Contents lists available at ScienceDirect

Intelligence

The role of intelligence in the distribution of national happiness

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ARTICLE INFO

ABSTRACT

We study the relationship between intelligence (IQ) and happiness inequality, measured by the standard deviation of life satisfaction, in a cross section of 81 countries. We find that higher levels of IQ are significantly correlated with lower levels of happiness inequality. This relationship is highly statistically significant even when we control for the level of economic development and a large set of control variables including economic freedom and social capital. We furthermore find suggestive evidence that economic development has a happiness equalizing effect, but this effect is, at least partially, mediated by the level of intelligence. Nations with higher levels of economic development and low IQ tend to experience less equal distribution of happiness compared to nations with higher levels of economic development and high IQ. The results are robust for a panel of 50 US states from 1972 to 2012 that uses alternative measure of intelligence from the US General Social Survey.

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1. Introduction

In the past several decades, one of the most hotly debated topics in the development literature across disciplines has been the so-called Easterlin Paradox. According to Richard Easterlin (1974, 1995 and Easterlin et al. (2010)), even though income is one of the strongest determinants of happiness within and across countries in the short-run, it does not seem to correlate with subjective well-being (SWB)[1] in the long-run. This view is based on the empirical observation that although real incomes have substantially increased since the 1970s, there have been no corresponding increases in the reported level of happiness, at least in the developed world. The Easterlin Paradox has inspired a vast empirical and theoretical literature in psychology, economics, sociology, and political science on social comparison and adaptation (for a review see Frey & Stutzer, 2002) and has been one of the main objections to economic growth. Binswanger (2006 p. 369), for example, suggests that "income initially provides additional happiness as it enables people to buy more goods and services… people [however] tend to adapt to higher income by rising income aspirations. The rising aspirations, in

turn, lower the happiness people derive from a certain level of income." Furthermore, on the macroeconomic level, GDP per capita does not account for (differences in) the income diffusion within society, even though a disproportionate income distribution may lead to uneven opportunities for individual development and thus more unequal distribution of happiness (Van den Bergh, 2009).

From the perspective of policy analysis, however, society may be interested not just in maximizing the average *level* of happiness, but also how happiness is *distributed* across individuals and over time. Several recent studies challenge the Easterlin Paradox in this line of reasoning. For example, Stevenson and Wolfers (2008) and Dutta and Foster (2013) show that even though average happiness in the US has stayed relative flat since the 1970s, happiness inequality has significantly decreased for the same period of time, with a large number of people moving from the lowest happiness category "not too happy" to the middle category "pretty happy." A new study by Clark, Fleche, and Senik (forthcoming) also demonstrates that economic growth is systematically correlated with a more equitable distribution of happiness across nations. Similarly, Veenhoven (2005) finds that happiness inequality significantly decreased from 1973 to 2001, even though income inequality rapidly increased for the same period of time.

In this paper, we add to this emerging line of interdisciplinary research by investigating the relationship between intelligence and happiness inequality in a cross-section of 81 countries. While the relationship between IQ and happiness has been studied before at the national level (e.g., see Veenhoven & Choi, 2012; Lynn & Vanhanen, 2012a; Stolarski, Jasielska, & Zajenkowski, 2015), there is little empirical evidence on how intelligence correlates with the distribution of happiness across countries. Our study contributes to this literature in three ways. First, to the best of our knowledge, this is the first study that

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[1] Psychologists (Diener 1984) differentiate between three separate aspects of SWB: (1) life satisfaction (i.e., a person's overall life evaluation at a point in time), (2) the presence of positive feelings or affect (i.e., positive emotions such as feelings of joy or sense of vitality), and (3) the absence of negative feelings or affect (i.e., feelings of boredom, loneliness, etc.) In this study, we use interchangeably happiness, SWB, and life satisfaction. Our measure of happiness, however, is based on questions about people's overall life satisfaction and thus reflects a cognitive evaluation of one's life.

examines the relationship between IQ and happiness inequality, which we measure by the standard deviation of life satisfaction in nations from the World Values Survey. Second, in addition to providing partial correlations, we control for a large number of control variables, which allows us to separate the effect of IQ from the influence of different socio-economic variables including economic development and social capital that may also influence happiness inequality. Finally, we examine to what extent the relationship between economic development and happiness inequality is dependent on the level of intelligence in a country.

Our results suggest that nations with higher level of IQ have a more equal distribution of happiness. This relationship is highly statistically significant ($p = .01$ in majority of our models) even when we control for economic growth, democracy, economic freedom, social capital, and different geographic and demographic controls. We furthermore find that economic development has a happiness equalizing effect, but the positive effect of economic development on happiness inequality is, at least partially, mediated by intelligence. In other words, nations with higher levels of economic development, but low IQ, tend to have less equal distribution of happiness compared to nations with higher levels of economic development and high IQ. This suggests that economic development is not a sufficient condition for achieving a more equal distribution of subjective well-being. On the other hand, intelligence, which can be seen as a proxy for human capital, is a necessary condition to achieve this social end. The results are robust for a panel of 50 US states from 1972 to 2012 that uses alternative measure of intelligence from the US General Social Survey.

2. IQ and happiness inequality

Previous studies found a positive correlation between IQ and the average *level* of happiness across countries. For example, Veenhoven and Choi (2012) found a correlation of 0.6 ($r = .60$) in a sample of 143 nations. These results are similar to the findings of Lynn and Vanhanen (2012a) who showed that the correlation is close to 0.64 ($r = .64$) using an updated IQ dataset.

We propose four different channels through which IQ can theoretically influence the distribution of happiness in a nation: (1) economic growth, (2) institutions, (3) social networks, and (4) reduction of crime. First, previous studies found a strong link between IQ and economic development (e.g., for an excellent review see Lynn & Vanhanen, 2012a). In turn, economic development has been associated with systematically lower levels of happiness inequality *across* and *within* countries. For example, Clark et al. (forthcoming) argued that modern growth has extended public services such as education, health, infrastructure, and social security to the vast majority of the least privileged people, thus reducing their daily anxieties and narrowing differences in SWB.

Second, intelligence is strongly correlated with the quality of a country's institutions. In particular, cross-country studies found that intelligence has a positive effect on government effectiveness (Kanyama, 2014), reduces market failures (Potrafke, 2012), and narrows gender inequalities (Salahodjaev & Azam, 2015). More recently, Salahodjaev (2015a) using data from 158 nations over the period 1999–2007, found that intelligence has a strong and robust negative effect on the size of the shadow economy. Several studies suggested that better quality institutions are linked to lower happiness inequality. Using an instrument that has been identified by a rich historical literature a priori, Nikolaev and Bennett (2015) found a strong and significant causal link between institutions consistent with the principles of economic freedom and happiness inequality. Similarly, Ott (2005, 2010) found a strong correlation between government effectiveness and democratic quality and the distribution of happiness across a large sample of countries. In this vein, intelligence may also have negative effect on happiness inequality since higher IQ is associated with improvements in "the quality of public services, the quality of the civil service and the degree of its independence from political pressures" (Rindermann, Kodila-Tedika, & Christainsen, 2015 p. 100). Consequently, efficiently functioning institutions provide people with a sense that their choices matter even if they are at the bottom of the income distribution[2] (Rindermann, Sailer, & Thompson, 2009). They further provide people with a greater sense of autonomy and freedom of choice and allow them through more inclusive markets to become competent and participate in the type of activities they value the most. In that sense, good quality institutions can narrow differences in happiness by being more inclusive.

In addition, intelligence promotes political participation (Carl, 2014a), and while educated agents have better control over national resources, a larger share of national income is directed towards education and health (Burhan, Salleh, & Burhan, 2015). In this respect, Salahodjaev (2015b) reported positive association between intelligence and financial development. For example, moving from country with a mean IQ score (84.1) to the highest national IQ score (107.1) is associated with 3.6-fold increase in the size of the banking sector. Positive correlations were reported by Kodila-Tedika and Asongu (2015) for financial development, and Burhan et al. (2015) for health insurance expenditure. Making scarce resources available to a greater number of people may furthermore reduce differences in happiness inequality.

Third, apart from institutional mechanisms, we suggest that intelligence can influence the distribution of happiness in a country via the social capital channel. IQ has been previously found to increase interpersonal trust and cooperation (Jones, 2008). For example, Sturgis, Read, and Allum (2010) showed that even after controlling for a set of individual characteristics, intelligence in childhood is a strong and robust determinant of generalized trust in adulthood. Similarly, Carl and Billari (2014) explored nationally representative sample of U.S. adults and reported that intelligence retains its significant effect on generalized trust even after they control for the influence of socio-economic background. Furthermore, Carl (2014b) suggested that the association between trust and economic development maybe explained by intelligence. The author utilized statistics on social capital, intelligence and GDP per capita for 15 Spanish regions, 20 Italian regions, 50 US states, and 107 countries. In all four regions, there is a statistically significant positive association between trust and intelligence ($r = .74, r = .74, r = .72$ and $r = .50$, respectively). Indeed, related literature found that social capital is a robust predictor of life satisfaction (Helliwell, 2003; Helliwell, 2006; Bjørnskov, Dreher, & Fischer, 2008). More importantly, however, social trust increases people's sense of relatedness and narrows differences in happiness as those at the bottom of the socio-economic distribution, or traditionally discriminated minorities, feel more connected to the rest of society.

The final channel through which intelligence may have an impact on the distribution of happiness is by influencing different risk-related behavioral tendencies. A substantial line of research documented statistically significant and negative link between intelligence and general crime rates (McDaniel, 2006; Pesta, McDaniel, & Bertsch, 2010). Bartels, Ryan, Urban, and Glass (2010), for example, revealed negative association between cognitive skills and nine different measures of crime: total violent crime rate, the homicide rate, the aggravated assault rate, the robbery rate, the total property crime rate, the burglary rate, the theft rate, and the motor vehicle theft rate. Other studies found that intelligence correlate negatively with anti-social behavior (Mõttus, Guljajev, Allik, Laidra, & Pullmann, 2012), serious assault (Rushton & Templer, 2009), and positively with risk aversion (Frederick, 2005) and moral behavior (Oesterdiekhoff, 2014). Thus, people in more intelligent societies will feel greater social protection and experience less crime, which is often found at the lower end of the economic distribution.

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[2] For a further evidence that intelligence predicts quality of political institutions see e.g. Rindermann (2008).