



Family and neighbourhood risk and children's problem behaviour: The moderating role of intelligence



Eirini Flouri ^{a,*}, Emily Midouhas ^a, Heather Joshi ^b

^a Department of Psychology and Human Development, UCL Institute of Education, University College London, UK

^b Department of Quantitative Social Science, UCL Institute of Education, University College London, UK

ARTICLE INFO

Article history:

Received 27 April 2015

Received in revised form 30 June 2015

Accepted 12 August 2015

Available online 3 September 2015

Keywords:

Cumulative risk

Emotional and behavioural problems

Intelligence

Millennium Cohort Study

Resilience

ABSTRACT

General cognitive ability ('general intelligence') has been shown to buffer the effects of family adversity and poverty on emotional and behavioural problems in school age children. Yet, little is known about whether it can protect younger children or change the problem trajectories of at-risk children. We modelled simultaneously the effects of family poverty, neighbourhood poverty and adverse family events on children's trajectories of emotional and behavioural problems at ages 3, 5 and 7. We then tested the role of general intelligence both in changing the trajectories of problems and in buffering the effects of these risk factors at each age, and explored gender differences in its expected protective effects. We analyzed data on 16,916 children from the UK Millennium Cohort Study. General intelligence was derived from principal components analysis of several cognitive ability measures at ages 3, 5 and 7. Although general intelligence was not associated with the growth of at-risk children's problems over time, it was associated with the level of positive emotional and behavioural outcomes, and conferred concurrent protection from risk. At age 5, poor children with higher general intelligence had fewer emotional problems than similarly poor children with lower intelligence. Children exposed to family adversity were less likely to have emotional problems at any age if they had higher general intelligence. Higher general intelligence was also related to fewer behavioural problems for children experiencing family adversity at age 5, but not at ages 3 or 7. General intelligence moderated the effect of neighbourhood poverty on behavioural problems at ages 3 and 7, and its effect on emotional problems at age 5. In general, the protective effects of general intelligence, especially for emotional outcomes, applied mainly to girls. General intelligence appears to assist children in building resilience to both family and neighbourhood risk across childhood.

© 2015 Elsevier Inc. All rights reserved.

1. Introduction

Poverty and family adversity can both predict and exacerbate children's emotional (internalising) and behavioural (externalising) problems (Bradley & Corwyn, 2002; Drukker, Kaplan, Feron, & Van Os, 2003; Goodnight et al., 2012; Kohen, Leventhal, Dahinten, & McIntosh, 2008; Reiss, 2013). However, children exposed to these risk factors also vary in their outcomes (Kim-Cohen, Moffitt, Caspi, & Taylor, 2004), and therefore some children escape their effects. This 'resilience' may be due to certain individual characteristics, family qualities or environmental influences, likely working together to forge protection through a dynamic process (Rutter, 2013).

An individual-level protective factor for such emotional and behavioural resilience in school age children is general cognitive ability or intelligence ('g'; Breslau, Lucia, & Alvarado, 2006; Masten et al., 1999; Riglin et al., 2015; Fergusson & Lynskey, 1996). For example, Riglin

et al. (2015) found that higher ability buffered the negative impact of adverse life events on depressive symptoms among adolescents in a community sample and a sample at-risk for depression. In both variable-centred and person-centred analyses, Masten et al. (1999) demonstrated that general intelligence was associated with lower risk of antisocial behaviour among adolescents experiencing adversity, even chronic adversity, and that 'resilient' individuals had levels of intelligence (average to high) similar to their counterparts who experienced less adversity.

Children facing potentially stressful experiences, such as adverse family circumstances or the challenges associated with living in poverty in the home or the neighbourhood, may be particularly benefited by having higher general intelligence. At-risk children with higher general intelligence may have greater problem-solving aptitude, enabling them to assess threats effectively and use available information to find solutions for stressful situations (Masten et al., 1999). They may also be more likely to find meaning in their adversity and positively reframe their situation (Riglin et al., 2015). Additionally, children with higher intelligence may have a greater capacity for seeking out healthier or more advantageous environments (Gottfredson & Deary, 2004). Children with lower general intelligence, on the other hand, may be less

* Corresponding author at: Department of Psychology and Human Development, UCL Institute of Education, University College London, 25 Woburn Square, London WC1H 0AA, UK.

E-mail address: e.flouri@ioe.ac.uk (E. Flouri).

equipped in these ways to cope with stressful situations (Barnett, Salmond, Jones, & Sahakian, 2006; Koenen et al., 2009). Yet, it is not clear from these studies if intelligence can change the development of problem behaviour of at-risk children, or whether any protective effect depends on developmental period. It is also unclear if such 'protection', usually seen in older children and adolescents, can be evidenced in early childhood when the capacity to self-select into more advantageous circumstances and contexts is more limited. In this study, we attempted to address these issues. We investigated if intelligence is a protective factor for young children exposed to poverty and adversity, and, if it is, whether it changes the problem behaviour trajectories of such at-risk children or simply differentiates them at given ages. We also tested whether the expected moderator effects of general intelligence differ by the child's gender. There is some evidence that, at least in adolescence, cognitive ability is both more promotive (Weeks et al., 2014) and more protective for girls' compared to boys' mental health (Riglin et al., 2015), although the reasons for this gender difference are unclear.

1.1. The present study

We used data from the UK's Millennium Cohort Study, a large cohort of families with young children, followed longitudinally from age 9 months. We explored the longitudinal associations between risk and children's general intelligence and emotional and behavioural adjustment at all early and mid-childhood data sweeps with data on these measures, corresponding to ages 3, 5 and 7. The main risk factors, all time-varying at these ages, were number of potentially adverse life events the family experienced between sweeps, neighbourhood poverty and family poverty.

We adjusted for selected family/parent and child characteristics in order to rule out confounders of the relationship between poverty and adversity and child outcomes. The family-level covariates were mother's education and parental involvement in learning. Mother's education is strongly related to both family risk and child behaviour (Evans, 2003; Evans & English, 2002). At-risk children are also more likely to have parents who are less involved in their learning (Hornby & Lafaie, 2011), and low parental involvement is related to child problem behaviour (Wang & Sheikh-Khalil, 2014). The child-level covariates were gender, ethnicity and self-regulation. Girls, in general, are at lower risk of behavioural problems than boys (Egger & Angold, 2006). The main ethnic minority groups in the UK have similar or lower rates of emotional, behavioural and hyperactivity problems than white British children (Goodman, Patel, & Leon, 2008), despite experiencing more poverty (Platt, 2007). Self-regulation is related negatively to emotional and behavioural problems in children (Eisenberg, Spinrad, et al., 2010; Lengua, 2003) and positively to their emotional and behavioural resilience to several risk factors, including poverty (Buckner, Mezzacappa, & Beardslee, 2003; Flouri, Midouhas, & Joshi, 2014). By including self-regulation, the capacity to direct and focus one's actions and/or attentions to meet one's goals, we were also able to isolate the effect of general intelligence from executive functions and self-regulatory capacities which are positively associated with cognitive ability (Bornstein, Hahn, & Suwalsky, 2013; McClelland et al., 2007; Nisbett et al., 2012).

Moreover, as we estimated the effect of poverty at the neighbourhood level, it was necessary to account for neighbourhood selection bias. Neighbourhood selection bias occurs when the mechanism sorting families into neighbourhoods is not independent from the outcome studied (Ginther et al., 2000). For example, in the case of neighbourhood, families who are more educated are more likely to live in high-income areas, and families who are less educated are more likely to live in low-income areas. In our study, to mother's education, family poverty and adverse life events (which included family disruption, worsening financial circumstances and maternal depression) accounted for neighbourhood sorting. Accounting for neighbourhood selection allows the estimates for neighbourhood to reflect the influence of locality over and above the circumstances of the individual family.

2. Methods

2.1. Participants and procedure

The Millennium Cohort Study (MCS; www.cls.ioe.ac.uk/mcs) is a longitudinal survey drawing its sample from all births in the UK over a year, beginning on 1 September 2000 (Plewis, 2007). The MCS sample design over-represented families living in areas of high child poverty, areas with high proportions of ethnic minority populations across England, and the three smaller UK countries. Ethical approval for the MCS was gained from NHS Multi-Centre Ethics Committees, and parents gave informed consent before interviews took place. Sweeps 1–4 took place when the children were around 9 months, and 3, 5 and 7 years, respectively. Emotional and behavioural problems were measured at Sweeps 2–4. Our sample was families whose children had data on internalising problems or externalising problems in at least one of Sweeps 2–4 ($n = 16,916$), the majority of the MCS families ($n = 19,244$).

2.2. Measures

Internalising and externalising problems were measured at ages 3, 5 and 7 with the main parent-reported Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997). The SDQ is a 25-item scale measuring four domains of difficulties (hyperactivity, emotional symptoms, conduct problems and peer problems) and prosocial behaviour. Item responses range from 0 to 2. In line with recommended practice (Goodman, Lamping, & Ploubidis, 2010), the internalising problems scale comprised the 10 items from the emotional symptoms and peer problems subscales, and the externalising problems scale was derived from the 10 items from the hyperactivity and conduct problems subscales. Scores for each 10-item scale may range from 0 to 20. In our sample, internal consistency was at acceptable levels, and in line with other SDQ research (Stone, Otten, Engels, Vermulst, & Janssens, 2010). Cronbach's alpha values across the three sweeps ranged from .61 (at age 3) to .72 (at age 7) for internalising, and from .78 (at age 3) to .80 (at age 7) for externalising problems.

Family poverty, operationalized as *socio-economic disadvantage (SED)*, was measured (as in Malmberg & Flouri, 2011) as the sum of four binary indicators of the family's economic deprivation. This SED score captures poverty and its associated material conditions, providing a broad view of family-level socio-economic risk factors. The four items were overcrowding (>1.5 people per room excluding bathroom and kitchen), not owning the home, receipt of means-tested income support, and income poverty (below a line set as equalised net family income at 60% of the national median household income). We created a time-varying summary score of the four SED items ranging 0–4.

Adverse life events (ALE) at ages 3, 5 and 7 were measured as the number (out of eleven) of potentially stressful life events experienced by the family between two consecutive sweeps. The events, derived from available MCS data and based on Tiet et al.'s (1998) Adverse Life Events Scale, were: family member died, negative change in financial situation, new stepparent, sibling left home, child got seriously sick or injured, divorce or separation, family moved, parent lost job, new natural sibling, new stepsibling, and maternal depression (treated for or diagnosed with depression). At each sweep, the number of events occurring since the previous sweep was summed to form a total ALE score.

Neighbourhood median income (NMI) at ages 3, 5 and 7 was measured for each Lower layer Super Output Area (LSOA)¹ with data from Experian, drawn from multiple sources, including the Census and

¹ LSOAs cover around 1500 inhabitants, with boundaries drawn to maximise social homogeneity.

Download English Version:

<https://daneshyari.com/en/article/7293554>

Download Persian Version:

<https://daneshyari.com/article/7293554>

[Daneshyari.com](https://daneshyari.com)