

Article

# The Ill-Thought-Through Aim to Eliminate the Education Gap across the Socio-Economic Spectrum

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**Abstract:** Background: In an era of dramatic technological progress, the consequent economic transformations, and an increasing need for an adaptable workforce, the importance of education has risen to the forefront of the social discourse. The concurrent increase in the awareness of issues pertaining to social justice and the debate over what this justice entails and how it ought to be effected, feed into the education policy more than ever before. From the nexus of the aforementioned considerations, concern about the so-called education gap has emerged, with worldwide efforts to close it. Methods: I analyze the premises behind such efforts and demonstrate that they are founded upon fundamentally flawed ideas. Results: I show that in a society in which education is delivered equitably, education gaps emerge naturally as a consequence of differentiation due to talents, the tendency for matched mate selection, and the heritability of intellectual traits. Conclusion: I issue a call for a redirection of efforts away from the ill-founded idea of closing the education gap to the understanding of the magnitude of its unfair contributions, as well as to those social aspects that can modulate it in accordance with what a society deems fair according to its values.

**Keywords:** fairness; social justice; equality; equitable; attainment; values



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## 1. Introduction

The notion of ‘social justice’, which first emerged with clarity in the period of major social changes in Europe that began in the late 18th century [1] and gained further momentum during the Industrial Revolution [2], has been growing evermore important in the scholastic and socio-political discourse [3]. Ultimately, the meaning of the concept of ‘justice’ herein reduces to ‘fairness’ and ‘equality’, the fountainhead of the ongoing debate emerging from the different understandings of what ‘fair’ means in a social context and what form of equality should be striven for. The most prominent ideological dividing line in the debate is drawn between those who see fairness and equality as primarily originating in equality of opportunity [4] and those who instead desire equality in outcomes [5]. The advocates of the former view see the essence of equality being in ensuring that factors outwith oneself are not instrumental in determining a person’s course of life, it rather being steered by one’s own choices and talents, and who see the emergence of differential outcomes as fair in that they are effected by people’s different natural talents and endowments. As Roemer and Trannoy [6] put it:

*“Equality of opportunity exists when policies compensate individuals with disadvantaged circumstances so that outcomes experienced by a population depend only on factors for which persons can be considered to be responsible”.*

The proponents of the equality of opportunity viewpoint also note that:

*“People should surely carry the consequences of (at least some of) their actions; this being so, it cannot be appropriate to regard any inequality of outcome as evidence of social injustice”.* [emphasis original]

On the other hand, the advocates of the latter stance, to wit, that the aim should be equality in outcomes, while also recognizing the differences in individuals' gifts and aptitudes, see in these natural differences a source of injustice at the starting blocks, in that they by their very nature cannot be earned or deserved, and thus seek to correct this by equalizing outcomes for all; in this, their focus is more on the philosophical equality of value which resides in lived, sentient experience rather than in the material and instrumental [5]:

*"... many of today's arguments knit together the over-rating of money with the over-rating of outcome to stress issues of agency and empowerment. As Sen puts it, we should be focusing on people as agents rather than as patients, and therefore as individuals with very different ideas about the outcomes they will choose to pursue. And while the lack of money is one crucial constraint on these pursuits, there are equally compelling ones that arise from social and political relations: the denial of political rights, for example, that can make it impossible for people to exert their political agency; the constraining effects of cultural traditions on women's possibilities for action; or the widespread failure of social provision for education or health".*

It should be noted that it is not impossible or necessarily inconsistent to advocate for equality of opportunity in some realms of social organization, and for equality in outcomes in others, depending on the sui generis aspects thereof.

The focus of the present work is not on this particular debate. Instead, rather than being on the same opportunity–outcome spectrum, the attention herein is orthogonal to it, being instead focused on a rare social policy aspect regarding which there is all but universal agreement (as a notable exception I mention the work of Chiswick [7]): namely, the so-called education gap, which is the differential between education outcomes observed between certain demographic groups. The observation that the differences between the aforementioned two ideological camps—one opportunity-focused and the other outcomes-focused—separated by a vast philosophical chasm, disappear, or nearly disappear, in this context is not surprising upon closer examination thereof.

Considering the wealth of evidence of the importance of education on societal outcomes [8], including income [9,10], health (directly and indirectly) [11], and overall life satisfaction [12], the provision of equal access to it by all is seen as being of paramount importance [13]. Though later-life education and re-skilling are increasingly recognized for their importance in the context of the present-day quickly changing technological landscape and the shifts that these technological and other societal changes present [14–16], the education spoken of here is early-life education. Consequently, young people at the heart of the debate are on the proverbial starting blocks mentioned earlier and, so the argument goes, an equitably constructed and implemented education policy should leave no education gap. The question that I address in the present work is whether this widespread belief is well-founded and, specifically, whether the closure of the education gap is possible or even desirable.

The remainder of this article is organized as follows. Firstly, in Section 2 I discuss the nature of the concept of the education gap and highlight some of the common misconceptions concerning the notion. Then, in Section 3 I go on to develop my main argument—that is, I explain why the desire and the efforts to close the education gap, while well-intended, are fundamentally flawed; I explain why the gap neither *can* nor *should* be closed. In Section 4 I reflect on the implications of the analysis from the preceding section, including their relationship with the desideratum of fairness and the implications for social mobility. A summary and conclusions are presented in Section 5.

## 2. The Education Gap

Though the predominant focus in the literature is on the students' socioeconomic background [17,18], in its most general form, the education gaps refers to the difference in education attainments by two demographic groups. Seldom stated explicitly, in the context of social justice the relevant demographic groups should also be defined by characteristics which do not inherently embody traits that are directly pertinent to learning ability, which

is a key point to which I shall return shortly. For example, one could contrast two groups of students, one with IQ (intelligence quotient) [19] lower and one higher than a specific level, in which case the latter group would quite understandably exhibit better learning outcomes [20], which would thus not be inconsistent with the principle of social justice. On the other hand, this is not so for, say, two groups defined by their county of birth: for example, Rutland vs. Bedfordshire. Similar arguments have been made in the context of race [21], gender [22], religion [23], and a number of other criteria (some of which may be contested, which is an issue outside the scope of the present article) that can be used to draw societal dividing lines. Yet, it is this kind of *meaningful* education gap that is observed across the board [24,25]. Hence, governments around the world have focused their efforts on its closing. “Education in England: Annual Report 2020” [26] concludes:

*“Policymakers have not succeeded in responding to earlier reports warning of a major loss of momentum in closing the gap”.*

A propos education in Turkey, Bellibas [27] notes:

*“Another important attempt by the Ministry of Education to close the achievement gap. . .*

Observing the same trend in Australia, McInerney and Smyth [28] raise identical concerns:

*“The persistent failure of contemporary policies to improve school retention rates and close the achievement gap between students from low and high socio-economic (SES) backgrounds should be a matter of grave concern”.*

The situation is no different in the USA [29]:

*“Few school districts have succeeded in actually eliminating the gap;”*

The concern is global [17] and the efforts to close the education gap are widely supported by the academic intelligentsia. Pisarev [30] urges:

*“Thus, eliminating the education gap should be a priority of the US government”.* [emphasis added],

as do, in the same vein, many others [31]:

*“Why should closing this education gap be Romania’s Number One priority? To put it bluntly, the future well-being of the Romanian economy, Romania society, and the perception of Romania abroad—depend on raising the education level of Romania’s poorest children”.* [emphasis added]

Complementing the issue of social justice, a number of authors also highlight the wider undesirable societal correlates of the education gap [32]:

*“The major gap is one between less- and well- educated citizens. The less educated tend to be very distrustful and cynical about politics and politicians, whereas the well educated tend to be much more positive about government and political institutions. The education gap has been most manifest with regard to socio-cultural issues, such as crime, the admittance of asylum seekers, cultural integration of immigrants and EU unification”.*

There is no doubt that the intention behind the described efforts to close the education gap is laudable and noble in intent; however, as I show in the present article, underlying it there is also a fundamentally flawed premise, which premise is bound to lead to unintended injustice and failure to achieve the desired goals. The essence of the premise I speak of is illustrated well by a statement by the UK Government’s then-Secretary of State for Education in England, Nadhim Zahawi, which was aimed at capturing the spirit of the schools White Paper released in March 2022 (<https://www.theguardian.com/education/2022/mar/28/plans-for-englands-schools-include-national-behaviour-survey>, accessed on 11 May 2024):

*“I don’t believe that kids in Knowsley are less talented than kids in Kensington, they just haven’t had the same opportunity, that’s the difference—and I’m determined to make a difference to change that”.*

I turn to this next.

### 3. The Flaw

Though the epitomatory words of Nadhim Zahawi were in appearance referring to students' geographic location, it is implicitly understood that what was being talked about was in fact their socio-economic background, this not being said explicitly possibly for reasons of tact, lest an explicit phrasing be hurtful or found offensive. At the time of this writing, the average house price in Knowsley was £294,952 over the past year and in Kensington £2,104,087 (greater than a sevenfold difference), and the corresponding average salaries £29,936 and £123,000 (greater than a fourfold difference). Thus, the premise of the proponents of closing the education gap in this context is that on the population level—that is, statistically—parental income and other associated socio-economic differences between the environments of students are responsible for observed gaps, when, in a socially just society (one which delivers education well to all) this should not be the case.

To see why this vision is *not even in principle* plausible as a stable equilibrium, and thus already on that basis alone cannot be a reasonable ideal to aim for, let me show that even if it were existent at one point in time, divergence from it would inevitably ensue. In other words, let us assume a society in which one's parental income is not a significant predictive factor of one's education success. In this society, *ex hypothesi*, education success is a result of a person's natural talents, wherein I include the following: any congenital (genetic or otherwise) factors that affect one's perseverance when faced with challenging situations; predispositions towards hard work; the ability to concentrate; and so on [33,34]. Qualitatively no different than in any other society, here too the emergent differentiation would leave those on top in a position of greater choice—greater choice to pursue higher-earning careers, greater choice in mate selection, and so on. There is a wealth of evidence to show that individuals, both men and women, prefer more intelligent partners, as well as that they are able to reflect and assess their own ranking on this spectrum, leading higher-educated, more intelligent, and higher-socially-ranked individuals to form romantic relationships with broadly matched partners [35–40]. In turn, given the significant heritability of intelligence [41,42], these couples—couples that are more intelligent, of a higher social status, and higher earning (n.b., as always, we are talking about group-level, statistical regularities here, rather than claiming any universality that would mean that this holds for *every* couple)—will have more intelligent children than less intelligent couples. By virtue of this, in our hypothesized society, with equitable and just provision of education for all, these children will have better education outcomes, thus creating an association, importantly an association merely in the form of a *correlation rather than a causative link*, between a person's education achievement and their parental income and socio-economic status. This divergence from the initial, hypothesized, undifferentiated state would continue, eventually reaching a stable steady state as governed by a multitude of factors. Some of these are inherently unsubjectable to human control, such as the degree of intelligence heritability and the innate component of attractiveness of intelligence and social rank; others are affectable, such as the income-to-intellectual-achievement gradient [43], societal values that influence behaviour and choice [44], etc.

### 4. Discussion

In other words, even starting from an idealized fair society, one in which there is no correlation between a person's education success and their parental wealth, this state is quickly diverged from *precisely because*, rather than in spite of, uniformly and equitably delivered schooling.

Reflecting back on the attainment gaps that emerge in comparisons between groups divided by criteria that in and of themselves should not result in differentiation, we can now see with clarity the crux of the flaw of the dominant contemporary thinking on the topic. The correct interpretation of this judgment is not that the gap is entirely the result of individuals' social advantage *per se*, but rather that the said advantage is statistically informative of other personal characteristics of the person that *do* inherently affect the outcome, i.e., an individual's socio-economic background allows us to predict (not

perfectly, of course, but rather, statistically) an individual's personality traits and natural talents, which do and indeed *should* effect relevant differentiation in education. We see that although proximally—that is, directly—the socio-economic background should not matter, distally—that is, indirectly—it does and indeed *should* matter [45].

The insights from my analysis above provide actionable means for redirecting the ill-thought-through efforts to eliminate the education gap towards issues that do serve to increase social justice, hypostatized normatively—that is, 'justice' as it is seen within the context of a specific society and its values. First and foremost, we should seek to quantify the contribution to the gap that emerges from the explained fair and talent-based innate differences between individuals. This is by no means as easy task but it is not an impossible one. The unprecedented availability of large and diverse data collected across the world offers good reason to hope that a much better understanding of the phenomenon is readily available. In turn, this understanding should be of much use in directing efforts towards closing the *remainder* of the gap—that is, eliminating those contributors to it that we deem unfair. This aim is likely to require a much greater degree of nuance than that driving the present-day efforts, as well as broader re-examination of the socio-economic underpinnings of the society as a whole, without which this may not be possible.

#### 4.1. A Reflection on 'Unfairness' and Its Origins

While I hope that my exposition has been clear in contextualizing the use of the word 'unfair' in the discussion hitherto, considering the potentially charged nature of this and related terms, I would like to return to it briefly for the sake of completeness and clarity. In particular, my use of the word 'unfair' thus far has been purely in the context of the narrow issue at hand, that of the education gap, premised on the goal that an equitably delivered and well-conceived education system should not result in a differentiation of outcome based on the socio-economic background itself, i.e., everything else being equal. In so much that in practice everything else is *not* equal—that is, that natural associations emerge between one's socio-economic background and their intellectual gifts regardless of the social structure—the component of the observed education gap that emerges due to this is deemed fair.

Returning to the 'unfair' component, it is what Roemer and Trannoy [6] describe as:

*"... inequality of opportunity for income exists when individuals' incomes are in some important part determined by the educational achievement and income of the families that raised them"*. [emphasis added]

I have already noted that its origins are highly multi-factorial. For example, some of it may be explained by directly sought education advantage, such as by means of the use of private tuition by families who can afford it [46]. A different contributor, also directly education-related but not necessarily consciously pursued (though it may be, as pointed out by Schwartz et al. [47]), comes in the form of access to good schools, in countries where inter-school quality varies significantly [48]. (It should be noted that a major factor contributing to a school being 'good' (which is often taken to mean that it has high-achieving students and good discipline is a consequence of the social disparities I discuss here. In Western societies, wealth tends to segregate people geographically; I have already highlighted the staggering discrepancy between housing costs. As wealthier families generally place upon their children a greater expectation of strong academic achievement, expose them to a wider range of cultural experiences, etc., the above-average performance of schools in affluent areas is virtually a foregone conclusion further reinforced by the learning environment that emerges from this indirect selection.) Burgess et al. [49] note the following:

*"Students with Black heritage and students of Bangladeshi ethnic origin are less likely to live near a good school than are white students, or students with Indian, Pakistani or Chinese ethnic origin"*.

Then there are benefits that may not be directly education-directed, such as one's family's ability and interest to engage in various cultural activities, e.g., travel [50], the

attendance of concerts [51], the theater [51], museum exhibitions [52], etc. This should be a major concern [49]:

*“However, for students from poor families, there is little relationship between quality and attendance. Indeed, for higher quality school, attendance probabilities actually decline. The differences at the top and bottom of the distribution of quality are quite stark. At low quality, non-poor families are unlikely to attend; students from poor families who happen to be living near good schools are unlikely to attend, and much less likely to attend than more affluent students”.*

This observation brings to the fore the importance of the wider social context, one that cannot be directly affected to a significant extent by education policy by itself. In particular, the important issue is that of the gradient of one’s overall lived experience and one’s income. Hence, both the overall inequality that exists within a society [53], which is a relative measure, and the absolute power of choice available to individuals [54] play a role and introduce other issues of fairness that are outside the scope of the present article and additional to the unfairness that was central to my discussion of the education gap in isolation. I have intentionally refrained from straying into these waters, lest my main message be diluted and confounded with many other facets of social justice. That being said, in the consideration of education policy and its implementation, it is important to recognize the importance of this wider context and to treat education as an integral part thereof, which both affects and is affected by the overall organization of a society, and to ask broad questions as to what a fair distribution of wealth is, how it affects power [55], etc. Thus, a reassessment of what governs payment for work (be it the supply–demand of the relevant skill set, the difficulty and the time required for the relevant training, and/or the need for the products of the work), what drives taxation choices (be it the need for public spend, the desire to redistribute wealth, and/or the constraint of political power), etc., seen through both the politico-economic lens and that of axiology and ethics, should not be treated as tangential to that of the provision of equitable education and the addressing of the education gap, but rather as part and parcel of the wider social governance picture. As noted by Anger and Heineck [56]:

*“To the extent that cognitive skills are malleable, policy could take actions to alleviate inequality persistence and to enhance socioeconomic mobility by creating favorable environments, which will help everyone to achieve their potential”.*

The authors’ careful use of the word ‘could’ highlights my remark regarding the importance of social values, which lies at the heart of the problem.

#### 4.2. Implications for Social Mobility

The concept of *social mobility* is an issue closely related to that of the education gap [57–59]. The UK government (<https://www.gov.uk/government/organisations/social-mobility-commission/about#definition-of-social-mobility>, accessed on 11 May 2024) defines it as:

*“... the link between a person’s occupation or income and the occupation or income of their parents. Where there is a strong link, there is a lower level of social mobility. Where there is a weak link, there is a higher level of social mobility”.*

The interaction between education/the education gap and social mobility is bidirectional in practice. On the one hand, as explained in the previous section, equitably delivered education expands the life choices of those individuals born in otherwise disadvantageous circumstances, thereby increasing social mobility [57]. On the other hand, lower social mobility (noting that social mobility is affected by many factors other than education, e.g., various forms of prejudice [45] as well as the numerous value-driven socio-political choices of a society [60,61]) in places where education is not uniformly accessible to all, can serve to entrench and increase unjust educational disparities [62].

Mirroring the efforts to close the education gap is the like-minded push to increase social mobility [63]:

*“It may be morally satisfying to contemplate a utopian world of complete mobility. . .”.*  
[all emphasis added]

Just as in the case of my analysis of the premises underlying the former, argument a pari, it can now readily be seen that the seemingly Utopian world of complete mobility is not Utopian at all, the maximum desirable mobility being limited by the same factors that underlie the attainable lower limits on the education gap. The only world in which social mobility would be complete—that is, one in which an individual’s parental income was entirely lacking in the predictive power of the person’s occupation or income—would be one in which there was *no link* between one’s ability and the income of one’s parents. I trust that I am on safe ground in stating that this would be unacceptable and deemed as profoundly unjust to all but the most extreme of voices.

As before, the importance of a wider social context is difficult to overstate. For example, in a society with lower wealth and income inequality, on the one hand the material-needs-based pull for upwards movement is lesser than in a society where inequality is significant, with people in the former arguably possessing a greater degree of freedom to exercise the pursuit of their subjectively hypostatized idea of happiness, to paraphrase the famous words from the United States Declaration of Independence [64]; in structure, this phenomenon is similar to that of the so-called gender-equality paradox which has received much attention in recent years [65]. The aforementioned freedom can thus be seen to curb social mobility, thereby highlighting the nuance with which the issue must be approached if fairness and social justice are desired. However, it is also the case that the opposite force is manifest, in that in a more equal society there are fewer incidental socio-economic obstacles standing in the way of one’s desired movement up the social ladder.

## 5. Conclusions

In this article, my focus was on the concerns regarding the so-called education gaps observed across different social dividing lines (most usually ones based on socio-economic differences), the emergent questions about a given society’s fairness in its organization and delivery of high-quality education for all without discrimination, and the worldwide efforts to eliminate the aforementioned gap. The premise driving these efforts is that education outcomes should not be based on group differentiation defined by characteristics that do not inherently embody traits directly pertinent to educational ability. Though appealing at first sight, I showed this premise to be erroneous. In particular, I demonstrated that in a society in which education is delivered equitably, education gaps emerge naturally. This is a consequence of individual differentiation due to natural talents, the tendency for matched mate selection, and the heritability of natural talents. This results in the creation of an association, not a causative but a correlational one, between seemingly irrelevant demographic characteristics and education outcomes, the strength of the correlation being dependent on a multitude of factors, some within and some outwith the realms of societal influence. Thus, I showed that the closure of the education gap is nether possible in principle, this state not offering the possibility of being a stable equilibrium, nor desirable from the point of view of fairness and social justice.

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## References

- Paine, T. *Agrarian Justice, Opposed to Agrarian Law, and to Agrarian Monopoly*; W. Adlard, Rue Menilmontant: Paris, France, 1797.
- Behr, T.C. *Social Justice and Subsidiarity: Luigi Taparelli and the Origins of Modern Catholic Social Thought*; Catholic University of America Press: Washington, DC, USA, 2019.
- Tyler, T.; Boeckmann, R.J.; Smith, H.J.; Huo, Y.J. *Social Justice in a Diverse Society*; Routledge: London, UK, 2019.
- Roemer, J.E. Equality of opportunity: A progress report. *Soc. Choice Welf.* **2002**, *19*, 455–471. [[CrossRef](#)]
- Phillips, A. Defending equality of outcome. *J. Political Philos.* **2004**, *12*, 1–19. [[CrossRef](#)]
- Roemer, J.E.; Trannoy, A. Equality of opportunity. In *Handbook of Income Distribution*; Elsevier: Amsterdam, The Netherlands, 2015; Volume 2, pp. 217–300.
- Chiswick, B.R. The earnings and human capital of American Jews. *J. Hum. Resour.* **1983**, *18*, 313–336. [[CrossRef](#)]
- Apple, M.W. *Can Education Change Society?* Routledge: London, UK, 2012.
- Woodhall, M. Earnings and education. In *Economics of Education*; Elsevier: Amsterdam, The Netherlands, 1987; pp. 209–217.
- Jamison, D.T.; Van der Gaag, J. Education and earnings in the People’s Republic of China. *Econ. Educ. Rev.* **1987**, *6*, 161–166. [[CrossRef](#)]
- Cutler, D.M.; Lleras-Muney, A. *Education and Health: Evaluating Theories and Evidence*; National Bureau of Economic Research: Cambridge, MA, USA, 2006.
- Jongbloed, J. Higher education for happiness? Investigating the impact of education on the hedonic and eudaimonic well-being of Europeans. *Eur. Educ. Res. J.* **2018**, *17*, 733–754. [[CrossRef](#)]
- Jæger, M.M. Equal access but unequal outcomes: Cultural capital and educational choice in a meritocratic society. *Soc. Forces* **2009**, *87*, 1943–1971. [[CrossRef](#)]
- Newman, K.S.; Winston, H. *Reskilling America: Learning to labor in the Twenty-First Century*; Metropolitan Books: New York, NY, USA, 2016.
- Illanes, P.; Lund, S.; Mourshed, M.; Rutherford, S.; Tyreman, M. *Retraining and Reskilling Workers in the Age of Automation*; McKinsey Global Institute: Washington, DC, USA, 2018.
- Desjardins, R. *Economics and the Political Economy of Adult Education*; Springer: Berlin/Heidelberg, Germany, 2018.
- Chmielewski, A.K. The global increase in the socioeconomic achievement gap, 1964 to 2015. *Am. Sociol. Rev.* **2019**, *84*, 517–544. [[CrossRef](#)]
- Jerrim, J.; Vignoles, A. University access for disadvantaged children: A comparison across countries. *High. Educ.* **2015**, *70*, 903–921. [[CrossRef](#)]
- Braaten, E.B.; Norman, D. Intelligence (IQ) testing. *Pediatr. Rev.* **2006**, *27*, 403–408. [[CrossRef](#)]
- Sternberg, R.J.; Grigorenko, E.L.; Bundy, D.A. The predictive value of IQ. *Merrill-Palmer Q.* **2001**, *47*, 1–41. [[CrossRef](#)]
- Rivera, J. Racial Classification and the Race-Wage Gap in Brazil: Evidence from Administrative and Survey Data. 2014. SSRN 2539370. Available online: <https://ssrn.com/abstract=2539370> (accessed on 29 April 2024).
- Ganguli, I.; Hausmann, R.; Viarengo, M. Closing the gender gap in education: What is the state of gaps in labour force participation for women, wives and mothers? *Int. Labour Rev.* **2014**, *153*, 173–207. [[CrossRef](#)]
- Suryadarma, D. Why Are Muslims Left Behind in Education? Evidence from Indonesia (31 July 2009). SSRN 1440489. Available online: <https://ssrn.com/abstract=1440489> (accessed on 29 April 2024).
- Winchester, N. *Educational Attainment Gap: Regional Disparities*; House of Lords Library: London, UK, 2022.
- van Maarseveen, R. The urban–rural education gap: Do cities indeed make us smarter? *J. Econ. Geogr.* **2021**, *21*, 683–714. [[CrossRef](#)]
- Hutchinson, J.; Reader, M.; Akhal, A. *Education in England: Annual Report 2020*; Education Policy Institute: Oxford, UK, 2020.
- Bellibas, M.S. Who Are the Most Disadvantaged? Factors Associated with the Achievement of Students with Low Socio-Economic Backgrounds. *Educ. Sci. Theory Pract.* **2016**, *16*, 691–710.
- McInerney, P.; Smyth, J. ‘I want to get a piece of paper that says I can do stuff’: Youth narratives of educational opportunities and constraints in low socio-economic neighbourhoods. *Ethnogr. Educ.* **2014**, *9*, 239–252. [[CrossRef](#)]
- Hernandez, C.F. *Eliminating the Achievement Gap: The Study of One Texas School District*; The University of Texas at Austin: Austin, TX, USA, 2003.
- Pisarev, V. *Narrowing the Achievement Gap in High Schools*; Washington and Lee University: Lexington, VA, USA, 2013.
- Hawke, L.H.; Seghedi, A.; Gheorghiu, M.G. *Learning from America’s Mistakes: A Proposal for Closing the Education Gap*; Asociatia Ovidiu Rom: Bucharest, Romania, 2008.
- Bovens, M.; Wille, A. The education gap in participation and its political consequences. *Acta Politica* **2010**, *45*, 393–422. [[CrossRef](#)]
- Willems, Y.; Boesen, N.; Li, J.; Finkenauer, C.; Bartels, M. The heritability of self-control: A meta-analysis. *Neurosci. Biobehav. Rev.* **2019**, *100*, 324–334. [[CrossRef](#)] [[PubMed](#)]
- Krapohl, E.; Rimfeld, K.; Shakeshaft, N.G.; Trzaskowski, M.; McMillan, A.; Pingault, J.B.; Asbury, K.; Harlaar, N.; Kovas, Y.; Dale, P.S.; et al. The high heritability of educational achievement reflects many genetically influenced traits, not just intelligence. *Proc. Natl. Acad. Sci. USA* **2014**, *111*, 15273–15278. [[CrossRef](#)] [[PubMed](#)]
- Jonason, P.K.; Marsh, K.; Dib, O.; Plush, D.; Dospot, M.; Fung, E.; Crimmins, K.; Drapski, M.; Di Pietro, K. Is smart sexy? Examining the role of relative intelligence in mate preferences. *Personal. Individ. Differ.* **2019**, *139*, 53–59. [[CrossRef](#)]

36. Gignac, G.E.; Zajenkowski, M. People tend to overestimate their romantic partner's intelligence even more than their own. *Intelligence* **2019**, *73*, 41–51. [CrossRef]
37. Gignac, G.E.; Darbyshire, J.; Ooi, M. Some people are attracted sexually to intelligence: A psychometric evaluation of sapiosexuality. *Intelligence* **2018**, *66*, 98–111. [CrossRef]
38. Conroy-Beam, D.; Goetz, C.D.; Buss, D.M. What predicts romantic relationship satisfaction and mate retention intensity: Mate preference fulfillment or mate value discrepancies? *Evol. Hum. Behav.* **2016**, *37*, 440–448. [CrossRef]
39. Whelan, C.B. *Why Smart Men Marry Smart Women*; Simon and Schuster: New York, NY, USA, 2006.
40. Kanazawa, S.; Kovar, J.L. Why beautiful people are more intelligent. *Intelligence* **2004**, *32*, 227–243. [CrossRef]
41. Davies, G.; Tenesa, A.; Payton, A.; Yang, J.; Harris, S.E.; Liewald, D.; Ke, X.; Le Hellard, S.; Christoforou, A.; Luciano, M.; et al. Genome-wide association studies establish that human intelligence is highly heritable and polygenic. *Mol. Psychiatry* **2011**, *16*, 996–1005. [CrossRef] [PubMed]
42. Rimfeld, K.; Krapohl, E.; Trzaskowski, M.; Coleman, J.R.; Selzam, S.; Dale, P.S.; Esko, T.; Metspalu, A.; Plomin, R. Genetic influence on social outcomes during and after the Soviet era in Estonia. *Nat. Hum. Behav.* **2018**, *2*, 269–275. [CrossRef] [PubMed]
43. Rudakov, V.; Roshchin, S. The impact of student academic achievement on graduate salaries: The case of a leading Russian university. *J. Educ. Work.* **2019**, *32*, 156–180. [CrossRef]
44. Sassine, J.; Hajj, J. Gender Differences and Career Choice 2021. Available online: [https://www.researchgate.net/publication/358497347\\_Gender\\_Differences\\_and\\_Career\\_Choice\\_The\\_Role\\_of\\_Personality\\_Interest\\_Ability\\_and\\_Motivation\\_in\\_Choosing\\_to\\_Pursue\\_a\\_Career](https://www.researchgate.net/publication/358497347_Gender_Differences_and_Career_Choice_The_Role_of_Personality_Interest_Ability_and_Motivation_in_Choosing_to_Pursue_a_Career) (accessed on 29 April 2024).
45. Arandjelović, O. The making of a discriminatory ism. *Equal. Divers. Incl.* **2023**, *42*, 1039–1050. [CrossRef]
46. Smyth, E. Buying your way into college? Private tuition and the transition to higher education in Ireland. *Oxf. Rev. Educ.* **2009**, *35*, 1–22. [CrossRef]
47. Schwartz, H.L.; Ecola, L.; Leuschner, K.; Kofner, A. *Inclusionary Zoning Can Bring Poor Families Closer to Good Schools*; MacArthur Foundation: Chicago, IL, USA, 2014.
48. Burgess, S.; Briggs, A. School assignment, school choice and social mobility. *Econ. Educ. Rev.* **2010**, *29*, 639–649. [CrossRef]
49. Burgess, S.; Briggs, A.; McConnell, B.; Slater, H.; School choice in England: Background facts. *DP* **2006**, *6*, 159.
50. Hazel, N. Holidays for children and families in need: An exploration of the research and policy context for social tourism in the UK. *Child. Soc.* **2005**, *19*, 225–236. [CrossRef]
51. Waldfogel, J.; Washbrook, E. *Low Income and Early Cognitive Development in the UK*; The Sutton Trust: London, UK, 2010; 60p.
52. Moore, J. Poverty and access to the arts: Inequalities in arts attendance. *Cult. Trends* **1998**, *8*, 53–73. [CrossRef]
53. Ghosh, A.; Chattopadhyay, N.; Chakrabarti, B.K. Inequality in societies, academic institutions and science journals: Gini and k-indices. *Phys. Stat. Mech. Its Appl.* **2014**, *410*, 30–34. [CrossRef]
54. Wu, Y.T.; Daskalopoulou, C.; Terrera, G.M.; Niubo, A.S.; Rodríguez-Artalejo, F.; Ayuso-Mateos, J.L.; Bobak, M.; Caballero, F.F.; de la Fuente, J.; de la Torre-Luque, A.; et al. Education and wealth inequalities in healthy ageing in eight harmonised cohorts in the ATHLOS consortium: A population-based study. *Lancet Public Health* **2020**, *5*, e386–e394. [CrossRef]
55. Arandjelović, O. AI, democracy, and the importance of asking the right questions. *AI Ethics J.* **2021**, *2*, 2.
56. Anger, S.; Heineck, G. Do smart parents raise smart children? The intergenerational transmission of cognitive abilities. *J. Popul. Econ.* **2010**, *23*, 1105–1132. [CrossRef]
57. Haveman, R.; Smeeding, T. The role of higher education in social mobility. *Future Child.* **2006**, *16*, 125–150. [CrossRef]
58. Brown, P. Education, opportunity and the prospects for social mobility. *Br. J. Sociol. Educ.* **2013**, *34*, 678–700. [CrossRef]
59. Brown, P.; Reay, D.; Vincent, C. *Education and Social Mobility*; Routledge: London, UK, 2013.
60. Cremer, H.; De Donder, P.; Pestieau, P. Education and social mobility. *Int. Tax Public Financ.* **2010**, *17*, 357–377. [CrossRef]
61. Rose, A.M. Social mobility and social values. *Eur. J. Sociol. Eur. Sociol.* **1964**, *5*, 324–330. [CrossRef]
62. Reay, D. The zombie stalking English schools: Social class and educational inequality. *Br. J. Educ. Stud.* **2006**, *54*, 288–307. [CrossRef]
63. Payne, G. *The New Social Mobility: How the Politicians Got It Wrong*; Policy Press: London, UK, 2017.
64. Jones, H.M. *The Pursuit of Happiness*; Harvard University Press: Cambridge, MA, USA, 1953; Volume 26.
65. Stoet, G.; Geary, D.C. The gender-equality paradox in science, technology, engineering, and mathematics education. *Psychol. Sci.* **2018**, *29*, 581–593. [CrossRef] [PubMed]

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