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Factors influencing adult quality of life: Findings from a nationally representative sample in the UK

Helen Cheng [a,b], Andy Green [a], Miranda Wolpert [c], Jessica Deighton [c], Adrian Furnham [b,d,*]

[a] ESRC Centre for Learning and Life Chances in Knowledge Economies and Societies, Institute of Education, University of London, London WC1H 0AL, UK
[b] Department of Psychology, University College London, London WC1E 6BT, UK
[c] Child and Adolescent Mental Health Services Evidence Based Practice Unit, UCL and Anna Freud Centre, London, UK
[d] BI: Norwegian Business School, Nydalsveien 37, 0484 Oslo, Norway

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ABSTRACT

Objectives: To understand the effects of personality traits on self-rated quality of life.
Design: This was the exploration of a large longitudinal data base.
Methods: This study explored a longitudinal data set of over 5000 adults examining the effects of childhood cognitive ability (measured at age 11), parental social class (measured at birth), personality, educational qualifications and current occupational attainment (all measured at age 50) on adult quality of life (measured at age 50).
Results: Correlational analysis showed childhood cognitive ability, parental social class, education and occupation, and personality traits (emotional stability, extraversion, conscientiousness) were all significantly associated with adult quality of life. The strongest correlates of adult quality of life were personality traits, followed by current occupational levels and educational qualifications, childhood ability, and parents' social class. Structural equation modelling showed parental social class had modest but significant direct influence in adult levels of quality of life. Personality traits, educational qualifications and occupational attainment were also the direct predictors of adult quality of life, and the effect of childhood cognitive ability on adult quality of life was mainly through these variables. The implications for policy with respect to improving population level self-rated quality of life are discussed.

1. Introduction

How much do demographic factors, social factors, and psychological factors predict adult quality of life? There is a growing literature on the "quality of life" which has been shared as a robust, sensitive and practical measure for medical, psychological and sociological studies. Quality of life is a multidimensional construct; inevitably there remains some doubt as to its definition as well as the best instrument to use to assess it (Ferrans & Powers, 1992; Hyde, Wiggins, Higgs, & Blane, 2003; Skevington, Lotfy, & O'Connell, 2004). Quality of life may be defined as perceived global satisfaction and satisfaction within a number of key domains (Diener & Suh, 1997; Hörnquist, 1990). It has been used in a number of important studies in this area (Blane, Netuveli, & Montgomery, 2008; Higgs, Hyde, Wiggins, & Blane, 2003; Mõttus, Gale, Starr, & Deary, 2012; Netuveli & Blane, 2008; Netuveli, Wiggins, Hildon, Montgomery, & Blane, 2006; Tu, Wang, & Yeh, 2006; Wiggins, Higgs, Hyde, & Blane, 2004), linking quality of life with health, physiological status, changes at older ages, and mental health. For example, using self-rated quality of life in a sample over 50 years, Blane et al. (2008) found that it is significantly associated with depression and physiological conditions such as lung function and obesity. Importance of quality of life measures is also shown in clinical setting, for example, for identifying subgroups who are at risk of poor functioning/health problems, and detecting underlying problems/needs (Higginson & Carr, 2001). Although a global measure of quality of life is important, specific domains are found to have discriminatory power (Howel, 2012), thus both global and domains of quality of life should be examined in relation to other variables in question.

In the past two decades there have been consistent findings of the association between trait extraversion and mental well-being (Argyle, 2001; Cheng & Furnham, 2003; Diener, 1984; Eysenck, 1990; Furnham & Brewin, 1990; Furnham & Cheng, 1997, 1999;

* Corresponding author at: Department of Psychology, University College London, London WC1E 6BT, UK. Tel.: +44 2076795395.
E-mail address: a.furnham@ucl.ac.uk (A. Furnham).

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Tamir, 2009). Whilst neurotics tend to suffer a higher degree of mental distress, extraverts experience higher frequencies of positive affect, appear to be happier and may even live longer (Diener & Chan, 2011). Conscientiousness also has been found to be associated with mental well-being (Furnham & Cheng, 1997) and occupational and career success (Furnham, 2008).

Other studies have found the links between childhood intelligence and mental and physical health (Batty et al., 2009; Feinstein & Bynner, 2004; Simonton & Song, 2009), and between family social status at birth and children's early cognitive development (Deary et al., 2005; Schoon, 2010; Tong, Baghurst, Vimpani, & McMichael, 2007), and between family social background and occupational attainment (Duncan & Brooks-Gunn, 1997; Duncan, Featherman, & Duncan, 1972) and physical health (Wilkinson & Marmot 2003; Wilkinson & Pickett, 2006).

Most studies in this area have examined medical and social factors associated with quality of life. Few studies have looked at the links between psychological factors such as personality traits and adult self-rated quality of life in relation to childhood factors.

This study explores the effects of childhood factors such as parental socioeconomic conditions and childhood cognitive ability, adult social factors such as education and occupation, and personality traits on adult quality of life using path model and drawing on data collected from a large representative population sample born in 1958. The aims of the study are twofold: first, to investigate the associations between childhood factors, personality traits, social factors, and each domain as well as the global measure of quality of life so that the differential associations between each domain of quality of life and other variables could be better understood; second, to examine the paths linking childhood factors to outcome variable, especially the roles personality traits may play, using structural equation modelling.

It is hypothesised that (a) parental class and childhood cognitive ability would significantly and positively influence adult quality of life; (b) educational qualifications and occupational prestige would be significantly associated with quality of life; (c) personality traits (extraversion, emotional stability, conscientiousness) would be significantly associated with quality of life; (d) personality traits, education, and occupation might be independently associated with quality of life.

First we look at the associations between the measures used in the study. Following this we will test three models: model 1 will examine the net effects of parental social status and childhood cognitive ability; model 2 will examine educational qualifications and current occupational levels on self-rated quality of life together with childhood factors; and model 3 will investigate the paths linking all variables used in model 1 and model 2, as well as personality factors using structural equation modelling.

2. Method

2.1. Participants

The National Child Development Study 1958 is a large-scale longitudinal study of the 17,415 individuals who were born in Great Britain in a week in March 1958 (Ferri, Bynner, & Wadsworth, 2003). In the study participants were recruited as part of a perinatal mortality survey. The following analysis is based on data collected when the study participants were tested for their general cognitive abilities at age 11, and at age 50, participants responded to a set of questionnaires including personality traits and quality of life measures, with information on educational qualifications they obtained and current occupational levels. 14,134 children at age 11 completed tests of cognitive ability (response = 87%). Testing took place in school, and written, informed consent was given by the parents. At age 50, 8397 participants completed a questionnaire on quality of life and personality traits (response = 68%). The analytic sample comprises 5108 cohort members (52% females) for whom complete data were collected at birth, at age 11, and at age 50. Analysis of response bias in the cohort data showed that the achieved adult samples did not differ from their target sample across a number of critical variables (social class, parental education and gender), despite a slight under-representation of the most disadvantaged groups (Plewis, Calderwood, Hawkes, & Nathan, 2004). Bias due to attrition of the sample during childhood has been shown to be minimal (Davie, Butler, & Goldstein, 1972; Fogelman, 1976).

2.2. Measures

2.2.1. Childhood factors

Family social status is indicated through parental occupational social class and parental education. Parental occupational status at birth was measured by the Registrar General's measure of social class (RGSC). RGSC is defined according to occupational status and the associated education, or lifestyle (Marsh, 1986) and is assessed by the current or last held job. Where the father was absent, the social class (RGSC) of the mother was used. RGSC was coded on a six-point scale: I professional; II managerial/tech; IIIN skilled non-manual; IIIM skilled manual; IV semi-skilled; and V unskilled occupations (Leete & Fox, 1977). Class I is associated with the highest level of prestige or skill, and class V is the lowest. The scores were reversed. Parental education was measured by the age either parent had left full-time education. Cognitive ability was assessed at age 11 in school using a general ability test (Douglas, 1964) consisting of 40 verbal and 40 non-verbal items. Children were tested individually by teachers, who recorded the answers for the tests.

2.2.2. Factors in adulthood

At age 50, participants were asked about their highest academic or vocational qualifications. Responses are coded to the six-point scale of National Vocational Qualifications levels (NVQ) which ranges from 'none' to 'university degree/higher level'. Data on current or last occupation held by cohort members are coded according to the RGSC described above. Personality traits were assessed by the 50 questions from the International Personality Item Pool (IPIP) (Goldberg, 1999). Responses (5-point, from "Strongly Agree" to "Strongly Disagree") are summed to provide scores on the so called 'Big-5' personality traits: extraversion, emotional stability/neuroticism, conscientiousness, agreeableness, and intellect/openness. Alpha was 0.73 for extraversion, 0.88 for emotionality, 0.77 for conscientiousness, 0.81 for agreeableness, and .79 for intellect/openness in the study. Quality of life was assessed using a shortened version (Wiggins, Netuveli, Hyde, Higgs, & Blane, 2008) comprised of 14 items from the full 19 item scale (Hyde et al., 2003), which was designed to measure quality of life including three theoretical domains: control and autonomy (example items "I feel that what happens to me is out of my control", "I can do the things I want to do"), pleasure (example item "I look forward to each day", and self-realisation (example item "I feel that life is full of opportunities"). It is a 4-point Likert scale (rated 0 = Often, 1 = Sometimes, 2 = Not often, 3 = Never). The Alpha for the total score was 0.87 in the study.

3. Results

3.1. Correlational analysis

Table 1 shows the correlations between the observed variables in the study, together with the means and standard deviations of