



UNIVERSITI PUTRA MALAYSIA

***INTELLIGENCE AND GOOD GOVERNANCE ON SOCIOECONOMIC
DEVELOPMENT OF GLOBAL COMMUNITY***

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**INTELLIGENCE AND GOOD GOVERNANCE ON SOCIOECONOMIC
DEVELOPMENT OF GLOBAL COMMUNITY**

By

SITI SHAZWANI BINTI AHMAD SUHAIMI

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in
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DEDICATION

I dedicate this precious gift to my lovely mother, Siti Rohani binti Mohd Khir and to my late father, Ahmad Suhaimi bin Ibrahim. To my dear Mama, this is for you. Not forgetting to Abah (Alfatihah), I miss you so much and I can offer you this little gift for now. I will definitely work harder in the future to make you proud. Thank you too to both of my brothers who always been there to support me along the way of my study journey. Albert Einstein was right all along, wisdom is not a product of schooling but of the lifelong attempt to acquire it.



Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Master of Science

INTELLIGENCE AND GOOD GOVERNANCE ON SOCIOECONOMIC DEVELOPMENT OF GLOBAL COMMUNITY

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June 2021

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A positive connection between intelligence (measured as IQ) and happiness at the country level has been described repeatedly. The present study treats IQ as an important source of human and social capital, and ultimately of happiness and life satisfaction. Furthermore, it was revealed that the national average intelligence (IQ) also is a strong indicator in determining national entrepreneurial potential. Considering that the public institutions are responsible to serve the needs of the majority, this study specifically examined the moderating effect of governance quality on the relationship between national average IQ upon happiness and entrepreneurial activity measured as new business entry density at a cross-country level.

This is a quantitative study where the data required were based on secondary data, from World Bank database, World Health Organization (WHO) and World Happiness Report (WHR). The results of robust regression analysis revealed that national IQ was highly significant in raising the level of happiness. Furthermore, the interaction between IQ and governance quality contributed a positive and significant effect on happiness. The conclusion is that governance quality enhances the positive impact of intelligence on happiness. Good governance appears to create the conditions under which higher national IQ can be used towards achieving a higher level of well-being.

Employing robust regression analysis, IQ was found to be non-significant on entrepreneurial activity, while the effect of governance was found to be both positive and significant. However, there was strong evidence of the negative interaction between IQ and governance, which suggests that good governance raises entrepreneurial activity more in low-IQ than in high-IQ countries. Additional regressions were also carried out employing the ease of doing business (EDB) index as a measure of entrepreneurship. The results demonstrated that IQ, and not governance was highly significant on the EDB. Moreover, the interaction between IQ and governance was non-significant, which

implies that the governance quality did not regulate the effect of IQ on the EDB. This study concluded that national average IQ is effective at providing nations with an excellent regulatory environment for entrepreneurship. However, it requires good governance, and not IQ, in order to build people's confidence before they start new entrepreneurial ventures given it involves risks and uncertainty.



Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk Ijazah Master Sains

KECERDASAN INTELEKTUAL DAN TADBIR URUS BAIK TERHADAP PEMBANGUNAN SOSIOEKONOMI KOMUNITI GLOBAL

Oleh

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Hubungan positif antara kecerdasan intelektual (diukur sebagai IQ) dan kebahagiaan pada peringkat negara telah diterangkan secara berulang kali umumnya. Kajian ini menunjukkan IQ sebagai elemen penting kepada pembentuk modal insan dan modal sosial seterusnya menyumbang kepada kebahagiaan dan kepuasan kehidupan. Selanjutnya, kajian ini telah membuktikan purata kecerdasan nasional (IQ) merupakan penentu utama dalam menentukan potensi keusahawanan di peringkat nasional. Oleh sebab institusi awam bertanggungjawab dalam memenuhi keperluan umum majoriti, kajian ini meneliti kualiti tadbir urus sebagai moderator terhadap hubungan di antara purata IQ nasional kebahagiaan dengan aktiviti keusahawanan seiring dengan kemunculan pelbagai perniagaan baru di peringkat negara.

Kajian ini berbentuk kuantitatif dengan menggunakan data sekunder yang diperolehi melalui pangkalan data Bank Dunia (*World Bank*), Organisasi Kesihatan Sedunia (*WHO*) serta Laporan Kesejahteraan Dunia (*WHR*). Secara signifikan, hasil analisa regresi menunjukkan IQ nasional sangat penting dalam meningkatkan tahap kebahagiaan atau kesejahteraan. Tambahan pula, interaksi antara IQ dan kualiti tadbir urus memberikan kesan positif dan signifikan terhadap kebahagiaan. Konklusinya, tadbir urus yang berkesan berpotensi untuk mewujudkan IQ nasional yang lebih tinggi serta menyumbang kepada tahap kesejahteraan yang lebih tinggi.

Berbanding keseluruhan dapatan analisa regresi, IQ bersifat tidak signifikan terhadap aktiviti keusahawanan manakala kualiti tadbir urus didapati positif dan signifikan. Namun, terdapat bukti yang kukuh mengenai interaksi negatif di antara IQ dengan tadbir urus apabila tadbir urus yang berkesan berupaya meningkatkan lebih banyak aktiviti keusahawanan di negara-negara IQ rendah berbanding negara-negara IQ tinggi. Regresi tambahan juga dilakukan dengan menggunakan indeks *Ease of Doing Business* (EDB) sebagai alat pengukuran keusahawanan. Hasil kajian menunjukkan IQ dan

ketidakberkesanan tadbir urus sangat signifikan terhadap EDB. Selain itu, interaksi di antara IQ dan tadbir urus adalah tidak signifikan apabila kualiti tadbir urus tidak mengawal selia pengaruh IQ terhadap EDB. Kajian ini membuktikan bahawa purata IQ nasional sangat berkesan untuk menyediakan persekitaran kondusif terhadap aktiviti keusahawanan. Namun, keberkesanan tadbir urus merupakan asas penting bukannya IQ untuk membangunkan keyakinan individu sebelum mereka menceburi dunia keusahawanan kerana melibatkan unsur risiko serta ketidakpastian.



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This thesis submitted to the Senate of Universiti Putra Malaysia has been accepted as fulfilment of the requirement for the degree of Master of Science. The members of the Supervisory Committee were as follows:

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LIST OF ABBREVIATIONS

BCG	Boston Consulting Group
EDB	Ease of Doing Business
GDP	Gross Domestic Product
GWP	Gallup World Poll
IEA	Evaluation of Educational Achievement
IQ	Intelligence Quotient
OECD	Organisation for Economic Co-operation and Development
PIRLS	Progress in International Reading Literacy Study
PISA	Programme for International Student Assessment
PPP	Purchasing Power Parity
SAS	Statistical Analysis System
SEDA	Sustainable Economic Development Assessment
SGD	Sustainable Goal Development
TIMSS	Trends in International Mathematics and Science Study
UNGA	United Nation General Assembly
WDI	World Development Indicators
WGI	Worldwide Governance Indicators
WHR	World Happiness Report

CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter introduced the background of the study, identified the problem statement, raised the research questions, and aligned with the study's objectives and research hypothesis. Apart from that, the study classified the study's significance, enlightened the study's scope and limitations, explained conceptual and operational definition, and arranged the organization of the study.

1.2 Background of the study

Community development has been regarded as a program, process, method, and movement (Sanders, 1958). The perspective of understanding community development has not evolved a lot over the years. Thus far, community development is generally seen as a method of making a conscious decision to develop a community with the aim of enhancing social and economic well-being (Fendley & Christenson, 2009; Sail & Abu Samah, 2010). To some extent, Bryan and Hofmann (2007) mentioned that communities have good organizational knowledge and learning when empowered, which Cole (2006) remarked that community participation is the beginning point of community empowerment. Several scholars also noted that community participation is an empowering process in which individuals or groups gain opportunities of sharing their ideas in the decision-making process, innovative planning, and development (Babaei, Ahmad & Gill, 2012; Brett, 2003). A community's structure depends on its effective foundations: natural conditions and inner values, specifically intelligence, its general mental ability and education, its human capital (Weiss, 2020). This signifies as one of the indicators of human development (Bryan and Hofmann, 2007).

Community development is based on interpersonal connection and collaborative action, rather than on individual action, which few sociologists refer to as "collective agency." (Flora & Flora, 1993; Malecki, 2018; Miles & Morrison, 2020). Besides serving as a geographic locus for a group of people, a community provides multiple functions, ranging from the social to the economic (Warren, 1987). Development is characterized as a growth process, an expansion or potential realization, and thoroughly efficient use of regional capital. "Development is a cycle of qualitative change and quantitative growth of the social and economic environment that we can call either a society or an economy," says Jan Drenowski (1966). Development is also a process that increases choices that entails diversifying possible choices, rethinking apparent obstacles, and anticipating change (Christenson & Robinson, 1989; Gallardo, Collins, & North, 2018). Development entails change, enhancement, and vitality - a concerted effort to enhance participation, adaptability, equity, attitudes, the functioning of institutions, and overall quality of life. It is the process of creating wealth which means the assets that people value. Combining the two phrases, community development implies that a community

engages in a process aimed at enhancing the community's social, economic, and environmental well-being.

The terms intelligence, IQ, cognitive ability, and cognitive skills are often used interchangeably in the literature, in which a higher or lower IQ score indicates a higher or lower level of cognitive skills. A diverse research group found a significantly positive correlation between country-level intelligence (IQ) and numerous economic activity measures (Hafer, 2017). A well-established finding is that countries with higher IQ tend to be countries with rapid growth rates (Rindermann, 2008; Jones & Schneider, 2006; Weede & Kämpf, 2002). A country's average IQ level calculated by the standardized intelligence quotient (IQ) tests could clarify socio-economic inequality across nations (Lynn and Vanhanen, 2002; 2006; 2012). Particularly, higher IQ societies are, on average, richer and more productive than those with lower IQs. Jones and Schneider (2006) conclude that country-level IQ “alone can explain a substantial fraction of cross-country differences in living standards.” These findings show that national IQ appears to be positively correlated with other good economic and social outcomes (Lynn and Vanhanen, 2012). According to Hafer (2017), improved public health, higher levels of democratization, and less corruption are affiliated with higher national IQ. Previous studies also show that IQ is positively significant with financial development (Hafer, 2016), better entrepreneurial activity (Hafer & Jones, 2015), and good governance (Rindermann, Kodila-Tedika, & Christainsen, 2015). Researchers have also found that IQ and happiness are related. A previous study by Frey (2008) discovered no relationship between happiness and developed countries. Due to the disagreement with the finding, in 2016, Nikolaev and Salahodjaev tested the hypothesis using a cross-section of 81 countries and found that higher IQs tend to have less inequality in happiness. This implies that countries with higher national IQ are likely to have higher happiness and income levels (Hafer, 2017). Hence, Hafer (2017) exclaimed on whether differences in IQ across countries help explain socio-economic inequality.

The previous study has also shown correlations between cognitive ability (intelligence) and wealth. Wealth increases for the poor have a stronger impact on the quality of life relevant to their cognitive development (Rindermann and Thompson, 2011). According to Biggs et al. (2010) and Dierckens et al. (2020), numerous research has found a significant relationship between national income and socio-economic inequalities through health and education; however, little is known about the degree to which cross-country wealth inequalities exist.

Intelligence (IQ) is an essential source of society's human capital (Jones & Schneider, 2006). Human capital was defined as something within a person that helps to be effective in economic action (Coleman, 1988). It includes physical and psychological abilities and personality traits such as understanding, cognitively perceiving, and solving problems, etc. However, poverty limits the expression of intelligence of many people and insufficient social determinants (Dolan et al., 2008). It was suggested that a tremendous amount of education involves a more significant amount of human capital in a country (Barro, 1988). Would it be just for adolescents who have grown up poor or would it be different if their luck had been greater and living in a better home environment? This leads to strategies for preventing such damage and ensuring the best possible development for everyone. According to Herrnstein and Murray (1994), the IQ score of

an individual might have been higher if he/she had been raised in more fortunate circumstances.

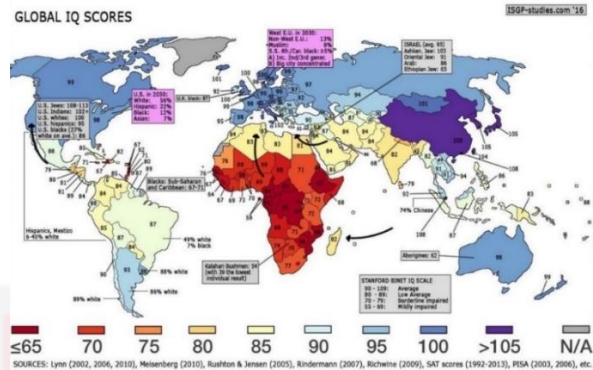


Figure 1.1: Global IQ Scores

According to BCG Sustainable Economic Development Assessment (SEDA, 2016), how a nation performs on socioeconomic development are based on ten individual dimensions or parameters of actual development, including income, employment, equal income, economic stability, health, education, governance, environment, infrastructure, and civil society. If education, wealth, and health are correlated, this also means that they maybe depend on each other (Rindermann, 2018). Nevertheless, people's welfare is believed to be affected in particular by the country's ability to govern its affairs; thus, it should be further examined to study if communities with good governance are theoretically more capable of using their cognitive human capital (IQ), more efficiently generating productive economic activity and reducing the gap of happiness level between countries.

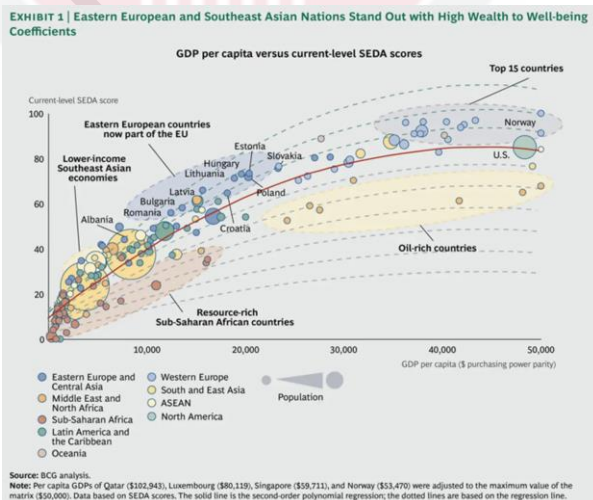


Figure 1.2: GDP per capita versus Current Level SEDA Scores

Happiness and entrepreneurial activity are grouped together under the umbrella of socioeconomic development, which is a process by which the economic well-being and quality of life of a nation, region, local community, or individual can be improved based on specified goals. According to Christenson & Robinson (1989) and Gallardo et al. (2018), community development occurs when a group of individuals in a community decides to embark on a process of social change in order to improve their economic, social, cultural, and environmental circumstances. Mark Lutz made a similar statement (2009), mentioned that "a discipline studying the reciprocal relationship between economic science on the one hand and social philosophy, ethics, and human dignity on the other" toward social reconstruction and improvement. Hence, this thesis comprises two independent studies on national average IQ and socioeconomic development at the cross-country level, which are empirical in nature and involve secondary data analysis to examine the role of national IQ on the level of socio-economic development and well-being of the global community. These essays consider national IQ as an intrinsic potential of society that can be fully actualized towards enhanced happiness and entrepreneurship when the society exercises good quality of governance. The notion is that humans are interested in maximizing their happiness, utility, or profits.

The first essay entitled "*Does Good Governance Strengthen the Intelligence-Happiness Nexus?*" addresses the positive effect of national IQ on the level of happiness. Considering that the public institutions are responsible for serving the majority's needs, this study specifically examines the moderating effect of governance quality on the relationship between IQ and happiness at a cross-country level. Along the same line, the second study, "*IQ and Governance Contribute to Entrepreneurship, but in Different Ways,*" examines the role of governance quality in regulating the effect of IQ on the level of entrepreneurial activity across countries. This study emphasizes the importance for entrepreneurs to possess high intelligence so that they can value precisely and consequently exploit the opportunities available in the entrepreneurial environment.

1.3 Problem Statement

Over the past few years, numerous studies include evaluating IQ's ability to explain national differences – in entrepreneurial activity (Hafer & Jones, 2015; Hafer, 2017); corruption (Potrafke, 2012); financial development (Kodila-Tedika & Asongu, 2015; Hafer, 2017); economic welfare (Hafer, 2017); happiness (Stolarski et al., 2015; Noklaev & Salahodjaev, 2016); and cognitive capitalism (Coyle et al., 2016). A considerable amount of literature has been published on the association of IQ with happiness and entrepreneurial activity. Recent studies found that societies with higher average IQ are substantially happier than societies with lower IQ (Veenhoven and Choi, 2012; Stolarski et al., 2015). Moreover, Hafer and Jones (2015) found similar results; they claim that high average IQ countries have higher levels of entrepreneurial activity. The positive correlation between IQ and happiness has allegedly been consistent with Veenhoven's (2010) view that human 'capability' is essential to experience happiness in life. Likewise, according to Jones and Schneider (2010), higher earnings correlate with higher IQ and generally conclude that IQ is a good predictor of economic growth and productivity cross-countries. The key evidence is that countries with higher national average IQ are more economically productive, have higher levels of entrepreneurial activity, and have a higher level of public happiness.

Apart from the capability of its people, it is proposed that the well-being of individuals is influenced, particularly by the country's ability to govern its affairs. Governance reflects how government institutions handle their public relations and resources (Kaufmann et al., 2011). This concept is the responsibility and efficiency of government and its governing bodies to serve the needs of the people instead of selectively favoring or disadvantaging specific communities. Institutional quality plays an important role in economic growth as it regulates human capital, technology, and investment. Several studies have examined the role of quality governance in enhancing people's happiness (Fereidouni et al., 2013) and facilitate growth in economic performance (Ribeiro-Soriano & Galindo-Martín, 2012). Conclusion: there is a possible intervention that could benefit societies with lower IQ. Numerous studies on the impact of IQ and quality of governance on happiness (Kodila-Tedika, 2014) and entrepreneurship bring higher economic performance (Jalilian et al., 2006; Ribeiro-Soriano & Galindo-Martín, 2012).

However, several studies have shown that the association between IQ and happiness is non-linear, or certain variables moderate the relationship. Stolarski et al. (2015) emphasized that there is a stronger relationship between national IQ and happiness in countries with more individualistic citizens, who focus more on developing personal qualities and achieving individualistic goals. On the other hand, Veenhoven and Choi (2012) found no significant correlation between IQ and happiness at the individual level. Still, at the national level, there was a positive relationship between IQ and happiness. The findings suggest that the interaction between IQ and 'living in group' was greater than the average population IQ (group) at the individual level. Therefore, in considering society's happiness, intelligence is deemed more important at the collective level.

Moreover, Obydenkova and Salahodjaev (2017) also presented findings that corroborated the non-linear relationship between IQ and happiness. These authors verified that societies with higher IQs are happier if the government size (measured as the size of public expenditure) is greater. Higher public expenditure enhances the positive effect of IQ on happiness. Nevertheless, Ott (2010) reiterated that governance quality is more important since the influence of expenditure on happiness depends on governance quality rather than the size of expenditure. Considering this matter, the correlation between national IQ and quality of governance towards happiness was presumed to be important for this study to explore.

Similarly, in exploring the opportunities for entrepreneurship, Shane and Venkataraman (2000) and Corbett (2007) mentioned that in order to recognize and seize opportunities in the entrepreneurial economy, entrepreneurs need to have both prior knowledge and cognitive abilities. Individuals' capability to acknowledge the risk and informed decision-making in business and financial activities is essential (Fang et al., 2008; Grinblatt et al., 2015; Sabri & Zakaria, 2015). This indicates that efficient and productive individuals are effective entrepreneurs. Considering the fact that some studies have shown that the quality of governance has played an important role in moderating the effect to certain economic development variables, it indicates that the quality of governance promotes income generation through well-regulated resources and the beneficial conduct of economic agents, rather than merely relying on the exploitation of existing natural resources.

Based on these principles, it is worth recommending that countries with high-quality governance have human capital, people's well-being, and economic resources effectively regulated. Therefore, this study seeks to discover the correlation between IQ and quality of governance in their effect on happiness and entrepreneurship.

1.4 Research Questions

The purpose of the first two studies is to investigate whether good governance is able to enhance the full functioning of human potential, specifically national IQ, on the level of social and economic development, which is represented by levels of happiness and entrepreneurship, respectively. This study comes out with several research questions. For the first empirical study, the researcher develops three research questions as follows:

1. What is the independent effect of national IQ on the level of happiness at a cross-country level?
2. What is the moderating effect of governance on the IQ-Happiness relationship?

Furthermore, few research questions were developed for the second study. Specifically:

1. What is the independent effect of national IQ on the level of entrepreneurship at a cross-country level?
2. What is the moderating effect of good governance on the level of entrepreneurship?

1.5 Main objective of the study

The general objectives of the first two studies are to determine the role of good governance in promoting the full functioning of human capital, specifically national IQ, on levels of happiness and entrepreneurship at a cross-national level.

1.6 Specific objectives

For the first study, the researcher proposes two specific research objectives as follows:

1. To identify the effect of national IQ on the level of happiness at a cross-country level.
2. To scrutinize the moderating effect of governance on the IQ-Happiness relationship.

Furthermore, two specific research objectives are developed to help the researcher answering the research questions:

1. To analyze the independent effects on national IQ on the level of entrepreneurship at a cross-country level.
2. To investigate the moderating effect of good governance towards the level of entrepreneurship.

1.7 Research Hypothesis

The research hypotheses were developed based on this study's problem statement and objective. The research hypotheses are as follows:

H₁= There is a significant impact of national IQ on the level of happiness across countries.

H₂= There is a positive effect of good governance towards the level of happiness.

H₃= Governance plays a significant role in regulating the effect of the relationship between IQ and happiness.

H₄= There is a significant impact of national IQ on the level of entrepreneurship across countries.

H₅= There is a positive effect of good governance towards the level of entrepreneurship.

H₆= Governance plays a significant role in regulating the effect of the relationship between IQ and entrepreneurship.

1.8 Significance of the study

A sustainable economy is achieved with economic development. Socio-economic development is a process of social and economic development in a society. Improvement in society's quality of life indicates a nation's economic transformation to a greater good. Greater levels of wealth, technological advancement, and public policies grant people to live better, consume more, feed themselves better, and get sick less frequently. This study is carried out to underline the necessities for a nation's future growth. Intelligence (IQ) is associated with measures of socioeconomic status at the individual level, not only education, job performance, occupational prestige, and income, but health and longevity as well (Herrnstein & Murray, 1994; Gottfredson, 1997; Deary, 2012). Thus, the 'national IQ and socioeconomic development' issue tackled in this current research is addressed for social scientists and policymakers to recognize and engage the global pattern of socioeconomic progression and identify the role that national IQ plays in the development process, using macro-level data analysis as an empirical strategy. With this kind of approach, development strategies for improving welfare and reducing inequalities across the global communities can be made possible by focusing on the effects and roles of human capital (i.e., IQ or cognitive skills) in socioeconomic development. After an extensive search on literature reviews of local and foreign journals, a deficient amount of studies examined the quality of institution (governance)

that potentially moderate and influence IQ on happiness and entrepreneurship's level by utilizing their cognitive ability entirely. Therefore, by means of this study will significantly add something new to the current literatures. Consequently, this study would benefit those who plan to conduct further study in this area.

1.9 Scope and Limitation of the study

This study focuses on the role of governance at the country level. It includes a thoughtful understanding of the average levels of cognitive ability (IQ), assessing the impact on country levels of socio-economic development. This study aims to explore the role of good governance in promoting the full functioning of human capital, specifically national IQ, on levels of happiness and entrepreneurship at a cross-national level.

The first study focuses on the positive effect of national IQ on the level of happiness. Considering that public institutions serve people's needs, this present research explicitly examines the moderating effect of governance quality on the relationship between IQ and happiness at the cross-country level. Considering IQ as an important source of human capital, this study focuses when whether improved governance quality enhances the influence of IQ on happiness or the well-being of people. On the other hand, the second study examines the role of governance quality in regulating the effect of IQ on the level of entrepreneurial activity cross-countries. It emphasizes the importance for entrepreneurs to possess high intelligence so that they can value precisely and consequently exploit the opportunities available in the entrepreneurial environment. Building from the idea, improving governance quality can be a useful strategy for countries to explore the effectiveness of human capital in order to facilitate the entrepreneurial economy across countries.

The study has several limitations to be considered, which in turn suggest directions for future research. Our sample size is limited because of the non-availability of relevant data. Thus, the conclusion reached in this paper is more inclined to theory generalizability than population generalization, where the findings of this study will not reflect all 185 countries as only 104 countries and 84 countries were involved, respectively. Based on this, the results in this study may be regarded as preliminary findings; therefore, a sizeable confirmatory analysis is needed. Future research in this area with large-scale data could help overcome this limitation.

1.10 Conceptual and Operational Definitions

1.10.1 Intelligence

Conceptual definition

Defined by many psychologists, intelligence determines the efficiency of problem-solving, learning, and the ability to understand complex ideas, either learning through experience, different forms of reasoning, or overcoming obstacles by thinking. Intelligence is a set of characteristics that outstand some people to a greater ability than others. Intelligence was defined as "the capacity to understand complex concepts, to adapt effectively to the environment, to learn from experience, to engage in various ways of reasoning, to overcome the barriers through thinking"(Neisser et al., 1996, p.77).

Operational definition

Data were obtained from Lynn and Vanhanen (2012), updated versions from Lynn and Vanhanen (2002 & 2006). In this current version, historical data on international scholastic achievement scores (i.e., PISA & TIMSS) were considered to calculate final IQ scores by putting weight on the data quality.

1.10.2 Happiness

Conceptual definition

According to Lyubomirsky et al. (2005), happy or happiness is defined as someone who experiences frequent positive emotions such as joy, interest, and pride, and infrequent negative emotions such as sadness, anxiety, and anger. Happiness is increasingly considered the proper measure of social progress and the goal of public policy.

Operational definition

Happiness denotes the national average level of happiness of countries. The data were retrieved from the World Happiness Report (WHR) (Helliwell et al., 2017), which averaged from 2006 to 2016. The national average response to the question of life evaluations: "Please imagine a ladder with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you, and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time?"

1.10.3 Entrepreneurial Activity

Conceptual definition

Entrepreneurs are those persons (business owners) who seek to generate. Denotes the new business entry density, defined as the number of value, through the creation or expansion of economic activity, by identifying and exploiting new products, processes, or markets. Entrepreneurial activity is the enterprising human action to generate value by creating or expanding economic activity by identifying and exploiting new products, processes, or markets. Entrepreneurship is the phenomenon associated with entrepreneurial activity.

Operational definition

Denotes the new business entry density, defined as the number of newly registered corporations per 1,000 working-age people (between 15 and 64) for the country (World Bank, 2018).

1.10.4 Governance

Conceptual definition

Governance means how an institution is governed (Ribeiro-Soriano & Galindo-Martín, 2012). In general, governance is comprised of practices and institutions that exercise authority in a country. According to the World Bank, "Governance consists of the traditions and institutions by which governments are appointed. It includes the process by which governments are selected, monitored and replaced; the government's ability to develop and execute sound policies effectively; and the respect of citizens and the state for the institutions that govern economic and social interactions among them" (Kaufmann et al., 2008).

Operational definition

In this study, governance variables include a set of six indicators developed by the World Bank, covering 212 countries and territories and measuring six dimensions of governance between 1996 and 2008: Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption (Kauffman, Kraay & Mastruzzi, 2009).

1.10.5 Global Community

Conceptual definition

The global community can be studied in various ways, but one feature is investigating international organizations' establishment, expansion, and activities, both governmental and non-governmental. The number and functioning of these organizations may be interpreted as a good proxy for the degree of "globality" at any given point in time, a condition that contributes to the establishment of transnational connections and the shaping of a world community coexisting with the international order composed of nations (Iriye, 2002).

Operational definition

The primary sources of data in this study include the measure of national IQ from Lynn & Vanhanen (2012) and data on socioeconomic variables that were obtained from the World Bank's World Development Indicator (WDI) database, World Health Organization (WHO) database, and the World Happiness Report (WHR). In this study, the unit of analysis is an ensemble of countries in the world. Much of the data comes from member countries' statistical systems (World Bank, 2021), whereby the chosen country in this study is based on the World Bank database's availability.

REFERENCES

- A. Anastasi. What counselors should know about the use and interpretation of psychological tests. *Journal of Counseling and Development*, 70 (5): 610-615, 1992
- Acs, Z. J., & Audretsch, D. B. (1988). Innovation in large and small firms: an empirical analysis. *American Economic Review*, 78, 678–690.
- Acs, Z. J., & Varga, A. (2005). Entrepreneurship, agglomeration, and technological change. *Small Business Economics*, 24, 323–334.
- Albano, J.D., Ward, E., Jemal, A., Anderson, R., Cokkinides, V.E., Murray, T., & Thun, M.J. (2007). Cancer mortality in the United States by education level and race. *Journal of the National Cancer Institute* 99: 1384-1394.
- Ali, A., Ambler, G., Strydom, A., Rai, D., Cooper, C., McManus, S., & Hassiotis, A. (2013). The relationship between happiness and intelligent quotient: The contribution of socio-economic and clinical factors. *Psychological Medicine* 43: 1303-1312.
- Ali, A., Ambler, G., Strydom, A., Rai, D., Cooper, C., McManus, S., Weich, S., Meltzer, H., Dein, S., & Hassiotis, A. (2013). The relationship between happiness and intelligent quotient: the contribution of socio-economic and clinical factors. *Psychological Medicine*, 43(6), 1303-1312.
- Alkire, S., Deneulin, S., 2009. The human development and capability approach. In: Deneulin, S., Sahani, L. (Eds.), *Introduction to the Human Development and Capability Approach*. Earthscan, London, pp. 22–48.
- Amartya Sen. 2004a. *UN Human Development Report 2004: Chapter 1 Cultural Liberty and Human Development*. UN Human Development Reports. United Nations Development Programme.
- Anand, S., & Sen, A. (1997). Concepts of human development and poverty! A multidimensional perspective. United Nations Development Programme, *Poverty and human development: Human development papers*, 1-20.
- Arden, R., Luciano, M., Deary, I.J., Reynolds, C.A., Pedersen, N.L., Plassman, B.L., & Visscher, P.M. (2016). The association between intelligence and lifespan is mostly genetic. *International Journal of Epidemiology* 45: 178-185.
- Armor, D. J. (2004). *Maximizing intelligence: fact and fallacies*. Cambridge: Cambridge University Press.

- Asaduzzaman, M., & Virtanen, P. (2016). Governance theories and models. *Global Encyclopedia of Public Administration, Public Policy, and Governance*. New York, USA: Springer.
- Audretsch, D., & Thurik, R. (2001). What is new about the new economy: Sources of growth in the managed and entrepreneurial economies. *Industrial and Corporate Change*, 10, 25–48.
- Audretsch, D. B., Carree, M. A., & Thurik, A. R. (2001). *Does entrepreneurship reduce unemployment?* (No. 01-074/3). Tinbergen Institute discussion paper.
- Azman-Saini, W. N. W., Law, S. H., & Ahmad, A. H. (2010). FDI and economic growth: New evidence on the role of financial markets. *Economics Letters*, 107, 211–213.
- Azman-Saini, W.N.W., Baharumshah, A.Z. & Law, S.H. (2010). Foreign direct investment, economic freedom and economic growth: International evidence. *Economic Modelling* 27: 1079-1089.
- Babaei, H., Ahmad, N., & Gill, S. S. (2012). Bonding, bridging and linking social capital and empowerment among squatter settlements in Tehran, Iran. *World Applied Sciences Journal*, 17(1), 119-126.
- Ball, R. & Chernova, K. (2008). Absolute income, relative income, and happiness. *Social Indicators Research* 88: 497-529.
- Balli, H.O. & Sørensen, B.E. (2013). Interaction effects in econometrics. *Empirical Economics* 45: 583-603.
- Baron, R. A., & Markman, G. D. (2003). Beyond social capital: The role of entrepreneurs' social competence in their financial success. *Journal of business venturing*, 18(1), 41-60.
- Barro, R. J. (1991). Economic growth in a cross section of countries. *The Quarterly Journal of Economics* 106: 407-443.
- Barro, R.J. & Lee, J.W. (2013). A new data set of educational attainment in the world, 1950–2010. *Journal of Development Economics* 104: 184-198.
- Bartlett, W., & Bukvič, V. (2001). Barriers to SME growth in Slovenia. *MOST: Economic Policy in Transitional Economies*, 11(2), 177-195.
- Bates, T., Mangan, G., Stough, C. & Corballis, P. (1995). Smoking, processing speed and attention in a choice reaction time task. *Psychopharmacology* 120: 209-212.
- Bates, T., Pellett, O., Stough, C. & Mangan, G. (1994). Effects of smoking on simple and choice reaction time. *Psychopharmacology* 114: 365-368.

- Bates, T.C. & Gupta, S. (2017). Smart groups of smart people: Evidence for IQ as the origin of collective intelligence in the performance of human groups. *Intelligence* 60: 46-56.
- Batty, G.D., Deary, I.J. & Macintyre, S. (2007). Childhood IQ in relation to risk factors for premature mortality in middle-aged persons: The Aberdeen Children of the 1950s study. *Journal of Epidemiology and Community Health* 61: 241-247.
- Batty, G.D., Deary, I.J., Schoon, I. & Gale, C.R. (2007). Mental ability across childhood in relation to risk factors for premature mortality in adult life: The 1970 British Cohort Study. *Journal of Epidemiology and Community Health* 61: 997-1003.
- Batty, G.D., Deary, I.J., Schoon, I., Emslie, C., Hunt, K. & Gale, C.R. (2008). Childhood mental ability and adult alcohol intake and alcohol problems: The 1970 British cohort study. *American Journal of Public Health* 98: 2237-2243.
- Batty, G.D., Der, G., Macintyre, S. & Deary, I.J. (2006). Does IQ explain socioeconomic inequalities in health? Evidence from a population based cohort study in the west of Scotland. *British Medical Journal* 332: 580-584.
- Batty, G.D., Shipley, M.J., Mortensen, L.H., Boyle, S.H., Barefoot, J., Gronbaek, M. et al. (2008). IQ in late adolescence/early adulthood, risk factors in middle age and later all-cause mortality in men: The Vietnam experience study. *Journal of Epidemiology and Community Health* 62: 522-531.
- Beal, D., Rueda-Sabater, E., & Santo, T. E. (2016). From Wealth to Well-being. *Introducing the BCG Sustainable Economic Development Assessment. The Boston Consulting Group.*
- Beaton, A.E. & Tukey, J.W. (1974). The fitting of power series, meaning polynomials, illustrated on band-spectroscopic data. *Technometrics* 16: 147-185.
- Beaver, K.M. & Wright, J.P. (2011). The association between county-level IQ and county-level crime rates. *Intelligence* 39: 22-26.
- Belasen, A. & Hafer, R.W. (2013). IQ and alcohol consumption: International data. *Intelligence* 41: 615-621.
- Bergman, L.R., Corovic, J., Ferrer-Wreder, L. & Modig, K. (2014). High IQ in early adolescence and career success in adulthood: Findings from a Swedish longitudinal study. *Research in Human Development* 11: 165-185.
- Biermann, F., Stevens, C., Bernstein, S., Gupta, A., Kanie, N., Nilsson, M., & Scobie, M. (2017). Global goal setting for improving national governance and policy. *Governing Through Goals: Sustainable Development Goals as Governance Innovation; MIT Press: Cambridge, MA, USA, 75.*

- Biggs, B., King, L., Basu, S., & Stuckler, D. (2010). Is wealthier always healthier? The impact of national income level, inequality, and poverty on public health in Latin America. *Social science & medicine*, 71(2), 266-273.
- Bjørnskov, C., & Foss, N. (2008). Economic freedom and entrepreneurial activity: Some cross-country evidence. *Public Choice*, 134, 307–328.
- Bond M (2003). The pursuit of happiness. *New Scientist*, pp 40–43.
- Borghans, L., Duckworth, A.L., Heckman, J.J. & Ter Weel, B. (2008). The economics and psychology of personality traits. *Journal of Human Resources* 43: 972-1059.
- Bray, I., & Gunnell, D. (2006). Suicide rates, life satisfaction and happiness as markers for population mental health. *Social Psychiatry and Psychiatric Epidemiology*.
- Brett, E. A. (2003). Participation and accountability in development management. *The Journal of Development Studies*, 40(2), 1-29.
- Brown, W. W. And Reynolds, M. O. (1975). A model of IQ, occupation, and earnings. *American Economic Review*, 65, 1002-1007.
- Bryan, S & Hofmann, B. (2007). Transparency and Accountability in Africa's Extractive Industries: The Role of the Legislature. *Washington DC: National Democratic Institute for International Affairs*.
- Burhan, N. A. S., Razak, R. C., Salleh, F., & Tovar, M. E. L. (2017). The higher intelligence of the 'creative minority' provides the infrastructure for entrepreneurial innovation. *Intelligence*, 65, 93–106.
- Burhan, N. A. S., Sidek, A. H., Kurniawan, Y., & Mohamad, M. R. (2015). Has globalization triggered collective impact of national intelligence on economic growth? *Intelligence*, 48, 152–161.
- Burhan, N.A.S., Salleh, F. & Burhan, N.M.G. (2015). National intelligence and private health expenditure: Do high IQ societies spend more on health insurance? *Intelligence* 52: 1-8.
- Burhan, N.A.S., Yunus, M.M., Tovar, M.E.L. & Burhan, N.M.G. (2017). Why are cognitive abilities of children so different across countries? The link between major socioeconomic factors and PISA test scores. *Personality and Individual Differences* 105: 95-106.
- Cancer Council NSW (2015). A brief history of smoking. Accessed September 11, 2018 at <https://www.cancercouncil.com.au/31899/uncategorized/a-brief-history-of-smoking/>
- Carroll, J. B. (1993). Human cognitive abilities: A survey of factor-analytic studies. *Cambridge: Cambridge University Press*.

- Casson, M. (1982). *The entrepreneur*. Totowa, NJ: Barner & Noble Books.
- Cattell, R. B. (1943). The measurement of adult intelligence. *Psychol. Bull.* 40, 153–193.
- Cattell, R. B. (1963). Theory of fluid and crystallized intelligence: a critical experiment. *J. Educ. Psychol.* 54, 1–22.
- Ceci, S.J. & Williams, W.M. (1997). Schooling, intelligence, and income. *American Psychologist* 52: 1051-1058.
- Civai, C., Hawes, D.R., DeYoung, C.G. & Rustichini, A. (2016). Intelligence and extraversion in the neural evaluation of delayed rewards. *Journal of Research in Personality* 61: 99-108.
- Cole, S. (2006). Cultural tourism, community participation and empowerment. Cultural tourism in a changing world: Politics, participation and (re)presentation, 89-103.
- Colen, L. & Swinnen, J. (2011). Beer-drinking nations: The determinants of global beer consumption. In J.F.M. Swinnen (ed.), *The Economics of Beer*. (pp. 123–140). Oxford: Oxford University Press.
- Contreras, L. V. (2012). Organisation for Economic Co-operation and Development/Organización para la Cooperación y el Desarrollo Económico (2011), How's Life?: Measuring Well-being. región y sociedad, 24(55).
- Corbett, A. C. (2007). Learning asymmetries and the discovery of entrepreneurial opportunities. *Journal of Business Venturing*, 22, 97–118.
- Coyle, Th. R., & Rindermann, H. (2013). Spearman's Law of Diminishing Returns and national ability. *Personality and Individual Differences*, 55, 406–410.
- Crocker, D.A., Robeyns, I., 2010. Capability and agency. In: Moris, C. (Ed.), Amartya Sen. *Cambridge University Press*, pp. 60–90.
- D. E. Adenutsi, "Entrepreneurship, job creation, income empowerment and poverty reduction in low-income economies," *Munich Personal RePEc Archive (MPRA)*, vol. 29569, pp. 1-21, 2009.
- Daly, M. & Egan, M. (2017). Childhood cognitive ability and smoking initiation, relapse and cessation throughout adulthood: Evidence from two British cohort studies. *Addiction* 112: 651-659.
- Dau, L.A., & Cuervo-Cazurra, A. (2014). To formalize or not to formalize: Entrepreneurship and pro-market institutions. *Journal of Business Venturing*, 29, 668–686.
- Deaton, A. & Lubotsky, D. (2003). Mortality, inequality and race in American cities and states. *Social Science & Medicine* 56: 1139-1153.

- Deaton, A. & Lubotsky, D. (2009). Income inequality and mortality in US cities: Weighing the evidence. A response to Ash. *Social Science & Medicine* 68: 1914-1917.
- Devlin, B., Daniels, M., & Roeder, K. (1997). The heritability of IQ. *Nature*, 388, 468–71.
- Diener, E., & Seligman, M. E. P. (2002). Very happy people. *Psychological Science*, 13, 81–84.
- Dierckens, M., Weinberg, D., Huang, Y., Elgar, F., Moor, I., Augustine, L., & Currie, C. (2020). National-level wealth inequality and socioeconomic inequality in adolescent mental well-being: a time series analysis of 17 countries. *Journal of Adolescent Health*, 66(6), S21-S28.
- Djankov, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2002). The regulation of entry. *Quarterly Journal of Economics*, 117, 1–37.
- Dohmen, T., Falk, A., Huffman, D. & Sunde, U. (2010). Are risk aversion and impatience related to cognitive ability? *American Economic Review* 100: 1238-1260.
- Dolan, P., Peasgood, T., & White, M. (2008). Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being. *Journal of economic psychology*, 29(1), 94-122.
- Donovan N, Halpern D, Sargeant R (2002) Life satisfaction: the state of knowledge and implications for government. Strategy Unit
- Dorius, S.F. (2008). Global demographic convergence? A reconsideration of changing intercountry inequality in fertility. *Population and Development Review* 34: 519-537.
- Dreher, A., Gaston, N., & Martens, P. (2008). *Measuring globalization: Gauging its consequences*. New York: Springer.
- Dreher, Axel (2006): Does Globalization Affect Growth? Evidence from a new Index of Globalization, *Applied Economics*, 38, 1091–1110.
- Drewnowski, J. (1966). *Social and Economic Factors in Development*, UNRISD, Report No. 3, Geneva, Feb., p. 7.
- Drope, J., Schluger, N., Cahn, Z., Drope, J., Hamill, S., Islami, F., Liber, A., Nargis, N. & Stoklosa, M. (2018). *The Tobacco Atlas*. Atlanta: American Cancer Society and Vital Strategies.
- Duckworth, A.L., Quinn, P.D., & Tsukuyama, E. (2012). What no child left behind leaves behind: The roles of IQ and self-control in predicting standardized

- achievement test scores and report card grades. *Journal of Educational Psychology*, 104, 439-451.
- Eff, E.A. (2004). *Spatial and cultural autocorrelation in international datasets*. Department of Economics and Finance Working Paper Series. Middle Tennessee State University. Retrieved from: <http://www.mtsu.edu/~berc/working/spatial%20autocorrelation%20z.pdf>
- Eriksen, M., Mackay, J., Schluger, N., Gomeshtapeh, F. & Drope, J. (2015). *The Tobacco Atlas: Revised, Expanded, and Updated*. Atlanta, USA: American Cancer Society. Retrieved from: <http://www.tobaccoatlas.org/>
- Falahati, L. & Sabri, M.F. (2015). An exploratory study of personal financial wellbeing determinants: Examining the moderating effect of gender. *Asian Social Science* 11: 33-42.
- Fang, H., Keane, M. P., & Silverman, D. (2008). Sources of advantageous selection: evidence from the Medigap insurance market. *Journal of Political Economy*, 116, 303–350.
- Farzanegan, M. R. (2014). Can oil-rich countries encourage entrepreneurship? *Entrepreneurship & Regional Development*, 26, 706–725.
- Feenstra, R.C., Inklaar, R. & Timmer, M.P. (2015). The next generation of the Penn World Table. *American Economic Review* 105: 3150-3182. Available for download at www.ggdc.net/pwt
- Fendley, K., & Christenson, J. A. (1989). Rural reflation: An idea for community development. *Community Development Society*, 20(1), 103-115.
- Fereidouni, G.H., Najdi, Y. & Amiri, R. (2013). Do governance factors matter for happiness in the MENA region? *International Journal of Social Economics* 40: 1028-1040.
- Flora, C. B., & Flora, J. L. (1993). Entrepreneurial social infrastructure: A necessary ingredient. *The annals of the American academy of political and social science*, 529(1), 48-58.
- Flynn, J. R. (2009). Requiem for nutrition as the cause of IQ gains: Raven's gains in Britain 1938–2008. *Economics & Human Biology*, 7, 18–27.
- Fraser Institute (2017). *Economic Freedom*. Retrieved 4 January 2019, from <https://www.fraserinstitute.org/studies/economic-freedom>
- Frederick, S. (2005). Cognitive reflection and decision making. *Journal of Economic Perspectives*, 19, 25–42.

- Frey, B. S., & Stutzer, A. (2005). Beyond outcomes: measuring procedural utility. *Oxford Economic Papers*, 57(1), 90-111.
- Fukuda-Parr, S. (2003). The human development paradigm: operationalizing Sen's ideas on capabilities. *Feminist economics*, 9(2-3), 301-317.
- Furnham, A. (2008). Personality and intelligence at work: Exploring and explaining individual differences at work. *Hove, England: Psychology Press/Taylor & Francis (UK); New York, NY, US: Routledge/Taylor & Francis Group*.
- Gale, C.R., Johnson, W., Deary I.J., Schoon I. & Batty G.D. (2009). Intelligence in girls and their subsequent smoking behaviour as mothers: The 1958 National Child Development Study and the 1970 British Cohort Study. *International Journal of Epidemiology* 38: 173-181.
- Gallardo, R., Collins, A., & North, E. G. (2018). Community Development in the Digital Age: Role of Extension. *Journal of Extension*, 56(4), 26.
- Ganzach, Y. (1998). Intelligence and job satisfaction. *Academy of Management Journal*, 41 (5), 526-539.
- Gbadeyan, R. A., Opong, N. Y., & Oduro, S. (2017). Effects of Socio-Economic Factors on Entrepreneurship Activities in Cape Coast, Ghana. *Journal of Entrepreneurship and Business*, 5(1), 39-51.
- GBD 2016 Alcohol Collaborators (2018). Alcohol use and burden for 195 countries and territories, 1990–2016: A systematic analysis for the Global Burden of Disease Study 2016. *Lancet* 392: 1015-1035.
- Georgas, J., Weiss, L. G., van der Vijver, E. J. and Sakfloske, D. H. (2003). A cross-cultural analysis of the WISC-111. In J. Georgas, L. G. Weiss, and F. van der Vijver (Eds), *Culture and Children's Intelligence*. Amsterdam: Academic Press.
- Giskes, K., Kunst, A.E., Benach, J., Borrell, C., Costa, G., Dahl, E., & Lahelma, E. (2005). Trends in smoking behaviour between 1985 and 2000 in nine European countries by education. *Journal of Epidemiology and Community Health* 59: 395-401.
- Gisselquist, R.M. (2012), "Good governance as a concept, and why this matters for development policy", Working Paper, No. 2012/30, United Nations University – World Institute for Development Economics Research, Helsinki, March.
- Glancey, K. S., & McQuaid, R. W. (2000). Socio-Economic Influences on Entrepreneurship. *Entrepreneurial Economics*, 78–97.
- Goesling, B. & Firebaugh, G. (2004). The trend in international health inequality. *Population and Development Review* 30: 131-146.
- Gottfredson, L. S. (1997). Mainstream science on intelligence: An editorial with 52 signatories, history, and bibliography.

- Gottfredson, L.S. & Deary, I.J. (2004). Intelligence predicts health and longevity, but why? *Current Directions in Psychological Science* 13: 1-4.
- Gottfredson, L.S. (1997). Mainstream science on intelligence: An editorial with 52 signatories, history, and bibliography. *Intelligence*, 24, 13–23.
- Gottfredson, L. S. (2004). School of the g factor. *The Wilson Quarterly*, 34-35.
- Grinblatt, M., Ikäheimo, S., Keloharju, M., & Knüpfer, S. (2015). IQ and mutual fund choice. *Management Science*, 62, 924–944.
- Grinblatt, M., Keloharju, M. & Linnainmaa, J. (2011). IQ and stock market participation. *Journal of Finance* 66: 2121-2164.
- Grinblatt, M., Keloharju, M. & Linnainmaa, J.T. (2012). IQ, trading behavior, and performance. *Journal of Financial Economics* 104: 339-362.
- Grindle M (2007) Good enough governance revisited. *Dev Policy Rev* 25(5):553–574
- Güney, T. (2017) Governance and sustainable development: How effective is governance? , *The Journal of International Trade & Economic Development*, 26:3, 316-335
- Gwartney, J., Lawson, R., & Hall, J. (2017). *Economic freedom of the world: 2017 annual report*. Vancouver: The Fraser Institute.
- Gygli, S., Haelg, F., Potrafke, N., & Sturm, J. E. (2019). The KOF globalisation index–revisited. *Review of International Organizations*, 14, 543–574
- Hafer, R. W., & Jones, G. (2015). Are entrepreneurship and cognitive skills related? Some international evidence. *Small Business Economics*, 44, 283–298.
- Hansen, B. E. (1996). Inference when a nuisance parameter is not identified under the null hypothesis. *Econometrica*, 64, 413–430.
- Hansen, B. E. (2000). Sample splitting and threshold estimation. *Econometrica*, 68, 575–603.
- Hanushek, E. A., & Woessmann, L. (2007a). Education quality and economic growth. *Washington: World Bank*.
- Hanushek, E. A., & Woessmann, L. (2008). The role of cognitive skills in economic development. *Journal of Economic Literature*, 46, 607–668.

- Hanushek, E. A., & Woessmann, L. (2012). Do better schools lead to more growth? Cognitive skills, economic outcomes, and causation. *Journal of Economic Growth*, 17, 267–321.
- Hanushek, E. A., Schwerdt, G., Wiederhold, S., & Woessmann, L. (2017). Coping with change: International differences in the returns to skills. *Economics Letters*, 153, 15–19.
- Hanushek, E.A. & Kimko, D.D. (2000). Schooling, labor-force quality, and the growth of nations. *American Economic Review* 90: 1184-1208.
- Hart, C.L., Taylor, M.D., Smith, G.D., Whalley, L.J., Starr, J.M., Hole, D.J., & Deary, I.J. (2003). Childhood IQ, social class, deprivation, and their relationships with mortality and morbidity risk in later life: Prospective observational study linking the Scottish Mental Survey 1932 and the Midspan studies. *Psychosomatic Medicine* 65: 877-883.
- Hart, D. M. (2003). The emergence of entrepreneurship policy: governance, start-ups, and growth in the US knowledge economy. *New York: Cambridge University Press*.
- Hatch, S.L., Jones, P.B., Kuh, D., Hardy, R., Wadsworth, M.E. & Richards, M. (2007). Childhood cognitive ability and adult mental health in the British 1946 birth cohort. *Social Science & Medicine* 64: 2285-2296.
- Heishman, S.J., Kleykamp, B.A. & Singleton, E.G. (2010). Meta-analysis of the acute effects of nicotine and smoking on human performance. *Psychopharmacology* 210: 453-469.
- Helliwell, J. F., & Huang, H. (2008). How's your government? International evidence linking good government and well-being. *British Journal of Political Science*, 38(4), 595-619.
- Helliwell, J. F., Huang, H., Grover, S., & Wang, S. (2018). Empirical linkages between good governance and national well-being. *Journal of Comparative Economics*, 46(4), 1332-1346.
- Helliwell, J.F., Layard, R. & Sachs, J. (2017). *World Happiness Report 2017*. New York: Sustainable Development Solutions Network.
- Hemmingson, T., Kriebel, D., Melin, B., Allebeck, P. & Lundberg, I. (2008). How does IQ affect onset of smoking and cessation of smoking—linking the Swedish 1969 conscription cohort to the Swedish survey of living conditions. *Psychosomatic Medicine* 70: 805-810.
- Henrekson, M., & Johansson, D. (2010). Gazelles as job creators: a survey and interpretation of the evidence. *Small business economics*, 35(2), 227-244.
- Herrnstein, R. J., & Murray, C. (1994). *The bell curve: Intelligence and class structure in America*. New York: Free Press.

- Honkanen, H., Jaakko Kaprio, J., Honkanen, R., Viinamaki, H., Koskenvuo, M., 2005. The stability of life satisfaction in a 15-years follow-up of adult Finns healthy at baseline. *BioMed Cent. Psychiatry* 5 (4).
- Horn, J. L., and Cattell, R. B. (1967). Age differences in fluid and crystallized intelligence. *Acta Psychol.* 26, 107–129.
- Huber, P. (1973). Robust regression: Asymptotics, conjectures and Monte Carlo. *Annals of Statistics* 1: 799-821.
- Huggins, R., Morgan, B., & Williams, N. (2015). Regional entrepreneurship and the evolution of public policy and governance: Evidence from three regions. *Journal of Small Business and Enterprise Development*, 22, 473–511.
- Huisman, M., Kunst, A.E. & Mackenbach, J.P. (2005). Inequalities in the prevalence of smoking in the European Union: Comparing education and income. *Preventive Medicine* 40: 756-764.
- Hunter, J. E. (1986). Cognitive ability, cognitive aptitudes, job knowledge, and job performance. *Journal of Vocational Behavior*, 29(3), 340–362.
- Hunter, J. E., & Schmidt, F. L. (1996). Intelligence and job performance: Economic and social implications. *Psychology, Public Policy, and Law*, 2(3-4), 447–472.
- Inekwe, M., Hashim, F., & Yahya, S. B. (2020). CSR in developing countries—the importance of good governance and economic growth: evidence from Africa. *Social Responsibility Journal*.
- Iriye, A. (2002). Global community. *University of California Press*.
- Isaga, N. (2015). Owner-Managers' Demographic Characteristics and the Growth of Tanzanian Small and Medium Enterprises. *International Journal of Business and Management*, 10(5), 168–181.
- Jalilian, H., Kirkpatrick, C., & Parker, D. (2006). The Impact of regulation on economic growth in developing countries: a cross-country analysis. *World Development*, 35, 87–103.
- Jencks, C. (2002). Does inequality matter? *Daedalus*, 131(1), 49-65.
- Johnson, W., Turkheimer, E., Gottesman, I. I., & Bouchard Jr., T. (2009). Beyond heritability: Twin studies in behavioral research. *Current Directions in Psychological Science* 18, 217–220.
- Jones, G. & Schneider, W.J. (2006). Intelligence, human capital, and economic growth: A Bayesian averaging of classical estimates (BACE) approach. *Journal of Economic Growth* 11: 71-93.

- Jones, G. & Schneider, W.J. (2010). IQ in the production function: Evidence from immigrant earnings. *Economic Inquiry* 48: 743-755.
- Jones, G. (2008). Are smarter groups more cooperative? Evidence from prisoner's dilemma experiments, 1959–2003. *Journal of Economic Behavior & Organization* 68: 489-497.
- Jones, G. (2011). National IQ and national productivity: The hive mind across Asia. *Asian Development Review*, 28, 58–71.
- Jones, G. (2015). *Hive mind: How your nation's IQ matters so much more than your own*. Stanford, CA: Stanford University Press.
- Jones, G., & Potrafke, N. (2014). Human capital and national institutional quality: Are TIMSS, PISA, and national average IQ robust predictors?. *Intelligence*, 46, 148–155.
- Jones, G., & Schneider, W. J. (2006). Intelligence, human capital, and a Bayesian Averaging of Classical Estimates (BACE) Approach. *Journal of Economic Growth*, 11, 71–93.
- Kahneman, D., Diener, E., & Schwarz, N. (Eds.). (1999). *Well-being: Foundations of hedonic psychology*. Russell Sage Foundation.
- Kanazawa, S. & Hellberg, J.E. (2010). Intelligence and substance use. *Review of General Psychology* 14: 382-396.
- Kanazawa, S. (2004). The savanna principle. *Managerial and Decision Economics* 25: 41-54.
- Kanazawa, S. (2006). Mind the gap... in intelligence: Re-examining the relationship between inequality and health. *British Journal of Health Psychology* 11: 623-642.
- Kanazawa, S. (2008). IQ and the health of states. *Biodemography and Social Biology* 54: 200-213.
- Kanazawa, S. (2009). IQ and the values of nations. *Journal of Biosocial Science* 41: 537-556.
- Kanazawa, S. (2010a). Evolutionary psychology and intelligence research. *American Psychologist* 65: 279-289.
- Kanazawa, S. (2010b). Why liberals and atheists are more intelligent. *Social Psychology Quarterly* 73: 33-57.
- Kanazawa, S. (2012). *The Intelligence Paradox: Why the Intelligent Choice Isn't Always the Smart One*. New York: Wiley.

- Kanazawa, S., & Li, N. P. (2015). Happiness in modern society: Why intelligence and ethnic composition matter. *Journal of Research in Personality*, 59, 111–120.
- Kanie, N., & Biermann, F. (Eds.). (2017). *Governing through Goals: Sustainable Development Goals as Governance Innovation*. Cambridge, Massachusetts; London, England: *The MIT Press*.
- Kanyama, I. K. (2014). Quality of institutions: Does intelligence matter? *Intelligence*, 42, 44–52.
- Kaufmann, D., Kraay, A. & Mastruzzi, M. (2011). The worldwide governance indicators: Methodology and analytical issues. *Hague Journal on the Rule of Law* 3: 220-246.
- Kaufmann, D., Kraay, A., & Mastruzzi, M. (2009). *Governance matters VIII: Aggregate and individual governance indicators for 1996–2008*. Washington, DC: World Bank.
- Kaufmann, D., Kraay, A., Lora, E. & Pritchett, L. (2002). Growth without governance. *Economía* 3: 169-229.
- Keping, Y. (2018). Governance and good governance: A new framework for political analysis. *Fudan Journal of the Humanities and Social Sciences*, 11(1), 1-8.
- Kilgour, A.H., Starr, J.M. & Whalley, L.J. (2010). Associations between childhood intelligence (IQ), adult morbidity and mortality. *Maturitas* 65: 98-105.
- Kjaer, A. M. (2004). Governance. Cambridge: Polity. *Journal of Environmental Planning and Management*, 19.
- Klapper L., Lewin A., & Delgado, J. M. Q. (2011). The impact of the business environment on the business creation process. In: W. Naudé (Ed.) *Entrepreneurship and economic development*, (pp. 108–123). Palgrave Macmillan: London.
- Klapper, L., Amit, R., & Guillén, M. F. (2010). Entrepreneurship and firm formation across countries. In: J. Lerner & A. Schoar (Eds.). *International differences in entrepreneurship*, (pp. 129–158). University of Chicago Press: Chicago.
- Klapper, L., Laeven, L., & Rajan, R. (2006). Entry regulation as a barrier to entrepreneurship. *Journal of Financial Economics*, 82, 591–629.
- Klugman, J. (Ed.). (2002). *A Sourcebook for Poverty Reduction Strategies: Volume 2: Macroeconomic and Sectoral Approaches*. Washington, DC: World Bank.
- Kodila-Tedika, O. (2014). Governance and intelligence: Empirical analysis from African data. *Journal of African Development* 16: 83-97.

- Kolstad, I. (2009). The resource curse: which institutions matter? *Applied Economics Letters*, 16, 439–442.
- Kooiman, J. (Ed.). (1993). Modern governance: new government-society interactions. *Sage*.
- Kooiman, J. (2000). Governance. A social-political perspective. In *Debating governance: Authority, steering and democracy*, ed. Jan Pierre, 71-98. New York: University Press.
- Koudstaal, M., Sloof, R., & Van Praag, M. (2015). Risk, uncertainty, and entrepreneurship: Evidence from a lab-in-the-field experiment. *Management Science*, 62, 2897–2915.
- Kraay, A., & Kaufmann, D. (2002). *Growth without governance*. The World Bank.
- Kremer, M. (1993). The O-Ring theory of economic development. *Quarterly Journal of Economics*, 108, 551–575.
- Kubicka, L., Matejcek, Z., Dytrych, Z. & Roth, Z. (2001). IQ and personality traits assessed in childhood as predictors of drinking and smoking behaviour in middle-aged adults: A 24-year follow-up study. *Addiction* 96: 1615-1628.
- Kuznets, S. (1955). Economic growth and income inequality. *American Economic Review* 45: 1-28.
- Kyllonen, P. C., & Tirre, W. C. (1988). Differences in associative learning and forgetting. *Intelligence*, 12, 393–421.
- Labastida Tovar, M. E., Almazán Anaya, A. A., & Burhan, N. A. S. (2017). The cognitive wealth of nations: A cross-country analysis of entrepreneurship abilities, innovation in stem, and competitiveness in education. *Psychology and Education*, 54, 93–106.
- Layard R, Chisholm D, Patel V, Saxena S (2013). Mental Illness and Unhappiness. CEP Discussion Paper. Centre for Economic Performance: London (report number 1239).
- Levin, E.D., McClernon, F.J. & Rezvani, A.H. (2006). Nicotinic effects on cognitive function: Behavioral characterization, pharmacological specification, and anatomic localization. *Psychopharmacology* 184: 523-539.
- Li, N. P., & Kanazawa, S. (2016). Country roads, take me home... to my friends: How intelligence, population density, and friendship affect modern happiness. *British Journal of Psychology*, 107, 675–697.
- Li, Q., Hsia, J. & Yang, G. (2011). Prevalence of smoking in China in 2010. *New England Journal of Medicine* 364: 2469-2470.

- Link, B.G., Phelan, J.C., Miech, R. & Westin, E.L. (2008). The resources that matter: Fundamental social causes of health disparities and the challenge of intelligence. *Journal of Health and Social Behavior* 49: 72-91.
- Liu, X. (2003). Cigarette smoking, life stress, and behavioral problems in Chinese adolescents. *Journal of Adolescent Health* 33:189-192.
- Lynn, R. & Vanhanen, T. (2012). A Unifying Construct for the Social Sciences. London: Ulster Institute for Social Research. *Intelligence*.
- Lynn, R. (2004). New evidence of dysgenic fertility for intelligence in the United States. *Intelligence*, 32, 193–201.
- Lynn, R., & Vanhanen, T. (2002). *IQ and the wealth of nations*. Westport, CT: Praeger
- Lynn, R., & Vanhanen, T. (2006). *IQ and global inequality*. Augusta, GA: Washington Summit.
- Lynn, R., & Vanhanen, T. (2012). *Intelligence: A unifying construct for the social sciences*. London: Ulster Institute for Social Research.
- Madaus, J. W., Grigal, M., & Hughes, C. (2014). Promoting Access to Postsecondary Education for Low-Income Students with Disabilities. *Career Development and Transition for Exceptional Individuals*, 37(1), 50–59
- Mahadalle, A., & Kaplan, B. (2017). Entrepreneurial Characteristics and Competencies as Determinants of Corporate Performance : A Study on Small Enterprises in Mogadishu, Somalia. *International Journal of Research*. 5(5), 243–254.
- Makki, N., & Mohanty, M. S. (2019). Mental Health and Happiness: Evidence From the US Data. *The American Economist*, 64(2), 197-215.
- Malecki, E. J. (2018). Entrepreneurs, networks, and economic development: A review of recent research. *Reflections and extensions on key papers of the first twenty-five years of advances*.
- Markman, G. D., & Baron, R. A. (2003). Person–entrepreneurship fit: why some people are more successful as entrepreneurs than others. *Human resource management review*, 13(2), 281-301.
- Meisenberg, G. & Woodley, M.A. (2015). Gender differences in subjective well-being and their relationships with gender equality. *Journal of Happiness Studies* 16: 1539-1555.
- Meisenberg, G. (2012). National IQ and economic outcomes. *Personality and Individual Differences* 53: 103-107.
- Méndez-Picazo, M. T., Galindo-Martín, M. Á., & Ribeiro-Soriano, D. (2012). Governance, entrepreneurship and economic growth. *Entrepreneurship & Regional Development*, 24, 865–877.

- Méon, P. G., & Sekkat, K. (2005). Does corruption grease or sand the wheels of growth? *Public Choice*, 122, 69–97.
- Merlin, M.D. (2003). Archaeological evidence for the tradition of psychoactive plant use in the Old World. *Economic Botany* 57: 295-323.
- Miles, M. P., & Morrison, M. (2020). An effectual leadership perspective for developing rural entrepreneurial ecosystems. *Small Business Economics*, 54(4), 933-949.
- Minkov, M., & Bond, M. H. (2017). A genetic component to national differences in happiness. *Journal of Happiness Studies*, 18(2), 321-340.
- Mitchell, R. K., Busenitz, L., Lant, T., McDougall, P. P., Morse, E. A., & Smith, J. B. (2002). Toward a theory of entrepreneurial cognition: Rethinking the people side of entrepreneurship research. *Entrepreneurship theory and practice*, 27(2), 93-104.
- Mitchell, R. K., Busenitz, L., Lant, T., McDougall, P. P., Morse, E. A., & Smith, J. B. (2004). The distinctive and inclusive domain of entrepreneurial cognition research. *Entrepreneurship theory and practice*, 28(6), 505-518.
- Mueller, P. (2007). Exploiting entrepreneurial opportunities: The impact of entrepreneurship on growth. *Small Business Economics*, 28(4), 355-362.
- Nambiar, S. (2013). Capabilities, conversion factors and institutions. *Progress in Development Studies*, 13(3), 221-230.
- Ng, D.M. & Jeffery, R.W. (2003). Relationships between perceived stress and health behaviors in a sample of working adults. *Health Psychology* 22: 638-642.
- Nikolaev, B. & McGee, J.J. (2016). Relative verbal intelligence and happiness. *Intelligence* 59: 1-7.
- Njangang, Henri (2019): Governance and Happiness in African countries. Forthcoming in: *Economics Bulletin*
- North, D. C. (1991). Institutions. *Journal of Economic Perspectives*, 5, 97–112.
- North, T. L., Palmer, T. M., Lewis, S. J., Cooper, R., Power, C., Pattie, A., & Day, I. N. (2015). Effect of smoking on physical and cognitive capability in later life: a multicohort study using observational and genetic approaches. *BMJ open*, 5(12).
- Nussbaum, M. C. (2001). Women and human development: The capabilities approach (Vol. 3). *Cambridge University Press*.
- Obydenkova, A.V. & Salahodjaev, R. (2017). Government size, intelligence and life satisfaction. *Intelligence* 61: 85-91.
- OECD. (2014). Development co-operation report 2014. *OECD Publishing*.

- Omerzel, D. G., & Antončič, B. (2008). Critical Entrepreneur Knowledge Dimensions for the SME Performance. *Industrial Management and Data Systems*, 108(9), 1182–1199.
- OPEC (2019). OPEC: Brief history. Organization of the Petroleum Exporting Countries. Available online at: https://www.opec.org/opec_web/en/about_us/24.htm
- Oshio, T., Nozaki, K. & Kobayashi, M. (2011). Relative income and happiness in Asia: Evidence from nationwide surveys in China, Japan, and Korea. *Social Indicators Research* 104: 351-367.
- Ott, J.C. (2010). Good governance and happiness in nations: Technical quality precedes democracy and quality beats size. *Journal of Happiness Studies* 11: 353-368.
- Ott, J.C. (2011). Government and happiness in 130 nations: Good governance fosters higher level and more equality of happiness. *Social Indicators Research* 102: 3-22.
- Parker, R. (2008). Governance and the entrepreneurial economy: a comparative analysis of three regions. *Entrepreneurship Theory and Practice*, 32, 833–854.
- Pelenc, J., D. Bazile, and C. Ceruti. 2015. Collective Capability and Collective Agency for Sustainability: A Case Study. *Ecological Economics*. 118: 226–239.
- Pelenc, J., Lompo, M. K., Ballet, J., & Dubois, J. L. (2013). Sustainable human development and the capability approach: Integrating environment, responsibility and collective agency. *Journal of Human Development and Capabilities*, 14(1), 77-94.
- Pew Research Center (2012). *The global religious landscape: A report on the size and distribution of the world's major religious groups as of 2010*. Washington, D.C.: Pew Research Centre. Retrieved from: <http://www.pewforum.org/files/2014/01/global-religion-full.pdf>
- Plomin, R. & Deary, I.J. (2015). Genetics and intelligence differences: Five special findings. *Molecular Psychiatry* 20: 98-108.
- Plomin, R. & von Stumm, S. (2018). The new genetics of intelligence. *Nature Reviews Genetics* 19: 148-159.
- Potrafke, N. (2012). Intelligence and corruption. *Economics Letters* 114: 109-112.
- Baron, R. A., & Ward, T. B. (2004). Expanding entrepreneurial cognition's toolbox: Potential contributions from the field of cognitive science. *Entrepreneurship theory and practice*, 28(6), 553-573.
- Ram, R. (2007). IQ and economic growth: Further augmentation of Mankiw–Romer–Weil model. *Economics Letters* 94: 7-11.

- Reeve, C.L. & Basalik, D. (2010). Average state IQ, state wealth and racial composition as predictors of state health statistics: Partial support for 'g' as a fundamental cause of health disparities. *Intelligence* 38: 282-289.
- Reeve, C.L. (2009). Expanding the g-nexus: Further evidence regarding the relations among national IQ, religiosity and national health outcomes. *Intelligence* 37: 495-505.
- Ribeiro-Soriano, D., & Galindo-Martín, M. Á. (2012). Government policies to support entrepreneurship. *Entrepreneurship & Regional Development*, 24, 861–864.
- Rindermann, H. (2007). The g-factor of international cognitive ability comparisons: The homogeneity of results in PISA, TIMSS, PIRLS and IQ-tests across nations. *European Journal of Personality* 21: 667-706.
- Rindermann, H. (2007). The g-factor of international cognitive ability comparisons: the homogeneity of results in PISA, TIMSS, PIRLS and IQ-tests across nations. *European Journal of Personality*, 21(5), 667–706. doi:10.1002/per.634
- Rindermann, H. (2018). *Cognitive Capitalism: Human Capital and the Wellbeing of Nations*. Cambridge: Cambridge University Press.
- Rindermann, H., & Thompson, J. (2011). Cognitive capitalism: The effect of cognitive ability on wealth, as mediated through scientific achievement and economic freedom. *Psychological Science*, 22(6), 754-763.
- Robeyns, I. (2006). The capability approach in practice. *Journal of political philosophy*, 14(3), 351-376.
- Robeyns, I. (2005). *The Capability Approach: a theoretical survey*. *Journal of Human Development*, 6(1), 93–117.
- Rotberg, R.I. (2014). Good governance means performance and results. *Governance* 27: 511-518.
- Rothstein, B. (2011). *The Quality of Government: Corruption, Social Trust, and Inequality in International Perspective*. Chicago: University of Chicago Press.
- Rushton, J.P. (2010). Brain size as an explanation of national differences in IQ, longevity, and other life-history variables. *Personality and Individual Differences* 48: 97-99.
- Sabri, M.F. & Zakaria, N.F. (2015a). Financial well-being among young employees in Malaysia. In: Z. Copur (ed.), *Handbook of Research on Behavioral Finance and Investment Strategies: Decision Making in the Financial Industry*, pp. 221-235. Hersey, PA: IGI Global.
- Sabri, M.F. & Zakaria, N.F. (2015b). The influence of financial literacy, money attitude, financial strain and financial capability on young employees' financial well-being. *Pertanika Journal of Social Sciences & Humanities* 23: 827-848.

- Sail, R. M., & Abu-Samah, A. (2010). Community development through community capacity building: A Social Science Perspective. *Journal of American Science*, 6(2), 68-76.
- Saito, M. (2003). Amartya Sen's Capability Approach to Education: A Critical Exploration. *Journal of Philosophy of Education*, 37(1), 17-33
- Salman, D. M. (2016). What is the role of public policies to robust international entrepreneurial activities on economic growth? Evidence from cross countries study. *Future Business Journal*, 2(1), 1-14.
- Sanders, I. T. (1958). Theories of Community Development. *Rural Sociology*, 23(1), 1.
- Sasso, S., & Ritzen, J. (2019). Sectoral cognitive skills, R&R, and productivity: A cross-country cross-sector analysis. *Education Economics*, 27, 35-51.
- Schmidt, F.L. & Hunter, J.E. (2004). General mental ability in the world of work: Occupational attainment and job performance. *Journal of Personality and Social Psychology* 86: 162-173.
- Schumpeter, J., & Stiglitz, J. (2010). *Capitalism, socialism and democracy*. London: Routledge.
- Seligman, M. E., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist*, 60(5), 410-421.
- Sen, A. (1997). Choice, welfare and measurement. *Harvard University Press*.
- Sen, A. (1985). *Commodities and capabilities*. Amsterdam: North Holland.
- Sen, A. (1993). Capability and well-being. In M. C. Nussbaum (Ed.), *The quality of life*. Oxford: Clarendon Press.
- Sen, A. (2001). Development as freedom. *Oxford Paperbacks*.
- Sen, A.K., 1985. Well-being agency and freedom: The Dewey lectures 1984. *J. Philos.* 82 (4), 169-221.
- Sen, A. (1995). Gender inequality and theories of justice. Women, culture and development: A study of human capabilities, 259-273.
- Shamosh, N.A. & Gray, J.R. (2008). Delay discounting and intelligence: A meta-analysis. *Intelligence* 36: 289-305.
- Shane, S. & Venkataraman, S (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25, 217-226.

- Slabbert, I. (2018). Applying the capability approach in social work education. *Social Work Education*, 37(7), 867-8801.
- Solow, R.M. (1956). A contribution to the theory of economic growth. *Quarterly Journal of Economics* 70: 65-94.
- Spearman, C. (1904). General intelligence objectively determined and measured. *American Journal of Psychology*, 15, 201–293.
- Sternberg, R. J. (1985). Beyond IQ: A triarchic theory of human intelligence. New York: *Cambridge University Press*.
- Sternberg, R. J. (2004). Culture and Intelligence. *American Psychologist*, 59(5), 325-338.
- Stolarski, M., Jasielska, D. & Zajenkowski, M. (2015). Are all smart nations happier? Country aggregate IQ predicts happiness, but the relationship is moderated by individualism–collectivism. *Intelligence* 50: 153-158.
- Stough, C., Mangan, G., Bates, T. & Pellett, O. (1994). Smoking and Raven IQ. *Psychopharmacology* 116: 382-384.
- Stroebe, W. (2010). The graying of academia. *American Psychologist*, 65, 660-673.
- Szirmai, A. (2015). Socio-economic development. *Cambridge University Press*.
- Taylor, M.D., Hart, C.L., Smith, G.D., Starr, J.M., Hole, D.J., Whalley, L.J. et al. (2005). Childhood IQ and social factors on smoking behaviour, lung function and smoking-related outcomes in adulthood: Linking the Scottish Mental Survey 1932 and the Midspan studies. *British Journal of Health Psychology* 10: 399-410.
- Thai, M.T.T., & Turkina, E. (2014). Macro-level determinants of formal entrepreneurship versus informal entrepreneurship. *Journal of Business Venturing*, 29, 490–510.
- Tugade, M. M., & Fredrickson, B. L. (2004). Resilient individuals use positive emotions to bounce back from negative emotional experiences. *Journal of Personality and Social Psychology*, 86, 320–333.
- U. Neisser, G. Boodeo, T.J. Bouchard, Jr., A.W. Boykin, N. Brody, S.J. Ceci, D.F. Halpern, J.C. Loehlin, R. Perloff, R.J. Sternberg & S. Urbina. Intelligence: Knowns and Unknowns. *American Psychologist*, 51 (2): 77-101, 96.
- U.G. Gerdtham & M. Johannesson. (2001). The relationship between happiness, health, and socio-economic factors: Results based on Swedish microdata. *Journal of Socio-Economics*, 30 pp. 553-557.

- Veenhoven, R. & Choi, Y. (2012). Does intelligence boost happiness? Smartness of all pays more than being smarter than others. *International Journal of Happiness and Development* 1: 5-27.
- Veenhoven, R. (2010). Capability and happiness: Conceptual difference and reality links. *Journal of Socio-Economics* 39: 344-350.
- Volkert, J. (2013). Concepts of agency, sustainable human development (SHD) and collective abilities. *Human Development and Capability Association Maitreyee*. 22, 4–8.
- Warren, R. (1987). *The community in America* (3rd ed.). Lanham, MD: University Press of America.
- Wasserman, J. D. (2018). A history of intelligence assessment: The unfinished tapestry.
- Waterman, A. S. (1993). Two conceptions of happiness: Contrasts of personal expressiveness (eudaimonia) and hedonic enjoyment. *Journal of personality and social psychology*, 64(4), 678.
- Webb, C.A., DelDonno, S. & Killgore, W.D. (2014). The role of cognitive versus emotional intelligence in Iowa Gambling Task performance: What's emotion got to do with it? *Intelligence* 44: 112-119.
- Weede, E. & Kämpf, S. (2002). The impact of intelligence and institutional improvements on economic growth. *Kyklos* 55: 361-380.
- Weiser, M., Zarka, S., Werbeloff, N., Kravitz, E. & Lubin, G. (2010). Cognitive test scores in male adolescent cigarette smokers compared to non-smokers: A population-based study. *Addiction* 105: 358-363.
- Wennekers, S., Van Stel, A., Thurik, A. R., & Reynolds, P. (2005). Nascent entrepreneurship and the level of economic development. *Small Business Economics*, 24, 293–309.
- Whalley, L.J. & Deary, I.J. (2001). Longitudinal cohort study of childhood IQ and survival up to age 76. *British Medical Journal* 322(7290): 819-822.
- WHO (2011). *Global Status Report on Noncommunicable Diseases 2010*. Geneva: World Health Organization. Available online at: http://www.who.int/nmh/publications/ncd_report2010/en/
- WHO (2017). *Tobacco Control*. World Health Organization. Retrieved from: <http://www.who.int/gho/tobacco/en/>
- Woo, C. (2018). Good governance and happiness: Does technical quality of governance lead to happiness universally in both rich and poor countries?. *Journal of International and Area Studies*, 25(1), 37-56.

- World Bank (2017). *Doing business 2017: Equal opportunity for all*. Washington, DC: World Bank Group. Available online at: <http://www.doingbusiness.org/en/reports/global-reports/doing-business-2017>
- World Bank (2017). *World Development Indicators 2017*. Retrieved from: World Bank. <http://data.worldbank.org/products/wdi>
- World Bank (2018a). *Entrepreneurship*. Retrieved 4 January 2019, from <http://www.doingbusiness.org/data/exploretopics/entrepreneurship/>
- World Bank (2018a). *Worldwide Governance Indicators*. Retrieved 4 April 2018, from <http://info.worldbank.org/governance/wgi/#home>
- World Bank (2018b). *Worldwide Development Indicators*. Retrieved 10 December 2018, from <https://data.worldbank.org/>
- World Bank (2018d). *Doing Business – Measuring Business Regulations*. Retrieved 4 January 2019, from <http://www.doingbusiness.org/rankings>
- World Bank. (1991). *Managing Development: The Governance Dimension*, a Discussion Paper. World Bank.
- World Health Organization. (2003). *The world health report 2003: shaping the future*. World Health Organization.
- Wraw, C., Der, G., Gale, C.R. & Deary, I.J. (2018). Intelligence in youth and health behaviours in middle age. *Intelligence* 69: 71-86.
- Wu, B., & Knott, A. M. (2006). Entrepreneurial risk and market entry. *Management Science*, 52, 1315–1330.
- Yap, M., & Yu, E. (2016). Operationalising the capability approach: developing culturally relevant indicators of indigenous wellbeing—an Australian example. *Oxford Development Studies*, 44(3), 315-331.
- Zabaneh, D., Krapohl, E., Gaspar, H.A., Curtis, C., Lee, S.H., Patel, H., ... & Lubinski, D. (2018). A genome-wide association study for extremely high intelligence. *Molecular Psychiatry* 23: 1226-1232.
- Zagorsky, J.L. (2007). Do you have to be smart to be rich? The impact of IQ on wealth, income and financial distress. *Intelligence*.
- Zajenkowski, M., Stolarski, M. & Meisenberg, G. (2013). Openness, economic freedom and democracy moderate the relationship between national intelligence and GDP. *Personality and Individual Differences* 55: 391-398.
- Zax, J.S. & Rees, D.I. (2002). IQ, academic performance, environment, and earnings. *Review of Economics and Statistics* 84: 600-616.

Zuckerman, D. M., Kasl, S. V., & Ostfeld, A. M. (1984). Psychosocial predictors of mortality among the elderly poor: The role of religion, well-being, and social contacts. *American Journal of Epidemiology*, 119, 410–423.

