

Pathways from Parental Education to Adult Trajectories of Depressive Symptoms.

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Abstract

We decompose the effects of parental education on trajectories of depressive symptoms (DS) in adulthood into direct and indirect effects mediated by respondents' education and trajectories of income in adulthood. Data come from the NLSY79, a prospective cohort study spanning 21 years of respondents' lives from youth to adulthood (N=5,247). DS are measured with the CES-D at 3 points over respondents' adulthood, from their mid-30s to their early 40s (Cronbach α : 0.77 to 0.84). Education was measured in 1979 for parents and 1984 for respondents. Annual household income was measured from 1984 to 1997/99/2001. We control for gender, race, family history of depression, and respondents' depression from 1979-1982. We use latent growth curves with Direct Maximum Likelihood estimation to measure how changes in SES over the life course affect changes in DS over time. Unconstrained DS and income trajectories had good to excellent fit, and showed that, as hypothesized, DS decline on average over time, while income increases. Mother's, but not father's, education had a direct effect on the intercept of DS, as each year of maternal education decreased the intercept of DS by 0.10 points ($p < 0.001$). This direct effect declined in both significance ($p < 0.05$) and by 50% in magnitude with the indirect effect through respondents' own education. Finally, the totality of the effect appeared to be indirect

when trajectories of income were included. Thus, childhood appears to be a period sensitive to the effects of parents' education, but this effect wanes as individuals progress through the life course and more proximate effects of achieved status (education and income) take precedence.

Background

Early SEP and adult mental health

We have good evidence that socioeconomic position in adulthood is associated with psychological morbidity also in adulthood. In a recent meta-analysis covering 20 years of studies, adults of lower SEP were 1.81 times as likely as those of higher status to suffer from depression (Lorant et al., 2003). However, the life course perspective reminds us that adult statuses are the product of past experiences. Unfortunately, we know little about the relationship between socioeconomic position and psychological morbidity over the life course.

Empirical studies on the influence of earlier and later socioeconomic status (SES) on mental health and the pathways through which these conditions affect mental health are few and inconsistent. Some studies have shown that variations in adult depression or psychological distress may be due to both childhood and adult SES. For example, using data from the 1958 British Birth Cohort, Power and colleagues (2002) found that social conditions early in life (including class at birth) explained a substantial proportion of the adult gradient in psychological distress, particularly for women. However, their results do not allow us to determine if early conditions have a direct effect on adult mental health, or if most of these effects is mediated by contemporary experiences. Among studies which have adjusted for both childhood SES and adult SES the results are not consistent. Power et al., (2007), found an effect of childhood social class even after adjustment for adult social class. Other studies have supported an independent

effect of childhood SES (Gilman et al., 2002; Luo & Waite, 2005). However, others do not find a significant association between early SES and later depression or psychological distress once adult SES is taken into account (Harper et al., 2002; Laaksonen et al., 2007; Makinen et al., 2006; Mossakowski et al., 2008; Stansfeld et al., 2008), suggesting instead that early life SES determines educational attainment, occupation, and income in adult life and it is these proximal influences that explain social inequalities in mental health. Interestingly, not only did Laaksonen et al. and Makinen et al. find that the effect of childhood SES on adult mental functioning was mediated by adult SES but mental functioning was poorer among those in higher positions.

Finally, two studies which used data from the Dunedin Multidisciplinary Health and Development Study – a birth cohort consisting of 1, 037 individuals born in 1972-73 – found no evidence of low childhood SES (as measured by parents' occupational status) leading to major depressive disorder at ages 26 and 32, respectively (Poulton et al., 2002; Melchior et al., 2007). They found that adult mental health was, however, highly associated with adult SES.

Some support for the independent effects of childhood and adulthood SES conditions comes from studies of social mobility, that is, changes in SES in the transition from childhood/adolescence to adulthood on adult health. Some studies have suggested that children who rise in status during adulthood, as compared to the parent's status at the time of the child's birth, display higher ratings on coping ability, lower risk of psychiatric disorders and are less likely to report limiting long-term illness in adulthood; the opposite has been found for those who fall in status (Timms, 1996; Bartley and Plewis, 1997). It is suggested that the prevalence of ill health in socially mobile is somewhere between the group they left and the group they joined.

Proximate events and the shape of the age-depression relationship

A contemporary development of sociological research on depression over the life course has been the study of association between depression and age, and more specifically, of the social factors that might explain this relationship. As most of these studies have relied on cross-sectional data to speculate about the effects of ageing on depression, few conclusive causal statements have come out of this line of research. However, we will show here that this line of research nevertheless can provide some insights for our understanding of the relationship between socioeconomic status over the life course and depression.

Regarding the bivariate association between depression and age, most studies find a decline of depression with age from early to mid-adulthood (Newmann 1989). For instance, recent longitudinal results for the British 1958 birth cohort indicate that women experience declining levels of distress from age 23 to 33 (Rodgers et al 1999). However, the shape of the age-depression relationship from middle age to older adulthood is more contentious, as some find an upturn of depression in middle age, with the inflexion point reported to be anywhere from the mid-forties (Kessler et al. 1992; Mirowsky and Ross 1992) to the early sixties (Schieman, van Gundy and Taylor 2001), while others observe an uninterrupted decline (Blazer 2003; Feinson 1985; Wade and Cairney 1997). Newmann (1989) suggests that the failure to find consistent evidence of a stable non-linear association between age and depression is due to two common methodological problems: first, many of the published reports on the relationship between age and depressive symptoms have been based on analyses that examined only linear associations and usually failed to find these associations to be significant; second, a number of researchers have worked with sample having a truncated age range, having only a small number of very old respondents, or using a measure of age that combines all respondents over the age of 65 into a single group. Studies that have reported a positive linear relationship between age and

depressive symptoms have generally been based on samples of middle-aged and older respondents. Studies that have reported a negative linear relationship between age and depressive symptoms have generally been based on samples containing either very few elderly or truncated age-range coding schemes.

These debates about the exact shape of the relationship between age and depression actually have substantive implication, as this research can in fact be seen as bringing together the rich lines of sociological inquiry into the stress process (Pearlin et al. 1981) and the life course (Pearlin and Skaff 1996; Schieman et al. 2000). Most studies on age and depression indeed reach beyond the simple description of this relationship to explain it away with the prevalence of life events and roles (and related stressors or protective factors) at those ages.

For instance, Mirowsky and Ross (1992) explain their observation of a u-shaped relationship of depression with age that bottoms out in the mid-forties by the fact that “were it not for the gain and loss of partners, jobs, and wealth, there would be little or no fall and rise in the depression in successive age groups (Mirowsky and Ross 1992: 201).” They, and others after them (Kessler et al. 1992; Mirowsky and Ross 1999; Schieman, van Gundy and Taylor 2001; Wade and Cairney 1997, 2000; Yang, 2007), thus attribute much of the decline and increase in depression with age to these proximate social and economic statuses and related life events. This u-shaped relationship was replicated in other studies, with further development of the life course timing of the determinants explaining it (Kessler et al. 1992; Mirowsky and Ross 1999; Schieman, van Gundy and Taylor 2001; Wade and Cairney 1997, 2000).

In addition to a u-shaped age-depression relationship, there is evidence of a divergence in depression trajectories with age depending on level of education. Miech and Shanahan (2000) investigated the relationship of age and depression in relation to education over the life-course,

specifically testing if depression levels diverge or converge across educational strata with age. The authors found evidence of a diverging gap in depression with age, that is, the association between depression and education strengthened with increasing age, with physical health problems among adults with lower education accounting for most of the divergence.

Highlighting the importance of using a prospective cohort analysis, Yang (2007) went one step further and examined not only how risk factors vary by age but also by cohort. In addition to the positive and linear association between age and depression in late life, Yang found substantial cohort heterogeneity in both average levels of depressive symptoms and age growth trajectories of depressive symptoms, specifically, that depression declined with age more rapidly for earlier cohorts. Hence the importance of following cohorts prospectively as opposed to using a cross-sectional or synthetic cohort design.

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