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Meritocracy in the Educational System

Aroesiri Erivwo, Elizabeth Varghese, Anthony Mathai, Tasmia Afrin
Principal Investigator: Carolina Mendoza
Affiliation: International Socioeconomics Laboratory™, The City College University of New York

ABSTRACT

A meritocratic education system, by nature, is one where students are enabled to accomplish achievements, and receive corresponding rewards, regardless of outside factors. The common norm in schools is that achievement based on merit explains school success, and that merit is the only means of the upward mobility of all students in regards to societal status, regardless of age, gender, ethnicity, current social status, etc. The primary motive of this study was to determine whether education reflected this meritocratic nature and if education is merely a scale of academic achievement by examining trends within students. The materials we used to justify our results were demographic trends, school performance (self-assessment scale), and family background. Data was collected through surveys distributed to students (n = 351) with a mean age of 16.2. Our study was run within three main regions: United States, Canada, and Nigeria, and the results indicated that even though there is evidence of a correlation of a meritocratic nature in the education system (from the contingency tables), it fails to take into account socioeconomic factors, with other external factors affecting student achievement such as the generational cycle. Factors of constraint that are evident in our study include an uneven bell curve based on the categories of students surveyed, inequitable (biased) self-assessment responses, and achievement gaps in the education system.

Categories: Education, Equality
Keywords: Education, Department of Education, Reform

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BACKGROUND AND LITERATURE REVIEW

In 1958, Michael Young wrote a book called *The Rise to Meritocracy*, this book introduced the concept of meritocracy: a system that appoints status on the basis of an individual's merit. It seemed to be a fair system, where success is granted to those who are deserving. Since its introduction, it has been integrated into many systems within society. (Mijs, 2015). In (Liu, 2011) the four major principles of a meritocratic system– the concept of merit, distributive justice, equality of opportunity, and social mobility– are examined. One major principle of meritocracy is the concept of social mobility. (Liu, 2011) While it is acknowledged that meritocracy engenders and legitimizes elite social classes, (Young, 2001) it also creates a potential pathway for individuals to "achieve social status by virtue of their actual abilities and contributions" (Moore, 2004 p. 39). This is something that had not previously been possible with other systems such as hereditary aristocracy or nepotism. The idea of meritocracy and its function of distributive justice has been favored by many because it creates a strong incentive for effort and it "provides a principle of justice for the allocation of reward"(Mijs, 2015). However prominent the ideology might be, its presence has drawn much criticism. A major point of criticism is centered around the conception that a meritocratic system fails to take into account the unmeritocratic factors that contribute to the talents of an individual that allow them to procure success within the system. Factors such as genetics, wealth, and quality of schooling all have an influence on the abilities of an individual. Each member of the population does not start off on the same playing grounds, but a meritocratic system takes the best performance, on the assumption that everyone has an equal opportunity to be the best when that is just not the case in reality. (Mijs, 2015)

Young reflected on the consequences of a meritocratic system, where societal status was dependent on natural intelligence capabilities and hard work. He concluded that meritocracy would lead to dystopia and establish prolonged inequality, which would become the basis of social justice issues and a kleptocratic diffusion among politicians, who would feel entitled to rewards as they are relatively high in the meritocratic scale, as mentioned in a 2001 Guardian newspaper article (Young 2001).

In this sense, meritocracy is not merely reflected in inherent attributes, but rather a culmination of "IQ plus effort" (Menand, 2019) with a coalescence of talent, cognitive ability (an extension of the IQ framework), and personal qualities, such as cooperation and leadership, which, of course, could be a reflection of domestic activities or outside influences as well. Nevertheless, a student with a reflection of effort and development that does not coincide with these factors conventionally end up lower on the meritocratic scale, which is proven to erode student academic self-esteem as they are perpetuated to believe that their failure is a reflection of their lack of hard work, intelligence, and acquired talent (Sobuwa et al., 2019).

Even worse, the rapid growth in the numbers of students that attend schools reflect a loss of homogeneity and increased diversity, and this diverse body constitutes a nature in which academic associations are pressured to assist students who are underprepared due to their

plight in their education, which, of course, could be because of several distinct factors as well. Through the transition to a higher population of students, pedagogy and corresponding school curricula are sometimes modified to adjust to the evolving demographics of the student body. In other scenarios where higher education institutions fail to alter the system of merit, underprepared or disadvantaged students are doomed to fail. This hypothetical situation presents a challenge as student services and institution governing bodies must establish a close working relationship with students in order to maintain the non-traditional students who do not have or did not have access to adequate resources or educational foundations. A specific solution proposed for students who underwent poor prior educational experiences (due to a number of factors such as sub-standard curricula, work environment, and/or socioeconomic status) is that higher education institutions can avail these “non-traditional” categories of students through attending to the educational needs of students prior to entry, mainly through social inquiry in order to develop the academic foundation of non-traditional students so that they may be entitled to success in a robust education setting (Thomas et al., 2002).

Talking about meritocracy as a system that is rapidly evolving, a thorough analysis of the consequences and ideologies of meritocracy should be discussed. In an analysis regarding quota systems, Thomas Conrad describes the basic principles for meritocracy. First, merit should be dependent on the individual's level of talent. Under these circumstances, the most talented should receive rewards, of greater value, compared to the less talented. Essentially, the distribution of rewards should be based on merit. (Conrad, 1976)

Our hypothesis for this study is that the educational system is not entirely meritocratic because of the existing disparities that place students at a disadvantage.

MATERIALS AND METHODS

To investigate the general nature of students in various achievement groups, we collected primary international data by distributing surveys created via the platform of Google Forms.

A majority of our responses came from Canada, Nigeria, and the United States of America. Initially, we wanted to reach out to both public and private schools across six different countries to have them distribute our surveys to their students. Our original target countries were the USA, South Korea, Mexico, Nigeria, Switzerland, and India. We sought to choose countries from varying geographical locations to validate the universality of our results. Countries were chosen based on the rigor of the national curriculum, the location of our team, and the general quality of education. Research into these countries involved the languages spoken, understanding how the education system worked, compiling a list of schools. However, due to the eventual lack of responses on the part of the schools, we turned to the use of digital media instead. We created multiple versions of the survey, to better fit the region it was answered in. Surveys were primarily distributed through various digital, social platforms such as Whatsapp, Instagram, Discord, and Reddit.

Participants were selected using opportunity sampling and snowball sampling. The target demographic of the respondents was high school students or the international equal, between the ages of 14-18 years. In actuality, some respondents fell beyond the scope of the targeted demographic and were filtered out.

The surveys consisted of multiple-choice questions, as well as 4 short answer questions. Questions were organized into 3 categories.

1. Demographic information

This category aimed to collect information about the demographic background of respondents. Such questions included age, school grade, gender, type of area of residence, and race/ethnicity where applicable.

2. School performance

Questions regarding effort, awards, academic placement, level of achievement, extracurricular activities, and exam preparation. These questions were asked to determine the level of school performance of each participant.

3. Family background

To better understand the context in which respondents lived, questions concerning household size, level of parent education, family priorities, and student employment were included.

To conclude the survey, participants were given the chance to share anything else about their schooling experience as a response option in the form.

Surveys were designed to provide information about students in different achieving groups, to see if any correlations could be drawn between high achieving students and average achieving students.

RESULTS

A total of 351 high school students across five identified countries answered our survey. (233 female, 106 males, 12 other) Participant ages ranged from 14-18 ($\bar{x} = 16.2$, $\sigma = 0.83$). Respondents were required to indicate what type of student they considered themselves to be: high achievers, average achievers, or low achievers. 242 students considered themselves high achievers, 104 considered themselves to be average achievers, and 5 considered themselves to be low achievers. Information derived from our primary data showed a strong statistical correlation between respondents' backgrounds and their educational experience. The level of education a student's parents achieved, is directly proportional to the type of achiever the student is in an academic environment. High achieving students were likely to have parents with an undergraduate degree or higher. $X^2(10, N = 351) = 20.76$, $p = .023$. The probability that a student will be a high achiever given that their parent has an undergraduate degree is 71.6%, and the probability that a student will be a high achiever given that their parent has a masters degree is 77.5%. Similarly, results showed a strong relationship between the prioritization of education in a student's household and their plans to pursue education beyond

the secondary level. Students that came from households that do not prioritize education were more likely to not continue school after high school. $X^2(1, N = 349) = 68.43$, $p < .001$. There was a strong positive correlation between high achieving students and allocation of merit. High achievers were more likely to receive an academic award relative to average and low achievers. $X^2(2, N = 351) = 18.02$. $p = < .001$. This demonstrates that award distribution Students are more likely to receive an award if they are in the top 25% of their peers, relative to the middle 50%. $X^2(3, N = 351) = 25.31$, $p < .001$.

Type of Achiever and Academic Awards

Contingency Tables

Have you received any academic awards in the last 3 years in school?		What type of student do you consider yourself to be?			Total
		Low Achiever	Average Achiever	High Achiever	
Yes	Count	1.000	40.000	149.000	190.000
	Expected count	2.707	56.296	130.997	190.000
	% within column	20.000 %	38.462 %	61.570 %	54.131 %
No	Count	4.000	64.000	93.000	161.000
	Expected count	2.293	47.704	111.003	161.000
	% within column	80.000 %	61.538 %	38.430 %	45.869 %
Total	Count	5.000	104.000	242.000	351.000
	Expected count	5.000	104.000	242.000	351.000
	% within column	100.000 %	100.000 %	100.000 %	100.000 %

Chi-Squared Tests

	Value	df	p
X^2	**18.024**	**2**	**< .001**
N	**351**		

Figure 1. *Proportional nominal comparison of each type of achiever on the self-assessment scale, statistically significant at the level of P < 0.05.*

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Academic Placement and Academic Awards

Contingency Tables

Have you received any academic awards in the last 3 years in school?		Where would you place yourself in your grade?				
		Bottom 25%	Lower middle 25%	Upper middle 25%	Top 25%	Total
Yes	Count	0.000	10.000	73.000	107.000	190.000
	Expected count	2.165	15.157	87.151	85.527	190.000
	% within column	0.000 %	35.714 %	45.342 %	67.722 %	54.131 %
No	Count	4.000	18.000	88.000	51.000	161.000
	Expected count	1.835	12.843	73.849	72.473	161.000
	% within column	100.000 %	64.286 %	54.658 %	32.278 %	45.869 %
Total	Count	4.000	28.000	161.000	158.000	351.000
	Expected count	4.000	28.000	161.000	158.000	351.000
	% within column	100.000 %	100.000 %	100.000 %	100.000 %	100.000 %

Chi-Squared Tests

	Value	df	p
X^2	**25.308**	**3**	**< .001**
N	**351**		

Figure 2. *Proportional numerical percentage comparison of each type of achiever on the self-assessment scale, statistically significant at the level of $P < 0.05$.*

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Education Prioritization and School Continuation

Contingency Tables

Is education prioritized in your household?		Do you plan on continuing school after high school?		Total
		No	Yes	
Yes	Count	1.000	337.000	338.000
	Expected count	3.874	334.126	338.000
	% within column	25.000 %	97.681 %	96.848 %
No	Count	3.000	8.000	11.000
	Expected count	0.126	10.874	11.000
	% within column	75.000 %	2.319 %	3.152 %
Total	Count	4.000	345.000	349.000
	Expected count	4.000	345.000	349.000
	% within column	100.000 %	100.000 %	100.000 %

Chi-Squared Tests

	Value	df	p
X^2	**68.429**	**1**	**< .001**
N	**349**		

Figure 3. *Proportional nominal comparison on education prioritization vs. pursuits in higher education, statistically significant at the level of $P < 0.05$.*

Type of Achiever and Parent Level of Education

Contingency Tables

Did your parents or guardian go to school? If so, to what level?		What type of student do you consider yourself to be?			Total
		Low Achiever	Average Achiever	High Achiever	
Less than Secondary School/High School	Count	0.000	7.000	8.000	15.000
	Expected count	0.214	4.444	10.342	15.000
	% within column	0.000 %	6.731 %	3.306 %	4.274 %
Secondary School/High School	Count	1.000	23.000	40.000	64.000

	Expected count	0.912	18.963	44.125	64.000
	% within column	20.000 %	22.115 %	16.529 %	18.234 %
Undergraduate Degree	Count	1.000	24.000	63.000	88.000
	Expected count	1.254	26.074	60.672	88.000
	% within column	20.000 %	23.077 %	26.033 %	25.071 %
Masters degree	Count	0.000	27.000	93.000	120.000
	Expected count	1.709	35.556	82.735	120.000
	% within column	0.000 %	25.962 %	38.430 %	34.188 %
Specialized Profession (e.g. Medicine, Law, etc.)	Count	3.000	14.000	25.000	42.000
	Expected count	0.598	12.444	28.957	42.000
	% within column	60.000 %	13.462 %	10.331 %	11.966 %
PhD	Count	0.000	9.000	13.000	22.000
	Expected count	0.313	6.519	15.168	22.000
	% within column	0.000 %	8.654 %	5.372 %	6.268 %
Total	Count	5.000	104.000	242.000	351.000
	Expected count	5.000	104.000	242.000	351.000
	% within column	100.000 %	100.000 %	100.000 %	100.000 %

Chi-Squared Tests

	Value	df	p
X^2	**20.759**	**10**	**0.023**
N	**351**		

Figure 4*. Proportional nominal comparison of each type of achiever on the self-assessment scale vs. the level of parent/guardian higher education in the globally recognized respective degrees, statistically significant at the level of $P < 0.05$.*

DISCUSSION

Analysis of the results indicate that at its core, the educational system is indeed meritocratic: the top 25 percent of students were recognized and awarded for their performance, and students in the middle 50 percent were less likely to be rewarded. This can be modeled through a bell curve. Aside from the two extreme tails on either side of the bell curve; in which recognition and merit may not necessarily be allocated by work and achievement, success and merit are consistent according to two factors; hard work and achievement. However, meritocracy as a system is inherently flawed as it fails to consider the underlying

and external factors that affect a student's success in regards to education. Such an example is domestic influence, in which students are influenced by their upbringing and family values. This in turn impacts their educational experience. Three out of the 4 students who reported that education is not prioritized in their household asserted that they would not be continuing school beyond high school regardless of their achievement level and despite the fact that a tertiary education provides many economic benefits to the individual. (Baum and Ma, 2007). The academic success of a student is also influenced by their parents. As exemplified in our data, high achieving students are likely to have parents who are educated beyond the secondary level. Parents who have found success in the meritocratic systems of higher education will look to aid their children and help them succeed (Mijs, 2015). This could be reflected in various ways like an upbringing that emphasizes the importance of good academic performance, extra tutoring, or motivation. These help enable students to perform well and be rewarded accordingly by the meritocratic system. It gives them an unfair advantage compared to students whose parents do not provide the same things. What is considered the individual's merit can not be accredited to them alone, but to their circumstances as well. As Mijs argues, individuals are no longer "deserving" of their success, because meritocracy itself is flawed, in that it perpetuates a generational cycle where high achievers come from a generation of people that have found success in the meritocratic system. In the future, when these students become parents they are likely to follow this cycle to help their own children become high achievers, and this cycle continues indefinitely.

In accordance with the meritocratic trap that Markovitz asserts, our results lead to the conclusion that the rise in inequality is the product of meritocracy itself, reinforced by a generational cycle. The generational cycle works by enabling individuals to flourish within the meritocratic system, therefore providing these individuals with access to high-skilled jobs and then displacing those disadvantaged from the center of economic production. (Markovitz 2019) These high-skilled workers, which we will refer to as elite workers, use their acquired affluence to ensure an elite education for their children, ensuring that their offspring are able to acquire a qualified education to be professionally suited for the labor market. (Markovitz 2019) The generational cycle that has been created produces an unequal generational advantage that amplifies economic inequality, dramatically suppresses social mobility, and creates a time divide between an elite class whose members work (due to a higher demand for their talents) and an increasingly idle disadvantaged class (whose work has been made redundant). The mere principle of meritocracy is described to have an indiscriminate nature aimed to eliminate bias and therefore allow an equal starting point for everyone in a society to succeed. Even if meritocracy allowed for equal levels of opportunity, this does not diminish the reality that subsequent successful generations generate an endless cycle of success for the top 25 percentile; as demonstrated on the bell curve. First-generation members of the cycle who emerge from the system successfully would be in an advantageous position to provide better socioeconomic conditions for the next generation to compete in the same meritocratic system. The opposite is also true, in which the first generation parents who were unsuccessful within the meritocratic system fall to a disadvantage that will most likely pass on to their children (Klusener 2018).

The majority of data from our results demonstrated that more than half the time, high achieving students had parents who pursued higher education. The same is proven when observing our results from lower achieving students. Low achieving students often had parents who completed secondary education/highschool. Also, when focusing on the correlation between education prioritization vs. school continuation, our results indicate that the vast majority of students stated that education was a priority within their households. While a majority of our responses were high achieving students, it is significant to note that 3 out of the 4 respondents that indicated that education was not prioritized in the household do not plan on continuing school after high school. The four respondents that stated that education was not a priority also stated that their parents had completed an education level up to secondary/or highschool. When compared to their more affluent peers, low income students are four times more likely to perform academically worse. (Klusener 2018) We can logically assume that the unsuccessful parents produce a cycle of disadvantage for their children in which education as a result is not prioritized and continuing education is overlooked. The successful parents of the first generational race continue to build a head start they can gain benefits from, while the unsuccessful parents struggle, thereby exacerbating existing inequalities and justifying it with meritocratic principles.

Particular responses from the short answer questions highlighted just how strong an influence a student's background has on their experience in the meritocratic system. A student who did not plan on pursuing an education beyond high school due to financial implications, came from a large household where work took priority over education was academically placed lower relative to students from other backgrounds.

This response draws insight into how a household where education is not prioritized, and where the student's parents do not have a proper education, affects the student's performance and view on school. It also can be assumed that there are other factors amongst the student's responses that factor into their education, such as their race. In a Stanford paper, it was found that in a 1966 study (Equality of Educational Opportunity) , which presented data from over 600,000 students, that "parental education, income, and race are strongly associated with student achievement" (Hanushek et al., 2019). Upon concluding their data, the smaller the difference between the student's and the parent's education level is, the higher the education level of the student. In numerous other studies and journals, this same correlation can be found.

This study presented data that could be considered as the group of students from the lower end of the bell curve. These students can be characterized as the students who are largely disadvantaged compared to their peers within the meritocratic system. One notable response is described below:

Limitations

This study was mostly limited in the type of respondents that answered the survey. A majority of our respondents were high achievers, and data collected on low achievers was rather limited. Additionally, as the responses to the survey were self-reported, participants were susceptible to social desirability bias. A participant is less likely to report themselves as a low

achiever academically as it may not be considered desirable. Equally students who are very focused on their education may be more inclined to fill out a survey concerning their educational experience as opposed to those who do not regard their education as something important. Limitations are also evident in the methods that were used to distribute the survey and collect information. Opportunity and snowball sampling meant that collected data came from a sample that did not accurately represent the general population of high school and secondary school students. Another is that type of respondents are skewed to one area. The virtual nature of the survey also meant that we could not collect responses from members of our target population that lack adequate access to the internet. Due to time and resources, the geographical location of our respondents was also largely concentrated, which could have affected the general nature of our responses.

Moving Forward

Future research could account for the limitations present in this study and work to collect data from a larger and more representative sample. Perhaps a method other than self-reported surveys could be used to collect data on different types of achievers. If this study was redesigned, it could be distributed more, both individually and by networking with schools, to receive a greater sample size. The initial attempt to receive survey responses by networking with schools (as mentioned in Materials and Methods) could be improved by calling schools instead of emailing, for a faster response rate. Other forms of media could be used to collect data such as posting the survey on individual school social media pages, physical surveys, or interviewing students.

More data could be collected from low achievers to see if the bell curve works as presented currently. Additionally, more regions throughout the world could be assessed to generalize results among students, as a whole, and gain credibility. Upon receiving more data, it could be sorted among different geographical areas (rural, suburban, urban, city, etc.) as well as country/state. Analyzing using this method would solidify if the results are consistent throughout varying factors. Lastly, different factors could be studied such as the type of achievers the student's parents were and the monetary value put into the student's education.

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