

Electronic Supplementary Materials

A: Pilot test truism

A pilot test was conducted to evaluate whether the topics (cultural truisms) used in McGuire's and Papageorgis's (1961) original study still qualified as truisms today. Because of academic and medical progress, some of the truisms of the original study may not be perceived as universally true today or may no longer be relevant (e.g., "everyone should get a chest X-ray each year in order to detect any possible tuberculosis symptoms at an early stage" [McGuire & Papageorgis, 1961, p. 330]). We tested which of the four original topics (i.e., tooth brushing, detection of tuberculosis, effectiveness of antibiotics, contagiousness of mental disease) are still perceived as truisms among a student sample, and which would qualify for our study. Additionally, six more contemporary truisms (i.e., cancer detection, fruit and vegetable consumption, dairy consumption, democracy, art and culture, and education) were added to enable the selection of appropriate truisms. For a full overview of all truisms, see Table 1.

Fifty-six students (83.93% female; $M_{age} = 22.00$, $SD_{age} = 2.49$) fully completed the pilot-test, by rating their belief in all truisms on 15-point interval scales, as used in the original study (1-3 = "definitely false", 4-6 = "probably false", 7-9 = "uncertain", 10-12 = "probably true", 13-15 = "definitely true"). The truism, "It is of great importance to invest in education", was selected because it had the highest mean score and smallest SD. We also selected one of the original truisms for the sake of continuity with the original experiment. The original truism "The effects of antibiotics have, almost without exception, been of great importance to mankind," had the second highest mean score and second lowest standard deviation. Our approach for including truisms meets the original criterium established by McGuire and Papageorgis (1961) of a means score of 13 or higher. Including one of the original truisms also allowed us to make use of their original materials.

Table 1. Means and Standard Deviations of the Four Original and Six Contemporary Truisms. The Truisms in Grey Are Selected for the Replication Study

	<i>M</i>	<i>SD</i>
<i>Original Truisms</i>		
If possible, everybody should brush his or her teeth after every meal (breakfast, lunch, dinner)	6.25	4.25
To detect possible symptoms of tuberculosis in an as early as possible stage, everybody should have a chest X-ray, every year	6.54	3.35
The effects of antibiotics have, almost without exception, been of great importance to mankind	11.73	2.37
Most mental illnesses are not contagious	10.50	4.10
<i>Contemporary Truisms</i>		
To be able to detect abnormal cells that can lead to cancer in an early stage, everybody should have a medical exam each year	8.71	3.49
Everybody should eat as much fruits and vegetables as possible	10.61	3.49
It is healthy to consume dairy on a daily basis	7.07	4.36
Democracy is the best possible form of government	11.57	2.79
It is of great importance to invest in art and culture	11.16	2.70
It is of great importance to invest in education	13.64	1.72

B: Estimation of original effect sizes based on incomplete information

A power analysis using G*Power indicated that we needed 326 participants per condition (978 total) for the smallest sought after difference between conditions [supportive vs. inoculation] in the meta-analysis on inoculation studies of Banas & Rains (2010), $f = .11$, with $\alpha = .05$ and power = .80. We used the meta-analytic effect size as a reference point since the original article does not report the statistical information necessary to calculate effect sizes.

Nevertheless, from the reported p -values for the pairwise differences between the supportive and inoculation conditions and between the inoculation and control conditions (both p 's < .001) in McGuire and Papageorgis's (1961) original study, we can compute that both effect sizes are at least $f = .20$. In addition, using one exactly reported p -value ($p = .16$), we can compute the pooled standard deviation for the control and the supportive condition: $SD_{\text{pooled}} = 4.31$. Based on the relative position of the group means to the scale ends, we argue that the remaining two pooled standard deviations (necessary to compute the remaining other effect sizes) is highly likely to be lower than the one known. Our logic is that standard deviations of group means that are closer to the scale ends are generally smaller than standard deviations of group means that are further from the scale ends, because the scale ends provide a natural boundary to variation. Therefore, we can assume that these standard deviations will not exceed 4.31. Thus taking 4.31 as an (upper bound) estimate for all pooled SD's, we find $d = (10.32 - 7.39) / 4.31 = 0.68$ ($f = .34$) for inoculation vs. supportive and $d = (10.32 - 6.64) / 4.31 = 0.85$ ($f = .43$) for inoculation vs. control as *lower bound* estimates for the key effect sizes of our replication. We will use these latter two effect sizes to apply the criteria for a successful replication introduced by Asendorpf et al. (2013): our replication is successful if the original effects fall within the 95% CI of the effects, we will observe in the replication study.

We aimed to recruit 1150 participants for T0, to account for potential drop-outs in T1. In the original study there was a drop-out of approximately 10%. Since we conducted the study online, we expected a higher dropout rate (approximately 15%).

C: Analysis Plan

In the original study only p-values (no test statistics) were reported. It is therefore unknown which analyses were performed exactly. We will first conduct a between subjects ANOVA with treatment as the independent variable and belief scores at T0 as the dependent variable to test whether the treatment has an effect on the belief scores directly after the treatment.

To test the hypotheses, we will conduct a repeated measures ANOVA with treatment as independent between-subjects variable (3 levels) and beliefs (time: T0 and T1) as a within-subject variable. Simple main effect analyses will be conducted to probe for differences between conditions for pre- and post-test beliefs. A successful replication is defined as:

- 1) Finding a significant overall interaction between treatment and time on the belief scores ($p < .05$).
- 2) Finding a difference between the inoculation and supportive condition on belief change (T0 vs. T1) ($p < .05$); the difference between belief scores on T0 and T1 should be smaller in the inoculation condition (i.e., more resistance) as compared to the supportive condition.
- 3) Finding a difference between the inoculation and supportive condition on belief change (T0 vs. T1) similar to $f = .34$ (.34 should be in the ES's 95% CI).
- 4) Finding a difference between the inoculation and control condition on belief change (T0 vs. T1) ($p < .05$); the difference between belief scores on T0 and T1 should be smaller in the inoculation condition (i.e., more resistance) as compared to the control condition.
- 5) Finding a difference between the inoculation and control condition on belief change (T0 vs. T1) similar to $f = .43$ (.43 should be in the ES's 95% CI).

D: Materials

First session: treatments Antibiotics

Inoculation treatment: The misguided criticism on antibiotics

Medical researchers and physicians generally agree that the discovery and use of antibiotics has been one of the greatest benefits to public health in the history of medicine. It is particularly unfortunate, then, that there have lately appeared in the public press some well-intentioned but misguided stories attacking this miracle drug. These stories have harped on the fact that antibiotics are not a cure-all and that it can (like any other good thing) be misused. By stressing the fact that antibiotics are not perfect while ignoring the fact that it is probably the most useful discovery in medical history, these stories have tended to give a distorted picture. Let us look briefly at the misguided attacks on antibiotics and see the errors they involve. By the means we can obtain a renewed appreciation n of this miracle drug and assure that its unrivaled benefits will continue to be available for the good of mankind.

One of these misleading arguments against antibiotics is that it has produced detrimental and even fatal effect on some people who happen to be allergic to it. This is quite true, but let us add that such allergies are extremely rare and that these bad effects occurred in the early days of antibiotics before it was recognized that some rare individuals are allergic to antibiotics (Indeed a few people can always be found who are allergic to almost any substance known). The number in the case of antibiotics is very small (less than one in 100,000). Currently a simple test is available to detect such an allergy and antibiotics are no longer given to allergic persons. Clearly, then, this argument is not against antibiotics but for allergy tests. The “allergy” danger of antibiotics was always small and now the allergy test has eliminated even that small danger.

Another argument against antibiotics that is easily shown to be in error is that it is now being used too often by physicians who are more interested in easy superficial results than in the real good of the patient. It is said that these physicians use antibiotics to heal the symptoms and not the real cause. However, the complaint is based on the misconception that antibiotics, like aspirin, treats only the symptoms. On the contrary, antibiotics attack the underlying disease itself. And while some is informed critics have argued that antibiotics are used primarily by lazy or poorly trained doctors, actual studies (U.S. Public Health Service) show that the best doctors, (as rated by the recovery of their patients) in the nation’s best hospitals are actually the ones who most frequently employ antibiotics. Hence, far from being the ill-

advised enthusiasm of the incompetent physician, antibiotics is the treatment preferred by the most advanced and respectable members of the medical profession.

Still another mistaken argument had been presented by the detractors of antibiotics, namely, that, because physicians and others have an exaggerated idea about the effectiveness of antibiotics, important research in other drugs which would be effective where antibiotics fail has been slowed down dangerously. Let it first be repeated that ideas about the effectiveness of antibiotics are not exaggerated; no other drug can successfully combat such a diverse variety of diseases as do antibiotics. As for the claim that antibiotics have slow-down research to discover additional drugs, we have only to look at current medical research reports to realize that the discovery of antibiotics has increased rather than diminished the amount of such research. The discoveries of related drugs like streptomycin, terramycin, aureomycin, etc., have all come about since the general use of antibiotics began. Far from interfering with further research, the successful example of antibiotics had, during the 15 years after its discovery, encouraged a great amount of research for still further miracle drugs than was carried out during whole of the preceding century.

A final example of a misleading argument against antibiotics goes somewhat as follows: antibiotics has caused the development of stronger breeds of bacteria such that eventually, after prolonged treatment, the patient becomes habituated to antibiotics. It is true that any drug when used for a prolonged time on an individual will not be as effective as it was originally. To some small extent this is true also for antibiotics, but it is in fact one of antibiotics; advantages that it remained effective much longer than most other drugs currently in use. As for the claim that antibiotics have produced stronger strains of bacteria, it should be recognized that organisms have tended since the beginning of time to develop strains that survive better. No evidence exists that antibiotics has increased this process. Antibiotics do not kill all germs but it kills more of them than any other drug known to man. While we should realize that antibiotics are not perfect, that it is not the final answer to all medical problems, it is the nearest approach we have so far made to such a perfect answer.

Supportive treatment: Antibiotics: The Miracle Drug

Medical authorities are in general agreement that man's greatest step in the fight against diseases and death was achieved in the previous century by the discovery of antibiotics. Many benefits to public health have been provided by antibiotics. For example, this miracle

drug has provided us with a simple cure for many serious illnesses from which there was little of no hope for recovery before antibiotics. Furthermore, it is one of the least costly forms of treatment available to the general public. Antibiotics have the additional advantage that it is rapid in its effects, relieving pain and destroying infection often overnight, thus preventing dangerous complications. Finally, antibiotics provide a method of treatment which is most convenient for the patient who can now often be spared the burden and expense of hospitalization. Let us now examine in greater detail some of the impressive benefits that we have gained from the discovery of antibiotics.

The primary benefit is, of course, its power to cure illnesses for which we have no other treatments. It is this power that has earned antibiotics the title “miracle drug.” Even some of the most dangerous infections can now be stopped practically overnight. Before the discovery of antibiotics there existed a strong possibility that any serious infection would spread throughout the organism and cause death. Nowadays, only a few hours after antibiotics is administered to the patient, the progress of the infection is checked and the improvement is already evident. For many of the commonest serious diseases (e.g., pneumonia, peritonitis, blood poisoning) antibiotics is the most effective treatment and for some diseases it is the only treatment. We have probably brought more different types of infectious diseases under control by the use of antibiotics than had been brought under control by all the other drugs previously developed by science. Indeed, very few infectious diseases remain since the discovery of antibiotics, that cannot be quickly cured if properly treated.

Not only are antibiotics the most effective treatment, but it is also the cheapest treatment. It can be mass-produced in high quality, high potency batches for a surprisingly low cost. Also, the administration of antibiotics is much cheaper than carrying on most other kinds of treatment. For example, a case of blood poisoning, before antibiotics, required long medication and hospitalisation which, together with loss of pay, cost an average of \$2,700 to cure (and, of course, many victims of blood poisoning could not be cured at all before antibiotics). Now, when antibiotics are use, the average cost has dropped to \$24 per patient. Similarly impressive savings occur in the treatment of pneumonia, peritonitis, etc. It is this low cost, combined with its general effectiveness, that has made antibiotics so useful in general public health service: its advantages are available to all people regardless of their economic status or the availability of expensive hospital service.

Another unique advantage of antibiotics treatment derives from the speed with which it takes effect. Usually the infection is stopped 24-48 hours after the beginning of the treatment. This

quick action means that antibiotics is effective not only curbing the ongoing illness, but also in preventing secondary illnesses. These secondary illnesses- the so-called “complications”- develop when the patient’s resistance has been weakened by a prolonged struggle with the primary disease. Often complications are more serious than the original illness itself: for example, prolonged infection may result in permanent damage to the patient’s heart. By its fast action antibiotics cure the initial infection before dangerous complications can occur.

Still another benefit of antibiotics is its convenience for the patient himself. In many cases it is no longer necessary to treat a person suffering from infection by long and costly hospital care that takes him away from his home, family, and occupation, and which is often followed by a prolonged confinement to bed during convalescence at home. Now, by means of antibiotics treatment, frequently all the patient need do is pay a short visit to his doctor’s office, after which he is able to carry on his duties at home and on his job. Furthermore, the patient today is often spared painful and dangerous treatments (such as major surgery) for many illnesses now that safe and painless treatment by antibiotics is available.

Second session (Attack message): Some drawbacks involved in the use of antibiotics

While the public press and the mass media in general are bestowing extravagant praise on the merits of antibiotics, an altogether different picture is being presented in the professional journals of the medical, pharmaceutical, and biochemical sciences. There we read of a growing concern regarding some serious harmful effects of the current excessive use of antibiotics. Increasing alarm is expressed regarding the unexpectedly large number of people with fatal allergies to antibiotics. Medical studies also show that too great dependence on the temporarily relief afforded by antibiotics has resulted in physicians neglecting other precautions and treatments, often to the serious harm of the patient. Also, exaggerated belief in the effectiveness of antibiotics has tended to slow down needed research on the development of much-needed additional antibiotics to combat diseases against which antibiotics have no effect. Perhaps most serious of all its harmful effects is the tendency of antibiotics to produce more deadly breeds of germs against which it and the other antibiotics are proving to be increasingly ineffective. Let us look into each of the detrimental effects of antibiotics in a little more detail.

Like most drugs, antibiotics can have dangerous toxic effects as well as beneficial effects, if the patient happens to be allergic to it. A large number of cases where antibiotics produced

pathological symptoms ranging from minor rashes to death can be found in medical literature. Indiscriminate use of antibiotics may have detrimental and even fatal effects on many patients with unsuspected allergies. There has been a large number of cases in which allergic patients suffering from only a minor ailment like the common cold were given antibiotics with fatal results. Antibiotics indeed cured many common colds, but we might ask how many common colds must be cured worth the number of deaths that have been caused in the process.

The very simplicity of antibiotics treatment has had some bad effects on the public health. It provides such an “easy out” that often the physician is tempted to use antibiotics rather than some more effective and thorough treatment for his patient. Because of the immediate relief of symptoms that antibiotics frequently offers, there are countless instances in which physicians have taken this easy way of giving their patients relief from symptoms without treating the basic ailment itself. The exaggerated belief in the effectiveness of antibiotics has often resulted in trying antibiotics first with the result that valuable time is lost and when the physician finally realizes that some more effective treatment is required, it is already too late.

Another bad effect of antibiotics is that the exaggerated belief that it is a “cure-all” has resulted in a slow-down of research to develop other needed weapons to combat infection. Since the wide acceptance of antibiotics, the dangerous belief has spread among laymen that research for the developments of further antibiotic drugs is no longer necessary. This erroneous belief in the “miracle” properties of antibiotics has resulted in a reluctance of foundations, individual philanthropist, and government agencies to make sufficient appropriations to finance the much needed research. Scientists and physicians are agreed that antibiotics cannot cure everything and that more research to develop new and better antibiotics is needed. It is unfortunate indeed that the excessive use of and belief in antibiotics is holding back this needed research.

The increased reliance on antibiotics has produced yet another tragic consequence. Several hospitals in Texas, Chicago, London, and Tokyo have reported many deaths of new-born babies from staphylococcus infections against which antibiotics has no effect. And yet antibiotics used to be able to fight this particular germ successfully. Here we see another case of an increasingly common bad effect of antibiotics. This drug tends to result in the development of more resistant strains of germs, so hardy that neither antibiotics nor other drugs are effective against them (this form of the biological point of view, similar to the appearance of insects with increased resistance to DDT). A related danger from continual use

of antibiotics is that since this drug works by stimulating the patient's system to produce antibodies, continual use of this drug habituates the patients to it, until soon neither antibiotics nor other drugs have the required effect when needed. Hence, the current excessive use of antibiotics has resulted in the development of some of the most deadly forms of germs ever known and, at the same time, is making it increasingly more difficult to patient's system to produce the necessary antibodies to fight such infections.

First session: treatments Investments in Education

Inoculation treatment: The misguided criticism on investments in education

Researchers and politicians generally agree that investing in education is one of the biggest benefits of recent government plans. It is therefore a pity that recently some well-intentioned but misguided stories have appeared in the media attacking the arguments for such an investment. These stories emphasize the fact that education does not always need more investments and that more investments can also have negative consequences. By emphasizing that education investment plans are not perfect, these stories tend to distort reality. These stories ignore the fact that investments actually bring many benefits. Let's take a brief look at what these unwarranted attacks on investment in education entail and what fallacies are involved. Based on this analysis, we can re-appreciate investments in education and ensure that its unparalleled benefits will be available to current and future classes of students and pupils.

One of the misleading arguments against investment in education is that more money from the government means more of the same, while in fact we should be pursuing a different education system. This could be correct in theory, but let's not forget that before we start discussing how things can be improved, there must first be sufficient money available to allow the current system to function optimally. This already means that more money is needed. It may be true that more money does not necessarily mean more quality. However, if good education is in the public interest, there must also be adequate public funding for it. In addition, extra investments always include an education plan in the coalition agreement, which shows in which areas work will be done on the quality of education. So it is clear that this argument is not against investment in education per se, but against nebulous investment

in general. And in the case of education there is no question of nebulous investments, because detailed plans for the changes are already made.

Another argument against investments in education which can easily be shown to be a misconception, is that such investments only focus on growth of the knowledge economy, in turn leading to the disappearance of lower-skilled labour. It is said that investments in education go hand in hand with stimulating a highly skilled population, with more and more students opting for a college or university education and fewer students entering practical professions as a result. However, the argument to invest less in education as a result is based on the misconception that hardly any training is required for practical professions. Practical professions, such as plumbing or painting, also require good education and thus investments. In addition, vocational education is not only aimed at finding work, but also at keeping it. After all, job retention is of great importance in order to function as independently as possible in our society. That is why investments in education not only benefit the knowledge economy -they are also necessary for practical professions.

Another faulty argument put forward by opponents of investment in education is that it prevents other important investments from being made. First, let's reiterate that a focus on education is a good thing; education is the basis of the economy and investments in education always pay off. As for the claim that investments in education go at the expense of investments in other sectors: we only have to look at the current figures to realize that this is not the case. For example, in 2022 it is expected that 27% of government expenditure will go to social security, 26% to health care, and only 13% to education. In addition, education can help people to obtain a good health, more self-reliance and employment. It is therefore important to give investments in education more priority, so that the economy and the workforce can continue to grow.

A final misleading argument against investments in education goes something like this: We don't know whether education actually drives economic growth. And yes: it is true that, due to many external factors, it is difficult to determine which facets have which influence on economic growth in a country. To some extent this difficulty also applies to investments in education, but education is undoubtedly an important determinant of economic growth, employment and income. Ignoring the economic dimension of education would jeopardize the prosperity of future generations. There are three channels through which education can influence a country's productivity. First, education increases the collective capacity of the workforce to perform existing tasks more quickly. Second, secondary and tertiary education

facilitate the transfer of knowledge about new information, products and technologies. Finally, by increasing creativity, education increases a country's ability to create new knowledge, products and technologies. We must therefore realize that education, while not the only economic driver, it is the most important factor predicting economic growth.

Supportive treatment: Education: A promising investment

Researchers and politicians generally agree that the best step in building a strong society is to invest in education. Good education has many benefits for our society. For example, these promising investments in education have already resulted in many positive social developments that would not have been possible without good education. Moreover, these investments also ensure strong economic growth. Investments in education have the added benefit of promoting equal opportunities and inclusive education. Finally, investments in education reduce the workload of students and lecturers, so that they also perform better. Now let's take a more detailed look at some of these impressive benefits of investing in education.

The most important advantage is of course the positive effect of education on social developments. Therefore, we were deliberately speaking of a 'promising' investment. Education is the key to development, it provides security. Without proper education, basic needs would not be met. Being able to follow quality education is explicitly included in the 17 Sustainable Development Goals. Learning environments are training places for functioning in social communities and in a democratic society with associated social values. Good education contributes to the development of a moral compass and invites pupils and students to reflect on their own position with regard to specific values, goals and ideals. Investing in education is the key to development. Those who enjoy good education will have opportunities for the future.

Investment in education is not only valuable for social developments, but also for economic growth. Education provides the professionals needed in a knowledge-intensive society. Moreover, the duration of education has a positive effect on the labor productivity of employees. For example, the focus on improving language skills in education by itself has a favorable effect on the business climate for (international) companies in many European countries. Investments in education also affect other aspects of the economy. These investments prevent many social costs of unemployment, crime and health care. It is these

investments and their great effectiveness that make investing money in education economically worthwhile. (Extra) money for education pays for itself and in time increases the productivity of labor and thus stimulates economic growth.

Another unique advantage of investing in education is that it stimulates more equity. When more money is invested, all children will have fair and equal opportunities. This means that children are less dependent on their parents' background and income, and there is also more inclusive education. Education is inclusive when people with, for example, a disability, newcomers who speak a different language and pupils from families who, for example, have financial difficulties, are involved in the learning environment in the same way as everyone else. More investments also mean more money for staff, so that more attention can be paid to individual pupils and students with a diverse background. This is often not yet the case: for example, education is often not inclusive and accessible to students with a disability.

Investing more in education is essential for a society in which we look out for each other. Education is the path through which success in school is more decisive than one's social background to succeed in this society.

Yet another benefit of investing in education is the reduction in workload. There is currently a major teacher shortage at the expense of the quality of education. Consequently, pupils and students fall behind, as a result of which they are at risk of leaving education prematurely. When more money is made available for education, this shortage of teachers will be tackled and there will no longer be overly large classes, cancellations or even the use of teachers without suitable qualifications. Moreover, pupils and students will no longer be put in large groups; instead a greater budget will mean smaller groups and more personal attention for pupils and students.

Second session (Attack message): Some drawbacks of investments in education

While the media generally agree on the benefits of investments in education, critical experts present a very different picture in journals and opinion pieces. It can be read there that there is concern whether more money actually translates to better quality; according to critics, more money would mean more of the same. Various pieces also show that education nowadays focuses more on obtaining a degree than imparting knowledge and skills. Moreover, an exaggerated confidence in investment in education has led to reduced investments in other sectors. Finally, and perhaps the most serious argument mentioned, is that we do not actually

know if education contributes to economic growth. Let's examine each of these arguments against investments in more detail.

Just like with other investments, more money does not necessarily result in better quality in education. A significant number of arguments indicating that more money does not guarantee better quality can be found in critical pieces. Research shows that billions of extra euros are not necessary in the Netherlands. The Netherlands already invests billions of euros in education, and all the additional funding in the past has not reduced the number of complaints (such as overcrowded classes or a shortage of qualified teachers). Investing in education could indeed have positive effects, but we must question whether it is worth incurring these costs considering what we get in return. In the Netherlands, we invest 43.8 billion euros in education every year, which is 6 percent of the gross domestic product. However, the majority of these investments are allocated to pre-planned investments, and only a third of it goes towards improving the quality of education.

Education nowadays focuses more on the degree you obtain rather than acquiring knowledge and skills. When seeking employment, it is not about having a diploma that demonstrates you have the necessary skills to perform the job. No, what is more important is being more highly educated than other job applicants. That's why we are becoming increasingly highly educated, and everyone has to spend more time in school to impress employers. In 1970, only 8.9 percent of employed Dutch people had received higher education. Now, it is nearly 35 percent. However, what we actually need are people with good skills who pursue practical professions. They can combine learning and working without costing the government money. Therefore, investing in education is a waste of time and money from a societal perspective.

Another negative consequence of increased investments in education is that proponents of these investments have an exaggerated belief in their effectiveness, resulting in reduced investments in other sectors. For years, the Netherlands has allocated around 6 percent of the gross domestic product to education; one out of every 20 euros goes to schools. Many other sectors in the Netherlands occasionally request additional funding from the government, but rarely do those wishes come true. However, some matters cannot wait according to the government. Particularly in areas such as climate, safety, and housing, funding is needed. Based on the recent budget, these are more important areas for promoting the well-being of the Dutch population than education. It is unfortunate that the exaggerated belief in investments in education comes at the expense of investments in other necessary sectors.

We do not know if education actually contributes to economic growth. In 1996, economist Lant Pritchett wrote an article titled "Where has all the education gone?" where he posed a simple question: How is it possible that we go through so much more education worldwide, yet we do not see any impact on economic growth rates? Especially in developing countries, children now spend much more time in school: India (5.4 years), Cameroon (5.9 years), Kenya (6.2 years), Ghana (6.7 years), Indonesia (7.2 years), Botswana (8.87 years), and Egypt (10.08 years). In many of these countries, children and young adults receive more education than the average Dutch person in 1960 (6.1 years). However, Pritchett calculated that education even had a slight negative effect on economic growth. Subsequently, numerous other studies were lumped together, and researchers demonstrated a widespread publication bias: studies with results showing that education does not lead to growth are tucked away. When accounting for that, there remains only a minimal positive effect of education on growth