

How Research Informs Crucial Areas of Our Lives in These Times of Public Skepticism

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Introduction

Research is the lens that enables one to see hidden truth and guide one's informed decision making. Over many centuries research has been the spine behind informed crucial decisions in the areas of education, science, politics, sociology, economics, medicine, nutrition, history, human and civil rights. An appreciation of the role and importance of research and scholarship requires the understanding of the impact of research in our daily lives. The purpose of this paper is to describe how research has affected sound decision making throughout history and has provided clarity about divisive issues in times of public skepticism. Examples range from the public skepticism at the time of civil rights and women's rights of the last century to issues in the 21st century such as climate change, immigration, children's rights, rights of individuals with special needs, empowerment of marginalized communities and philanthropy.

This study will address the following research questions:

1. How does research act as a tool for building knowledge?
2. How does research facilitate learning in a time of public skepticism?
3. How has research influenced pressing issues of our time such as education of individuals with special needs, global epidemics and pandemics, climate change and immigration and increase public awareness of these issues?
4. How have educators and scientists used research to disprove lies and reveal truths in these times of public skepticism?

This study is significant because research is the avenue to build knowledge and reach sound conclusions that are supported by facts. This paper is unique as it uncovers how truths from research have informed crucial decisions in education, science and politics in North America and beyond. Evidence from research gets us closer to reality and truth when faced with conflicting opinions on crucial issues such as women rights, equity in education, climate change, immigration and politics. (Abramitzky, R. & Boustan, L.2017)

Research defined. Research is a careful consideration of study regarding a concern or a problem using scientific methods (Bhat, 2019). Systematic research methods generate scientific knowledge, the knowledge that can be trusted because it follows details guidelines to reach conclusions. According to the American Sociologist Earl Robert Babbie, "Research is a systematic inquiry to describe, explain, predict and control the observed phenomenon. Research involved inductive and deductive methods." (Babbie, 2002). According to Bhat (2019), inductive research methods are used to analyze the observed phenomenon. Research involves inductive and deductive methods. Inductive research methods are used to analyze the observed phenomenon and are associated with a qualitative research approach (Bhat, 2019).

What is the purpose of research? There are three purposes of research:

1) Exploratory Research conducted to explore the research questions and may or may not offer a conclusion to the research conducted. This research is conducted to handle new problems which haven't been explored before.

2) Descriptive Research focuses on throwing more light on current issues through the process of data collection. Descriptive studies are used to describe the behavior of a sample.

3) Explanatory Research is conducted to understand the impact of certain changes in existing standard procedures, for example conducting experiments (Bhat, 2019).

Research studies in Education, Science, Medicine, Climate Change and Immigration

Research informs crucial decisions for critical issues of our time such as policy decisions for students with special needs. This has resulted in landmark policies such as the Individuals with Disabilities Education Act (IDEA) and Response to Intervention (RTI). Research has also informed best practices such as Individualized Education Program (IEP) for children above five years of age and Individualized Service Family Plan (IFSP) for children below five years (Coleman, 2012).

Additionally, researchers also study how technology can be used to facilitate better learning and care for children with special needs. The International Society for Technology in Education (ISTE) *Standard 2b* require educators to “advocate for equitable access to educational technology, digital content and learning opportunities to meet the diverse needs of all students” (ISTE Standards, 2019). However, inequalities in education continue to persist to this day.

Based primarily on extensive and sound research, the disciplines of science and medicine have seen medical breakthroughs in longer life expectancy, and prevention and cures. Notable studies include Alexander Fleming’s discovery of Penicillin in 1928, that saved many lives from bacterial infections during the World War 1 era (American Chemical Society and the Royal Society of Chemistry, 1999).

The development by Jonas Salk (1914-1995) and Albert Bruce Sabin (1906-1993) was the invention of separate polio vaccines- one from live virus and the other from inactive virus to combat the polio disease. (Science History Institute, 2017). Although these vaccines finally brought the polio disease under control, the public skepticism regarding the research continues to keep a controversy alive by the denial of research and facts. (Science History Institute, 2017). Although one of the polio strains type 2 polio was declared as eradicated worldwide in 2015, some research groups are concerned about non-vaccinated children getting type 2 polio. that could stem from virus shed by newly vaccinated people. To prevent these new cases of derived type 2 polio, the World Health Organization (WHO) campaigned to replace the standard oral polio vaccine with one consisting of only PV 1 and PV 3 vaccine to help stamp out remaining polio cases worldwide. (Foster, 2019). As these challenges persist, research continues to provide data resources.

Climate change is a chronic global crisis. The U.S. government’s National Climate Assessment report has clearly stated that climate change is already affecting people throughout the United States and around the world (U.S. Global Change Research Program, 2014, Kopp, 2019). Comprehensive and on-going research is being conducted worldwide to address its causes and to mitigate the effects that are already impacting human and animal existence.

One of the effects associated with climate change is in the rising sea levels. Countries like Mauritius, Bangladesh, Indonesia are already experiencing these effects. The impact is being felt in altering temperatures, rainfall patterns and the melting of glaciers. Warmer temperatures caused by global warming are making heat waves more intense, with harmful effects on human health (Kopp, 2019). More intense rainfall and higher sea levels are leading to more frequent and intense flooding, causing damages to property, infrastructure, business activity and health. For instance, the rising sea levels have impacted crucial planning decisions on whether the new rail tunnel can be built under the Hudson River in New York. The situation is worsened by the fact that scientists cannot accurately predict how much sea levels will rise by the end of the century. Therefore, engineers, planners and policy makers are unable to identify key benchmarks regarding sea level rise (Kopp, 2019).

Research has identified the strain on food systems as another effect of climate change. Higher temperatures and strained water supplies are requiring new agricultural approaches. Wild fisheries are shifting and, in some cases, shrinking. These changes are affecting crop yields and are likely to be a threat to global food supplies and insecurity, particularly in food insecure developing countries. This may cause instability both at the national and international levels (Kopp, 2019).

Scientists are continuing to conduct research to develop sustainable practices. For example, Pamela Matson, researcher at Stanford University and William Clark from Harvard University have pioneered a study in Sonora, Mexico that has led to new insights into nitrogen cycling in the ocean and more sustainable agricultural practices that will increase food supplies (Matson, Clark & Andersson, 2016).

Institutions of higher learning have taken a lead in research that informs agricultural practices and increase in food production. Notably is the work of Land-grant universities like Rutgers University, established by Congress during the civil war period to train the next generation of farmers and engineers to advance agriculture. These universities have extended the concept beyond agriculture to run programs to help coastal communities to increase their resilience to the in storms and the rise in sea levels. (Kopp, 2019).

Immigration and migration are other major political crises globally in this century and require the contribution of researchers and experts in the field. America prides itself as a nation of immigrants (Abramitzky, Boustan & Eriksson, 2014). This rich legacy is a result of two main eras of US immigration history- the Age of Mass Immigration from Europe (1850-1920) and the recent period of renewed mass immigration from Asia and Latin America (Abramitzky & Boustan, 2017). During the Age of Mass Immigration from Europe, there were unrestricted immigrant arrivals. As many as 55 million immigrants left Europe, with the US absorbing nearly 30 million of these arrivals (Hatton & Williamson, 1998, p. 7). Majority of the immigrants hailed from the Great Britain, Ireland and Germany. Others originated from Austria, Italy, Denmark, Sweden, Norway, Poland and Russia (Abramitzky & Boustan, 2017). These immigrants entered America through Ellis Island. The Statue of Liberty in New York is a memorial of the arrival of many immigrants to America from Europe at the height of World War II (Abramitzky & Boustan, 2017). Some of the immigrants were Jewish refugees fleeing the Holocaust in Nazi Germany under the oppressive regime of Adolf Hitler (Blum & Rei, 2015). The perception of immigrants during the Age of Mass Migration from Europe was positive and many immigrants were welcomed to the United States with open arms (Blum & Rei, 2015)

Today, however, immigration patterns to the United States have changed. The recent period of immigration starting from the turn of the century is characterized by mass immigration. Though immigrants still come from other parts of the world, more than half of these immigrants are from Mexico and Central American countries like Guatemala and El Salvador. About a third are from Asia. (Hanson, 2006).

In the first decade of this century, estimates suggest that around 650,000 undocumented immigrants arrived each year, mainly from Mexico (Angelucci, 2012; Hanson, 2006). Research shows that the demand for immigration to the US now outstrips available quotas, and the number of “illegal” or “undocumented” immigrants living in the US has continued to increase reaching 27 percent of total number of immigrants by 2011 (Abramitzky & Boustan, 2017). Research shows that like the immigrants of mid-19th century, these immigrants also come to America to seek better opportunities, flee religious persecution or violence in their home countries and are seeking refuge in America (Angelucci, 2012; Abramitzky & Boustan, 2017; Hanson, 2006).

Research shows there are mixed reactions towards immigrants coming to America at a time of public skepticism. On one hand, the United States has long been perceived as a land of opportunity for immigrants (King, 2009) and some have perceived immigrants as adding to diversity, the fabric of America and of economic value (King, 2009). On the other hand, both in the past and today, US natives have expressed concern that immigrants fail to integrate into US society, depress wages for existing workers and become a burden to the social and welfare system. Historically, fears have influenced immigration policy and are echoed in contemporary debates (Abramitzky & Boustan, 2017). However, the popular belief that immigrants have a large adverse impact on the wages and employment opportunities of the native-born population of the receiving country is not supported by empirical evidence. The findings of the study by Friedberg & Hunt found that a 10 percent increase in the fraction of immigrants in the population reduces native wages by 0-1 percent. Further, even those natives who have been displaced by immigrant labor do not suffer significantly as a result of increased immigration. Therefore, there is no evidence of economically significant reductions in native employment. (Friedberg & Hunt, 1995).

The findings of a study conducted in the U.K, by Dustmann, Frattini, & Preston (2012), saw an increase of its foreign-born population equal to 3% of the native population over the period between 1997 and 2005. Their research found that immigrants' wages downgrade considerably upon arrival and immigration leads to a decrease in wages at those parts of the distribution where the relative density of immigrants is higher than the relative density of natives. On the other hand, immigration leads to an increase in native wages at parts of the distribution where the opposite is the case (Dustmann, Frattini, & Preston, 2012).

The perceived crises have led to changes in immigration policies and development of new policies that appear to be hostile to immigrants seeking refuge in the United States (Angelucci, 2012). The current immigration policies in America, including executive orders on restriction of visas to nationals of some predominantly Islamic nations, border security and interior enforcement offend the dignity and threaten the rights of immigrants and refugees both in the US and globally (Center for Migration Studies, 2019; Schmidt, 2019; Migration Policy Institute, 2019). These policies contrast with those of some nations like Germany, Italy, Canada, Turkey, and Jordan who have welcomed immigrants fleeing war and religious persecution in Syria (Siobhan, 2019; Mohdin, 2018). Whereas these nations have extended a welcoming hand to immigrants, the numbers of immigrants are in thousands and immigration continues to overwhelm the economies of host nations and some like Italy have revisited their immigration policies to limit the number of incoming immigrants (Krishnadev, 2019).

Implications for practice. The findings of this paper uncover how truths from research have informed crucial decisions in education, science and politics. The contribution of researchers gives clarity and reveals truth by exposing falsehoods on crucial issues, such as women's rights, equity in education, climate change, immigration and politics.

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