High Ability and Dreams of Innovation and Prosperity in the Emerging Global Knowledge Economy: A Critical Analysis of Changing Orientations in Research and Practice

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Abstract

Are the gifted and talented destined for greatness in a neoliberally oriented knowledge economy? This is undoubtedly an important question for scholars, teachers, and parents advocating the value of gifted education to policy makers and employers worldwide. This review of literature from a multitude of relevant disciplines attempts to answer this question in drawing from political ideology, economic history, human universal behaviour, and principles of social evolution to the extent that we currently understand them. The analysis showed that while high ability is well underway to take centre stage globally in terms of stakeholder interest, the analysis also suggested that hopes projected onto the highly able are often illusory. The social dynamics characterizing the knowledge economy appears unlikely to accept potential contributions of the highly able, since it is not in the nature of a neoliberal economy to offer the necessary conditions needed for creative and innovative efforts. Given that these conclusions are reasonably correct, clearly much of gifted education, its research and *raison d'être,* will need to be reconsidered and new objectives and fields of research be explored.

***Keywords*:** Giftedness; gifted education; talent, high ability; creativity; innovation; accountability; efficiency; talent management.

Introduction

Many, but not all, highly able children and youth have benefitted from the attention and intellectual stimulation provided to them by schools in a systematic way. Hence, where gifted education is available, going to school has been a successful venture for some (Matthews, 2006). Whether entire gifted education programs can be thought of as successful or not is more difficult to assess. Some researchers in the field say yes (Hany & Grosch, 2009; Steenbergen-Hu, 2011) while others are more doubtful (Craven & Marsh, 2000; Ziegler & Phillipson, 2012). How to define successful gifted education is a complicated matter considering the variety of remedial action constituting gifted education worldwide making the multitude of efforts, objectives, and actions taken difficult to compare. However, until recently gifted education in its many forms was mainly an effort of *empowerment* to aid and support children in school who had extraordinary needs for intellectual stimulation. These needs and interests were not necessarily met in regular school systems without targeted planning and specially trained teachers. These were then students with "unique characteristics, interests, abilities and learning needs" representing a wide diversity of characteristics and needs; students who had "a fundamental right to education [and to be given] the opportunity to achieve and maintain an acceptable level of learning" (UNESCO, 1994, p. viii). This somewhat idealistic understanding of school children—gifted or not gifted alike—has dramatically changed in recent years.

This article is a review of literature from a multitude of disciplines in search of an answer to a

question prompted by the on-going transformation in both education and global economy. Are the gifted and talented destined for greatness in a neoliberally oriented and globalized knowledge economy? This is undoubtedly a crucial question for scholars, teachers, and parents advocating the value of gifted education. This critical review and analysis of the literature attempts to provide a possible answer in drawing from political ideology, economic history, human universal behavior, and principles of social evolution to the extent that we currently understand them. First, the emergence of human capital and the framing of society in predominantly economic terms on neoliberal values are discussed. In the 21st century, mediated by the information technology revolution, the economy turns truly global and the interest of both business and policy makers worldwide is turning increasingly to highly able individuals, who more than other citizens represent efficient human capital. A database search was performed to chart to what degree the emerging link between high ability and economic growth is affecting research and scholars. A discussion follows focusing on human universals and the fact that, irrespective of known negative facts, humanity is prone to upheld and favor positive illusion. This characteristic has implications for how we understand the gifted and the talented. However great our projected expectations, they exist within the boundaries of evolutionary programming, limited free will and self-determination, and the imposing dynamics of human nature. The highly able are quite possibly our best hope for a brighter future. In concluding the article, the rationale for why they are unlikely to have such an impact on the world is discussed.

Needless to say, I cannot claim that my findings in searching for an answer to the stated question are in all aspects correct. Like every scholar, too have to weigh my conclusions and reasoning against received wisdom, common sense, experience, emerging logic, and the multitude of diverse theories, research results and their interpretations, published in peer-reviewed journals. I can with some certainty, however, claim that I am at least in part correct, and that I am appropriately pointing out a troublesome weakness in high ability research and practice: our general ignorance of how human nature, as derived from our evolutionary past, affects the social dynamics of society and its institutions. Harvard University's Stephen Pinker (2002) gave voice to this problem already more than a decade ago, and others have followed (e.g., Fernandez-Armesto, 2004; Kenrick & Griskevicius, 2013; Wilson, 2004). While my answer to the important question is frustrating at best, it is my hope that it will trigger further research and action to make our future brighter, more opportune, and in line with human nature. Let us not pretend that this does not exist! (Pinker, 2002).

The changing face of education

Gifted education is increasingly attracting the attention of economists and societal stakeholders and as a result gifted education has been given a very specific goal, namely to be *efficient* in comparison with the demands and stated needs of society (Abdulkadiroglu, Angrist & Pathak, 2011; Bhatt, 2011; Bui, Craig & Iberman, 2011; Davis, Engberg, Epple *et al*., 2010). Efficiency relates the outcome of a process to its input. A system is said to be efficient if a maximum output is obtained from given input, or if a given output is obtained with minimum input (Woessmann & Schuetz, 2006). While it is probably always of interest to any educator to know whether chosen methods of instruction are working and targets are actually reached, the framing of educational objectives, the means of reaching them, and their assessment in mainly economic terms, are all relatively new to education. Abbot and Mac Taggart (2010) observed that "education now has become micro-managed by the state so as essentially fitting with a new economic imperative of supply-side investment for national prosperity" (p. 257). The models for educational transformation have been borrowed from the corporate world and have the support of the market. Currently, moral goals of human development "are often combined with national hegemony and economic profit" (Sahlberg, 2010, p. 101). One way of securing and controlling the efficiency of education, making certain it lives up to standards inspired by the market, is to create accountability by regularly carrying out assessments such as PISA, TIMSS and PIRLS. The results of such assessments signal levels of economic potential for each country (Hanuschek & Woessmann, 2008; Pereyra, Kotthoff & Cowen, 2011; Rindermann & Ceci, 2009). Education worldwide is now framed in terms management, flexibility, benchmarking, production, competitiveness, responsiveness, total quality management, accountability, lean organizations,

control, target-setting, excellence, and so on (Astuto & Clark, 2005; Currie, 1998; Hamilton, Stecher & Klein, 2002; Sheehan, 1996; Thrupp & Hursh, 2006; Wilkins, 2012). In the words of the World Bank: education is being *upgraded* (World Bank Institute, 2007). Perhaps more importantly in this worldwide zeal for reforming all education towards efficiency, is the fact that students are simultaneously and increasingly less understood as individuals with "unique characteristics, interests, abilities and learning needs" representing a wide diversity of characteristics and needs (UNESCO, 1994, p. viii). In accordance with corporate management models they have become more like customers, production units, and investments. Their teachers are no longer instructors, mentors, and role models. They have by and large transformed into managers supervising and administrating quality and productivity making certain that set targets of excellent quality are reached (cf., Hill, 2006; Ross & Gibson, 2006; Sallis, 2002). In this new product oriented and efficient context, the highly able are believed to "… guarantee a constant reservoir of individuals who will later lead both … research and development, and education, thus continuing to propel recruitment of the community, the State, and humanity at large toward a knowledge-based economy" (Sever, 2011; p. 454).

The advent of human capital

Schools and education have more or less become globally oriented and market-influenced hothouses for *human capital* where each unit is held accountable for quality. Quality is rarely defined from within education, but rather from without according to the the values, needs, and dictates of the market (e.g., Sahlberg, 2010; Sallis, 2002). Theodore W. Schultz (1981), a 1979 Nobel Prize Laureate of economy, coined this term in the 1960s and defined it as representing the education, experience, and the abilities of an employee, all of which has *economic* value. The term also signifies that not all labor is equal but education can be used to improve "the quality of people" for economic benefit and profit. For this reason, to speak of human *capital* is, per definition, *dehumanizing*; that is, it is depriving people of their perceived dignity and individual uniqueness as they are construed as a means to another's end (Haslam, 2006; Haslam, Kashima, Loughan *et al.,* 2008).

Routine jobs, low-skilled and manual labor, are usually not considered human capital (Stewart, 1997). An increasing number of such jobs are, in fact, in the process of disappearing. They are progressively being replaced by automated technology where possible and when cost-efficient. In the United States alone 47% out of 702 officially recognized jobs are likely to be replaced by computerized processes within 20 years (Frey & Osborne, 2013).

In Sweden, being more sensitive to infrastructure change than the United States, 53% of such jobs are likely to become obsolete. Because of this on-going and quite dramatic re-evaluation and restructuring of global society—termed "The second machine age" by MIT scholars Brynjolfsson and McAfee (2014) and hailed enthusiastically as "The new digital age" by Google visionaries and executives Schmidt and Cohen (2013)—political and economic emphasis worldwide is increasingly given to *intellectual* production. If an individual constituting such intellectual capital decides to emigrate in search of greener pastures (or perhaps safety) elsewhere this migration constitutes human capital flight or "brain drain"-- an often politically sensitive issue for any nation, since lack of human capital relates to poverty and access to it relates to wealth (Carrington & Detragiache, 1999; Hausmann, Hidalgo, Bustos, *et al.,* 2011).

Implied in this on-going macro-structural reshaping of the world is that the highly able represent a very interesting and alluring aspect of the intellectual capital in any country worldwide. At the very least they may represent the perceived potential to considerable intellectual productivity for future prosperity and welfare. The highly able are seen as embodying efficiency by providing maximum output obtained from a minimum of input. For any country, institution or enterprise prioritizing profit by ever-increasing growth for a minimum of expenditure this is highly attractive:

In Indonesia, for example, gifted children are nurtured "for the progress of the future of the nation" (Suyono, 1996, p. 77). In Germany, the special promotion of gifted children is "an investment in the future" (Wilms, 1986, p. 17). According to former British Prime Minister Tony Blair, "Talent is 21st century wealth" (quoted in Brown & Hesketh, 2004, p. 1). For all

of the European Union "talents contribute to the increase of competitiveness and help the realization of the strategic goals of the European Union" (Hungarian EU Presidential Conference, 2011; p. 1). From an Australian perspective Diezmann (2002) pointed out that whereas Australia could previously be seen as "the grave of genius" at the one extreme, it is now rather viewed as an incubator for creative individuals the reason being they have the potential for "achieving great things for their country;" quoting former Australian Prime Minister John Howard. For this reason, in Diezmann's view, especially gifted mathematicians need to be promoted, since "the knowledge-economy depends heavily on the quality and quantity of mathematical expertise that is developed" (p. 2). In Korea "creativity has come to the forefront in considering Korea's future in the global economy (Seo, Lee & Kim, 2005; p. 98). The same is true of Azerbaijan, one of the republics to emerge from the former Soviet Union having made a transition from a planned economy to a market-based economy. In Mammadov's (2012) words "science and education are keys to assuring success in market competition … one of the important features of scientific schools is … [bringing] together gifted people. In Azerbaijan, a lack of comprehensive gifted education is one of the issues which need an urgent solution" (p. 30). Also, post-communist Russia, aspiring to become an economic world power, reasons in much the same way. Russia is at a stage where further economic growth can only be achieved by knowledge-based industry supported and generated by Russian talent and gifted education (Bondarik, Dymarskaya & Persson, in preparation).

For the sake of generating economic growth, education all over the World is being "McDonaldized" to use sociologist George Ritzer's (1993) term descriptive of the famous fast food franchise (Hayes & Wynyard, 2002). Things cultural are becoming increasingly framed as merely strategic in the interest of economic growth with cultural issues being of limited importance for their own sake (European Cultural Parliament, 2006; Sidhu, 2002; World Bank Institute, 2007).

Needless to say, there are critics of this on-going global transformation who argue that "the rising tide of 'efficiency' in contemporary education often masks a reduction in both the quality of education provided and attempts to reduce levels of resources invested in education, particularly in the public sector. In particular, efficiency movements can be argued to be predicated upon the idea that both individual worth and the worth of education can be reduced to economic terms. The conflict between rivaling stakeholders and values in any society, as reflected in educational systems and their purpose, is by no means a new one. It emerges with regular intervals following certain critical junctures in history. Karl Marx, Emile Durkheim, Max Weber, John Dewey, Pierre Bourdieu, Basil Bernstein and Michel Foucault have all addressed the *raison d'être* of education and the advantages or shortcomings of different positions (see Lauder, Brown, Dillabough & Halsey, 2006; for an overview). However, this often quite heated debate has never before had global ramifications. The advent of information technology and its global use has paved the way for globalization. It has, in fact, irrespective of individual countries' culture and preferred political ideology, made the entire world capitalist in nature and function (Castells, 1999). Whether we like it or not, globalization means that economy by growth has become everyone's concern.

High ability: The new kid on the block

The introduction of high ability into this context, and its perceived potential in national and global economy as human capital, is also a new piece of the global financial puzzle of economic prospect and dominance. The scale of this development is considerable and is growing at an astounding rate. At the beginning of the 21st century 53 multi-national private corporations were each wealthier than 120 of the world's nations, and in 1990 there were a mere 3000 such multi-national corporations around. However, by 2003 there were 63.000 (Chandler & Mazlish, 2005; Greider, 1997). The search for highly able individuals to act as engines of innovation for increased marketability and growth has indeed created an entirely new stage for gifted education. The highly able worldwide are in the process of becoming actors on the world center stage (Gabbard, 2000; Shavinina, 2009a). If market actors cannot find them, or if what they find does not live up to expectations, some are perfectly prepared to manufacture them

instead! Doping is common occurrence in sports, in spite of ever-changing ethics, rules and testing to accommodate the developments of new ways of improving results illicitly. The allure of exorbitant gains makes any risk of exposure and injury worth taking (e.g., Schneider & Friedmann, 2006). It is now possible—also in a normal population of non-athletes—to considerably enhance cognition, mood, physical abilities, and even to extend life. Savulescu, Meulen, and Kahane (2011) have observed that while human enhancement research has developed tremendously in a short time, moral enhancement and ethics have not followed suit. They have both been neglected by science and society. Persson and Savulescu (2011) assert:

> Even if human beings were psychologically and morally fit for life in those natural conditions in which they have lived during most of human history, humans have now so radically affected their conditions of living that they might be less psychologically and morally fit for life in this new environment which they have created for themselves (p. 486).

The global development towards a global knowledge economy will surely appear promising to many: to parents of gifted children who wish their offspring to have a bright and prosperous future (e.g., Conrad, 2011); to scholars who see that an appeal to policy makers' need for efficient production and innovation as leverage in promoting gifted education and its research (e.g., Clinkenbeard, 2007), and to politicians and global markets increasingly seeing high ability as being ultimate intellectual human capital. Policy makers and actors on the market, however, have little understanding of what constitutes high ability. Neither do they generally want to know (Persson, 2014).

> In a Human Resources context of large companies "talent has little meaning in the abstract … organizations have become impatient. They want more than someone with potential; they want people who can 'hit the ground running'. They want people who can add immediate value" (Brown & Hesketh, 2004; p. 195).

The changing values of the scholarly community.

Considering the increasing political interest in high ability as instrumental in controlling national and global economies, it is of interest to ask to what degree the scholarly community has actually followed this trend in terms of what they study. Clinkenbeard (2007), for example, encourages the community of scholars and educators in gifted education to advocate the significance of the highly able for future prosperity. As do Bleske-Rechek, Lubinski and Benbow (2004), who see intellectually precocious youth as "extraordinary human capital for society at large" (p. 223). Duke University's Jonathan Wai (2012) goes one step further and has argued, boldly, that the extremely smart ones of the world are also the extremely wealthy ones, citing the *Forbes* list on the World's 400 wealthiest individuals as evidence. It would seem that tying wealth and potential profit to the notion of high ability is very much on the agenda for researchers and educators, but to what extent?

A basic database search.

A count of articles on relevant topics published between, for example, 1984 and 2014 would indicate whether scholarly publications conform to what can largely be described as a market-adapted agenda. Three periods in time were chosen for comparison: 1984 - 1994, 1995 - 2004 and 2005 -2014. Also, three suitable databases were considered relevant for the task: 1) Educational Resources Information Center (ERIC)—a database containing research and materials relevant for education; 2) PsycArticles—a database focusing on psychological research, and finally 3) Emerald Insight, which is a database containing business literature but also contains literature in education and technology.

A search string suitably representing economy and high ability was selected: giftedness AND talent AND economy AND human capital AND asset. Similarly, a search string representing topics more traditional to the study of giftedness and talent was also selected for comparison: Giftedness AND talent AND identification AND self-actualization. Each term in the two search strings was combined with every other term so as to maximize the number of possible hits relevant to what is representative of the research field. Additional search criteria were that each hit must represent full-

text articles, be written in English, be peer-reviewed, and must have been published in a scholarly journal. There is invariably an overlap between economy and tradition and there is no feasible way of controlling for whether trends strictly represent number of researchers or number of specific topics for study. Most likely the resulting database searches represent both. The search was performed in July 2014 (see Table 1).

Table 1: Results of database search July 2014 for comparison of publication trends. The table shows number of publications per time period and change over all three time periods as expressed in a percentage.

DATABASE		1984 – 1994	1995 – 2004	2005 - 2014	1984 – 2014 Change
ERIC	*Economy* *)	0	5	29	-
	Traditional **)	55	139	152	276%
PsycArticles	*Economy*	44	89	146	332%
	Traditional	0	0	0	-
Emerald Insight	*Economy*	911	1682	5109	561%
	Traditional	285	531	1501	526%
Total	*Economy*	955	1776	5284	553%
	Traditional	285	531	1501	526%

*) *Search string economy: Giftedness AND talent AND economy AND human capital AND asset;*
**) *Search string traditional: Giftedness AND talent AND identification AND self-actualization.*

It would seem that the number of studies tying giftedness to economy has increased spectacularly over the studied period of time. It is worth noting that only few studies in psychology and no study in education addressed the link from 1984 and to 1994. It is, however, no surprise that business itself already had such a focus from the start. The worlds of business and management have always been interested in high-achievers epitomized in the study of talent management. However, they prefer the term talent rather than giftedness or high ability, and define it in several ways and often differently than does the academic world (Persson, 2014). From 1984 and to 2014 there is an overall increase in number of studies, both traditional and economic, but most surprising is the considerable increase in psychological studies relating giftedness to economy by 332%.

At the very least, these results suggest that attempts to promote the causal link between giftedness and the state of national economies have been listened to. Even if the comparison is flawed for lack of precise control, it still suggests that framing research in economic terms by appealing to potentials for production and innovation is now an established and important part of mainstream high ability research. Scholars have increasingly become socialized into the emerging global Superculture (Frazetto, 2004; Persson, 2012a; 2012b), with its own set of values and objectives, coinciding with those of business and global economy, whilst deviating from the more traditional value of academic freedom (Hil, 2012; Nocella, Best & McLaren, 2010; Rider & Hasselberg, 2013). They have fully embraced the *raison d'être* of the *Homo economicus* (Persky, 1995).

The highly able in our midst have thus become potential "cash cows." The idea of innovative and high-achieving individuals epitomizing efficiency in the global economy is now also integrated into the worldview of many scholars and educators. Whether the highly able actually are effective in an economic sense, or whether they fit socially into the infrastructure making the global world economy possible, is another question entirely and one rarely addressed in the research community. For a start, success as currently defined by education and industry is not necessarily the same as how the highly able define success themselves (Arnold, 1995; Freeman, 2010; Persson, 2009b). This requires reflection, as well as further research in, important fields of study hitherto neglected.

The makings of an impossible hero

Understanding the highly able as ultimate assets and as individuals of more or less guaranteed success is, by and large, a problematic notion since being exceptional—if defined as extreme behavior—is rarely compatible with the social dynamics of human nature. There are limits to what any social context will accept and tolerate. Behavior, which is acceptable, or even encouraged, follows identifiable patterns (Persson, 2009a; 2011). Someone who is perceived as being too different in a group, at the expense of group cohesion, risks becoming the focus of bullying and social exclusion. It is no coincidence that gifted children and adults employ a variety of coping strategies trying to fit into society. They may deny or hide their giftedness, conform to society by any means necessary in trying to be like most others, or avoid situations altogether which could reveal the manner in which they are different from the rest (Foust, Rudasill & Callahan, 2006). In addition, deviating from the social norm, whichever it is, is most likely more of a problem in collectively oriented cultures—more characterized by the demand for conformism—and less of a problem in more individualistically oriented cultures (Crystal, 2000; Toivonen, Norasakkunkit, & Uchida, 2011). All cultures, however, have limits for what is considered acceptable and to what degree deviating from established norms can be tolerated. Exceeding these boundaries will invariably trigger a negative response and lead to suspicion, avoidance, marginalization, social exclusion, stigmatization, and over time, in extreme cases, even to eradication (Crocker & Quinn, 2003; Judge, Colbert & Illies, 2004; Shultziner, Stevens, Stevens, *et al.,* 2010; Simonton, 1994). Even so, we like to think of the gifted and talented, with their extreme skills, as a kind of superhero. Why is that?

Enter Superman and Wonder Woman

The human species is fascinated by the idea of heroes, great leaders, astounding achievers, and doers in every conceivable context from sports and finance to cooking competitions and in the arts. This inclination is likely to be a human universal. One reason is our psychological need for believing in a just world, even if it is far from it by evolutionary design. We seek and admire outstanding individuals to change the world around us in our favor (Lerner, 1980). Another reason is, when need be, we like basking in the glory of their success and vicariously take on their achievements as if they were our own. Similarly, we tend to distance ourselves from their failures because these could reflect badly on our own image in a certain social setting and may undermine our self-esteem (Cialdini, Borden, Thorne *et al*., 1976; Snyder, Lassegard, & Ford, 1986). However, we pick our favored high-achieving heroes very selectively, and there is a certain pattern to who is attributed a hero status and why. Some will never become heroes no matter how clever, how stupendous, or how correct they may be (see Persson, 2009a).

At least when younger, we also like to occasionally escape reality for a while reading about or watching fictional superheroes using their "superpowers" for good against evil. The good always vanquishes evil. The idea of superheroes and what they represent offers psychotherapists ways of appealing to and helping children in therapy (Rubin, 2006). Furthermore, we borrow from culturally generated mythology when defining great leaders. Each culture projects its own cultural virtues onto what an ideal leader should be: North Americans prefer the noble, strong, brave, self-reliant, and advantage-exploiting superhero showing off his or her superpowers in public, whereas a leader in the Middle East, and particularly in Iran, rather embodies the teaching of wisdom and a leader characterized by loyalty, fairness, justice, kindness, chivalry, and moderation. For Scandinavians, and particularly the Swedes, a supernormal leader is paradoxically an equal amongst equals. She or he is collaborative, avoids conflicts, empowers, is pragmatic and seeks consensus. The Scandinavian leader is more like a superhero in hiding and being publicly in denial of his or her superpowers (Kessler & Wong-Mingji, 2009).

This superhero idealism, projection, and escapism, fulfills a need to imagine a better and more just and acceptable world. If we cannot have it or see it manifest around us, at least we can imagine it for a while and resolve some of our worries and fears by proxy (Alison & Goethals, 2011; Bettelheim, 1991; Fleet & Hammer, 2013; Rosenberg & Canzoneri, 2008).

Irrespective of culture, we also satisfy our need for collective identity and group cohesion with the wins of formidable athletes in international contests. However, when we hail, admire, and greatly reward the winner and his or her physical prowess, we inadvertently also demonstrate a certain contempt for weakness. Tännsjö (1998) warns of fascist tendencies. Similarly, using business rhetoric, we have a propensity for construing the ones we consider successful or unsuccessful in society as "winners" or "losers." A Google search on each term provided 302 million hits searching for winners and 47 million when searching for losers. Also, the term "success" yields 1 billion hits whereas "failure" gives 428 million (search done on 26 August, 2014). Given that this comparison is a reasonable indication of where the World's attention generally lies, we appear to be about six times more interested in the winners than we are in the losers and about twice as likely to focus on success rather than on failure, which Swedish song group ABBA made perfectly clear in one of their hits from 1980. They demonstrated how deeply rooted the notion of winning or losing is in our collective consciousness, by singing (Andersson & Ulveus, 1980):

> The winner takes it all. The loser's standing small.
> Beside the victory that's her destiny.

This tendency to glorify success is likely to be prompted by a universal propensity for engaging in competition, seeking perceived advantages and avoiding that which we feel offers little prospect. Perceiving a win or loss is tied to changing testosterone levels as well as to clinical depression (Baumeister, Heatherton & Tice, 1993; McBride-Dabbs & Godwin-Dabbs, 2000; Schwartz, 1974), whereas being perceived as a loser, either by oneself or by others, may in the end, in extreme cases, lead to self-destruction (Bloom, 1995).

Riley and Karnes (2000) pointed out that education, even since Ancient Rome, is inextricably linked to competition in several ways. Competition also serves to develop talent "for the workforce, complementing educational initiatives in securing and developing a nation's economic health" (p. 166). However, how far can winning and losing or being successful or unsuccessful be taken? In a recent conference paper by Alice W. Huang (2014) students with learning difficulties were alarmingly construed as a *liability* to teachers, family and school management. To remedy this problem the author proposed that schools should impose monetary fines on what she termed "irresponsible learning-disabled students". This intervention certainly signals contempt for students' difficulties, little concern for their cause, and a limited interest in offering individualized support.

The seductive cult of success

A *cult of success* has developed in the wake of a knowledge based economy's insistence on cost-effective outcomes and profit-driven growth. The cult of success places more emphasis on making money than on human social and emotional welfare (Banerjee, 2008; Devinney, 2009; Senechal, 2011/2012). Above all, the global economy seeks high-quality achievement in STEM-subjects: that is, science, technology, engineering and mathematics because these make technology and innovation possible (Melguizo & Wolniak, 2011). As increasing emphasis is placed on economy in education so too, it seems, increases our willingness to construe the highly able as almost superhuman in what we expect them to achieve in the future. Most likely the changing focus and purpose of education worldwide also drives our perception of who the highly able are and which their societal function should be.

Against this background it is only natural that, apart from recognizing the tremendous feats and skills of the highly able by observation and measure, we are additionally prone to assign them with a kind of superhero status. Several factors contribute to this tendency: a deeply rooted desire for a just world, ethnocentric motives for group cohesion and cultural dominance, and our harboring selfish motives of which we are unaware. Consequently, we construe their considerable abilities to impact anything from world peace, global welfare to health and wealth for all. The highly able are generally construed as winners also (e.g., Rimm, Rimm-Kaufman & Rimm, 1999), or as saviors on which

human existence depends. British historian A. J. Toynbee (1967) in an almost euphoric manner emphasizes:

To give a fair chance to potential creativity is a matter of life and death for any society. This is all-important, because the outstanding creative ability of a fairly small percentage of the population is mankind's ultimate capital asset, the only one with which Man has been endowed (p.24).

It is worth considering why there is so little written on perceived failure and on so-called losers. In one study, 287 highly intellectual individuals and their career patterns were focused; a mere 25% of them considered themselves happy and successful, but the rest were quite dissatisfied and frustrated with their work and how they were treated by their employers (Persson, 2009b). This is not to say that they necessarily viewed themselves as losers, but in the eyes of the surrounding community, and in the understanding of neoliberally oriented economy, they were not winners (cf., Frank & Cook, 1996). Compare this with management scholars Brown and Hesketh's (2004) taxonomic division of talented job applicants into stars, razors, safe bets, and "iffys." The latter are the creatively and intellectually gifted ones often considered too naïve and idealistic by prospective employers. They are seen as lacking in business awareness. Furnham (2008) observed that these often do very badly at interviews and are therefore overlooked when hiring.

Hence, the highly able ones, whom we have a tendency to attribute with a superhero status, are not infrequently also individuals considered by the market to be the least suitable for employment in a business-oriented knowledge-based organization even though the opposite could actually be true, given that they were accepted and their uniqueness in need and deed was recognized. To argue that success as defined by economic terms and on the basis of an accountable, controlled and effective production ethos is guaranteed because of skill and knowledge, is quite unlikely, or at least uncommon. First, this happens because of the global economy's demand for strict control of virtually everything constituting the economic growth process. In Michael Power's (1997) terminology, the highly able must contend with "the audit society and its rituals of verification", for which most of them are eminently unsuitable given that they tend to be free spirits, morally astute, idealist and visionary, empathic, independent, individual, self-sufficient, independent, autonomous, dominant and individual, self-directed, intellectually curious, reflective, creative, imaginative, and non-conformist, and rebellious, which is how the literature characterizes these individuals (Janos & Robinson, 1985; Shaughnessy & Manz, 1991; Shekerjian, 1990; Winner, 1996). Secondly, the highly able may not fulfill their expected heroic role in the global economy because of the boundaries imposed by the social dynamics of human nature (cf., Arnold, 1995; Freeman, 2010; Furnham, 2008; Nauta & Ronner, 2008; Persson, 2010). We are less free to act and impact the world around us than what we might think. This is especially true of the highly able!

Free will and human nature

Many, if not most, of our projections of what we imagine the highly able to do for today's world and even more so for tomorrow's, is generally based on the assumption that all things are possible. However, as Eibl-Eiblsfeldt (1989) has so cogently argued, we need to be aware "of the more primitive action and reaction patterns that determine our behavior, and to not pretend as if they did not exist. It is especially in the area of social behavior that we are less free to act than we generally assume" (p. 3). This is a field of knowledge and discovery much neglected in the social sciences. Harvard scholar Stephen Pinker (2002) correctly pointed out that not recognizing and counting on human nature and its impact has a seriously corrupting influence on science. If we do not we risk arriving at the wrong conclusions, since we would then theorize and apply research in practice on the bases of flawed assumptions!

The beliefs, wishes, and convictions that we regard as being real and true might, in fact, in a more objective sense, actually be illusions. "Illusions are generally useful," Austrian neurologist and philosopher Franz M. Wuketits (2008) argued, "they may as a result of evolution, through natural

selection, actually be instrumental in serving our survival" (p. 6, author's translation). In other words, we wish to understand ourselves and our environment in as positive a light as possible because it benefits our development over long periods of time. This programmed propensity for illusion is quite possibly the reason for our universal need for our undeterred belief in a just world (Lerner, 1980). A positive self-serving bias is a well-researched field in psychology. It is an established and universal fact that cognitive and perceptual processes *distort* what we see and yield an understanding aimed at maintaining and enhancing self-esteem (Mezulis, Abramson, Hyde & Hankin, 2004).

This propensity for positive illusion is an evolutionary adaption making us feel special and transcendent, according to Humphrey (2011), who also suggested that illusion should be understood as a mode of consciousness. We think we initiate great plans for the future and that the outcome of them will make all the difference. We often project the hoped-for success of such plans onto the gifted and talented. However, are the decisions taken to initiate such plans of our own decision?

The issue of free will (or volition) is an age-old philosophical and still largely unresolved conundrum, but the issue belongs in this context also. The greatness that we often project onto favored heroes assumes self-determination; that he or she takes action on our behalf because of an altruistic choice. But how self-determined is this choice?

Science traditionally holds that the process of applying one's will is a conscious and also self-determined process leading to action (e.g., Dörnyei, 2000; Heckhausen & Kuhl, 1987). Recent neurological evidence of how volition appears to function, however, has baffled scientists and rattled philosophers. It would appear that the decisions we believe we take actually *precede* our becoming aware of them. Actions can apparently be initiated *without* us being aware of their goals (Bengson, Kelley, Zhang *et al*., 2014; Custers & Aarts, 2010; Libet, 1999; Wegner, 2002). These findings certainly undermine the idea of self-determination as a basic human need (Deci & Ryan, 1985). How could it be if our actions have been decided ahead of becoming aware of them? The findings also cast a shadow over the idea of self-actualization and popular adages such as "to be the best that I can be" or "to reach one's full potential;" all of which are part of the discourse in the sub-cultural context of giftedness studies. Perhaps expressions such as these should be construed more correctly as benevolent illusions rather than factual possibilities (cf. Baumeister, 2008; Baumeister, Masicampo & DeWall, 2009)? Another way of looking at this is evolutionary Meme Theory (Blackmore, 1999): We could all be seen as "meme machines". While a gene is a self-replicating biological unit the meme is a self-replicating idea, behavior, or style. In meme theory we are all considered agents played out by vast numbers of memes. Hence, also in this line of reasoning free will is not a necessary component to life and living. If it exists free will is itself a meme, but generally we are as Homo Sapiens relatively passive automatons

While we may never learn to fully understand how volition functions, but the basis of converging research evidence from several disciplines, it is correct to argue that free will as expressed through action is limited for a number of reasons. To what degree is open for debate—and it is certainly being hotly debated (e.g., Harris, 2012; Mele, 2014)—but the boundaries imposed on Homo Sapiens, whether we accept them or not, remain undisputable. This has implications for not only ourselves as scholars and educators but most certainly also for how we construe the societal function of highly gifted individuals.

The limits of great expectations

Reality for many intellectually gifted individuals is often quite different than how we envision it. Reviewing the literature of the socio-emotional difficulties of the highly able, Fielder (1999) insightfully concluded that "along with the promise of potential come the problems of potential—problems that are often a direct effect of differing from the norm in ways that others are not necessarily prepared to deal with" (p. 434). This is a far cry from the German position of understanding gifted children as investment in the future, the British understanding of talent as the

wealth of the 21st century, or other any other nation's hope for the highly able individual. Highly able individuals do not necessarily embody efficiency by providing maximum output obtained from a minimum of input. Nor are they always prepared to submit to quality audits as determined by commissioners who are unaware that the highly able tend to be more or less perfectionistic themselves (cf. Pyryt, 2007). This occurs in a context ruled by the principle that "time is money;" a typically Western notion. With a global economy and the establishment of a neoliberal superculture, the relationship between time and profit is likely to spread and emphasize efficient human capital everywhere.

Above all, there are a number of challenges, social in nature and prompted by human nature, which any intellectually gifted individual will have to face if aiming for a career. How these challenges are dealt with and resolved is likely to decide their social status in any community worldwide, and therefore also determine their degree of societally acknowledged "success" in the context of a normal population. There are a few simple but very fundamental principles, borrowed and adapted from the wielding of political power (Alford & Hibbing, 2004):

1. In a normal population, you must be perceived as being more like most others rather than being perceived as dissimilar in comparison to most others.
2. To be merely tolerated in a social setting is not enough. You must also be accepted, recognized, and given trust and relative permission to act by the majority of this social context.
3. To be accepted by the majority of any social context, *you* must also accept and be patient with *their* standards, understanding, and levels of ability.

There are of course additional criteria as well, shifting with each culture and context, but these are in all likelihood the most basic criteria, prompted by human nature, and operating largely unaware and irrespective of culture or context. To my knowledge, they are never explicitly considered in recruiting people to various jobs, which may well explain why psychometric approaches to finding "the right people," no matter how sophisticated the testing, have relatively poor predictability (cf., Furnham, 2008).

The key to being considered successful in society, irrespective of whether an individual is gifted or not, is always whether an individual is relatable and can be perceived, more or less, like I imagine myself to be—or indeed wish to be. He or she must qualify as "one of us." This is, then, ultimately the dilemma of the intellectually highly able, who we often foresee as taking high offices, being leaders of the world, producing great innovations, bringing peace and prosperity, and generating unprecedented growth of the global economy because of their outstanding abilities and insights. Their skills are not in doubt, but will they be permitted by society "use their power for good?" (Freeman, 2005). More often than not the answer is, sadly, no.

The gifted often know instinctively that perceived similarity to the rest of society is the key to social acceptance. For this reason many do their best to hide their skills and talents in order to be "normal" and to fit in by trying to being like most others (Foust, Rudasill & Callahan, 2006). But can they? Clearly most cannot because it would mean denying oneself an identity and always remain involuntarily under cover. Hollingworth (1942) famously addressed this problem already in the 1940s, concluding that "a lesson which many gifted persons never learn as long as they live is that human beings in general are inherently very different from themselves in thought, in action, in general intention, and in interests.

Many a reformer has died at the hands of a mob, which he was trying to improve in the belief that other human beings can and should enjoy what he enjoys. This is one of the most painful and difficult lessons that each gifted child must learn, if personal development is to proceed successfully" (p. 259).

Conclusion: Changing the course of history?

Many scholars and educators may have taken Hollingworth's (1942) research too lightly. If so, it is easy to understand why. Her findings are contrary to illusions of a self-determined and just world lead by highly able superheroes. In addition, they are incompatible with neoliberally motivated fervor for construing the gifted and talented as being anything but successful. Shavinina (2009b, p. vii) enthusiastically argued, and many other scholars and educators probably agree, that

> one way to understand the history of human civilization is via inventions and discoveries of the gifted … People increasingly realize that gifted and talented individuals are even more important [now] than in the past. Thus, industrial competition is increasingly harsh … To survive, companies need creative and talented employees whose novel ideas are to a certain extent a necessity … for existence and future success. Consequently, modern society desperately requires highly able citizens … In short, intellectually creative citizens are guarantees of political stability, economic growth, scientific and cultural enrichment, psychological health, and the general prosperity of any society in the 21st century.

This is an optimistic and encouraging statement, but it is nevertheless a very problematic one. It is much too simplistic. Tannenbaum (1993), for example, argued in his time that a genius does not make history, nor does history make the genius. Individuals and their environment *both* have influence on how things develop and turn out. Simonton (1994) agrees, citing the fact that quite a few political leaders in the United States, of the very highest recognized caliber, never made it into the White House, even though they tried in earnest. "They all shared the misfortune," Simonton observed, "of having been out of step with their times" (p. 409). This is the point of this entire article! While there is an undisputable genetic potential with some individuals, nothing will come of it unless its social context encourages it, supports it, trains it, and to use Freeman's (2005) words: gives this potential *permission* to act.

The study of high ability would have gained much needed insight had research focused in equal parts on what the gifted can do and how *and* on the social world and its determinants for acceptance and tolerance. However, in this choice too we have fallen for a trap set by evolution; we tend to be fascinated by that which deviates from the normal. "In seeking to understand intelligence," Sternberg insightfully stated, "we should inhibit our desire to look in obscure nooks and crannies, and dampen our fascination with the unusual and the bizarre. Instead, we should first look in the most obvious of places—ordinary people living their ordinary lives" (p. 6).

While for a gifted individual rising to recognition and fame has always been, and always will remain, difficult at best—mainly because of human nature and the resistance it offers to deviation from the norm—but with the advent of human capital and its foundation of neoliberal ideology, as the knowledge economy gained momentum from about 1980 and onwards following in the footsteps of the IT-revolution), major individual feats of talent, insight and artistry have become increasingly difficult to pursue. Paul Verhaeghe (2014), a Belgian professor of clinical psychology, explains that anyone who fails to "succeed" in our day and time also tends to believe that there is something wrong with them. The cult of success in a knowledge economy generates pressure to achieve and be happy. This is resulting in disorientation, a distorted view of the self, and for an increasing number of people, despair. The globalized economy, according to Verhaeghe, has made people lonelier than ever before. Other research shows that a neoliberal economy is badly equipped to understand human needs. It is even worse at dealing with them when the policies it has itself generated make people ill (e.g., Carney, 2008; Navarro, 2009; Ragu-Nathan, Tarafdar, Ragu-Nathan *et al.,* 2008; Thegtsoonian, 2009). A knowledge economy, driven by economic growth through innovation, mediated by information technology, appears to be generating a world into which, generally speaking, Homo Sapiens does no longer fit. To be able to fit into in this system, we must all be completely controllable, predictable, quantifiable, and efficient. In other words, it presumes we have all been "MacDonaldized." In other words, we have all transformed into replaceable and standardized

machines (Ritzer, 1993). The global knowledge economy is therefore hardly conducive to gifted behavior!

Consider, for example, the 2013 Nobel Prize Laureate in Physics, Peter Higgs, a professor emeritus at Edinburgh University: in an interview in *The Guardian* candidly told the reporter, that he would not have made his discoveries had he been forced to work in a contemporary university because of the production-oriented and collective nature of current research efforts, with a main focus on churning out papers in acknowledged journals. "It's difficult to imagine," Higgs said, "how I would ever have enough peace and quiet in the present sort of climate to do what I did in 1964" (Aitkenhead, 2013).

In this light, how feasible is it for scholars and educators devoted to high ability to advocate the significance of high ability for future prosperity; to tout the young gifted as extraordinary human capital; to view personal wealth as a measure of success and giftedness, or view them as a reservoir of community leaders in research, development and recruitment for the State, the community, and all of humanity towards the completion of a global knowledge economy? No one questions the abilities, insights, and astounding creativity of the gifted and talented including their special needs in education. These individuals are indeed potential assets for all of humanity. We fail, however, for a number of reasons, to understand the dynamics by which extreme behavior functions universally in a social context. In addition, we have not grasped the scope and dynamics of a globalized knowledge economy and how this impacts school systems, cultural institutions, welfare, higher education, research—and democratic principles. A number of scholars understand neoliberalism, and particularly the neoliberal economy, as the bane of democracy (Harvey, 2005; Giroux, 2004; MacEwan, 2005) and constitutes a systematic program for the destruction of all things collective (Bourdieu, 1998).

It is therefore unlikely that the gifted and talented under neoliberal rule will be taking high offices, be leaders of the world, produce great innovations, bring peace and prosperity, and generate unprecedented growth of the global economy because of their outstanding abilities and insights, little depending on how we define all terms relating to high ability (Persson, 2013; 2014). Discovery, like theorizing the existence of, for example, the Higgs Particle, has become virtually impossible. The reason being that to understand, study, conclude, and to test and verify, takes much time. The knowledge economy, however, dictates that time is money and work must conform to efficiency. In general, environments facilitating great discovery, creativity, and insight, are being dismantled systematically all over the world paving way for industrial excellence through efficiency – a contradiction both in concept and in practice considering the fact that the creative process is largely dependent on an accepting environment and the absence of restrictive control and mistrust (e.g., Amabile, 1996; Sternberg & Lubart, 1995).

If we are to believe and take seriously any research on the gifted and talented generated over the years, the gifted tend to be too moral, too fair, too empathic, too passionate, too independent, too logical and too different from a normal population to accept or cope with the compromising of everything they hold dear just to competitively reach the top. Even if they do manage this, they would be too difficult to relate to for a majority of society and would therefore fail to be acceptable and liked. Only one possible scenario would make a career towards a leadership for many, or even a global leadership, possible: That is, if the highly able candidate has psychopathic tendencies. Psychopathically disordered but highly able individuals are increasingly seen as role models in the corporate business world (Babiak & Hare, 2006; Boddy, Laddyshewsky & Galvin, 2010; Wexler, 2009). The highly able psychopath is clearly morally and ethically dubious and has proven to be a disaster to social cohesion and joint efforts in any organization. However, they have at the same time acquired a socio-biological function, bringing them admiration in much, but perhaps not in all, of the neoliberally constructed knowledge economy (see Ambrose, 2011; Dutton, 2012).

In conclusion, we are sadly left with the fact that the self-determined "happily ever after," conveyed so many times on the Hollywood silver screen by strong, beautiful, adored, loved, and

successful heroes with few problems, does not usually exist. Interestingly, we are genetically programmed to believe so. Everyday life tends to be very different than in scripted screenplays with a happy ending. Life in a knowledge based economy, as discussed in this article, is not only short of self-actualization and self-determination, but it is in fact also severely dehumanizing. Is it then the purpose of gifted education to be economically effective, to follow, or perhaps even lead the development towards a knowledge economy by producing marketable individuals to lead the entire world into an imagined golden age where technology and products for profit constitute almost every aspect of everyday life? I hope not. The prospects of this are too ghastly to even imagine!

We live in a complex and rapidly changing world, but never before has the world population been so exposed to corporate greed and collective control (Huffington, 2009; Healy, 2014), often with negative consequence to the world community (e.g., Engdahl, 2007). There are no simple solutions to be found at any level of society in any country. The gifted are certainly our best hope for a brighter future. However, they are also all too unlikely to be allowed to lead the way for all the reasons discussed in this article. It is up to scholars and educators interested in gifted education and high ability, becoming and staying fully aware of our proclivity for positive illusion, to deal with these problems, and to support the gifted and talented, wisely and productively in this brave, new, world of the knowledge economy.

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About the Author

Roland S Persson, *Ph.D*. and Fellow of The College Teachers, is professor of educational psychology at Jönköping University, School of Education & Communication in Jönköping, Sweden; former editor-in-chief of High Ability Studies. He serves on the editorial boards of several scholarly journals focusing on giftedness, talent and creativity. He has advised the Hungarian and Swedish governments on the nature and necessity of some form of gifted education being part of national school system, and is currently key-figure in implementing gifted education at all levels in the Swedish school system. Research has always been eclectic in an effort to bring together the knowledge and wisdom of all academic disciplines with an interest in individuals of high ability and their function, given or taken, in society. At first interest was on musical talent and musicianship, followed by the nature of gender identity and social cognition, cross-cultural dynamics, to currently land in high-functioning intelligence in the light of evolutionary function as well as is issues related to Human Resources. In short, through a multitude of perspectives, the individual gifted and his or her world has always held a fascination for Dr. Persson.

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