4. 19 Mackenbach JP, Mheen van de H, Stronks K. A prospective cohort study
- investigating the explanation of socioeconomic inequalities in health in the Netherlands. Soc Sci Med 1994;38:299-308.

- 20 Erikson R, Goldthorpe J, Portocarero L. Intergenerational class mobility and the convergence thesis: England, France and Sweden. Br J Sociol 1983;34:303-42.
- 21 Rotter J. Generalized expectancies for internal versus external control of reinforcement. Psychol Monogr 1966;80:1-28.
- 22 Andriessen JHTH. Interne of externe beheersing. Ned Tijdschrift Psycholog 1972;27:173-8
- 23 Eysenck SBG, Eysenck HJ, Barrett PA. A revised version of the psychotism scale. Pers Ind Diff 1985;6:21-9.
- 24 Moody PM, Gray RM. Social class, social integration, and the use of preventive health services. In: Jaco EG, eds. Patients, physicians and illness. New York: Free Press, 1972.
- 25 Tax LCMM. Waarden, mentaliteit en beroep [PhD thesis]. Lisse: Swets and Zeitlinger, 1982:202 pp.
- 26 Kohn ML. Class and conformity: a study in values. Chicago: Chicago University Press, 1977.
- 27 Schreurs P, Tellegen B, Vromans ISY, Willige G van de. De ontwikkeling van de Utrechtse Coping Lijst. Utrecht: Vakgroep Klinische Psychologie, Rijksuniversiteit Utrecht, 1983.
- 28 Appels A, Bosma H, Grabauskas V, Gostautas A, Sturmans F. Self-rated health and mortality in a Lithuanian and a Dutch population. Soc Sci Med 1996;42:681-9.
- 29 Idler EL, Benyamini Y. Self-rated health and mortality: a review of twenty-seven community studies. J Health Soc Behav 1997;38:21-37.
- 30 Ross CE, Mirowsky J. Explaining the social patterns of depression: control and problem solving-or support and talking? J Health Soc Behav 1989:30:206-19.
- 31 Wheaton B. The sociogenesis of psychological disorder: an attributional theory. J Health Soc Behav 1980;21:100-24.
- 32 Mirowsky J, Ross CE. Control or defence? Depression and the sense of control over good and bad outcomes. J Health Soc Behav 1990;31:71-86.
- 33 Smits CHM, Deeg DJH, Bosscher RJ. Well-being and control in older persons: the prediction of well-being from control measures. Int J Aging Hum Dev 1995;40:237-51.
- 34 Syme SL. Control and health: a personal perspective. In: Steptoe A, Appels A, eds. Stress, personal control and health. London: Wiley, 1989:3-18.
- 35 Anderson J. Empowering patients: issues and strategies. Soc Sci Med 1996:43:697-705
- 36 Davey Smith G, Blane D, Bartley M. Explanations for socioeconomic differentials in mortality: evidence from Britain and elsewhere. Eur J Public Health 1994:4:131-44.
- 37 Mheen H van de, Stronks K, Schryvers CTM, Mackenbach JP. The influence of adult ill-health on occupational mobility out of and into the labour force in the Netherlands. A longitudinal study. Soc Sci Med (in
- 38 Ranchor AV, Sanderman R, Bouma J, Buunk BP, Heuvel WJ van de, An exploration of the relation between hostility and disease. J Behav Med 1997;20:223-40.
- 39 Watson D, Clark LA. Negative affectivity: the disposition to experience aversive emotional states. Psychol Bull 1984;96:465-90.
- 40 Kubzansky LD, Kawachi I, Spiro A III, Weiss ST, Vokonas PS, Sparrow D. Is worrying bad for your heart? A prospective study of worry and coronary heart disease in the normative aging study. Circulation 1997;95:818-
- 41 Nyström Peck M, Lundberg O. Short stature as an effect of economic and social conditions. Soc Sci Med 1995;41:733-8.
- 42 Russek LG, Schwartz GE. Feelings of parental caring predict health status in midlife: a 35-year follow-up of the Harvard mastery of stress study. J Behav Med 1997:20:1-13.
- 43 Friedman HS, Tucker JS, Tomlinson-Keasev C, Schwartz JE, Wingard DL, Criqui MH. Does childhood personality predict longevity? J Pers Soc Psychol 1993:65:176-85.
- 44 Meesters C, Muris P. The relationship between hostility and perceived parental rearing behaviour: a study of male myocardial infarction patients and healthy controls. Pers Ind Diff 1996;21:271-81

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Endpiece

Gide's solution

There is no psychological truth unless it be particular; but on the other hand there is no art unless it be general. The whole problem lies in just that—how to express the general by the particular-how to make the particular express the general. (André Gide)

Alice Heim, Intelligence and Personality (1970)

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