The Challenges and Implications of a Global Decline in the Educational Attainment and Retention of Boys

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لبحوث السياسة العامة

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International efforts in education over recent years have rightly included a greater focus on girls' access and achievement. The positive correlation between a girl's level of education with her—and her family's— economic well-being over time, is a consistent finding in diverse contexts across the globe. In the wealthier societies, although girls and women continue to face obstacles in most aspects of life, they have generally surpassed men in educational achievement, including in higher education. WISE has been closely associated with work supporting girls in education internationally. Sakena Yacoobi and Ann Cotton, WISE Prize for Education Laureates, are both well-known for their work in Afghanistan and Africa, respectively, clearly demonstrating the life-changing impact of improving girls' education, as well as the enthusiasm of communities in supporting such initiatives.

The sharper focus on girls' education has inevitably sparked a broader scrutiny of gender issues generally, and led to deeper understandings. More nuanced explanations have emerged for gender disparities in achievement and success. Sweeping statements about the dampening effect of 'culture' across the developing world are discounted or face intense scrutiny. Teachers and teaching, curricula, socio-economic status, geography as well as combinations of these and others all play a role in sketching a clearer portrait of the challenges young people face around the globe.

The WISE-Qasimi Foundation report takes gender issues to a new level of understanding, bringing a finer granularity to portraits of diverse education systems. Through case studies of Qatar, the UAE, the UK, Trinidad & Tobago, the Dominican Republic, and the United States, as well as interviews, the report spurs us to consider more closely the unique challenges that boys face in many education settings. The case studies reveal aspects of those challenges—and education systems themselves—that are enmeshed in the unique development paths pursued in those societies. They provide insight for educators, communities and policy-makers. This report compliments other current and previous WISE research that investigates related themes and questions around drop-out, relevant skills for future jobs, and entrepreneurship.

As we question the relevance of conventional education in these times of turbulence and uncertainty, we continually test assumptions and seek new approaches to gender issues that meet diverse needs. Some are outlined in the report: engaging parents, particularly fathers, in reading to their sons and daughters; establishing data management systems and supplementary intervention programs to identify boys at risk. In these and other policy recommendations, the report goes a long way in sharpening our focus on gender within the greater agenda for change in education, and indicates the way ahead for further fruitful investigation and debate.

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Executive Summary

Over the past two decades, policymakers, international organizations, and scholars focusing on gender and education have largely concentrated their efforts on issues relating to girls (The World Bank, 2013; King & Winthrop, 2015). However, results from recent international assessments, coupled with data on higher education enrolment rates, have led to a new concern about the performance and retention of males - particularly, those from low socioeconomic backgrounds (Organization for Economic Cooperation and Development [OECD, 2015a]; Fryer & Levitt, 2010). In the Middle East and the Caribbean, girls have been outperforming boys for many years, but this phenomenon has received little attention at the global level (Ridge, 2014; United Nations Girls' Education Initiative, 2011). However, as nations across Europe and other parts of the world also begin to face a decline in the relative achievement and retention of males, there has been an increase in attention paid to the academic outcomes of boys, both domestically and globally.

In many countries, males, especially those from low socioeconomic backgrounds, are now more likely to have less education than females. In 2000, more males had tertiary qualifications than females in the Organisation for Economic Co-operation and Development (OECD) countries. However, by 2012, this had shifted with 34 percent of females holding a tertiary degree compared to only 30 percent of males (OECD, 2015a). In terms of achievement, males score significantly lower than females across a range of national and international assessments (Mullis, Martin, Foy, & Hooper, 2016; OECD, 2015a). The 2015 round of the Programme for International Student Assessment (PISA) showed boys scoring on average 27 points lower than girls in reading, with the largest gap witnessed in Jordan at 72 points (OECD, 2016a). A similar pattern also emerged in the Progress in International Reading and Literacy Study (PIRLS) in 2011, in which girls had, on average, a 16-point advantage compared to boys globally (Mullis, Michael, Foy, & Drucker, 2011).

In order to unpack this growing trend, this report uses existing literature, international assessment data, interviews, and case studies from across the globe to examine the relative persistence and performance of males in education. The report explores the different ways in which male underachievement emerges, and analyzes the critical implications of male underachievement for the labor market and society. It then looks in more depth at six countries: Qatar, the United Arab Emirates, Trinidad and Tobago, the Dominican Republic, the United States, and the United Kingdom in order to understand some of the unique challenges facing males in different regions, and to identify some promising initiatives to support males going forward. We find that in all settings, poverty intersects with gender to play a significant role in predicting achievement and additionally, that race and geography are important considerations when trying to explain male attainment.

In order to best address this issue, the report emphasizes the need for future research which:

1. Quantifies the costs of male underachievement and the benefits of their receiving meaningful education.

2. Identifies specific populations of boys that are most at risk. This would enable education authorities to consider and adopt programs that address the different needs of at-risk boys rather than employing a one-size-fits-all approach. Policymakers need to ensure that the right populations of boys receive the interventions that they need, respectively.

In addition to calling for more and better research focused on male under-achievement in education, we conclude by offering a number of policy recommendations to support boys. These policy recommendations focus on four levels: the home, school/district, national, and international. Some of the recommendations include:

Home

1. Programs for parents to provide awareness of, and strategies to, address the negative impact of excessive online gaming

2. Father son/daughter reading programs

School/District

1. Robust data management systems

2. A range of supplementary intervention programs targeting at-risk boys

3. Training for teachers on boy-friendly pedagogies

National

1. Research funds targeted at exploring issues of male disadvantage

2. National programs promoting father involvement in education

3. Initiatives to increase the numbers of males entering and completing teacher training programs

International

1. A stream focused on at-risk boys in the Global Partnership for Education (Organisation for Economic Cooperation and Development [OECD], 2015a; Fryer & Levitt, 2010)

2. An online portal that acts as hub for any resources relating to educating boys and men

3. A global award for innovative programs that support at-risk boys and their families

Ultimately, this report highlights the need for additional research on male underachievement and for more programs specifically focused on supporting boys, particularly those at the lower end of the socioeconomic spectrum. We stress that boys, as much as girls, need to be engaged in education, not only for their own future, but also for their families and for society as a whole.

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Abbreviations and Acronyms

1. **CITI**: Collaborative Institutional Training Initiative
2. **CSEC**: Caribbean Secondary Education Certificate
3. **DOL**: Department of Labor
4. **EFA**: Education For All
5. **FBI**: Federal Bureau of Investigation
6. **CEPA**: Common Educational Proficiency Assessment
7. **GCC**: Gulf Cooperation Council
8. **GCSE**: General Certificate of Secondary Education
9. **HE**: Higher education
10. **HOL**: Hands on Learning
11. **ICPS**: International Centre for Prison Studies
12. **IEA**: International Association for the Evaluation of Educational Achievement
13. **IES**: Institute of Education Sciences
14. **ILO**: International Labour Organization
15. **KHDA**: Knowledge and Human Development Authority
16. **MDGS**: Millennium Development Goals
17. **MOE**: Ministry of Education
18. **NAEP**: National Assessment of Educational Progress
19. **NAEP-LTT**: National Assessment of Educational Progress Long Term Trend
20. **NEET**: Not in Education, Employment, or Training
21. **NCES**: National Center for Educational Statistics
22. **OECD**: Organisation for Economic Cooperation and Development
23. **PIRLS**: Progress in International Reading Literacy Study
24. **PISA**: Programme for International Student Assessment
25. **RGS**: Royal Grammar School
26. **SEA**: Secondary Entrance Assessment
27. **SDG**: Sustainable Development Goals
28. **STEM**: Science, technology, engineering, and mathematics
29. **TIMSS**: Trends in International Mathematics and Science Study
30. **UAE**: United Arab Emirates
31. **UAEU**: UAE University
32. **UCAS**: University and Colleges Admissions Services
33. **UCR**: Uniform Crime Reporting
34. **UIL**: UNESCO Institute for Lifelong Learning
35. **UIS**: UNESCO Institute of Statistics
36. **UK**: United Kingdom
37. **UNDP**: United Nations Development Program
38. **UNESCO**: United Nations Educational, Scientific and Cultural Organization
39. **UNICEF**: United Nations International Children's Emergency Fund
40. **US**: United States
41. **UWI**: University of the West Indies
42. **WWM**: Working with Men

Introduction

"Women are not always the losers and men are not always the winners in gender systems."

— Bannon and Correia
(2006, p. xix)

In a 2015 report from the Organization for Economic Cooperation and Development (OECD) entitled *The ABC of Gender Equality in Education,* the authors state that over the past century, "OECD countries have made significant progress in narrowing or closing long-standing gender gaps in many areas of education and employment, including educational attainment, pay and labor market participation" (OECD, 2015a, p. 20). The closing of the education gender gap has been a key priority not just for OECD and non-OECD countries alike, but also for international development organizations and governments which have devoted substantial resources to ensure that females have equal access to educational and labor market opportunities (Unterhalter & North, 2011). The significant progress made in closing gender gaps, however, has overshadowed the emergence of a new phenomenon: males, particularly those from low socioeconomic backgrounds, are more likely to have lower levels of educational attainment than females; to leave school early; and to face a higher risk of unemployment (Autor & Wasserman, 2013; DiPrete & Buchmann, 2013b; OECD, 2015a).

The issue of gender disparity in educational attainment is one that has concerned academics and policymakers for at least the last 50 years. Initially, concerns were driven by the burgeoning feminist movement and the belief in education as an inalienable human right for both males and females (Acker, 1987; UN General Assembly, 1948). However, economists subsequently contributed to the debate by positing human capital arguments that center on the capacity of both males and females to contribute to the economic growth of the nation state (Heyneman, 2003; Schultz, 1993). Hence, any situation in which girls or boys were deprived the necessary education to help them become fully contributing members of the labor force needed to be addressed. Following this research were studies that examined additional costs to society, such as generational costs of poorly educated women with regard to child rearing (Dankmeyer, 1996) or lower life expectancy due to a lack of knowledge about basic health and nutrition stemming from poor education (Meara, Richards, & Cutler, 2008). As such, there remains a legitimate and well-researched basis for concern about gender disparities in education that relate not only to the impact on the individual, but also to society more widely.

Despite having received relatively little attention, the phenomenon of male disadvantage in education is not something new. Over the past two decades, there have been attempts by a handful of researchers to draw attention to what has now become an issue of global proportions. In 2001, the World Bank published a report entitled *Engendering Development: Through Gender Equality in Rights, Resources and Voice,* and while the report was dedicated to issues regarding women, it also recognized the importance of involving men in development, and called for "education interventions or other social policies that target males rather than females" (The World Bank, 2001, p. 265). Furthermore, in 2006, in a seminal volume entitled *The Other Half of*

Gender, Men's Issues in Development, Bannon and Correia raised concerns over the erosion of male human capital as a result of their educational underperformance and failure to persist in education. At the government level, there were also a number of reports published in Australia, the United Kingdom (UK), and the Caribbean in the mid- to late- 2000s that also called for a greater attention to boys' education (Education and Training 2003; House of Commons, 2014; Minister for Science, Education and Training 2003; Standing Committee on Education and Training, 2002; The World Bank & The Commonwealth Secretariat, 2009), resulting in the launch of several pilot initiatives. However, as the decade came to an end, so did much of the research and initiatives relating to boys and men, especially with regard to education.

In the face of an almost global reversal of the gender gap in education from female to male, the issue of male disadvantage, both in education and increasingly in employment, has once again become an area of interest for policymakers and academics. Recent research has found that poorly educated males are overrepresented in prison populations (Harlow, 2003), less likely to seek medical care, more likely to die from preventable diseases (Ross, Masters, & Hummer, 2012), and more likely to be absent fathers, leading to lower educational outcomes for their sons and daughters (McLanahan, Tach, & Schneider, 2014). Not only is the poor educational attainment of males affecting individuals, their families and their communities, but it is also perceived to have an impact on the wider political landscape. After Britain's decision to exit from the European Union (Brexit) and the election of Donald Trump as the President of the United States, the topic of disadvantaged males, in particular white working class men, is now receiving national and international attention (Cohn, 2016; McKenzie, 2016). The growing concern over how disenfranchised males (and their communities) will vote in upcoming elections across Europe is currently fueling a media firestorm, but it's unclear how policymakers could, or should, respond.

This report seeks to fill the gap in the literature by providing a holistic examination of the current status of males in education, and the possible implications of this phenomenon for males and society at large. The study is guided by four broad research questions:

1) What is the extent of male disadvantage in education and which males are most at risk?

2) What are the implications of male underperformance in education?

3) What is being done (or not being done) to address this issue in six particular countries?

4) What are some possible solutions for policymakers to address the issue without causing a swing back to inequalities for females?

To answer these questions, we have utilized existing research, data from international and national assessments, and interviews with practitioners, experts and policymakers.

Chapter 1 provides an overview of the nature of gender gaps in education and the potential factors that cause them by exploring past literature and various longitudinal data from a variety of international organizations. Chapter 2 explores the impact of male underachievement in education on the labor market and society. Chapter 3 provides the methodology behind the report, while Chapters 4-7 look at the issue in more depth through case studies of six countries where significant male disadvantage in education can be found: the United Arab Emirates (UAE); Qatar; the United Kingdom (UK); Trinidad and Tobago; the Dominican Republic; and the United States of America (US). The case studies also explore the common characteristics of select at-risk males who are often overlooked in the global education policy conversations. Finally, Chapters 8 and 9 conclude the study by summarizing the trends and providing recommendations for policymakers, international organizations, and academics.

Chapter 1
The Changing Gender Gap in Education

Education in the form of learning from books or manuscripts has historically been the domain of males — but more precisely, the domain of privileged males (Matthews, 1976). In ancient Rome and Greece, men would gather together and discuss various philosophical theories with their mentors and teachers, while women would often take care of home and domestic matters (Bonner, 1977). Historically, the man's role in the family has been that of provider (Bernard, 1981), and as such, the education of males was primarily for the purpose of ensuring their ability to provide (Noltemeyer et al, 2012). Males from lower socioeconomic backgrounds would usually receive certain forms of vocational training from their father or another family member in trade or farming, while females would stay home to take care of children (Noltemeyer, Mujic, & McLoughlin, 2012).

With the advent of the Industrial Revolution, females began to leave the domestic sphere and take up employment outside the home (Acker, 1987). Following this, the spread of free public education in the 1900s across many countries in the world gave both girls and boys from all classes access to knowledge and skills that, for the first time in history, enabled not only the possibility of upward mobility, but also for new gender roles to emerge (Scott, 2008). Global efforts to advance girls' education have resulted in rapid improvements in girls' educational attainment and achievement, even to the point where girls have come to surpass boys in many areas of educational attainment (UNICEF, 2011). Especially in the Western context, we now find girls outperforming boys across several educational indicators, including: years of schooling (Buchmann, DiPrete, & McDaniel, 2008; OECD, 2015a); tertiary completion rates (OECD, 2015a); and, performance in national and international assessments (Duckworth & Seligman, 2006; Fergusson & Horwood, 1997; OECD, 2016a). Each of these indicators is explored in the following sections.

Years of Schooling

Historically, males from OECD countries typically received more years of education than females, as can be seen in Figure 1.1 below. Over time, both males and females increased their years in schooling, but the gap between them remained. It was only in 2000 that the gender gap between males and females closed completely. Following this, the female years of schooling started to surpass that of males for the first time in history.
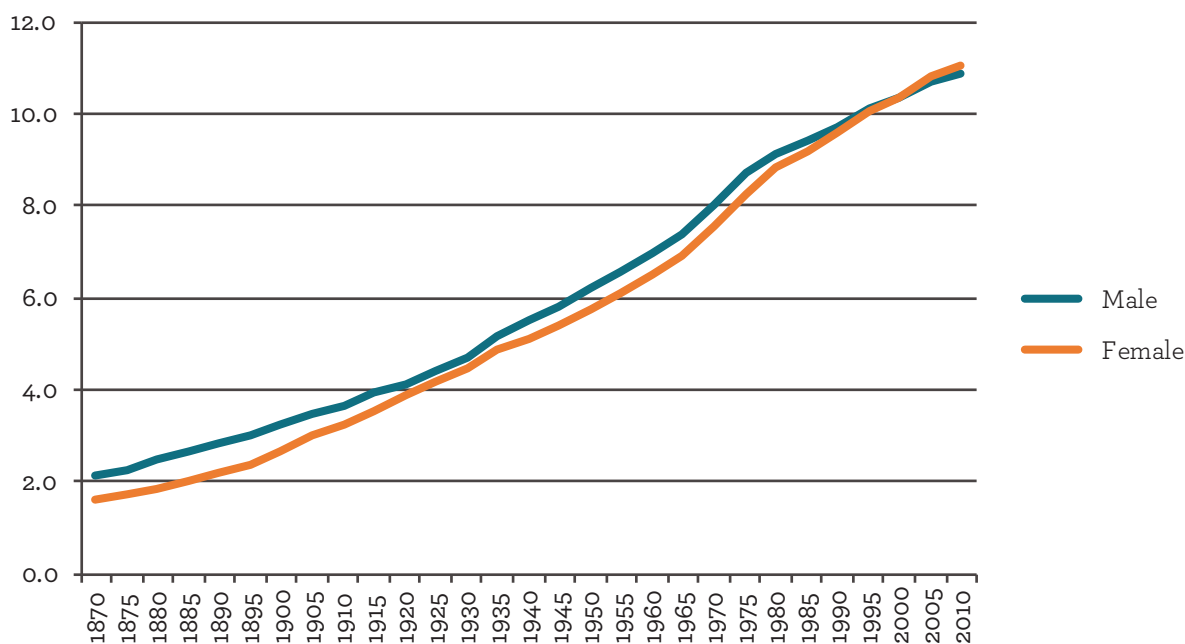
Figure 1.1 Trends in average years of schooling in OECD countries from 1870 to 2010. Source: Barro & Lee, 2013

Outside of the OECD countries, a similar phenomenon can be observed whereby males in several countries also have a shorter school life expectancy, which is the projected number of years that a student will remain in school. Table 1.1 shows that in several countries around the world[1], females typically spend more years in school than males (UNESCO Institute of Statistics [UIS], 2016). For example, in the US, the average school life expectancy for females is 17.4 years, while it's only 15.8 years for males (UIS, 2016). In other places, the gap is even larger, as is the case in Barbados where males spend 13.9 years in education compared to females who spend an average of 16.7 years, a difference of almost three years. This points to both a higher school retention rate for girls, and a higher likelihood for girls to participate in tertiary education.

| Country/Region	Year	School Life Expectancy (Years)	
		Female	Male
World (UIS countries)	2014	12.1	12.2
Trinidad and Tobago	2004	12.5	12.1
Dominican Republic	2014	13.7	12.7
Barbados	2011	16.7	13.9
Qatar	2010	13.3	12.2
UAE	N/A	N/A	N/A
UK	2014	18.4	17.5
US	2014	17.4	15.8
			Source: UIS, 2016

Table 1.1 Country-level comparison of school life expectancy from primary to tertiary levels

1. Statistics for these countries were used because they are explored in greater detail as case studies in Chapters four to seven, with the exception of Barbados.

Tertiary Completion Rates

If we turn to tertiary completion rates, as shown in Figure 1.2, we can see that very few males or females in the 1870s earned a tertiary degree. The figure shows that males were more likely to earn a degree than females in the period between the early 1900s and the 1990s. However, after this time, a reversal occurs, in which more females than males start to complete tertiary education. A 2015 OECD report supplements this data, finding that while more males had attained a tertiary qualification than females in OECD countries in 2000, this trend had shifted by 2012 with 34 percent of females having attained a tertiary degree versus only 30 percent of males (OECD, 2015a). As the data in this figure suggests, the gender gap at the tertiary level also continues to grow.
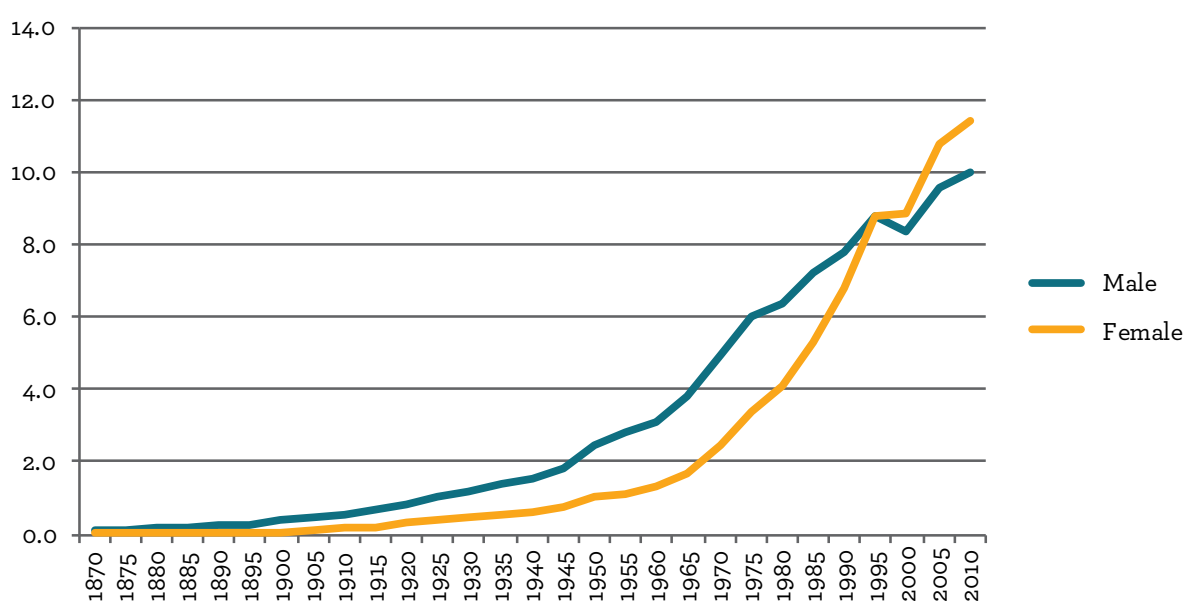
Figure 1.2 Trends in percentage of 15-64 year olds who completed tertiary education in OECD countries from 1870 to 2010
Source: Barro & Lee, 2013

Performance on International Assessments

Not only are males falling behind females in terms of their years of schooling, but they are also performing worse on various international assessments across a range of academic subjects. In the 2015 Programme for International Student Assessment (PISA), a cross-national study conducted by the OECD, boys, on average, scored less than girls in reading in every single participating country (see Box 1.1 for more information about international assessments). In science, the seven countries with the largest gender gaps were all gaps in favor of girls. Even in mathematics, an area where boys traditionally outperformed girls, there has been a steady growth in the number of countries where girls outperform boys (OECD, 2016a).

Box 1.1 International Assessments

In the international education policy arena, international assessments have become a much relied-upon source of information for policymakers and academics alike. The development of various international assessments has enabled cross-national and longitudinal comparisons of academic achievement across the world. In addition to providing data on mathematics, science, and reading proficiencies, international assessments also include supplementary survey results that provide insights into teachers, and parents, and also into student learning styles. The vast amounts of internationally comparable data generated by these assessments have helped them gain popularity among governments and policymakers since their inception. The most well-known studies are the OECD's PISA and the International Association for the Evaluation of Educational Achievement's TIMSS and PIRLS.

The Programme for International Student Assessment (PISA)

PISA is a global study undertaken by the OECD every three years that measures achievement levels of 15-year-old students across three major academic disciplines—mathematics, reading, and science. The first PISA was administered in 2000 with 28 OECD member countries and 15 partner countries, and since then, it has expanded to a total of 34 OECD member countries and 31 partner countries in its most recent administration (OECD, 2016b). Today, PISA has become one of the most prominent and comprehensive international assessments in the world. Most notably, aggregate PISA results from the past two decades have shown that girls consistently outperform boys in reading in every participating country, while boys outperform girls in mathematics in approximately 63 percent of participating countries (OECD, 2016a).

The Trends in International Mathematics and Science Study (TIMSS) and the Progress in International Reading Literacy Study (PIRLS)

TIMSS and PIRLS are international assessments administered by the International Study Center at Boston College, a subsidiary within the International Association for the Evaluation of Educational Achievement (IEA). TIMSS measures mathematics and science knowledge and skills of Grade 4 students (typically ten-year-olds) and Grade 8 students (14-year-olds), while PIRLS measures reading proficiency of Grade 4 students. TIMSS was first conducted in 1995, and has been conducted every four years since then. PIRLS emerged later in 2001, and has been conducted every five years for Grade 4 students. The trends found in TIMSS and PIRLS are similar to those in PISA, in that girls do better in reading overall, while boys do better in mathematics (Mullis, Martin, Foy, & Hooper, 2016; Mullis, Martin, Foy, & Drucker, 2011).

While popular with governments and policymakers, there is also a growing body of research that advises caution regarding what these international assessments can and cannot speak to. For example, while it is good to be able to compare cross-nationally, it is not possible to import reforms wholesale and expect the same results (Steiner-Khamsi & Waldow, 2012). A degree of simplicity regarding education reform is implied from these assessments that ignore historical, cultural, and societal factors. As such, while international assessments can be helpful as indicators of overall student achievement, there is still need for national, state and school level data in order to gain more nuanced insights into local education systems.

The emergence and growth in international assessments, such as PISA[2], have enabled cross-national comparisons of education systems across space and time. Using data from PISA 2015, we are able to map global patterns of achievement by gender in reading and mathematics, respectively. Looking at Figure 1.3, which shows PISA reading achievement from 2015, we can see that girls outperform boys in all participating countries. Figure 1.4, which looks at mathematics achievement, shows a more mixed pattern with girls outperforming boys in only 24 of the 72 participating countries, with no difference in three countries.

- 🟩 Average score higher for girls
- 🟪 Average score higher for boys
- 🟥 Average score higher for boys & girls
- ⬜ Did not participate

Figure 1.3 Map of gender disparity in PISA 2015 reading scores.[3] Source: Generated using mapchart.net, by Minas, 2017. Data adapted from OECD, 2016a.

2. While PISA covers the three subjects of reading, mathematics, and science, this report focuses primarily on reading and mathematics results. However, science scores are included in some select areas.

3 Four China provinces (Beijing, Shanghai, Jiangsu, and Guangdong) participated in PISA. Ciudad Autónoma de Buenos Aires (CABA) is included in shading for Argentina. In Macao (China) and Chinese Taipei, the average score for girls was higher than that for boys.
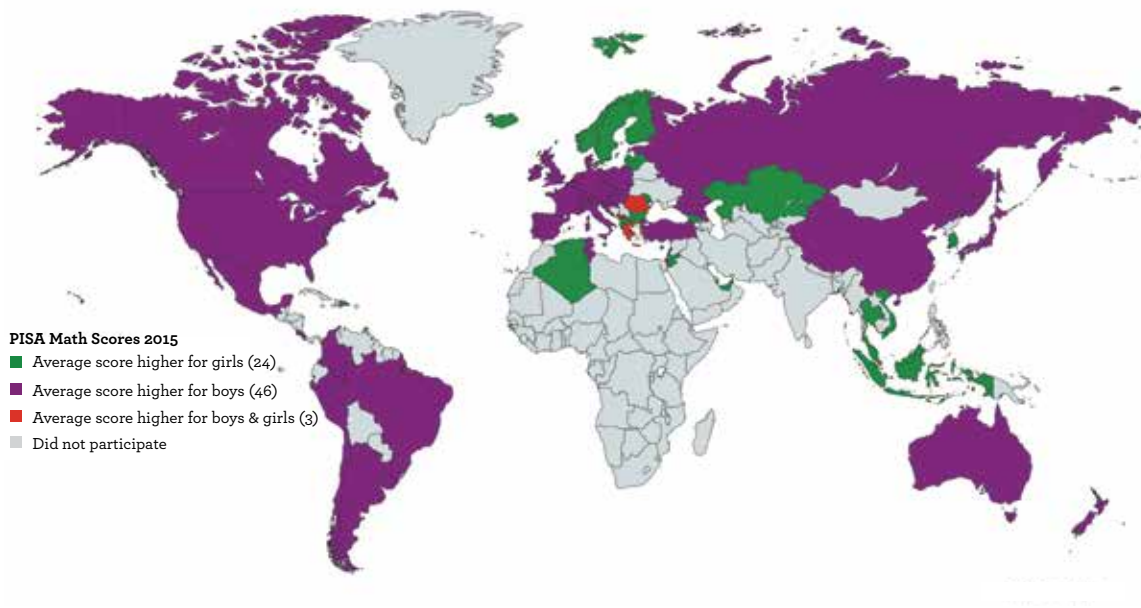
Figure 1.4 Map of gender disparity in PISA 2015 mathematics scores.[4] Source: Generated using mapchart.net, by Minas, 2017. Data adapted from OECD, 2016a.

To capture the full extent of the gender divide, we further examined data from the 20 countries with the largest gender gaps in reading on the 2015 PISA, along with their performance in mathematics, in Figure 1.5 below.
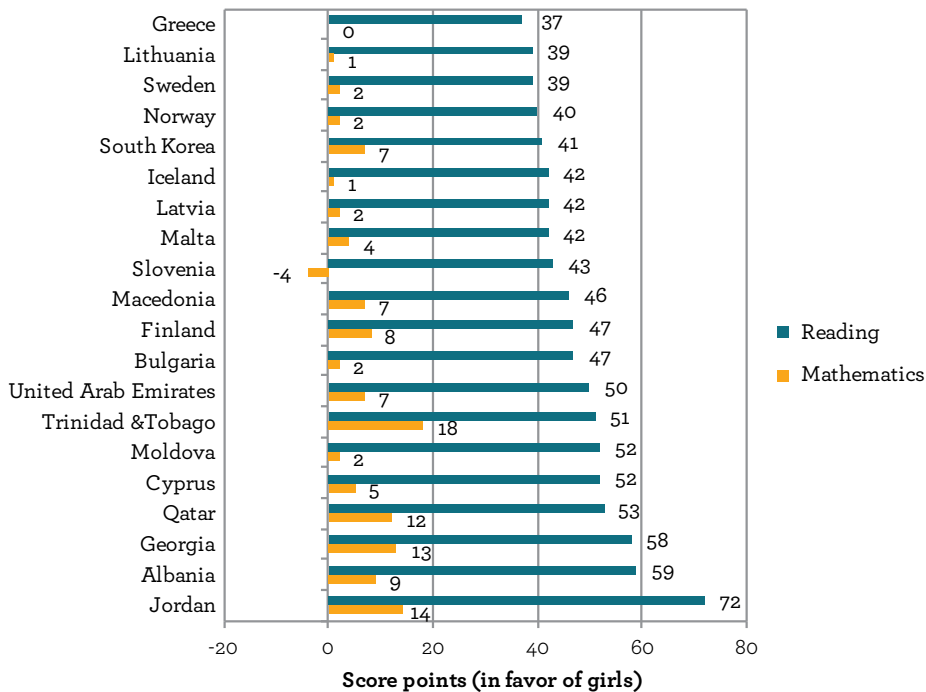
Figure 1.5 The 20 countries with largest gender gaps in PISA 2015 reading scores (and the corresponding mathematics gap). Source: OECD, 2016a

4. Four China provinces (Beijing, Shanghai, Jiangsu, and Guangdong) participated in PISA. Ciudad Autónoma de Buenos Aires (CABA) is included in shading for Argentina. In Macao (China), the average score for girls was higher than that for boys. In Chinese Taipei, the average score for boys was higher than that for girls.

Figure 1.5 shows that the widest gender gap in reading was in Jordan at 72 points (OECD, 2015a). The countries with the largest gender gaps in reading also tended to show significant gender gaps favoring girls in mathematics as well, with the exceptions of Slovenia and Greece. There was a four-point gap favoring boys in Slovenia and no significant gender difference in Greece. Trinidad and Tobago in the Caribbean had the seventh largest gender gap in reading and the largest gender gap in mathematics of all countries participating in PISA 2015.

The issue of boys' growing underachievement becomes more evident when PISA scores are examined in terms of baseline proficiencies, which are the minimum proficiency levels required for students to participate effectively and productively in school and society (OECD, 2016a). In reading, not only did more boys than girls fail to reach the baseline level of proficiency, but also more girls than boys reached the highest level of proficiency in the majority of countries assessed in PISA (OECD, 2016a). In science, the case was similar, with 22 percent of boys not meeting the baseline proficiency, compared to 21 percent of girls. In addition, more boys were represented in the low-performing group in science in 28 countries, while more girls were represented in the same group in only five countries (OECD, 2016a). Finally, in mathematics, a subject where boys have historically outperformed girls, the lowest-performing group of boys scored lower than the lowest performing group of girls (OECD, 2016a). When all three domains are examined together, a far larger percentage of boys than girls failed to attain the baseline level of proficiency in both PISA 2012 and PISA 2015 (OECD, 2014; OECD, 2015a). Overall, in PISA 2015, boys comprised six out of every ten students who did not attain the baseline level of proficiency in any of the three subjects (OECD, 2016a). Furthermore, boys showed a larger variation in performance than girls, meaning that there was a significantly larger gap between the highest performing boys and the lowest performing boys than the highest performing girls and the lowest performing girls.

It is this underlying trend of low performing males that should be of particular concern to policymakers. Low levels of achievement may lead boys to become demotivated and disengaged from school. When boys do not achieve well in school, they are more likely to have poor attendance (Gottfried, 2010), and are ultimately more likely to dropout (Maani & Kalb, 2007; Rice, 1999).[5] Boys who drop out of school are also more likely to be at risk of not being in employment or training (see Box 1.2). Males' disengagement from school also leads to a host of other destructive behaviors both in and out of school, including high rates of substance abuse (Crum, Helzer, & Anthony, 1993), violence (Lochner, 2003), incarceration (Alliance for Excellent Education, 2013; Harper & McLanahan, 2004), and higher rates of suicide (Abel & Kruger, 2005). Education serves as a protective mechanism against a plethora of damaging lifestyle choices that not only affects the individual, but also those around the individual. Hence, it is critical that the systemic issue of boys' underachievement in education is examined with greater attention.

5. For example, in the US in 2014, the status dropout rate (percentage of 16- to 24-year-olds not enrolled in school and without a high school credential) was 7.1 percent for males and 5.9 percent for females (National Center for Education Statistics, 2016).

Box 1.2 Not in Education, Employment, or Training (NEETs)

There is growing concern about youth who are "not in education, employment, or training". The definition of NEET has emerged in recent years as a section of youth that could not be classified using traditional categories of labor market participation. In the past, youth in the 16 to 25 year-old range would typically be classified into either studying or working (or in training).

Due to the rise of early school dropouts and youth unemployment, the growing number of NEETs is currently a serious worldwide concern. While a variety of factors have led to the NEET phenomenon, it is particularly attributed to the uncertainty in economic market performance as well as the slower transition from school to the labor market (ILO, 2015). In 2015, the total number of NEETs reached 38.4 million in the OECD countries (Carcillo, Fernandez, Konigs, & Minea, 2015). To address this issue, the United Nations (UN) pledged to significantly reduce the proportion of NEETs by 2020, as a part of its 2030 Sustainable Development Goal (SDG) 8 to "promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all" (UN General Assembly, 2015, p.14).

The burden of an expanding NEET population is multifaceted. On a social level, NEETS are more likely to become disenfranchised from society and suffer from poverty. On an economic level, they represent a huge cost to society as they continue to benefit from welfare without utilizing their productive capacity (Eurostat, 2016). A prolonged period of being a NEET can have negative long-term effects on a young person's potential for future employment and earnings, as they are failing to equip themselves with skills, qualifications or experience that will move them forward in the labor market (ILO, 2015). NEET status is also strongly correlated to low educational attainment, as 85 percent of all NEETs are without tertiary education and 36 percent without more than lower-secondary education (Carcillo et al, 2015). As such,it's clear that low-educated youth with little or no work experience have a disproportionately higher likelihood of being classified into the NEET category, and an even greater risk of becoming part of the long-term unemployed.

Higher Education

While the introduction of compulsory schooling paved the way for mass education, higher education remained reserved for those who could afford to undertake studies beyond the mandatory, publicly funded years. However, over the past 50 years, various government initiatives to increase access have resulted in a massive expansion of the higher education sector, and a dramatic increase in the number of students, particularly females, participating in higher education worldwide.[6] In 1970, the gross enrollment ratio of males

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6 Between 1970 and 2014, there was more than a six-fold increase in the number of students participating in higher education (UNESCO, 2016).

in the tertiary education sector worldwide was 11.7 percent, compared to 8.5 percent for females (UIS, 2016). By 2014, 32.8 percent of all males worldwide were enrolled in higher education, but more significantly, the percentage of females had grown to 36.2 percent (UIS, 2016), with the percentage of females now surpassing the percentage of males for the first time in history.

Table 1.2 shows the growing tertiary gross enrollment rates in UNESCO Institute of Statistics (UIS)-defined regions from 2000 to 2014. East Asia and the Pacific show an especially large increase for females, with an almost 30 percent increase in female participation (from 14.1 percent to 41.1 percent) versus only a 20.2 percent increase for males (from 16.8 percent to 37.0 percent) (UIS, 2016). By 2014, more females than males were enrolled in tertiary education in all regions in Table 1.2, except in South and West Asia and Sub-Saharan Africa (UIS, 2016). Female enrollment in tertiary education is highest in North America and Western Europe with a staggering 86.1 percent of females enrolling in tertiary education compared to only 67.1 percent of males (UIS, 2016).

		2000	2005	2010	2014
World	Male	19.1	23.8	28.3	32.8
	Female	19.0	24.8	30.4	36.2
Arab States	Male	20.0	22.6	24.8	28.3
	Female	17.1	21.8	26.0	29.6
Central & Eastern Europe	Male	39.4	52.0	61.5	69.4
	Female	46.7	65.5	77.0	79.75
Central Asia	Male	22.5	26.1	24.1	25.0
	Female	22.0	28.0	25.8	26.5
East Asia & the Pacific	Male	16.8	24.4	27.3	37.0
	Female	14.1	22.1	28.2	41.4
Latin America & the Caribbean	Male	20.9	27.9	35.4	39.0
	Female	24.5	33.6	45.8	50.4
North America & Western Europe	Male	53.7	60.6	67.2	67.1
	Female	66.8	79.8	88.3	86.1
South & West Asia	Male	10.5	11.8	19.6	23.6
	Female	7.0	8.7	14.9	21.8
Sub-Saharan Africa	Male	5.2	7.0	9.0	9.7
	Female	3.4	4.7	6.1	6.8
					Source: UIS, 2016

Table 1.2 Growth in tertiary gross enrollment rates by gender and region (2000-2014)

With more females enrolling in tertiary education, they are also more likely than males to go on to earn graduate degrees (Bae, Choy, Geddes, Sable, & Snyder, 2000; DiPrete & Buchmann, 2013). Charles and Luoh (2003) suggest

that fewer males may be pursuing higher education due to the growing uncertainty about economic benefits of education for males. However, research finds that the economic returns to higher education for males have been rising (Brand & Xie, 2010; Jepsen, Torske, & Coomes, 2009; Lemieux, 2006). Despite these strong returns, males continue to have lower participation rates in tertiary education across many different countries. By failing to continue their education, males are limiting their opportunities in the labor market, particularly as the type of labor demanded has changed significantly. The next section looks at some of the factors that may be contributing to boys falling behind girls in education.

Factors Influencing Gender Disparities in Education

Factors that may explain male underachievement typically fall under two categories: schoolWW-level factors (teachers, curriculum, pedagogy) and/or demographic factors (ethnicity, socioeconomic status (SES), and geographical location). These factors are described in greater detail in the following sections.

School Level Factors

Teachers

Research finds that a supportive teacher can have a significantly positive impact on student achievement and on the prevention of students dropping out of school (Croninger & Lee, 2001; Hanushek, 2005). Carrington and McPhee (2008) argue that boys can especially benefit from having male teachers as role models. Male teachers are more able to understand issues related to males, and consequently are more inclined to cater to the learning experiences of boys. Some researchers attribute low levels of male achievement and engagement to the absence of male teachers in schools, or in other words, a 'feminization' of the teaching profession (Mulholland & Hansen, 2003; Pollack, 1998)[7]. The debate around to the potential impact of male teachers on student learning and achievement is active, and it continues to be an important area for future research (Bussey & Bandura, 1999; Carrington, Tymms, & Merrell, 2008; Croninger & Lee, 2001; Dweck, Davidson, Nelson, & Enna, 1978; Holmund & Saund, 2008; Mulholland & Hansen, 2003).

Boys may also be disadvantaged due to teacher's having a conscious or unconscious gender bias (Falch & Naper, 2013). Harlen (2004) found that teachers of students aged four to 18 tended to make judgments about boys' academic abilities based on their misbehaviors, which contributes to a higher likelihood of boys receiving lower grades. However, it was not clear whether this was particular to female or male teachers. It's also important to keep in mind that grades are comprehensive measures that take into account a variety of factors, including classroom behavior and academic performance (DiPrete & Jennings, 2012).

7. The factors behind the feminization of education are debated (Boyle, n.d.). In the US, since the mid-1800s, women have been the majority of teachers, and some researchers argue that women began to enter the profession when men left teaching to enter higher paying jobs available following the industrial revolution (Boyle, n.d.). Historically, in the US and in other nations, teaching provided women with a source of financial empowerment at a time when they were prohibited from entering other professions (Boyle, n.d.; Kelleher, 2013).

Curriculum

With regard to the curriculum, another line of research suggests that it has become geared more towards females than males, thus giving girls an advantage. For example, Bleach (1998) argues that boys perform better in examinations and girls perform better on coursework that requires assessment over time. There is also research that looks at the way in which material is delivered and how prolonged periods of sitting coupled with an emphasis on note taking, reading and writing also gives girls an advantage (Cornwell, Mustard, & Van Parys, 2013; Gurian & Stevens, 2006). However, research is yet to identify a definitive link to explain the largest differences.

Also related to curriculum, the time spent on homework can have an influence on a student's academic success. Boys in OECD countries only spend an average of four and a half hours per week doing homework, compared to girls, who spend an average of five and half hours per week (OECD, 2015a). Another study that looked at high school students in the US also found that boys spend an average of one hour less per week doing homework than girls (Gershenson & Holt, 2015). Boys also tend to spend more time on technology than girls (see Box 1.3 about males and gaming). Current research provides strong evidence that time spent on homework positively correlates with academic achievement (Mau & Lynn, 2000; Walberg, 1991); especially in terms of mathematics (Cheema & Sheridan, 2015), boys benefit less compared to girls from the positive effect of homework hours. In addition, given that each hour of homework per week translates to scores an average of four-points higher on PISA (OECD, 2015a), the gender discrepancy in homework patterns may reflect the disengagement of boys from school, and may at least partially explain their underperformance on international assessments.

Pedagogy

A final school-related factor affecting male achievement is pedagogy. It may be that boys and girls respond better to different pedagogical practices, and a number of researchers have explored this issue (Gipps, 2003; Kenway, Blackmore, Willis, & Rennie, 1996; Kruse, 1992; Mead; 2006). While some researchers argue that there are only trivial differences between the ways that boys and girls learn (Rivers & Barnett, 2013), others argue that there are fundamental differences between the ways that boys and girls process information (Gurian & Ballew, 2003). If there are innate differences between the two genders, it follows naturally that certain educational approaches may work better for boys than girls.

Particularly, the global trend of boys falling behind girls in reading calls to attention the need to improve methods for engaging boys in reading for pleasure. Research finds that the habit of reading for pleasure is positively related to academic achievement (Clark, 2011; Clark & Douglas, 2011) and has been found to have a stronger effect on students' educational success than their family's socioeconomic status (OECD, 2002). However, PISA data finds that girls tend to enjoy reading for pleasure more than boys (OECD, 2016a). Since all learning is predicated upon having a sound proficiency in reading, having strong reading proficiency has a positive effect on student performance in all other subjects as well.

Box 1.3 The Influence of Gaming on Education

Aside from formal academics, educational achievement is also influenced by how students spend their time outside of school. Researchers looking at the PISA data have found that there are emerging gender differences that contribute to the comparative disadvantage of boys in education (OECD, 2015a). In particular, they have examined the impact of gaming, reading, and homework on PISA test scores.

Overall, boys spend a far greater amount of their spare time on the computer and the Internet than girls (Shashaani, 1997), particularly for playing games (Colley & Comber, 2003). The 2015 report from the OECD, found that not only are boys more likely to play games, but they are also more likely to play games every day (OECD, 2015a). Table 1.3 shows how male and female students differ in their patterns of playing video games on the computer. It shows that males are far more likely to play collaborative online games than girls.

Frequency	One-player games (%)		Collaborative online games (%)	
	Males	Females	Males	Females
Never or hardly ever	25.4	56.1	29.4	70.8
Play, but not every day	61.2	41.3	51	27.0
Play everyday	13.4	2.6	19.6	2.2

Source: OECD, 2012

Table 1.3 Frequency of playing video games on the computer by type and gender

The type of game played has implications for student achievement. On average, students who play one-player video games occasionally scored better in all subjects tested in PISA than students who play one-player games every day and even better than students who never or hardly ever play (OECD, 2015a). However, students who play collaborative online games consistently did worse on all PISA domains (OECD, 2015a).

Wider research on the effects of gaming on academic achievement remains inconclusive. Scholars have found both positive (Bower & Berland, 2013; Przybylski & Mishkin, 2016) and negative (Gentile, Lynch, Ruh Linder, & Walsh 2004; Swing, Gentile, Anderson, & Walsh, 2010) effects of gaming on achievement. Nevertheless, spending a significant portion of free time on gaming means that students have less time for studying and homework (Cummings & Vanderwater, 2007), which has far more direct and negative consequences on academic achievement.

Demographic Factors

Race/ethnicity, socioeconomic status, geography, and gender are key demographic factors tied to academic success (Autor et al, 2015) and are explored in the following sections.

Race/Ethnicity

Research finds that not only are students from certain racial/ethnic backgrounds more educationally disadvantaged than others in many parts of the world (Darling-Hammond, 1998), but also that there are gender differences within and between racial/ethnic groups. In the US, while black, Latino, and Native American[8] populations tend to underperform compared to their white and Asian peers, important gender gaps exist within these populations (Aud, Fox, & KewalRamani, 2010; Jencks & Phillips, 1998; King, 2005; NAEP, 2016; NCES, 2016). Figure 1.6 shows the underperformance of boys in reading by gender and race in the US on the 2013 National Assessment of Educational Progress (NAEP). In each race/ethnicity grouping, boys underperformed compared to girls (NAEP, 2016). The smallest gender gap was for children of two or more races (mixed race), with boys scoring an average of five points less than girls, while the largest gap was between Native Americans, with boys scoring an average 22 points less than girls (NAEP, 2016). Within and across each of the groups, boys are performing worse than girls, and boys of color are on average performing worse than those who are white or Asian (NAEP, 2016).
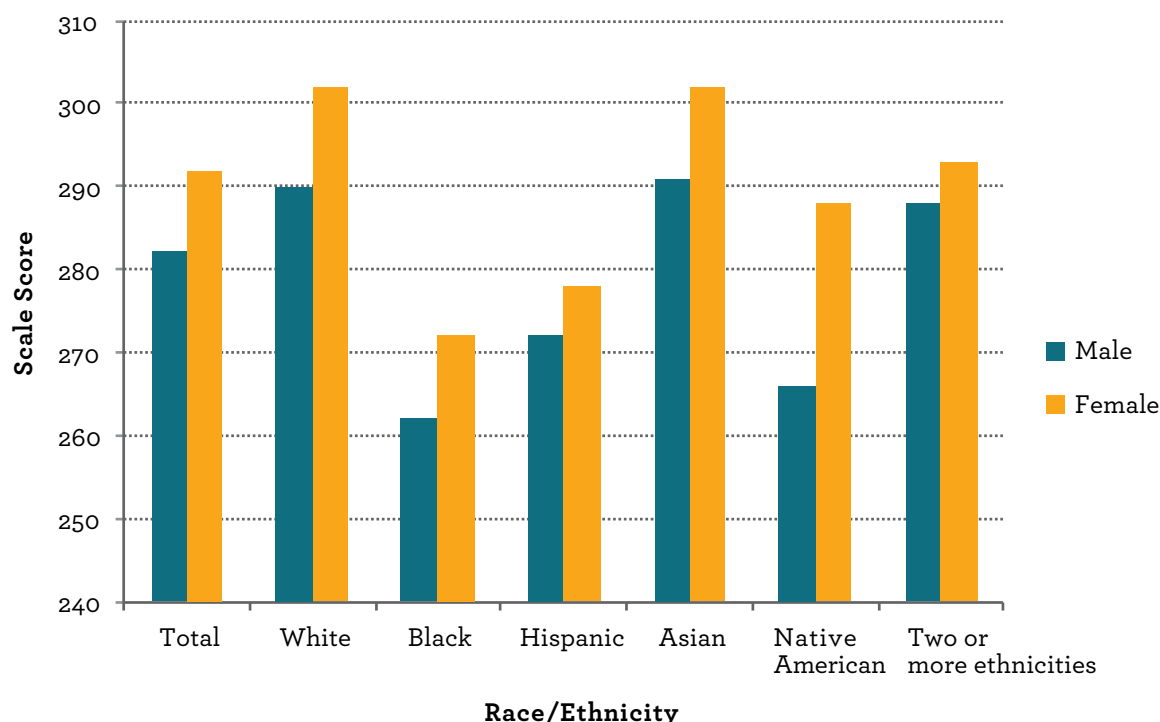

Figure 1.6 Average NAEP reading scale scores in the US by race/ethnicity and gender (2013) Source: NCES, 2015

8. Throughout the paper, the term Native American refers to both American Indians and Alaskan Natives.

The issues around race do not mean that the issues related to SES are less significant. Students from certain racial backgrounds are more disadvantaged in education when race and class interact with gender, and research suggests that boys from disadvantaged minority backgrounds are disproportionately falling behind in education (Horvat, 2003).

Socioeconomic Status

Socioeconomic status has been identified as a major contributor to the underperformance of boys. Yet, SES trends in achievement gaps have received considerably less attention than racial achievement gaps in research (Autor, Figlio, Karbownik, Roth & Wasserman, 2015; Reardon, 2011; Westat & Policy Studies Associates, 2001).[9] Data in the US now suggests that "the income achievement gap [in education]… is now more than twice as large as the black-white achievement gap" (Reardon, 2011, p.5), and, most importantly, that it disproportionately impacts boys (Autor et al., 2015). With rapidly changing labor market conditions and demands, boys, especially those who are socioeconomically disadvantaged, are increasingly put at risk in the education system.

Autor et al. (2015) explored within-family brother-sister comparisons and found "impoverished child-rearing environments — whether at the household, school or neighborhood level — appear particularly pernicious for boys" (p. 7). Boys born into disadvantaged families were more likely to have disciplinary problems, lower test scores, and to engage in criminal activities. In regard to race, they found the gender gap to be wider for black boys in particular because they were more likely to be born into a disadvantaged family (Autor et al., 2015).

Geographical Location

A final demographic factor linked to gender and education disparities is geographical location, both across and within countries. As noted earlier, the rise of international assessments has allowed for cross-national gender comparisons of education systems. Earlier in this chapter, Figure 1.4 showed a map of PISA 2015 mathematics achievement by gender in the participating countries that illustrated certain geographical patterns and differences emerging in terms of boys' underachievement. For example, the map reflects the relative poor performance of males in mathematics in the Middle East, Caribbean, Balkans, and Nordic countries as compared to Western Europe, where boys did much better.

Geographical location also plays a role within nations as well. For instance, the US participated in the 2015 PISA both as a country and at the state- and territory-levels (Massachusetts, North Carolina, and Puerto Rico).[10] Not only did average scores vary, but the gender gap did as well. Table 1.4 shows the

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9. The Coleman Report in 1966 first brought attention to the key role that SES can play in shaping student academic achievement. The Coleman Report examined academic achievement in terms of race, color, religion and national origin and found that having a socioeconomic mix of pupils in a school was more important than the racial mix in the context of student achievement (Coleman et al., 1966; Kahlenberg, 2016).

10. In Massachusetts and North Carolina only public schools participated, and in Puerto Rico, both private and public schools did (IES NCES, 2017).

average PISA scores by gender in the US as well as in the three participating states/territories. In Puerto Rico, girls outscored boys on each of the three assessments areas, which was not the case in the US overall, or in either of the two other participating states. Another noticeable difference was that in North Carolina, boys only outperformed girls by an average of one point, while this difference was 10 points in Massachusetts. These findings reflect the importance of exploring internal differences within nations and taking caution when looking at country-level data.

	United States		Massachusetts		North Carolina		Puerto Rico	
	Boys	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**
Reading	487	**507**	518	**536**	487	**513**	395	**423**
Math	**474**	465	**505**	496	**474**	468	375	**382**
Science	**500**	493	**534**	524	**502**	502	398	**407**
								Source: IES NCS, 2017

Table 1.4 2015 PISA US, Massachusetts, North Carolina, and Puerto Rico average scores by gender.
Note: Figures in bold represent the gender that scored higher.

Overall, research finds that there are a variety of factors that have an impact on male achievement and that those from certain backgrounds are most at risk. More compelling evidence regarding socioeconomic status suggests that larger inequalities at the family and societal levels are fueling the smaller inequalities in schools. What is clear, however, is that males are increasingly overrepresented at the bottom of international assessments, that they are receiving fewer years of schooling, and that they are far less likely to obtain a tertiary degree than females. With this in mind, we now turn to the implications of male underachievement and disengagement for the labor market and society.

Chapter 2

Boys to Men: Connections between education, the labor market, & society

The previous chapter described the development of a reverse gender gap in education over the past three decades during which there has been a decline in male school life expectancy, poor male performance on international assessments (particularly in reading) and males being more at risk of dropping out of school and excluded for behavioral issues. This chapter examines how the issue of male underachievement in school has far-reaching consequences in higher education, the labor market, and society. It focuses on the decline of males in higher education, and the ways in which the changing demands of the modern labor market are affecting males, their families, and society by creating new challenges and areas of vulnerability.

Males and the Labor Market

Over the past several decades, much of the world's economy has undergone a rapid transition from being primarily reliant on labor and resource-intensive sectors, such as manufacturing, agriculture, and industry, to becoming more knowledge-based (Powell & Snellman, 2004). While the old economy tended to employ a high number of unskilled workers, largely males, in the manufacturing and industrial sectors (Abrassart, 2015), a global deindustrialization of the labor market has meant that in almost all economic sectors, including manufacturing and industry, new jobs have come to require better soft skills such as problem solving, teamwork, and communication (Deming, 2015), a more advanced command of technology, and more advanced technical qualifications (Autor & Wasserman, 2013).

The proportion of jobs that require tertiary education has grown and is projected to continue growing in the future (Carnevale, Smith, & Strohl, 2013). This is a result of the rise in demand for a highly educated labor force that possesses more complex skillsets and cognitive functions (Gangl, 2000; Murnane & Levy, 1996; Shavit & Muller, 1998).[11] This tertiarization of the labor force has particular repercussions for males, who, as the data in the previous section shows, are less likely than females to have obtained tertiary qualifications. Low-skilled male workers who do not have the necessary educational qualifications, therefore they face serious difficulties in competing in the modern job market (Abrassart, 2015; Gesthuizen, Solga, & Kunster, 2011).

With the changing nature of work, the global labor market has witnessed a dramatic change in its gender composition over the past century due to greater levels of female education, and more gender-neutral attitudes toward employment opportunities (International Labour Organization [ILO], 2016). Females have been making inroads into male-dominated occupations since at least the 1980s (Autor & Wasserman, 2013; Mason & Lu, 1988; McBroom, 1986). Females in many countries have also been moving into expanding economic sectors, while males have tended to remain in more static or declining sectors (Bourmpoula, Kapsos, & Pasteels, 2013; Office for National Statistics, 2013).

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11 Education is inherently linked to the labor market, as schools typically serve as a place for individuals to become equipped with the skills required for productive employment in the labor force. Research makes it clear that a variety of educational factors such as years of schooling (Goldberg & Smith, 2009), educational level (Pascarella & Terenzini, 2005), and particular credentials (Edgerton, Roberts, & Von Below, 2012) influence the extent to which an individual succeeds in the labor market.

With more females joining the labor market, the gender gap in labor force participation rates has narrowed significantly (The World Bank, 2012) and female labor force participation rates are currently on a trajectory to catch up to, and possibly surpass, those of males.

In the US, a study on the patterns in labor participation found a decline for males in terms of both real earnings and employment over the past three decades (Autor & Wasserman, 2013). Autor and Wasserman (2013) argue that while females at all educational levels experienced a commensurate growth in their real earnings during this period, only a subsection of college-educated males experienced similar growth in their earnings, while less educated males actually experienced a substantial decline in their earnings. Similar trends were observed in employment statistics, where males without post-secondary education saw a considerable decline in employment-to-population rates, and even males with post-secondary education faced moderate declines (Autor & Wasserman, 2013). While employment is not a zero sum issue, males in the US have fallen behind females in terms of both wage and employment growth in the last 30 years.

As a result of a combination of the factors mentioned above, there has been a notable shift in the education levels of the American labor force.[12] In 1975, as seen in Figure 2.1, the percentage of females with college degrees in the labor force was only 14.1 percent compared to the 20.2 percent of males who held a college degree in the same year (Women's Bureau United States Department of Labor [DOL], n.d.). By 2015 however, the percentage of males with degrees had increased to 36.4 percent, but the percentage of females had made an even larger increase, with 40.7 percent of females in the labor force now holding college degrees (DOL, 2016).
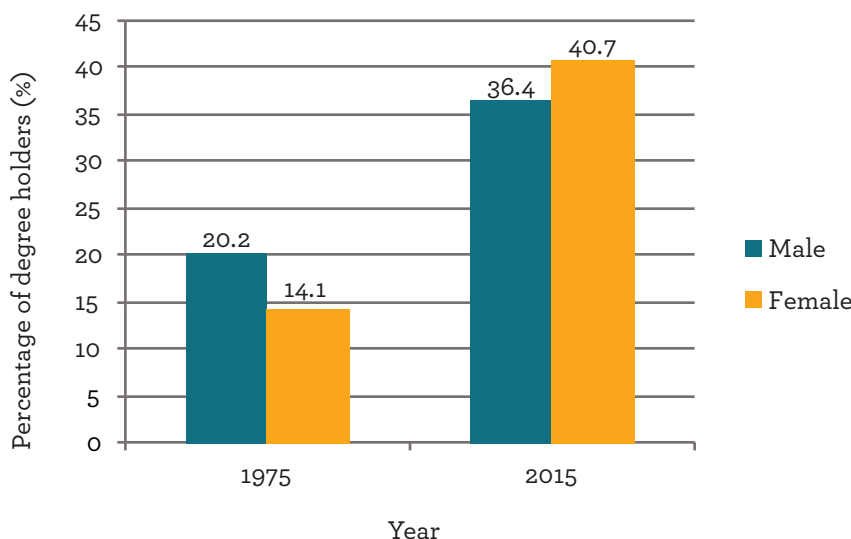

Figure 2.1 Share of people in the US labor force aged 25+ with college degrees (1975 & 2015). Sources: DOL, 2016

12. Note: In 1890, fewer than five percent of married females were working, but by 1990 that number had grown to more than 60 percent (Goldin, 1991). While World War II is often attributed to leading to a change in the way females were perceived as workers, research has shown that long-term factors, such as increased education and more clerical jobs, contributed greatly to the economic shift for females (Goldin, 1991).

This phenomenon is not just confined to the US context. Globally, labor force participation data show a decrease in male participation rates. Figure 2.2 illustrates the worldwide trend of male participation in the labor market from 1990 to 2014. A particularly significant downward trend was evidenced in North America, South Asia, and Latin America, and the Caribbean (The World Bank, 2017). The overall global average shows that increasingly smaller proportions of males are participating in the labor market (The World Bank, 2017). In comparison, Figure 2.3 depicts the trend in female participation in the labor market. While the female data shows more regional variation with a mix of trends, there have been significant increases in participation rates in certain regions, which is in stark contrast to the almost universal downward trends in the male data (The World Bank, 2017). When data is isolated to the time period between 1980 and 2009, the global rate of female participation in the labor force increased 1.6 percent, while the rate for males fell 4.3 percent (The World Bank, 2011).
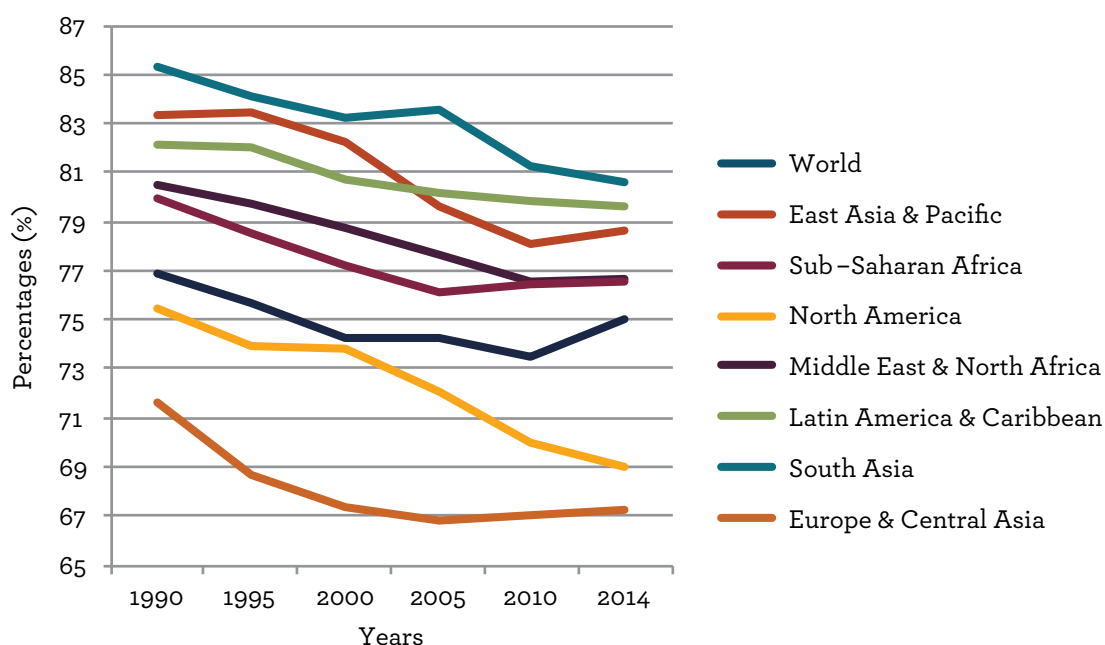
Figure 2.2 Worldwide trends in male (age 15+) labor force participation rates from 1990 to 2014. Source: The World Bank, 2017
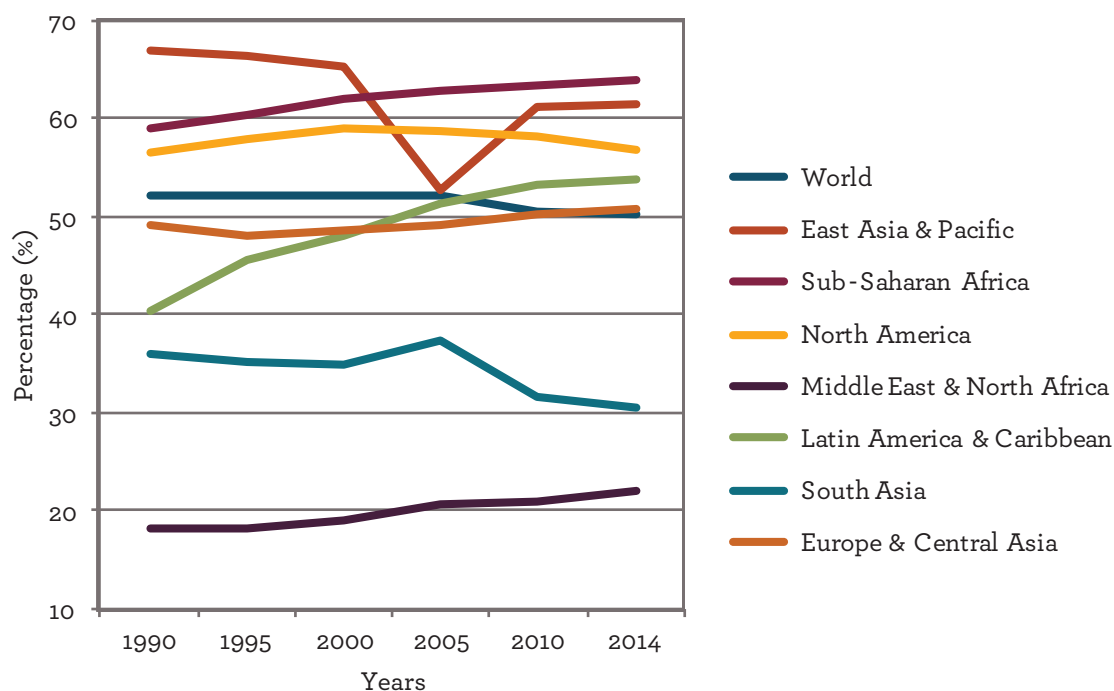
Figure 2.3 Worldwide trends in female (age 15+) labor force participation rates from 1990 to 2014. Source: The World Bank, 2017

A lack of education and the subsequent decline in labor force participation rates for males has also contributed to a number of other social issues that disproportionately impact males, and by extension, their families and the communities in which they live. These issues are largely related to health, family cohesion, and crime.

Social Implications

Health

As males become less educated than females and less able to find stable and secure employment, other issues emerge that have ramifications not only for males, but also for all of society. Educational attainment has been cited as a strong predictor of health outcomes for males, particularly when it comes to exercise and obesity patterns (Devaux, Sassi, Church, Cecchini & Borgonovi, 2011; Leigh & Dhir, 1997). In terms of preventative health, Leigh and Dhir (1997), using the Panel Study of Income Dynamics, found a strong and positive relationship between years of schooling and exercise for males, but not females. Other research has found that less education may be linked to higher rates of obesity (Devaux et al., 2011). One example of this is in Qatar, where boys are falling behind girls in educational achievement and attainment (see Chapter 4), and rising obesity is affecting boys more than girls. In Qatar, 21 percent of females under the age of 20 are overweight or obese, compared to over 35 percent of males (Walker, 2014). Being overweight or obese puts these males at higher risks for other lifestyle diseases, such as diabetes and hypertension, later in life (Pelman & Elterman, 2014).

Males also have a higher risk of having undiagnosed mental and other health issues and are less likely to seek medical assistance (Cleary, Mechanic, & Greenley, 1982). A survey conducted from 2011-13 in the US found that fewer than half of males suffering from depression or anxiety sought treatment, and similar results emerge globally (Afifi, 2007; Mozes, 2015). As a result, males are also much more likely to commit suicide, which is the tenth leading cause of death in the US (American Foundation for Suicide Prevention, 2017; World Health Organization, 2016). On average, 121 people in the US commit suicide each day, and males account for approximately 94 of these deaths (American Foundation for Suicide Prevention, 2017). Male suicide is also of concern in other countries, such as in the Caribbean. Age-adjusted suicide rates are approximately four times higher for males than females in Trinidad and Tobago and the Dominican Republic (Pan American Health Organization & World Health Organization, 2014).

Males are also more likely to have substance abuse problems than females (Becker & Hu, 2008). In the UK, males are twice as likely to be dependent on alcohol, and three times more likely to report frequent drug use than females (Health & Social Care Information Centre, 2015). Also in the UK, 8.7 percent of males have been classified as alcohol dependent, compared to only 3.3 percent of females (Health & Social Care Information Centre, 2015). In terms of drugs, 4.2 percent of males reported frequent drug use compared to only 1.4 percent of females (Health & Social Care Information Centre, 2013). While it is not clear whether the lack of education is the root cause of these issues for men, it certainly compounds the issue and implies that poorly educated males are most at risk of dying early from a variety of health complications (Ross, Masters, & Hummer, 2012) and are at even greater risk if they live alone (Kandler, Meisinger, Baumer, & Lowel, 2007).

Family Cohesion

Amidst rapidly changing labor market expectations, poorly educated males often find themselves unable to earn a salary large or stable enough to support a family and may be discouraged from making marriage commitments (Autor & Wasserman, 2013). This challenge, coupled with the rise of females in the labor force in most industrialized countries and the newfound ability of females to share, or assume, breadwinning responsibilities with males (Cha & Thebaud, 2009), has impacted both family life and gender roles within the family.

While these processes and changes are interrelated in complex ways, one result linked to these changes has been the increase in the number of single parent, predominantly female-headed households. In 1970 in the US, 83 percent of children were raised in two-parent homes, but by 2010, this had fallen to 63 percent (Autor & Wasserman, 2013). The rate was even lower for certain racial and ethnic groups, such as African Americans, of whom only 29 percent were raised in two-parent homes in 2009 (Anderson, 2014). Among single parent families in 2009 in the US, 83 percent were headed by females and 17 percent by males (Grail, 2009). The UK has also seen steep increases

in the number of children raised in single-parent homes. From 1996 to 2016, there was an 18.6 percent increase in the number of single-parent homes in the UK, while the number of married families only increased by 0.3 percent (Office for National Statistics, 2017). In 2016 in the UK, there were 2.9 million single parent families, of which 86 percent were female-headed (Office for National Statistics, 2017).

As the number of children growing up without fathers continues to rise, recent research has explored the adverse effects of growing up in single parent — particularly fatherless — homes. Mandara and Murry (2006) and Sigle-Rushton and McLanahan (2004) find that the negative impact of living in a single parent home is greater for boys than for girls. DiPrete and Buchmann (2013b) also describe how the educational attainment of boys appears to be more closely tied to family resources than it is for girls, and that the presence of a father may impact boys through enhancing their behavioral skills. Autor and Wasserman (2013) state:

> *Less-educated males are far less likely than highly educated males to marry, but they are not less likely to have children. Due to their low marriage rates and low earnings capacity, children of less-educated males face comparatively low odds of living in economically secure households with two parents present... Ironically, males born into low-income single parent headed households — which, in the vast majority of cases are female-headed households — appear to fare particularly poorly on numerous social and educational outcomes (p. 7-8).*

In other words, with increasing numbers of single-parent homes, boys may be disproportionately impacted by these new family structures, placing them at a further disadvantage in education and then later as fathers. Essentially, the increase in the number of single-parent households sets the stage for a damaging cycle, as boys raised in single-parent households tend to have diminished education and economic prospects, and, therefore, may possibly go on to replicate this in the future with their own children (Autor & Wasserman, 2013).

Thus, we find that less-educated and unemployed males are often unable to form cohesive family relationships, which potentially creates a cyclical pattern in which their sons also become disadvantaged (and in different ways than their daughters). The combination of absent fathers and educational disadvantage also makes boys more susceptible to becoming involved in criminal activity and to be incarcerated.

Crime

Globally, males are more likely to commit crimes than females (Broidy &
Agnew, 1997; Hoffman, 2014; The World Bank and The Commonwealth
Secretariat, 2007). In the US in 2014, 73 percent of people arrested were
male (Federal Bureau of Investigation Uniform Crime Reporting [FBI UCR],
2014). Males also comprise the majority of the inmate population across the
country, and are imprisoned at 14 times the rate of females (Court Services
and Offender Supervision Agency, 2014). Figure 2.4 shows that males also
comprise a disproportionate number of juveniles in resident facilities in the US,
with black, Native American males incarcerated at exceptionally high rates
(National Center for Educational Statistics [NCES], 2015).
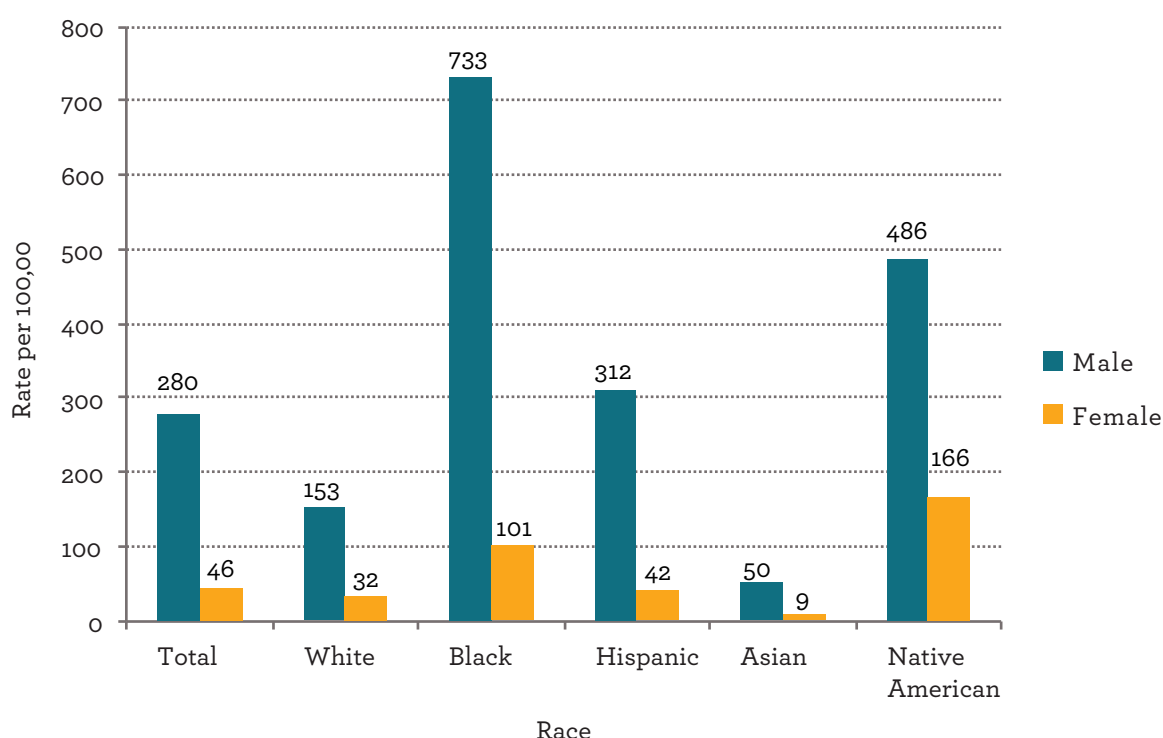
Figure 2.4 US rate per 100,000 of placement of juveniles in resident facilities, by ethnicity and gender (2011). Source: NCES, 2015.

An examination of the educational attainment of males in prison finds that
education is an important predictor of crime and incarceration. For example,
the U.S. Bureau of Justice Statistics reports that 67 percent of incarcerated
individuals in US state prisons, 56 percent in federal prisons, and 69 percent
in local prisons did not complete high school (Harlow, 2003). Studies also
suggest that education reduces the probability of male participation in
criminal activities and their chances of incarceration (Lochner & Moretti,
2003). Furthermore, providing education to inmates during incarceration also
reduces the chances of recidivism (Van Vezen, 2017).

Outside of the US, males also comprise the majority of those incarcerated. In Trinidad and Tobago and the Dominican Republic in 2016, males comprised 97 percent of the prison population (World Prison Brief, Institute for Criminal Policy Research, 2016a, 2016b). In the UK, males are also significantly more likely to be in jail than females, with males making up 95 percent of the 2016 prison population (Allen & Dempsey, 2016). Similarly, in the UAE 89 percent of the prison population is male (UN Office on Drugs and Crime, 2006). Again, the lack of education is a commonly recurring characteristic of inmates, with more than 40 percent of inmates in the UK system having literacy skills comparable to an 11-year-old (Creese, 2015).

Males are also more likely than females to commit violent crimes. In the US, males comprised 80 percent of those arrested for violent crimes in 2014 (see Box 2.1 about US school shootings) (FBI UCR, 2014). In the UK in 2012-13, males committed 81 percent of violent crimes in the country (Office for National Statistics, 2014a). Of these violent crimes, approximately half of the victims believed the offender had been drinking, and nearly a quarter were believed to be under the influence of other drugs (Office for National Statistics, 2014a). The high rates of violent crimes perpetrated by males also translate to domestic abuse, with males comprising 93 percent of domestic abusers in the UK during the 2013-14 year (Crown Prosecution Service, 2014).

Box 2.1 White males and school shootings in the US

The US is infamous for shootings perpetrated by current or former students. From 2013-2015, there were at least 160 school shootings in the US that resulted in 59 deaths and 124 injuries (Everytown, 2015). Research reveals that approximately 97 percent of school shooters were male, and 79 percent were white (Kohn, 2015). White males have been responsible for the most notorious school shootings in the US, such as the 1966 University of Texas Tower Shooting (a 25-year-old university student killed 16 people and injured more than 30 others), the 1999 Columbine High School massacre (two boys, 17 and 18 years old, killed 13 people and injured 20 others), and the 2012 Sandy Hook massacre (a 20-year-old killed 28 people, including 20 students, and injured one other) (History, 2017; Spooner, 2016; Vogel, 2012).

While there are numerous debates around gun control following each mass shooting in the US (e.g. Kristof, 2016; Lacey, 2000), attention is not always given to the fact that the school shooters are almost always male and, more often than not, white (Madfis, 2014). While not focused on schools, Madfis (2014) conducted research on factors possibly explaining why white males disproportionately commit mass murders and found, "In the case of many mass murderers, the privileges of white heterosexual masculinity ultimately buckle under the failures of downward mobility and subordinated masculinity…His privileged white racial identity does not necessarily save him from the diminished socioeconomic status of downward mobility… (p. 80)". As income inequality continues to increase in the US (Stanford Center for Poverty & Inequality, 2011), the challenges faced by marginalized males in education require greater attention from both academics and policymakers.

Overall, males who have low levels of educational achievement are less likely to continue to higher education, less likely to be able secure stable employment, more likely to face a range of physical and mental health issues, less likely to form stable relationships, and more likely to be incarcerated. Using certain selection criteria, we have identified key areas with significant gender gaps disadvantaging boys. In the next section, we provide the methodology behind the case studies selection of six countries. The case studies use a range of data to help us better understand how the gender gap plays out at the national and/or state level.

Chapter 3
Case Study Methodology

I n order to explore the issue of male underachievement in more detail, we decided to use a multiple case study approach. The case study method is useful in cases where more in-depth analysis is required (Cresswell, 2003) and is widely used in educational research. Yin (1984) defines the case study research method "as an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used" (p. 23). By using a case study approach, we were able to integrate statistical data, existing research, and qualitative data from interviews to understand more about four particular contexts in which male underachievement is taking place. Furthermore, by using multiple case studies from four different regions, we were also able to observe patterns of similarity or difference in order to offer a far more nuanced picture of male underachievement than studies that are either purely qualitative or purely quantitative. After exploring each of the cases, we then bring the data together to look at common issues and possible ways forward in the final chapter of this report.

Selection of the Cases

In order to decide which cases to use, we used the Bray and Thomas (1995) Framework of Comparison to determine three selection criteria that could be used in combination with data on male attainment. The first selection factor was geographic location to ensure the geographic representation of both the Global North and South.[13] The second selection factor was SES in order to include both high and low income countries in our analyses. The third factor was the amount of research and policy attention paid to the issue of males at the national level, and here, we included countries from both ends of the spectrum. Using these three criteria in addition to international and national assessment data, we identified the UAE, Qatar, UK, Trinidad and Tobago, the Dominican Republic, and the US as our cases.

The UAE and Qatar and Trinidad and Tobago and the Dominican Republic were analyzed together due to their size as small states (Crowards, 2002). Thus, by looking at two countries rather than one in these regions, the data is more generalizable. In contrast, the UK and the US, which are considered large states, are representative of their respective regions to a larger degree. Figure 3.1 below shows the criteria for selection and where each case fits.

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13. The Global South refers to developing countries that are located primarily in the Southern Hemisphere, while the Global North refers to developed countries in the Northern Hemisphere.
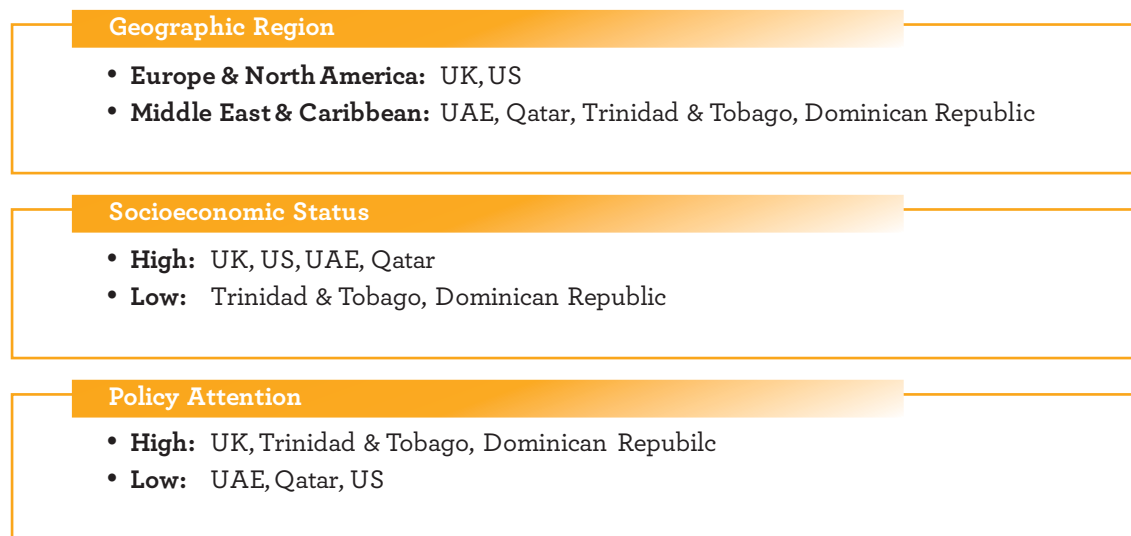
Geographic Region

- **Europe & North America:** UK, US
- **Middle East & Caribbean:** UAE, Qatar, Trinidad & Tobago, Dominican Republic

Socioeconomic Status

- **High:** UK, US, UAE, Qatar
- **Low:** Trinidad & Tobago, Dominican Republic

Policy Attention

- **High:** UK, Trinidad & Tobago, Dominican Repubilc
- **Low:** UAE, Qatar, US

Figure 3.1 Criteria for the selection of case studies

Individual Case Study Design

In order to comprehensively explore each of the cases, three types of data were used: existing literature from academic, government, and media sources; international data from the PISA, TIMSS, and PIRLS (as applicable) and national data on a range of student outcomes; and interviews with practitioners, academics, and policymakers.

Case Study

- Existing Literature
- Interviews with practitioners, policymakers, & academics
- Data from international & national assessments
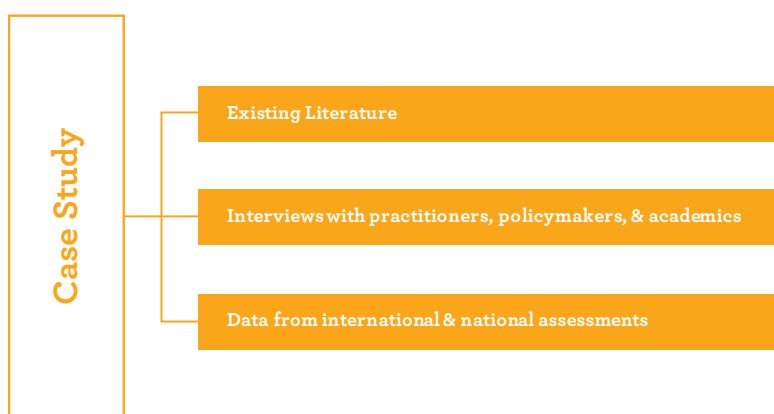
Figure 3.2 Information used in the case studies

Interviewee Sampling and Instruments

To obtain a wide range of perspectives on the topic, we selected the interviewees based on their relevance to one (or more) of the three following descriptions: education practitioner, policymaker, or academic. They also had to be from the country in question and/or an expert on the

country (as evidenced by prior work experience or publications). Potential interviewees were identified through existing contacts, online searches, and recommendations from other experts in the field. Due to the requirements of the research, we employed a stratified convenience sampling method rather than random sampling. The strata used were country of origin and expertise. Initially, some 54 possible interviewees were contacted via email. Of these, 30 individuals responded and a total of 23 individuals were eventually interviewed (see Table 3.1 below for a breakdown by country).

	UAE and Qatar	UK	Trinidad & Tobago and Dominican Republic	US	Total
Number	7	6	4	6	23

Table 3.1 Interviewees by country

Of the 23 interviewees, eight policymakers were interviewed, including members of ministries of education, executives in government regulatory bodies, personnel from government education initiatives, and senior members of think tanks. In addition, ten academics were interviewed. They came from universities in each of the identified regions, and either had experience related to the issue of males in education, and/or had conducted their own research on males. Finally, five individuals who were practitioners working with males were interviewed to learn more about their successes and challenges in addressing male underachievement, and to collect their suggestions for future initiatives to support males in education.

In order to ensure consistency across interviews, a semi-structured interview questionnaire was used for all participants. This consisted of 17 questions and can be found in Appendix 1. The researchers working on this study were Collaborative Institutional Training Initiative (CITI)-certified and used CITI standards for human subjects research.

Data Collection

The research process began with the compiling of literature related to the educational outcomes of males in the selected countries over the past few decades as well as their implications for the labor market and society. This process included document analysis of journal articles, publications by international organizations, official government policy documents, think tank reports, media articles, and more. Following the synthesis of the literature, we explored relevant data sets from existing research as well as gender and education data from international and national databases, including the UIS, World Bank Open Data, the OECD, UK Office for National Statistics, and TIMSS & PIRLS International Study Center.

Along with literature and relevant data sets, interview data were collected. All interviewees were given the choice to be interviewed in person, by phone/

Skype or through written responses to the questions. All interviewees were sent the questions in advance, and were informed of their participant rights, particularly about confidentiality and anonymity. Once an interviewee had agreed to participate in the study, one, or two in cases where possible, researchers took part in conducting the interview. In-person and Skype interviews were recorded in note form, with notes being typed up within 24 hours of the interview to ensure accuracy of the data. A log was kept to keep track of dates, names, times of contact, and the scheduled dates of the interviews or deadlines of the written responses.

Data Analysis

Existing literature was compiled and collated according to the country and served as the foundation for each case study. In terms of quantitative analysis, a variety of approaches were employed depending on the country and the raw data available. First, results from international assessments were analyzed based on country-level means, using gender as the level of analysis. Second, various international data from UIS, World Bank, and other international sources were used to draw out cross-gender and cross-comparisons. Third, national data on student achievement were analyzed for gender, SES, and regional differences. Data was analyzed using SPSS software.

The interview data were collated by country/region and then coded thematically to see what common issues were identified. Key quotations were also identified to illustrate how these common themes are manifested in each case study context. The four key themes that emerged were:

1. Socioeconomic status as a barrier for boys' achievement

2. Emergence of an education system that favors girls over boys (teaching, assessment, curriculum)

3. Boys failing to see the benefits of school for work

4. A shortage of programming efforts to support boys

Each case study contains a section that looks at one or two promising initiatives from the particular country. These were identified either through online research or during the interviews. If the researchers identified the initiatives through prior research, the researchers asked additional questions from that context. Many interviewees, however, expressed concern about the lack of initiatives, which remains a key limitation of this study. This limitation is discussed more in the following section.

Once the data was analyzed separately, it was then compiled into the case study, with interview data being used throughout. Case studies were organized using the following sub-headings:

- Overview of Education and Gender
- Gender and Enrollment Rates
- Gender and Achievement at the School Level
- Gender and Higher Education
- Unique Challenge
- Promising Initiative/s
- Conclusion

Limitations

This study, like others, faced a number of limitations that the authors have attempted to mitigate as best as possible. The first limitation was that much of the literature on gender, including on gender in education, is framed around girls' issues. This meant that the challenges faced by boys were often overlooked, and it was harder to find quality research that comprehensively analyzed the issue. Similarly, a few interviewees, while acknowledging that males were underperforming in schools compared to females, did not feel comfortable speaking about male issues and struggled to find the appropriate language. Both reflected the dominant discursive framework that persists around gender issues, which can limit the discussion of gender issues to females.

A second limitation of this research was that it did not cover all regions and countries that experience male underachievement. Due to the case study format of the report, examples from Africa, Asia, Russia, or the Caucasus, were not discussed which made it difficult to generalize the study to a broader global level. While it would have been ideal to cover a wider geographic influence of male underachievement, a worldwide analysis lies beyond the scope of this research, which primarily aims to focus on specific regions that fit our selection criteria to yield deeper analyses. However, this research has ensured that the chosen cases represent are considerably diverse and captures many different experiences of male disadvantage.

A third limitation to this research is that the Middle East and Caribbean regions were explored relative to only two countries each. As the UAE, Qatar, Trinidad and Tobago, and the Dominican Republic are unique nations, the results cannot be generalized to the Gulf Cooperation Council (GCC) countries or to the Caribbean in their entirety. Nonetheless, some insights

into possible emerging regional trends may be relevant to policymakers seeking to better understand and address issues related to the education of boys in these two regions.

A final limitation was the general lack of promising initiatives that support underachieving males in the selected countries and regions. Because there were relatively few actions being taken on the issue globally, it was difficult to identify emerging themes in how different countries and international organizations are acting to ameliorate the issue. Furthermore, it is also challenging to assess and highlight best practices when there are few preexisting programs and policies in place.

United Arab Emirates and Qatar

Overview of Education and Gender in the United Arab Emirates and Qatar[14]

Historically, boys received Western style education earlier than girls in the UAE and Qatar. In the UAE, the first boys' school opened in 1912, while the first girls' school did not open until 1955. Meanwhile in Qatar, the first formal school for boys was opened in 1952, but it was only four years later, in 1956, that the first girls' public school was established.[15]However, with the discovery of oil, the rulers of both countries ensured that the introduction of free public schools was for both boys and girls. Over time, despite the slightly later start to receiving education, girls today in both countries achieve better grades and persist longer in education than boys. Figure 4.1 below shows the major educational and gender milestones in the UAE and Qatar over the past century.[16]

1912 (UAE)—First Western style schools were introduced for boys in Dubai and Sharjah.

1939 (Qatar)—Oil discovered in Qatar.

1952 (Qatar)—The first school opened for boys.

1955 (UAE)—The first school opened for girls in Sharjah.

1956 (Qatar)—The first public school opened for girls.[17]

1957 (Qatar)—Wizarat Al-Maarfa18 was established to serve as a regulator and administrative education body in Qatar (Brewer et al., 2007; Qatar News Agency, n.d. Ridge, 2014).

1958 (UAE)—Oil discovered in the Trucial States (later renamed the UAE).

1965 (Qatar)—The first Qatari curriculum was implemented, and within only five years, boys and girls had almost the same attendance rates at school (Brewer et al., 2007; Ridge, 2014).

1971 (Qatar)—Qatar declared independence.

1971 (UAE)—The UAE was officially founded (Brewer et al., 2007; Ridge, 2014).

1972 (UAE)—The Ministry of Education was established, and Federal Law No. 11 made basic education compulsory and free[18] (National Qualifications Authority [NQA, 2013]; UNESCO IBE, 2011b).

2001 (UAE/Qatar)—Education was declared compulsory and free from primary to secondary stage, or until the child reaches age,[19] whichever occurs first (UNESCO, IBE, 2011a).

2002 (Qatar)—The Supreme Education Council (SEC) was established.

Figure 4.1 Timelines of significant gender education events in the UAE and Qatar

As noted in Figure 4.1 (see *Qatar, 1965*), boys and girls began attending school at similar rates in Qatar around 1970, much before the UAE and other Gulf countries, despite the fact that the education systems in the region followed very similar models (Brewer et al., 2007; Ridge, 2014). Since then, the education systems in the UAE and Qatar have come to face similar reverse gender achievement gaps that warrant closer examination.

14. Much of the information on the UAE and Qatar case study is based on past research by the lead author (Ridge, 2014). Where possible, the data and information have been updated.

15. Both the UAE's and Qatar's public schools still provide single-sex education..

16. The discovery of oil in the UAE and Qatar in 1958 and 1939, respectively, is included in the timeline as it led to economic booms that laid the groundwork for rapid formal education development in both nations (Aldosari, 2007; Ridge, 2014).

17. There was a fatwa, or religious declaration, at this time by a renowned sheikh stating that girls' education aligned with the Qu'ran, making school socially acceptable (Brewer et al., 2007; Qatar News Agency, n.d.; Ridge, 2014).

18. Wizarat Al-Maarfa was a precursor to the Ministry of Education.

19 After basic education was first made compulsory in the UAE in 1972, it was later extended to ninth grade (Ridge, 2014). Most recently, in 2012, education was made compulsory and free until completion of Grade 12, or age 18, or whichever occurs first (Abu Dhabi eGovernment, 2016).

Gender and Enrollment Rates

Equal access to education has been a national priority for both the UAE and Qatar. Currently, both countries have similar percentages of boys and girls enrolled in primary and secondary levels. However, Table 4.1 shows that the percentage of female students increases greatly at the tertiary levels in both countries with a concurrent drop in the percentage of male students (UIS, 2016). In the UAE, girls made up 48.9 percent of primary students and 54.5 percent of tertiary students, while in Qatar, girls made up 49.0 percent of primary students, 64.3 percent of tertiary students (UIS, 2016).

Indicator	UAE		Qatar	
	Total	Female (%)	Total	Female (%)
Primary student enrollment	409,776	48.9	117,454	49.0
Secondary student enrollment	411,040	48.6	88,466	48.1
Tertiary student enrollment	143,060	54.5	25,255	64.3
				Source: UIS, 2016

Table 4.1 UAE and Qatar enrollment by gender (2014)

In terms of the expected years of schooling in the UAE, it is 13.9 years for females, while, for males, it is a year less at 12.9 years (Human Development Report, 2014). In Qatar, females spend an average of 13.3 years in education while males spend an average of only 12.2 years[20] (UIS, 2016).

Gender and Achievement at the School Level

National Assessments

Across national assessments, boys in the UAE and Qatar are underperforming compared to girls. In the UAE, girls scored higher than boys in mathematics, science, English and Arabic on the 2010 UAE National Assessment Program (UAENAP) (Egbert, 2012; Ridge, 2014). Similar patterns can be seen in the Common Educational Proficiency Assessment (CEPA) results in 2012-13, in which 11 percent of Emirati Grade 12 girls in Abu Dhabi scored in the top band (Band 1),[21] while only nine percent of Emirati boys did (Abu Dhabi Education Council [ADEC], 2013). On the 2014 CEPA, girls scored an average of five points higher than boys, however, the gap was considerably larger in some regions, with girls scoring an average of 25 points higher than boys in the Western Region (Ministry of Higher Education & Scientific Research [MOHESR], 2015). National level achievement gaps in favor of girls are also present in Qatar. During the 2010-2011 academic year, girls scored an average of 20 points higher than boys on the Qatar Senior School Certificate (General Secretariat for Development Planning [GSDP], 2012; Ridge, 2014).[22]

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20. These figures are from 2010.

21. Band 1 includes students who score over 180 points, Band 2 is for those who score between 165 and 179 points, Band 3 is those who score between 150 and 164, and Band 4 for those who achieve less than 150. Students who score in Band 4 typically have to take foundational programs before entering higher education (ADEC, 2013).

22. More recent information on national assessments in Qatar is not publicly available.

International Assessments

The UAE and Qatar's performance on international assessments also consistently shows a clear gender gap in favor of girls. On PISA 2012 and 2015, boys in the UAE and Qatar scored less than girls in all three domains (shown in Table 4.2) (OECD, 2014, 2016a). In 2012, the greatest gap was in reading, where girls scored an average of 56 points higher than boys in the UAE, and 70 points higher in Qatar (OECD, 2014). In 2015, the largest gap was, again, in reading (OECD, 2016a). However, both countries have since narrowed this gap slightly, with the UAE now having a 50-point gap and Qatar showing a 53-point gap in favor of girls (OECD, 2016a). However, the magnitude of the gap in both countries remains significant.

	Reading				Mathematics				Science			
	2012		2015		2012		2015		2012		2015	
	F	M	F	M	F	M	F	M	F	M	F	M
Qatar	424	354	429	376	385	369	408	397	402	367	429	406
UAE	469	413	458	408	436	432	431	424	462	434	449	424

Source: OECD, 2014 and 2016a

Table 4.2 PISA mean scores in reading, mathematics, and science by gender (2012 & 2015)

Gender and Higher Education

With consistently lower achievement levels and retention rates at the secondary level, male students in the UAE and Qatar are, not surprisingly, under-represented in higher education. In the UAE, females made up 62 percent of all higher education graduates in the 2011-12 academic year, and made up an even higher percentage (71 percent) at public universities (The Economist Intelligence Unit, 2014). In some universities such as UAE University, females comprised almost 80 percent of the entire undergraduate student body (UAE University, 2015). Emirati females also have lower attrition rate compared to Emirati males (UAE University, 2015). A counselor at a men's college in 2010 estimated that over 50 percent of males dropped out of higher education during the foundation year (a preparatory year that national students take to improve their English prior to beginning their degree program) (Ahmed, 2010).

In Qatar, national males face similar challenges in higher education. At Qatar University, 989 female students (78 percent) graduated with a degree in 2014, compared to only 280 male students (22 percent) (Kamel & Lynch, 2015). While this represents a single point in time, it closely aligns with one UAE policymaker's comment that if education were depicted as "a race between 10 boys and 10 girls, eight girls and two boys would win" (Gulf Cooperation Council [GCC] interview 6, 2017).

As females comprise the majority of the student body in the UAE and Qatar's higher education institutions, they also account for the majority of students in

most fields of study. The most recent data from the UIS (see Table 4.3) shows that males are underrepresented in all fields of study in the UAE except in *engineering, manufacturing, and construction* (64 percent male) and business, *administration,* and *law* (53 percent male) (UIS, 2016). In Qatar, males are also a minority of students in all fields of study except in *engineering, manufacturing, and construction* (64 percent male) and *services* (84 percent male) (UIS, 2016). Although males are the majority of students studying *engineering, manufacturing, & construction,* there are still some concerns regarding the adequate representation of males in the science, technology, engineering, and mathematics (STEM) fields. One interviewee stated that, "Qatar, in recent years, has been trying to encourage Qatari males to enter STEM fields, although this has been difficult…given the low achievement of males in mathematics and sciences from preparatory and secondary school level" (GCC interview 8, 2017). Additionally, *education* is also an unpopular field of study for males in the UAE and Qatar, and national males make up only 11 and seven percent of education students respectively (UIS, 2016) and an even smaller percentage of teachers.

Field of study	Female (%)		Male (%)[23]	
	UAE	Qatar	UAE	Qatar
Education	89	93	11	7
Arts & humanities	61	79[a]	39	21[a]
Social science, journalism & information	61	79[a]	39	21[a]
Natural science, mathematics, & statistics	62	73[a]	38	27[a]
Business, administration, & law	47	65[a]	53	35[a]
Engineering, manufacturing, & construction	36	36	64	64
Health & welfare	80	82	20	18
Agriculture, forestry, fisheries, & veterinary	84	N/A	16	N/A
Services	59	16	41	84
Information & communication technologies	56	50	44	50
			Source: UIS, 2016	Note: [a] 2012 data

Table 4.3 UAE & Qatar percentage of enrollment by field of study and gender in tertiary education (2015)

In both countries, there are many more female than male teachers, particularly at the primary level. In 2014, 91 percent of primary school teachers in the UAE were female, while 86 percent of primary school teachers in Qatar were (UIS, 2016). This issue of male underrepresentation in teaching was identified as an area of concern by several interviewees as part of the theme that education systems favor girls over boys, and who felt that more male teachers would benefit boys in school. An interviewee working in education policy in the UAE said, "Most [national] male students don't specialize in education. The profession itself is not attractive because they see other opportunities that are more attractive or more lucrative" (GCC interview 3, 2017). Another interviewee explained that while working in another emirate at an education authority, "We were always trying to have more male teachers. I suggested salary

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23. UIS does not list the percentage of male students enrolled. Thus, this figure was directly calculated from the female percent.

raises… males care about their egos and they want success… There should be an advertising campaign telling them [that] teaching is like a being a father, like how the father of the nation is a father to them… You have to get people to believe teaching is prestigious" (GCC interview 6, 2017). While having more national male teachers is not a definitive solution to the issue of boys underperformance, the shortage of national male teachers and reliance on expatriate male teachers could be critical factors contributing to the disengagement of national male students from education in both the Qatari and Emirati contexts (Ridge, Shami, & Kippels, forthcoming).

Unique Challenge: Misalignment of Education and the Labor Market

A unique challenge in the UAE and Qatar is that students, particularly males, have historically been able to obtain relatively high paying jobs in the military and police that do not require corresponding levels of education. The issue of males leaving school to enter the labor market was a common theme that emerged in the UAE and Qatar interviews, with one policymaker noting, "boys have a bigger risk of dropping out… they want to have a job and get married. They want money immediately" (GCC interview 5, 2017). Another interviewee based at a university in Qatar noted that, "males have other options in Qatar, such as going to the police academy (seen to be prestigious) and/or the military" (GCC interview 1, 2017). Similarly, a policymaker in the UAE said, "boys prefer the army [over staying in school]" (GCC interview 4, 2017).

Research has explored the issue of boys leaving school in both the UAE and Qatar due to the readily available jobs in the high-paying public sector that do not require students to have done well in education (GSDP, 2012; Lee, 2016; Ridge, Farah, & Shami., 2013; Young, 2013). The Qatari National Human Development Report found that students in Qatar lack motivation to learn due to the strong pull from the labor market (GSDP, 2012). However, others have found that boys lack motivation as a result of discouraging school experiences (Ridge, 2014; Ridge et al., 2013). Lee (2016) also found that Qatari boys value education less than Qatari girls (and also less than expatriate students of both genders). The popularity of government employment in Qatar is evident as 81 percent of males in the country in 2013 were employed in the government sector (Ministry of Administrative Development Labor & Social Affairs, 2014). A study of over 730 Emirati students in the emirate of Ras Al Khaimah, UAE in 2016 revealed that more than half of the students (55 percent) had fathers working in the army or police (Jeon, Chung, & Ridge, Forthcoming). In both countries, the ready availability of public sector jobs for boys may be discouraging many boys from continuing with their education, leading to both social and nation-building issues. Not only does less education lead to lower life expectancies, but it will also hinder both nations from becoming knowledge economies (National Development Strategy, 2011; Ridge, 2014; UAE Government, 2017).

Contrary to popular beliefs about rentier states in the Gulf region, research finds that there are definitive economic returns to further education, which are greater for males than for females (Al Marri & Helal, 2011; Ridge, 2014). According to a study on Dubai, male Emiratis experience higher returns to education than female Emiratis, with the annual salaries of males who completed secondary education doubling the amount of those who did not (Al Marri & Helal, 2011).

Promising Initiatives

Hands on Learning[24]

As mentioned earlier, research has found that boys in the UAE and Qatar are disengaged and underperforming in school (Lee, 2016; Ridge, Farah, & Shami, 2013). Male disengagement in schools in the UAE has been linked to negative school experiences, and hence, there is an urgent need for initiatives to re-engage boys to ensure better educational outcomes (Ridge, Farah, & Shami, 2013). Even in the interviews, linked to the theme of education needing to be more boy-friendly, a UAE policymaker stated, "We need to improve boys' motivation. This [school-age] generation is lacking motivation. Education is easy for them. They have so much knowledge available to them on their phones and through other means, but we need to change their attitudes" (GCC interview 4, 2017). In response to this issue, the Sheikh Saud bin Saqr Al Qasimi Foundation for Policy Research piloted the Hands on Learning (HOL) UAE program to male Emirati students beginning in September of 2014.

Originally established in Australia, the HOL program is an initiative targeting at-risk boys in secondary levels. The aim of the HOL UAE is to increase student engagement, to keep "at-risk" students in school, and to improve their outlook so that they may yield better outcomes at school and in future employment. While the projects are vocational in nature, the aim of this program is to focus not only on vocational education, but also to help boys re-engage in school in order to help them achieve what they would like to pursue.

This is done through:

- Increasing attendance rates
- Building relationships
- Developing character
- Discouraging bullying
- Improving self-esteem
- Strengthening communication skills
- Achieving success at school

24. The authors are directly affiliated with the HOL program. Most of this information has been taken from two sources (Sheikh Saud bin Saqr Al Qasimi Foundation for Policy Research, 2014; Sheikh Saud bin Saqr Al Qasimi Foundation for Policy Research, 2016).

In the HOL UAE program, small groups of approximately ten students work with one artisanal teacher, a specialized craftsman, to engage in projects that help serve schools and communities alike. Through such projects, students form strong, long-term relationships with each other and their artisan-teachers, learn the necessary skills needed for the project, build their self-esteem and confidence, improve their English skills, and typically become re-motivated in school life. HOL requires students to be taken out of their regular classroom environment one day a week. The boys who are in the program are often those who are not learning much in the classroom. Therefore, by engaging them in productive, self-directed work in HOL, they are given a chance to believe that they are capable of achieving and succeeding.

Students in the HOL UAE program have reported having benefited from the program, particularly noting that they have learned practical skills, found enjoyment from learning new things, improved their English, developed confidence and independence, and learned about the importance of teamwork and cooperation. One student commented, "My English language skills have improved. I used to sit at the back of the class in school; now I sit at the front and focus on my teachers. I finish my homework and projects. We also learn good skills to work on hands-on projects, and I learned to develop self-reliance and self-confidence" (Sheikh Saud bin Saqr Al Qasimi Foundation for Policy Research, 2016, p. 11). While the pilot has seen much success in terms of student re-engagement, some long-term challenges have been identified, particularly related to recruiting qualified staff, funding, and convincing parents and teachers of the value of boys participating one day each week.

Royal Grammar School, Guildford in Qatar

Since 2007, through its Outstanding Schools Program, the Qatari government has been encouraging high achieving schools from around the world to open satellite branches in Qatar to offer educational opportunities to Qatari and expatriate students (Ministry of Education and Higher Education Qatar, 2017). One of the latest schools to be added as part of Qatar's Outstanding Schools Program is the Royal Grammar School (RGS) Guildford, which was granted a refurbished building in Doha to open a branch of its specialized single-sex school in September 2016 (Scott, 2016).

In 2016, RGS Guilford in Qatar opened a co-educational primary school in Doha, with plans to launch two single-sex secondary schools by 2018 — one for boys and one for girls. The Chief Operating Officer of RGS Guildford said the following about the forthcoming Qatar campuses. "It will be two separate schools in two buildings close together, and they will do extra-curricular activities together and share facilities. Our view is that we are experts at single sex education in the UK, and we want to give people who live in Doha the chance to benefit from that" (Scott, 2016, p.1). The RGS Guilford in Qatar is modeled on its boys' school in the UK, which, established in 1509, makes it one of the oldest in the UK. The school describes its approach as "an education

tailored for boys" (Royal Grammar School [RGS] Guilford, n.d.-a). RGS Guildford is consistently ranked as one of the top boys' schools in the UK, with approximately 97 percent of all General Certificate for Secondary Education results achieving A*/A (RGS Guildford, n.d.-b). RGS Guildford in Qatar stresses that the education they offer is specialized, believing that its schools must not only support boys' kinesthetic and physical attributes, but also must establish clear rules, high expectations, strong relationships, and mutual respect in order to foster a strong learning environment (RGS Guildford, 2017a). This aligns with the experiences of one interviewee working with boys who stated that "If you want to make a difference in boys' learning, [a school needs to have] good assessment to learning, good teaching, and clear feedback that shows strongly what children need to do to succeed…The thing that makes the most difference for boys is whether [schools] have teachers who really build powerful relationships with students" (GCC interview 2, 2017).

Conclusion

As two small GCC states established less than half a century ago, both the UAE and Qatar have made remarkable progress in terms of education provision for males and females. However, boys are falling behind girls across a range of educational measures, including on national and international assessment and in terms of higher education graduation rates. There is a shortage of policies and initiatives in both countries working to address gender issues, even though bringing boys educational attainment and achievement in the UAE and Qatar on par with that of girls would likely have long-term benefits for society across a range of areas, including the labor market. A strong educational foundation for boys is also necessary for both countries to realize their ambitions of becoming knowledge economies (National Development Strategy, 2011; Ridge, 2014; UAE Government, 2017).

Chapter 5
United Kingdom

Overview of Education and Gender in the United Kingdom

Educational access for both males and females has steadily increased over the past century in the United Kingdom of Great Britain and Northern Ireland (UK). Following the Education Act of 1944, education was made compulsory for boys and girls up until the age of 15. Figure 5.1 shows a timeline of some of the other key education milestones, gender policies, and laws that have been enacted in the UK since 1876.

1876 — The Elementary Education Act was passed and required parents to ensure that children up until the age of 14 received instruction in reading, writing, and arithmetic (Bolton, 2012).

1918 — Women won the right to vote.

1944 — The Education Act of 1944 was passed and education was made compulsory for both boys and girls until the age of 15.

1970 — The inaugural conference of the National Women's Liberation Movement took place, and one of the central demands agreed upon was equal educational opportunities for females (British Library, n.d.).

1970 — The Equal Pay Act was enacted.

1975 — The Sex Discrimination Act was passed, making it illegal to discriminate against females in work and education.

1988 — The Education Reform Act 1988 was passed.[25]

2010 — The Equality Act 2010 was enacted, stating, "Schools need to make sure that pupils of one sex are not singled out for different and less favourable treatment from that given to other pupils" (Department for Education, 2014a, p. 20)

Figure 5.1 Timeline of significant gender education events in the UK

In recent years, the UK has acknowledged widespread issues relating to male underachievement (Hope, 2013; House of Commons, 2014; Weale & Adams, 2016). Several of the UK interviewees also acknowledged that the UK government is currently taking steps to ameliorate the issue. When asked about whether enough attention was given to the issue of male under-achievement, one interviewee responded that there is "excellent data," and that "We know what the problems are and where they are" (UK interview 2, 2017). Despite this, however, males in the UK—and particularly those from white working class backgrounds—continue to struggle. Table 5.1 shows the UK enrollment by gender and that by the tertiary education level, females comprise 56.0 percent of all students.

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25. As part of this, the predominantly exam-based O-Levels were replaced by the General Certificate for Secondary Education (GCSEs), a method of assessment featuring a larger coursework component than before. Some argue that it was in the wake of this shift that the gap between male and female achievement became more pronounced (Machin & McNally, 2006). One interviewee echoed this claim, stating, "The issues around boys in education are being exacerbated by the changes in assessment patterns" (UK interview 1, 2017).

Gender and Enrollment Rates

Indicator	Total	Female (%)
Primary student enrollment	4,281,720	48.8
Secondary student enrollment	3,180,175	49.8
Tertiary student enrollment	2,266,080	56.0
		Source: UK Department of Education, 2016; UIS, 2016

Table 5.1 UK enrollment by gender (2014)

While both male and female students in the UK have a relatively long school life expectancy compared to the world average of 12.2 years, it is shorter for males (UIS, 2016). In 2014, school life expectancy was 18.4 years for females but only 17.5 years for males (UIS, 2016).

Gender and Achievement at the School Level

National Assessments

The greatest difference between males and females in the UK can be seen with regard to their performance on national assessments, where boys underperform in comparison to girls. Table 5.2 shows the nationally aggregated results from the General Certificate of Secondary Education (GCSE) from 2008 to 2013. Here, we can see that the gender gap in favor of girls widened from 8.1 percent in 2008 to 10.7 percent in 2013, indicating a fairly steady growth in the gender gap, with the exception of the 2010-11 academic year (Department for Education, 2014b).

	2008-09	2009-10	2010-11	2011-12	2012-13
All pupils	49.8	52.9	58.5	59.0	58.9
Boys	45.9	48.9	54.8	54.3	53.7
Girls	54.0	57.1	62.4	63.9	64.4
Gender gap	8.1	8.2	7.6	9.6	10.7
					Source: Department for Education, 2014b, p. 8

Table 5.2 Percentage of pupils in England, Wales, and Northern Ireland achieving 5 or more GCES grades at A*-C[26] including English and mathematics (2008-09 to 2012-13) (%)

Since 1988, boys have also been significantly less likely than girls to achieve five or more GCSE A*-C grades on the GCSEs (Broecke & Hamed, 2008). Continuing this trend, on the 2013-14 GCSEs, girls outperformed boys, with approximately 71 percent of girls and less than 60 percent of boys achieving five or more A*-C GCSEs (Social Market Foundation, 2016).

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26. On the GCSE, a pass in a specific subject is represented by a letter grade, whereby A* is the highest and the grade G is the lowest. Candidates below the minimum receive an "unclassified" result (WJEC, 2014).

International Assessments

However, when we look at international assessments, which are a different measure than grades, such as the OECD's PISA, the data tells a slightly different story. On PISA 2015, UK boys outperformed girls in mathematics by 11 points, and in science, by a less significant one point (see Figure 5.2) (OECD, 2016a). However, on the reading assessment, boys scored an average of 22 points less than girls, which is double the rate of the male advantage in mathematics (OECD, 2016a) and equal to approximately nine months of schooling (Jerrim & Shure, 2016).
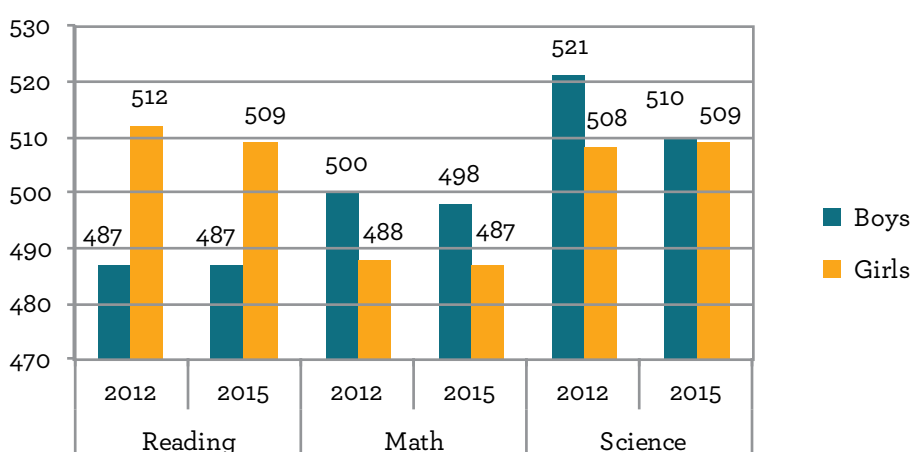
Figure 5.2 UK PISA mean scores in reading, mathematics, and science (2012 & 2015). Source: OECD, 2016a

Gender and Higher Education

Males in the UK are also less likely than females to enroll and persist in higher education. According to a report by the University and Colleges Admissions Services (UCAS), females are 35 percent more likely to enter higher education than males (UCAS, 2015). Even when males continue onto higher education, they are at greater risk of dropping out of higher education in their first year (Higher Education Funding Council for England cited in Chan, 2014).

Two of the key themes arising from interviews were that socioeconomic status is a barrier for boys' achievement and that boys have a preference for work over school. The interviewees suggested that boys' socioeconomic status and lack of understanding about the benefits of education might be contributing factors to the low male enrollment rate in higher education. One interviewee from a UK think tank described how the introduction of university fees in 1997 made it more difficult for boys from lower socioeconomic backgrounds to pursue higher education (UK interview 3, 2017). Another interviewee working in education policy reiterated the cost barrier of higher education and believed that:

Many young males are not properly informed of the difference that HE [higher education] can make to their lives overall, and in a culture of 'instant gratification,' it is difficult to make the argument that five or more years of investment in education for the future will provide more than those five years lost in earnings, work experience and promotion (UK interview 5, 2017).

However, as in the case of the UAE and globally, the economic returns to higher education in the UK are strong for males. Males whose highest qualification in the UK is two or more A-level passes[27] have hourly earnings 46 percent higher than men with lower qualifications (O'Leary & Sloane, 2005). For males who have an undergraduate degree, their earnings are 20 percent greater than those who have only two or more A-level passes, and for males who have a master's degree, it increases to 29 percent (O'Leary & Sloane, 2005).

For males that choose to enroll in higher education, there are certain fields that they are more likely to study. Table 5.3 shows the percentage of enrollment by gender and field of study in tertiary education in the UK. Similar to the UAE and Qatar, males in the UK in 2014 made up less than 50 percent of students in all fields of study except in engineering, manufacturing, and construction and information and communication technologies (80 percent male) (UIS, 206). Females are particularly overrepresented in health and welfare, as well as in education where they comprise over three fourths of students (76 percent in each) (UIS, 2016).

Field of study	Female (%)	Male (%)[28]
Education	76	24
Arts & humanities	56	44
Social science, journalism & information	56	44
Natural science, mathematics, & statistics	52	48
Business, administration, & law	51	49
Engineering, manufacturing, & construction	20	80
Health & welfare	76	24
Agriculture, forestry, fisheries, & veterinary	64	36
Services	61	39
Information & communication technologies	17	83

Source: UIS, 2016

Table 5.3 UK percentage of enrollment by gender and field of study in tertiary education (2014)

The higher number of females studying education is particularly concerning, given the need for male role model teachers in education. Up until 1993, males comprised the majority of teachers at the secondary level, but by 2014, 61.4 percent of secondary school teachers and 87 percent of primary teachers were

27. The A-levels are subject-specific secondary school leaving qualifications that are taken at a level above the GCSEs.

28. UIS does not list the percentage of male students enrolled. Thus, this figure was directly calculated from the female percent.

female (Hillman & Robison, 2016; UIS, 2016). A common theme that emerged from interviews was the shortage of male role models for boys in UK schools. A think tank official noted, "In the early years in the UK, or in primary schools, it's a female dominated arena. There are very few male teachers, so there aren't [male] role models there [for boys]" (UK interview 3, 2017).

Another key theme that emerged from interviews was the concern over the shortage of initiatives targeting the gender gap in higher education. When asked about programs supporting gender equity in education, one academic in the UK observed that females, despite their solid performance, were still receiving more support than males:

> *In UK universities, the only programs that I have seen that distinguish by gender are those aimed at promoting the opportunities available to women in HE [higher education]. For instance, recently a training program designed to mentor female academics into top (i.e. executive) positions was offered at my institution...I can only presume, based on my experience, that previous programs designed to increase femalerepresentation in management and research positions have been successful, as the majority of these positions are held by women in my faculty. This would not have been the case 30 or more years ago (UK interview 5, 2017).*

The same interviewee added that there is a general shortage of males, not only in the student body, but also in management and research roles in higher education. They stated, "After so many years of discrimination against women, it is almost taboo to suggest that males can be discriminated against too. It is almost as if discrimination can only be associated with females..." (UK interview 5, 2017).

Unique Challenge: Disadvantaged White Boys

In the UK, there has been a growing discourse around the educational underachievement of white boys from low SES backgrounds, with one policymaker stating, "Drawing on research and experience, if you want to absolutely make sure that someone fails in school, make them poor, make them a boy, and ensure that they have no positive male role model" (UK interview 1, 2017). Within this segment of boys, the educational performance gap between high and low SES students is larger for white students than for any other ethnic group (House of Commons, 2014; Office for Standards in Education [Ofsted], 2015). In 2012, white working-class boys were the lowest scoring group on the GCSEs, with only 26 percent of white boys receiving free school meals (FSMs) achieving five A-C GCSE grades, including in English and mathematics (Hope, 2013). This was in contrast to 40 percent of black boys and 63 percent of all other students on FSMs accomplishing the same results (Hope, 2013).

Tied to the theme of SES as a barrier for boys' achievement, the disadvantage of white working-class boys emerged specifically from the UK interviews, with several individuals from different backgrounds expressing concern for white working-class boys in education. A policymaker stated: "The worst performing students are poor white working class children… the gap between gender achievements [in favor of girls] in this group is even greater" (UK interview, 1, 2017). Another practitioner in UK education noted a particular concern for the educational trajectory of white working class boys, as "[a student's] university admission is determined by results from secondary school, where white working class boys are underrepresented. They haven't got the aspirations, grades" (UK interview 2, 2017).

In 2014, the House of Commons released a report investigating the under-achievement of white working class children in education (House of Commons, 2014), which revealed that white children from low SES backgrounds perform progressively worse as they get older. In the report, Her Majesty's Chief Inspector, Sir Michael Wilshaw, is quoted as stating:

> *The underperformance of low-income white British pupils matters, particularly because they make up the majority — two-thirds — of such pupils. So the lowest-performing group of poor children is also the largest. If we don't crack the problem of low achievement by poor white British boys and girls, then we won't solve the problem overall (House of Commons, 2014, p. 5).*

White British male students from low SES backgrounds also have the lowest rates of university entrance. While almost 40 percent of youth in the UK enter higher education, only ten percent of white boys from disadvantaged backgrounds do, a rate that is less than that of disadvantaged males from all other racial/ethnic backgrounds (Hillman & Robinson, 2016; Johnson, 2016). This underrepresentation has led to at least one higher education institution to include white males in its strategy to attract underrepresented groups (Henry, 2012).

The importance of SES in boys' underachievement overall was a common theme in the interviews in the UK. One interviewee stated, "Across all ethnic groups, the constants are socioeconomic backgrounds — poverty is the most consistent generic driver of achievement. The next biggest factor would be gender" (UK interview 1, 2017). Since SES and race/ethnicity both play a role in gender differences, one academic believed, "When there is far greater equity between classes and ethnic groups in education, we will be in a position to address any remaining gender inequity" (UK interview 5, 2017).

Promising Initiatives

Working with Men

It was less challenging to find specific initiatives to support boys' education in the UK compared to the other case studies because the underperformance of boys has become a part of the UK mainstream media and national discussions. Even with attention given to the issue, one UK interview highlighted that "it's hard to know what to do about [the underperformance of boys]" (UK interview 3, 2017). However, the Working with Men (WWM) initiative was one of the two promising programs geared towards supporting males.

Working with Men is a registered non-profit charity that works to support "positive male activity, engagement and involvement" (Working with Men [WWM], 2015, p. 1). WWM focuses on "the transitional times in life such as starting school, getting a job or becoming a parent... when men and boys are most likely to encounter challenges and therefore most likely to engage or seek help" (WWM, 2015, p. 1). With a staff of only 30 employees, WWM runs a number of programs and initiatives, focusing on a variety of male issues, including one that supports expectant fathers, and another that helps students transition from primary to secondary school (UK interview 6, 2017).

As part of its Fathers Development Programme, WWM works to influence policy and allow fathers to be the main caregiver when appropriate (UK interview 6, 2017). Since 2014, WWM has been the secretariat to the All Party Parliamentary Group on Fatherhood, a group that lobbies for legal and policy frameworks to support male relationships in the family (UK interview 4, 2017).[29] As well as promoting macro-level changes, the organization also directly supports young, disadvantaged fathers who are often not enrolled in education/training programs or employed. It also works with fathers to strengthen their involvement with their children. As part of this support, the organization runs the Expectant Father Programme in partnership with UK hospitals.

WWM also supports young boys and reaches at least 800-900 male youth per annum (UK interview 4, 2017). As part of its Primary Transition Project for Grade 6 students, WWM works closely with after-school youth clubs to identify boys at-risk of joining gangs or being excluded from mainstream education. Once selected, WWM pairs the boys with a mentor who follows up with the boy and their parents, school, and other stakeholders (WWM, 2017b). A member of the leadership team of WWM said of their work with boys:

> *Young men throughout the school days use only two emotions, especially those in receipt of free school meals, [they are] laughing [/happy] or angry. During school days, they don't express a full range of emotions. They tend to channel all their*

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29. Permission was granted by WWM to note that they were interviewed for this study. Two individuals from the organization were interviewed.

emotions through those two channels, which could be damaging to them and those around them. Our programs are designed to build their emotional literacy - to [help them] know when to be quiet, and how to look after themselves, and where they can get the most out of education (UK interview 4, 2017).

In spite of doing valuable work, the organization faces some challenges as one of the few organizations specifically supporting males. A member of the organization explained, "It is critical that we find ways to support our cohort of boys from becoming more marginalized by falling out of the mainstream education. There are few of us in the UK providing targeted, gender-based services and we all rely on charitable funds primarily" (UK interview 6, 2017). WWM notes that it is working to become sustainable and receives some matching funding from schools but that those schools are often short on funding themselves (UK interview 6, 2017). WWM is not the only program targeting boys in the UK, and another more recent promising initiative is a summer program at the University of Oxford.

The University of Oxford and The Sutton Trust: Summer program targeting disadvantaged boys

In 2017, the Sutton Trust and the University of Oxford announced a partnership that specifically seeks to reengage white British boys from low SES backgrounds (Pells, 2017).[30] When asked to explain the purpose of the summer program, a university staffer stated, "[Oxford and the Sutton Trust are looking] at how to get them [male students] to engage, to be inspired, and also how to get them to aspire to reach Oxford" (UK interview 7, 2017). The program accepts applications from Year 12 students who obtained at least five A or A* GCSE grades, and is designed to introduce participants to subjects that may be new to them, such as ancient history, law, and medical sciences (Pells, 2017).

While a core objective of the program is to reach out to white boys from low SES backgrounds, the program is legally obliged to accept students of all backgrounds and gender due to UK regulations (UK interview 7, 2017). As such, the program is open for all students, but it strategically targets its marketing to attract boys from low SES backgrounds. Unlike other Oxford summer programs that receive 70 applications from girls for every 30 applications from boys, the new pilot summer camp received 45 applications from girls for every 55 applications from boys (UK interview 7, 2017). However, there has been some skepticism about the program, with one article in the The Telegraph noting, "Oxford can only do so much, because white working class kids are not going to get a look in at the best universities while they flounder at schools" (Ryan, 2017, p.1).

While the issue of male academic underachievement starts early and has deep roots, initiatives such as Working with Men and the Oxford University/Sutton Trust summer programs have the ability to make a positive difference

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30. The Sutton Trust has collaborated with 12 UK universities to run programs to support students from low and middle SES background (Pells, 2017).

for many struggling boys and support system-wide change. The joint summer program at Oxford is also working to address the issue of the shortage of programming efforts to support boys, a key theme that emerged in our interviews.

In speaking about the program, one interviewee stated, "With white working class boys, we have generations… [where] no one has gone to a university. University is not a route that they would consider; therefore, you're breaking mindsets, you have to challenge those" (UK interview 7, 2017). By exposing boys to opportunities to engage with academic subjects in a university setting, programs such as the Oxford/Sutton Trust summer program enable boys to think about higher education as accessible and beneficial to their lives in terms of breaking the cycle of poverty and disadvantage.

Conclusion

In the UK, there has been an increasing amount of research focusing on boys' underachievement in school, and, as such, the reverse gender divide in education has been garnering national attention over the past two decades (Ofsted, 2003). With this growing attention, boys have become a topic of national discussions and programs like Working With Men and targeted university outreach programs have been established to support them (Pells, 2017). A continued focus on equality in education and greater support for males in education from the government and other organizations may help improve the educational outcomes of at-risk boys and help them become fully contributing members of society. The next case study explores two Caribbean countries and while the UK has many differences from the Caribbean, both places have given policy attention to the underperformance of males.

Trinidad & Tobago and The Dominican Republic

Overview of Education in Trinidad and Tobago and the Dominican Republic

Over the past four decades, there have been changing gender patterns in education in the Caribbean (United Nations Girls' Education Initiative, 2011). While boys were traditionally seen as more advantaged in the region, girls are outperforming boys today across a whole range of education indicators (Figueroa, 2000, 2004; George, Quamina-Aiyejina, Cain, & Mohammed, 2009). Figure 6.1 shows a timeline of significant events in gender and education in Trinidad and Tobago and the Dominican Republic from the 1950s up to today.

1950s (Trinidad & Tobago) — Universal primary education was established (Republic of Trinidad and Tobago Ministry of Education, 2008).

1953 (Dominican Republic) — The General Education law was passed (Gajardo, 2007), establishing compulsory education for boys and girls aged 6-12 years old (Glave & Arafat, 2013).

1966 (Trinidad & Tobago) — The Education Act of 1966 presented the government plan for education, though without mention of gender discrimination (Sookram & Strobl, 2008).

1970 (Trinidad & Tobago) — The ILO Convention Concerning Discrimination in Respect of Employment and Occupation (No. 111) was ratified, calling for equal pay for women for equal work (Sookram & Strobl, 2008).

1988 (Dominican Republic) — Business leaders and civil service organizations issued the Plan Educativo to support changes to the education system. This was followed by the Decálogo Educativo, which outlined 10 educational goals to be completed over the following decade (Gajardo, 2007).

1990 (Dominican Republic) — Measures introduced at the World Conference on Education in Jomtien were supported (Gajardo, 2007).

1993 (Dominican Republic) — The Plan Decenal[31] was presented (Gajardo, 2007).

1993 (Trinidad & Tobago) — The Education Policy Paper (1993-2003) gave direction on pursuing gender equality in education, including developing a "gender neutral curriculum" (Sookram & Strobl, 2008, p. 2).

1997 (Dominican Republic) — The Plan Decenal was implemented and the General Education Law of 1997 made education compulsory for ages 6-14 (Glave & Arafat, 2013).

1997 (Trinidad & Tobago) — The ILO Convention (No. 100), calling for equal pay for women for equal work, was ratified (Sookram & Strobl, 2008).

1999 (Dominican Republic) — The Women's Ministry was created, leading to legislation covering gender-based violence, employment rights and property rights (Lambert, 2009).

2000 (Trinidad & Tobago) — The Dakar Framework for Action was signed (Sookram & Strobl, 2008), and universal secondary education was established (Republic of Trinidad and Tobago Ministry of Education, 2008).[32]

Figure 6.1 Timelines of significant gender education events in Trinidad and Tobago and the Dominican Republic

As shown in Figure 6.1, both Trinidad and Tobago and the Dominican Republic have indicated commitments to gender and education at national and international levels. Both countries have passed domestic education laws (i.e., the Dominican Republic mandating compulsory education for six to 12 year-

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31. Plan Decenal was an education system reform plan, which among other things, sought to increase access and quality of education for all children (Gajardo, 2007).

32. Trinidad and Tobago also enacted the Equal Opportunity Act, 2000 (No. 69), barring discrimination in employment which had previously not been implemented despite passage of guidelines in 1970 and 1997 (Sookram & Strobl, 2008).

old boys and girls in 1953) and also endorsed related international initiatives (i.e., Trinidad and Tobago signing the Dakar Framework for Action in 2000) (Gajardo, 2007; Glave & Arafat, 2013; Republic of Trinidad & Tobago Ministry of Education, 2008).

In the primary years, more boys in Trinidad and Tobago and the Dominican Republic are enrolled in school than girls (as shown in Table 6.1) (UIS, 2016). However, these figures shift at the secondary level, where more girls are enrolled than boys (UIS, 2016). In addition to enrollment, school life expectancy also shows a clear gender gap in favor of females in both countries. In Trinidad and Tobago in 2004, school life expectancy for female students in primary to tertiary levels was 12.5 years compared to 12.1 years for males (UIS, 2016). In 2014 in the Dominican Republic, the school life expectancy for the same period was 13.7 years for females and a year less for males (UIS, 2016).

Indicator	Trinidad & Tobago[a]		Dominican Republic[b]	
	Total[c]	Female (%)[d]	Total[c]	Female (%)[d]
Primary student enrollment	137,313[e]	49[e]	1,267,930	47
Secondary student enrollment	105,381[e]	51[e]	931,068	52
Tertiary student enrollment	16,751	55	455,822	61
				Sources: UIS, 2016

Table 6.1 Trinidad and Tobago and Dominican Republic enrollment by gender

Note: a 2004; b 2014; e National Estimations c International Standard Classification of Education, 2011; d UIS, 2016

As can be seen in Table 6.2, more boys drop out of school than girls as students move further along in the educational system in Trinidad and Tobago and the Dominican Republic (UIS, 2016). Examining the data more closely, only 2.4 percent of girls dropped out of Grade 1 of lower secondary general education compared to 7.7 percent of boys in Trinidad and Tobago in 2009 (UIS, 2016). Similarly, in the Dominican Republic, 10.2 percent of girls dropped out from Grade 1 of lower secondary general education while 14.0 percent of boys did (UIS, 2016). Lower secondary completion rates similarly reflect this data. While similar percentages of boys and girls complete lower secondary education in Trinidad and Tobago, differences are greater in the Dominican Republic, where 72.0 percent of boys and 81.8 percent of girls complete this level (UIS, 2016).

Indicator	Trinidad & Tobago[a]		Dominican Republic[b]	
	Male	Female	Male	Female
Dropout from Grade 1 of primary education	5.7	4.3	3.2	3.8
Dropout from Grade 4 of primary education	—	1.2	6.5	4.4
Dropout from Grade 1 of lower secondary general education	7.7	2.4	14.0	10.2
Lower secondary completion rate, (% of relevant age group)	92.3	95.9	72.0	81.8
				Source: UIS, 2016

Table 6.2 Persistence in education for Trinidad and Tobago and the Dominican Republic (%)

a 2009, b 2013

Gender and Achievement at the School Level

National Assessments

National assessments offer valuable insight into the educational inequalities affecting boys in both Trinidad and Tobago and the Dominican Republic. In Trinidad and Tobago, students completing the primary level take the Secondary Entrance Assessment (SEA) (George et al., 2009). This test is just one component of student placement in secondary schools, as school options and student preference also play a role (De Lisle, Smith, Keller, & Jules, 2006).

The SEA has been the subject of considerable analysis, particularly with regard to performance differences based on gender. One study that examined SEA results from 2004 to 2008 found that boys' mean scores on each SEA subtest were lower than those of girls, and differences between each pair of mean scores produced statistically significant results with more variability for boys (George et al., 2009). Boys in certain rural, inner-city schools were found to perform poorest across subjects of the SEA (George et al., 2009). Another study by De Lisle et al. (2006) highlighted additional gender differences on the SEA based on where students live and found that boys were disadvantaged on Creative Writing, Language Arts, and overall scores in certain districts. The focus on literacy, an aspect of the new test design, also put them at an additional disadvantage (De Lisle et al., 2006).

The 30 percent score threshold for passing was another obstacle presented for boys (De Lisle et al., 2006; Republic of Trinidad and Tobago Ministry of Education, 2008). As shown in Table 6.3, between 2003 and 2007, more boys than girls scored 30 percent or below on this test (Republic of Trinidad and Tobago Ministry of Education, 2008). At the other end of the achievement spectrum, more girls (61.0 percent) than boys (39.0 percent) scored in the 90 percent and above range for 2007 (Republic of Trinidad and Tobago Ministry of Education, 2008).

Year	Male (%)	Female (%)
2003	74.4	25.6
2004	71.4	28.6
2005	70.5	29.5
2006	71.9	28.1
2007	68.6	31.4
	Source: Adapted from Republic of Trinidad and Tobago Ministry of Education, 2008, p. 25	

Table 6.3 Percentage of students, by gender, scoring 30% or below on SEA (2003–2007)

The Dominican Republic is one of the few countries in the Caribbean where primary school lasts for eight years (di Gropello, 2003). Therefore, testing at the completion of primary school occurs annually in Grade 8 with the *Pruebas Nacionales*. Students then sit for a final school assessment at the completion of Grade 12 (Nohemí, 2015). In 2014, 86 percent of girls in Grade 8 passed the *Pruebas Nacionales* while just 77 percent of boys did the same (Nohemí, 2015,

p. 31). Scores in each tested subject, including Spanish, social studies, science and mathematics, were also higher for girls than for boys (MINERD, "Anuario de Indicadores" cited in Nohemí, 2015, p. 31).

Even though the Dominican Republic does not participate in testing by the Caribbean Examinations Council (CXC), Trinidad and Tobago does (Caribbean Examinations Council, 2010; di Gropello, 2003). The CXC's testing portfolio includes the CSEC, considered the "most sought-after school-leaving certificate" used to obtain employment as well as admission to tertiary education (Bailey, 2004, p. 61). The CSEC tests proficiency in areas categorized as either technical or academic (Figueroa, 2004). Analysis of CSEC results in 2005 showed females scoring higher than males in every area except mathematics at the Grade 1 level (George et al., 2009).

International Assessments

At the international level, the gender differences in favor of girls are significant. Trinidad and Tobago participated in PISA for the first time in 2009 (Alexander & Maeda, 2015) with the Dominican Republic joining in 2015 (National Center for Education Statistics, n.d.-a). The two countries' mean PISA scores in reading and mathematics are presented in Table 6.4. In 2015, Trinidad and Tobago had the seventh largest difference in boys' and girls' average scores for reading literacy (51 points in favor of girls) (OECD, 2016a). In 2015, in the Dominican Republic, girls similarly outperformed boys, though the difference was smaller (31 points) (OECD, 2016a). For mathematics literacy in 2015, the difference between boys' and girls' average scores was 18 points in Trinidad and Tobago, again in favor of girls (OECD, 2016a). This was the greatest difference between boys' and girls' scores for this subject area for all participating educational systems (OECD, 2016a). In the Dominican Republic, results were only slightly higher for girls (four points) (OECD, 2016a).

	Reading				Mathematics				Science			
	2012		2015		2012		2015		2012		2015	
	F	M	F	M	F	M	F	M	F	M	F	M
Trinidad & Tobago	445	387	452	401	418	410	426	408	419	401	435	414
Dominican Republic[33]	—	—	373	342	—	—	330	326	—	—	331	332

Source: OECD, 2014 and 2016a

Table 6.4 Trindad and Tobago and Dominican Republic PISA mean scores in reading, mathematics, and science for students (2012 and 2015)

Gender and Higher Education

Studies on males in the Caribbean offer suggestive evidence that males are particularly not motivated to focus on their education because they perceive few benefits from such efforts, despite studies finding definitive economic returns to education for them (Figueroa, 2004; Psacharopoulos, & Patrinos, 2004). In addition, the interviewees indicated that SES acts as a major barrier for boys to continue and focus on education. Further to this, one academic stated that, "[The state of higher education for males in the Caribbean] is bleak… For a lot of the people, going to college is not necessarily seen as an option. It is [seen as only] an option for the rich" (Caribbean interview 2, 2017).

33. 2015 was the first year that the Dominican Republic participated in PISA.

Males in Trinidad and Tobago are underrepresented in all fields of study at the tertiary level, shown in Table 6.5, again with the exception of engineering, manufacturing, and construction (similar to all other countries in this study) (UIS, 2016). This is similar to the Dominican Republic, except that males are also the majority in agriculture, forestry, fisheries, and veterinary as well (UIS, 2016). As in the other counties in this case study, the share of employment in the manufacturing sector has been on the decline in Trinidad and Tobago and the Dominican Republic (Abdullaev & Estevão, 2013; Javeed, 2016). Additionally, in both countries males are the minority of students studying education, with only 31 percent of students in both countries studying the subject.

Field of Study	Female (%)		Male (%)	
	Trinidad & Tobago[a]	Dominican Republic[b]	Trinidad & Tobago[a]	Dominican Republic[b]
Education	69	69	31	31
Arts & humanities	78	65	22	35
Social science, journalism & information	71	N/A	29	N/A
Business, administration, & law	68	N/A	32	N/A
Engineering, manufacturing, & construction	28	32	72	68
Natural science, mathematics, & statistics	64	NA	36	NA
Health & welfare	64	79	36	21
Agriculture, forestry, fisheries, & veterinary	55	24	45	76
Services	79	63	21	37
Information & communication technologies	51	N/A	49	N/A
				Source: UIS, 2016

Table 6.5 Percentage of enrollment by gender and field of study in tertiary education[34]
a All data from 2001, except for education, arts and humanities, health and welfare, and agriculture, forestry, fisheries, and veterinary data which are from 2004. b 2014

Unique Challenge: Child Labor

Child labor is a common occurrence in the Caribbean (International Labour Organization, n.d.). As shown in Table 6.6, boys are more likely than girls in Trinidad and Tobago and the Dominican Republic to be working during, or instead of, school (U.S. Department of Labor, 2015; The World Bank, 2014). Additionally, those boys who remain in education find it difficult to balance school and work, with their education often suffering (Hopenhayn et al., 2009). The issue of boys leaving school early to work instead of continuing their education was one of the main themes that emerged in interviews about the Caribbean. One interviewee noted, "The opportunities that are there for male students are limited [in the Caribbean]. Both during academic pursuit and after going to school, sometimes it's better to go work than go to school" (Caribbean interview 2, 2017). Another interviewee reiterated this point by stating, "In poor areas, getting a job is more important for 'survival' than education" (Caribbean interview 3, 2017).

34. UIS does not list the percentage of male students enrolled. Thus, this figure was directly calculated from the female percent.

Indicator	Trinidad & Tobago[a]		Dominican Republic[b]	
	Male	Female	Male	Female
Average working hours of children, working only, ages 7-14 (hours per week)	8.0	—	25.7	10.0
Children in employment, work only, (% of children in employment, ages 7-14)[c]	4.2	0.0	14.3	1.7
Children in employment, (% of children ages 7-14)[d]	4.1	2.1	3.9	1.4
				Source: The World Bank, 2014

Table 6.6 Child Employment for Trinidad and Tobago and the Dominican Republic

a 2006, b 2012, c Children in employment is defined as children who are involved in economic activity of at least one hour during the reference week of the survey. Work only means that the children are involved in economic activity and not attending school. d Children in employment is defined as those children involved in economic activity for at least one hour during the reference week of the survey. Economic activity includes household chores.

Child labor in the Caribbean leads to a premature and uncontrolled exposure to the outside world (Montaño & Milosavjlevic, 2009). This makes working boys vulnerable to harmful influences and social situations (Montaño & Milosavjlevic, 2009). In the Caribbean, some of the jobs that boys are doing are in agriculture, scavenging, domestic work, and prostitution (Pegus, 2005).

Poverty and sudden changes in the economic situations of families lead some parents to pull boys from school so that they can contribute to the family financially (United Nations Education, Scientific and Cultural Organization [UNESCO], 2012). Additionally, parents in the region are more likely to place more weight on employment than schooling for boys, often since boys tend to gain employment that is more lucrative than girls do (Gallego & Sepulveda, 2011; UNESCO, 2012). Based on the educational possibilities and their quality, parents may decide that it makes little sense to continue with education, as jobs are available locally.

Promising Initiative:
2009 Regional Caribbean Initiative on Keeping Boys Out of Risk in Latin America & the Caribbean

Due to boys' disengagement from school and their higher tendency to engage in risky behaviors in the Caribbean region, various initiatives and programs have been introduced to address those factors that lead boys to engage and be connected to these types of activities (Caribbean interview 1, 2017; The World Bank and The Commonwealth Secretariat, 2009). One way the region came together to address male issues was through the Regional Caribbean Initiative on Keeping Boys Out of Risk in 2009, organized by the World Bank and the Commonwealth Secretariat (The World Bank & The Commonwealth Secretariat, 2009). During interviews, one policymaker stated that "over the past few years, more conversations have been had on the subject [of boys underachievement]. The public discourse has improved. As far as it relates to primary and secondary levels, the MoE [Ministry of Education in my country] is doing much, much more than used to be done. We know the problem is there and are trying to address it" (Caribbean interview 1, 2017).

The Regional Caribbean Initiative on Keeping Boys Out of Risk had multiple areas of focus, including a contest for best educational initiatives targeting boys, a conference about meeting the needs of underachieving boys, a plan to identify best-practices to be used across the region, the creation of an action plan for regional nations and the establishment of a library of relevant materials and resources (The World Bank and The Commonwealth Secretariat, 2009; Ridge, 2014). The Keeping Boys Out of Risk Conference was held to establish a common action plan, including undertaking activities such as developing early intervention programs, offering remediation to at-risk students, and creating a more comprehensive approach to the delivery of technical vocational education and training programs for males (The World Bank and The Commonwealth Secretariat, 2009; Ridge, 2014). Following the Regional Caribbean Initiative on Keeping Boys Out of Risk, there have been subsequent teaching materials, research and programmatic work in support of males that can be linked back to the initial event.

One education policymaker in the Caribbean commended the Keeping Boys Out of Risk Conference and noted that after the conference, a teachers' resource about how to engage boys in reading was created by delegates (Caribbean interview 1, 2017). The same interviewee said attending the conference added to their own research that was focused on male literacy, and that today at least one Caribbean country's Ministry of Education is studying and "exploring how boys at the primary level respond to materials designed [specifically] for them" (Caribbean interview 1, 2017). In terms of specific programmatic work, an initiative that was a finalist at the Caribbean's "Keeping Boys Out of Risk" contest is currently operational in the Dominican Republic. The program, "Build Your Dreams: Youth Business Plan Competition" is run by Peace Corps and Plan International and has been successful at helping youth, aged 16 to 29 years, develop the means to generate their own incomes and learn about the business development process instead of engaging in other risky or illicit activities (Baker, 2013; The World Bank and The Commonwealth Secretariat, 2009).

Conclusion

Reflecting a commitment to boys' education in their countries, both Trinidad and Tobago and the Dominican Republic participated in the 2009 Regional Caribbean Initiative on Keeping Boys Out of Risk (The World Bank & The Commonwealth Secretariat, 2009). Despite this early support of the regional initiative and general agreement about the underperformance of boys, more needs to be done to keep boys in education and improve their overall achievement and retention in both countries. Given that boys are underrepresented across the majority of higher education fields, this may have long-term implications for their participation in the shifting global labor market.

The final case study looks at the situation in the US, where the discussion of gender in education is still largely dominated by discussion of females, even though there are several educational areas where boys have fallen behind their female counterparts.

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Chapter 7
United States of America

Overview of Education in the United States

In the US, there has been a dramatic shift in the educational attainment of males and females over the past century. Females began surpassing males in terms of higher education graduation rates from the 1980s, even though they had been achieving higher grades than males for approximately 100 years (DiPrete & Buchmann, 2013a). Figure 7.1 shows a timeline with some key dates relating to education and gender in the country. The timeline shows that in the 1960s and 1970s there was a widespread shift in education for males and females following changes stemming from the Civil Rights and Feminism movements.

1852 — The state of Massachusetts was the first to implement a modern-day compulsory public education law (Grocke, 2004).

1900–1920 — American females who graduated from college were four times less likely to be married than their peers without college degrees (DiPrete & Buchmann, 2013a; Goldin, 1991).

1920 — Women won the right to vote.

1950s — College dropout rates were high for females because they would often leave school when they became engaged or married (DiPrete & Buchmann, 2013a).

1960s –70s — A widespread shift occurs in American education as the Civil Rights and Feminism movements campaigned for equal rights in both education and employment. [35]

1965 — The Elementary and Secondary Education Act (ESEA) passed, allocating federal funds to poorer school districts and requiring testing (Education Post, 2016).

1972 — Title IX of the Education Amendments of 1972 passed.[36]

1976 — U.S. military service/higher education academies started to admit females (History and Collections, 2017).

1985 — Boys and girls took Advanced Placement (AP) exams at nearly the same rates.[37]

1994 — The Equity in Athletics Disclosure Act was passed, requiring tertiary education institutions to disclose gender figures for men's and women's sports (Rochester Institution of Technology, 2017).

2006 — Title IX regulations were amended to allow for single-sex classrooms and activities (US Department of Education, 2015).

Figure 7.1 Timeline of significant education and gender events in the US

Many of the obstacles that females faced in education decades ago in the US no longer exist; however, there is still a tendency to focus on females over males, even though females are more likely to go on to university. Some researchers argue that there were social-cultural shifts that reduced discrimination against girls and women and allowed them to leverage their long-standing better academic achievement into higher rates of university attendance and completion (DiPrete & Buchmann, 2013b). However, in many ways these shifts overlooked boys, and according to one US academic, "In the United States, our political agenda has been almost exclusively focused on the education of girls for at least the last 50 years. The girls have made extraordinary progress, while the boys have been ignored" (US interview 4, 2017).

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35. At this time, there were also advancements made in female contraceptives, such as the birth control pill, making it easier for women to remain in education (DiPrete & Buchmann, 2013a; Goldin & Katz, 2002).

36. Title IX made discrimination against any person based on gender in federally funded education in the US illegal (U.S. Department of Education, 2017)

37. By the 1990s, the number of girls taking AP assessments was greater than boys, a trend that continues today (Sommers, 2013).

Gender and Enrollment Rates

The US mirrors the other case studies in this chapter in terms of the percentage of males in education decreasing with more advanced levels of education (i.e., primary level compared to tertiary level). Table 7.1 shows that at the primary student level in 2015, girls comprised 48.9 percent of the student body (UIS, 2016). However, at the tertiary level males comprised less than half of the students as females accounted for 56.2 percent of students (UIS, 2016).

Indicator	Total	Female (%)
Primary student enrollment	24,785,697	48.9
Secondary student enrollment[a]	24,229,777	49.1
Tertiary student enrolment	19,531,727	56.2
		Source: UIS, 2016

Table 7.1 US enrollment by gender (2015)
Notes: a 2014 data

In turn, males in the US have a shorter school life expectancy than females (UIS, 2016). In 2014, males' school life expectancy was only 15.8 years, while for females it was nearly two years longer (17.4 years) (UIS, 2016).

In the US, race/ethnicity differences often dominate the education and inequality discourse, and while these are valid, they can preclude discussion of gender with the exception of discussions surrounding education of black and minority boys. Thus, other groups, such as white boys, are typically not considered even though there are over two million white boys living in poverty in the country (Henderson, 2014; Patten & Krogstad, 2015; The Annie E. Casey Foundation, 2016). The educational challenges that minorities, particularly boys, face can be seen across a multitude of education indicators, including high school graduation rates. Girls in the US have higher high school graduation rates than boys in each major race/ethnicity group. However, black and Hispanic youths have the biggest gender gaps overall by race/ethnicity groups (Murnane, 2013). For example, in the state of Massachusetts in 2009, 80 percent of girls in public schools graduated within four years compared to only 73 percent of boys (Murnane, 2013). However, this gap was even larger for black and Hispanic youth, with 69 percent of black girls graduating in four years compared to only 56 percent of black boys, and 59 percent of Hispanic girls graduating compared to only 49 percent of Hispanic boys (Murnane, 2013).

Gender and Achievement at the School Level

National Assessments

When it comes to overall academic achievement, boys also underperform compared to girls. Figure 7.2 shows DiPrete and Buchmann's (2013b) compilation of male and female mean grade point averages (GPA) across four decades for high school seniors. While there was an increase in GPAs over time, DiPrete and Buchmann (2013b) also found a statistically significant difference in favor of girls each year that remained relatively consistent, ranging from 0.24 to 0.30 on a 4.0 scale.
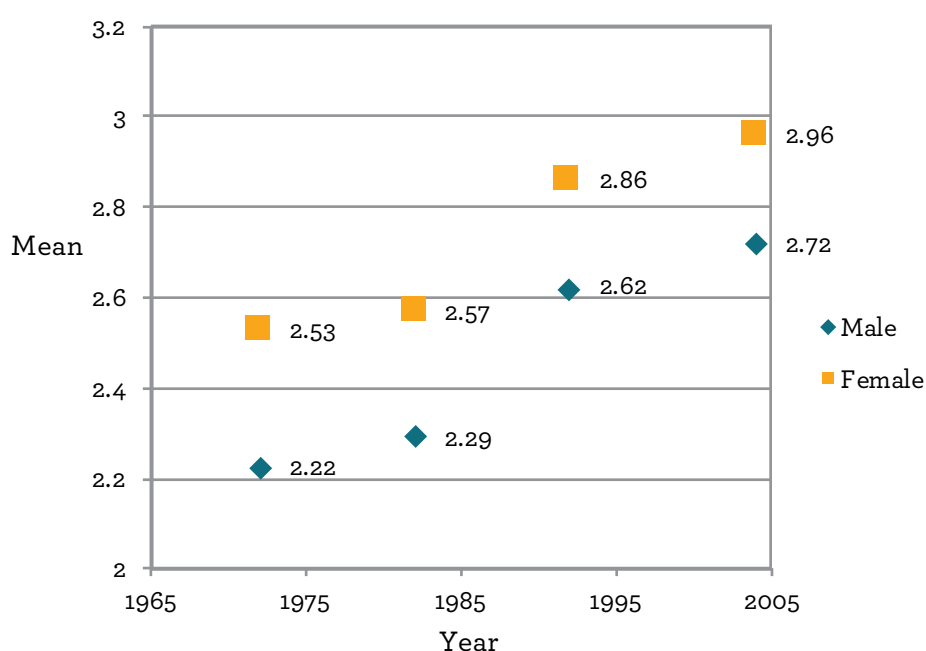
Figure 7.2 Mean grade point average high school seniors (1972, 1982, 1992, and 2004). Source: DiPrete & Buchmann 2013. p.87

In our interviews, some of the possible reasons behind the academic underperformance of boys in school were discussed. One interviewee stated, "Girls have higher grade means and do more of what's rewarded in the classroom, for example, paying attention. This might lead to higher levels of education attainment" (US interview 3, 2017). Research aligns with this statement, with Cornwell et al. (2013) finding that "[b]oys who perform equally as well as girls on reading, mathematics, and science tests are graded less favorably by their teachers…" (p.1). Another possible reason for male underachievement in research relates to boys' lower reading scores, as reading comprehension is a key skill for success across school subjects (Vilenius-Tuohimaa, Aunola, & Nurmi, 2008).

In terms of subject specific assessments in the US, while boys tend to outperform girls on certain subjects, such as math and science, the gap in science has been decreasing. On the 2015 National Assessment of Educational Progress (NAEP) in science, on average, girls scored the same as boys in Grade 4, while girls in Grade 8 scored only three points less, and girls in Grade 12 scored five points less (The Nation's Report Card, 2015; Reilly, 2016). The 2015 NAEP science results revealed the closing of the gender gap as girls continue to have greater gains than boys (Reilly, 2016).

On the other hand, boys continue to perform worse than girls on reading in national assessments. Since the first NAEP was administered in 1971, girls have outscored boys on reading (Loveless, 2015). According to Table 7.2, the gender gaps in reading are statistically significant on each of the NAEP assessments (Loveless, 2015). The gap is smaller for students in elementary school than it is for middle and high school students (Loveless, 2015).

Test	Age/grade	Male	Female	Gap	Standard deviation
NAEP-Long Term-Trend (LLT) (2012)	Age 9	218	223	5*	38
	Age 13	259	267	8*	37
	Age 17	283	291	8*	42
NAEP Main (2013)	Grade 4	219	225	6*	37
	Grade 8	263	273	10*	34
	Grade 12	284	293	9*	38
					Source: Loveless, 2015* $p<0.05$

Table 7.2 US gender gap in literacy on NAEP test

International Assessments

In terms of international assessments, the PISA results reveal that while boys tend to outperform girls marginally on science and more significantly on mathematics, they consistently underperform compared to girls on reading. Figure 7.3 shows that on the 2012 PISA assessment, girls actually outperformed boys on science assessment by one point, but in 2015, boys outperformed girls by seven points (OECD, 2014; OECD, 2016a). On the PISA 2012 and 2015 mathematics sections, boys scored higher than girls, on average, by five and nine points, respectively (OECD, 2014; OECD, 2016a). However, consistent with the national reading assessments, girls outperformed boys on both the PISA 2012 and 2015 reading assessments, with boys scoring a considerable 31 points lower than girls in 2012 and 20 points lower than girls in 2015, double the difference between girls and boys in mathematics (OECD, 2014; OECD, 2016a).
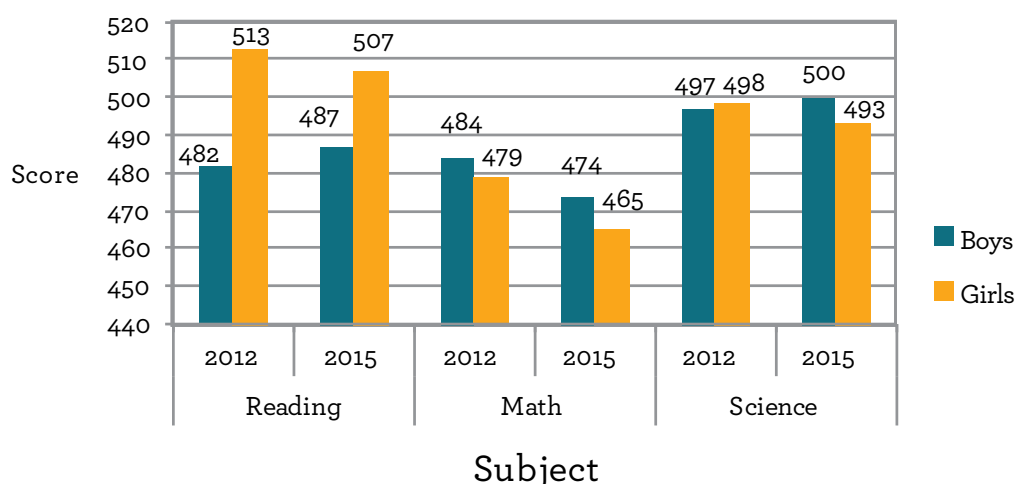
Figure 7.3 US PISA mean scores in reading, mathematics, and science (2012 & 2015). Source: OECD, 2014 and 2016a

Gender and Higher Education

If males manage to make it to higher education, they still tend to have lower grades and are less likely to complete their education compared to females. A study examining four-year higher education institutions in the states of Florida and Texas found that male students are not only more likely to have lower grades than their female classmates, but they are also less likely to graduate from college (Conger & Long, 2010). Another study found that the odds of attaining an associate's or bachelor's degree for males was 32 percent lower than for females, after accounting for additional variables (Ross, Kena, Rathbun, KewalRamani, Zhang, Kristapovic, & Manning, 2012). Therefore, as males are less likely to be in higher education, it is unsurprising they are also underrepresented in certain fields of study.

In terms of areas of study, the percentage of enrollment by field of study in tertiary education and gender is shown in Table 7.3. In 2015, males comprised less than 50 percent of all students in each field of study listed in the table except, consistent with all the case studies, engineering, manufacturing, and construction (85 percent male), information and communication technologies (79 percent male) and agriculture, forestry, fisheries, and veterinary (54 percent male) (UIS, 2016). Similar to the case in the UK, this does not bode well for future male employment opportunities as the share of total employment attributable to manufacturing has been declining in the US (Baily & Bosworth, 2014). While UK males and females have an even spilt studying business, administration, and law, females disproportionally comprise over three-fourths of students in other stable sectors such as health and welfare (79 percent) and education (78 percent) (UIS, 2016).

Field of Study	Female (%)	Male (%)[38]
Education	78	22
Arts & humanities	60	40
Social science, journalism & information	60	40
Business, administration, & law	50	50
Engineering, manufacturing, & construction	15	85
Health & welfare	79	21
Agriculture, forestry, fisheries, & veterinary	46	54
Services	51	49
Information and communication technologies	21	79
		Source: UIS, 2016

Table 7.3 US percentage of enrollment by field of study in tertiary education by gender (2015)

As in each of the other case studies, the feminization of the teaching profession in the country came up in interviews. While the impact of teacher gender on students is debated (Driessen, G. (2007; Carrington, & McPhee 2008; Carrington, Tymms, & Merrell, 2008), one interviewee observed, "Few schools have many male teachers, particularly in the elementary grades. Our schools are run by and to a disproportionate degree for females" (US interview 4, 2017). In the US, 87 percent of primary school teachers were female in 2014, and 62 percent were female at the secondary level in 2013 (UIS, 2016).

Overall, there have been dramatic shifts in bachelor's degree attainment in the US over the past half century. One professor interviewed for this study stated, "The number of male students continuing to university hasn't been falling...it generally has been rising, though over the past couple of decades the rise hasn't been as fast as for females, and this has produced a gender gap in [the US and in] many countries" (US interview 5, 2017). In the US, Mortenson (2015) found that in 1960, for every 100 bachelor's degrees earned by women, men earned 184 bachelor's degrees. However, by 2013, for every 100 women that earned a bachelor's degree, only 75 men did (Mortenson, 2015). Another academic interviewed highlighted one of the issues associated with this shift, explaining, "Currently in the US, we are graduating about 260,000 more women with bachelor's degrees than men. These women — if they [wish to] marry — will not find an equivalently educated man to marry" (US interview 4, 2017).

Unique Challenge: Poverty and the Gender Gap

In the US, there is the unique challenge of poverty relating to the gender gap that goes beyond ethnicity and race. As research in the US has shown that low SES levels disproportionately impact boys (Autor et al., 2015), it follows that boys raised in the lowest SES regions of the US are at particularly high risk of poor educational attainment. For the purposes of this report, the authors of this paper conducted an original analysis of the educational attainment of males and females in the 20 poorest counties in the US (see Appendix 2). In terms of demographics, the analysis found that 35 percent of the 20 poorest counties are majority black, 30 percent are majority Native Americans, 25 percent are majority white, and ten percent are majority Hispanic (see Box 7.1 for more information about Native Americans).

38. UIS does not list the percentage of male students enrolled. Thus, this figure was directly calculated from the female percent.

Box 7.1 Overlooking Native Americans in education and gender discussions

Native Americans make up two percent[39] of the population in the US. However, they are often overlooked in mainstream discussions of gender or racial inequities (Faircloth & Tippeconnic, 2010; Kaiser Family Foundation, 2017; Varma & Galindo-Sanchez, 2006). Despite the overall scarcity of gender research on Native American education contexts, a few researchers have explored this issue in terms of achievement and graduation rates. In one study on the state of Maine, Native American girls were found to outperform Native American boys on reading and mathematics assessments (Maine Department of Education, 2007). Another study found that the high school graduation rates for Native American students are consistently below the national average, and that Native American boys are less likely to graduate from high school compared to Native American girls (Faircloth & Tippeconnic, 2010). For example, in 2004-05 in the state of South Dakota, the overall female high school graduation rate was 77 percent, while the graduation rate for females from Native American background was only 31 percent. In the same state, the overall male graduation rate was 71 percent, but for Native American males, it was only 28 percent (Faircloth & Tippeconnic, 2010).

Other research further elucidates the struggles of Native American males in higher education contexts as well. Similar to other ethnic groups, female Native Americans are graduating from institutions of higher education at a greater rate than male Native Americans. In 2010, 60 percent of all bachelors' degrees awarded to Native Americans went to females (DiPrete & Buchman, 2013b; Synder & Dillow, 2012). In 2010, 14 percent of Native American females born in the early 1980s had a college degree, compared to only 11 percent of Native American males in the same age demographic (DiPrete & Buchman, 2013b). It is also important to bear in mind that the rate of higher education degree holders for Native Americans is far below the national average. In 2015, only 15 percent of single-race Native Americans (aged 25-29) had a bachelor's degree or higher, which was lower than any other ethnic group, including Asian/Pacific Islanders (63 percent), whites (43 percent), blacks (21 percent), and Hispanics (16 percent) (NCES, 2017d).

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39. This total includes Native Americans only (48 percent) as well as Native Americans in combination with one or more other races (52 percent). Native Americans have higher rates of poverty than any other race/ethnicity group (U.S. Census Bureau, 2015).

In terms of gender and achievement in each of the poorest 20 counties in the US, a greater percentage of males do not complete high school compared to the US national average. For example, 14 percent of all males at the national level do not complete high school. However, in counties such as Starr County, Texas and Issaquena County, Mississippi, 54 percent and 44 percent of males do not complete high school, respectively. Additionally, the gender gap in favor of females in over 60 percent of the poorest counties is also higher than the national average. The largest gender gap for those having less than a high school degree was in Union County, Florida, where 31 percent of males did not complete high schools compared to only 14 percent of females — a difference of 17 percent.

The same trend is even more pronounced for those who have a bachelor's degree or higher. In the US, on average, 30 percent of males had earned a bachelor's degree or higher in 2015. However, only three percent of males had achieved this in the nation's poorest county, Wheeler County, Georgia. Within counties, there were also exceptionally large gender gaps. For example, in Telfair County, Georgia, 15 percent of females possessed a bachelor's degree or higher compared to only five percent of males, while in Jefferson County, Mississippi, 21 percent of females had a bachelor's degree or higher, compared to only 12 percent of males.

Across these racially diverse counties, poverty is the most common thread. However, the most notable finding is that males fare particularly poorly in education within economically deprived areas (Autor et al., 2015; Autor & Wasserman, 2013: Chetty, Hendren, Lin, Majerovitz, & Scuderi, 2016). On the PISA 2015 reading assessments, boys in the lowest SES quintile scored an average of 438 points, while girls in lowest quintile scored an average of 478 — a difference of 40 points. This was in comparison to boys in the top SES quintile who, on average, scored 499 points compared to girls who scored 528 points — a smaller difference of 29 points (OECD, 2016a). Thus, the intersection of poverty and gender in the US and in other countries needs far greater attention from researchers and policymakers.

Promising Initiatives

My Brother's Keeper

While there are many educational initiatives targeting girls in the US (Girl Effect, 2011; Girls For A Change; 2017; Girls Inc., 2017; Girls Write Now, 2017; Step Up, 2017), it was harder to find initiatives or policies geared specifically towards helping boys. One interviewee stated that, "In all four years of working for the state [government in the Midwest], I can't count if there has been any conversation I've had about gender...It needs to happen more" (US interview 1, 2017). In the US, programs to support underachieving males have

largely focused on males of color (Ransaw & Majors, 2016).[40] My Brother's Keeper is one nationwide program of note that was started in 2014 to support boys of color.

In 2014, US President Barack Obama announced the MBK Alliance, a public-private partnership of the US federal government to increase opportunities for boys of color (My Brother's Keeper [MBK] Alliance, 2017). Since then, 250 communities across all 50 states have become involved, and $600 million in independent private sector support for grants and in-kind resources has been raised (MBK Alliance, 2017; The White House, 2016). The MBK Task Force established six milestones connected to positive outcomes later in life:

1. Entering school ready to learn

2. Reading at grade level by third grade

3. Graduating from high school ready for college and career

4. Completing postsecondary education or training

5. Successfully entering the workforce

6. Reducing violence and providing a second chance to justice involved youth

(The White House, 2016, p. 4)

As part of the MBK Alliance, "new federal policy initiatives, grant programs, and guidance are being implemented to ensure that every child has a clear pathway to success from cradle to college and career" (The White House, 2016, p. 4). According to one interview:

President Obama launched the My Brother's Keeper initiative to address persistent opportunity gaps faced by boys and young men of color … the Administration is joining with cities and towns, businesses, and foundations who are taking important steps to connect young people to mentoring, support networks, and the skills they need to find a good job or go to college and work their way into the middle class (US interview 2, 2017).

The initiative seeks to broker resources and support for initiatives to help male youths of color. For example, as part of MBK, one of the interviewees has helped establish a mentoring program that currently serves eight middle and high schools, reaching over 100 male students of color in Texas and has plans to expand (US interview 2, 2017). When asked about MBK, an interviewee working for the state-level Department of Education said that MBK is a "huge thing in my state. It's growing. I think there needs to be a larger focus to achieve success for all folks who are on the road to potential…Let's take this package and let's grow it so that we can help everybody" (US interview 1, 2017).

40. Funding for black boys, in particular, has been on the rise in the US. In 2012, 98 foundations gave grants worth nearly $65 million to this group, which was an increase from $40 million the previous year (Foundation Center and the Campaign for Black Male Achievement, 2015). Of all the funding given to black males from 2003 to 2012, over half of it was given during the last three years (Foundation Center and the Campaign for Black Male Achievement, 2015).

While the MBK Alliance has been generally well-received by the public, with less than expected pushback from conservatives due to the private sector funding, it has faced some criticism (Lartey, 2016). It has been critiqued for using its power to support a very select movement, with Husock (2014) arguing that government and philanthropy should act independently of one another. Women were also upset by the Alliance and following its launch, 1,000 women of color signed a letter to Obama requesting women and girls be included (Lartey, 2016). Harris (2015) also wrote a report about how the MBK "rhetoric draws attention away from deep structural issues that continue to plague poor and working-class youth as they navigate failing schools, a rapacious criminal justice system, and a society where upward mobility is becoming a challenge for all but the affluent" (p. 7). Given the change in the US presidency in 2017, the future of this initiative is uncertain.

Guys Read

Guys Read, a promising initiative in the US, though smaller, has been around for longer than MBK, In 2001, former teacher and author of numerous children's books, Jon Scieszka, established Guys Read as an online portal with the mission "to help boys become self-motivated, lifelong readers" (Guys Read, 2017a, p. 1). The website seeks to help "guys become readers by helping them find texts they want to read" and among other things, draw attention to male literacy issues, expand the definition of reading materials to be more boy-friendly, give boys more reading choices, and encourage male role models of literacy (Guys Read, 2017b). The Guys Read website includes a variety of resources, such as an extensive list of book recommendations for males, a book of the month, and directions for how to create Guys Read field offices (Guys Read, 2017a; 2017b).

In a 2005 interview, Scieszka said one of the reasons that he started Guys Read, in addition to not seeing reading materials that boys enjoy, was because "I saw boys struggling with reading, too, and then when I started looking into it, the statistics are just horrendous on how poorly boys have done for the last thirty years. It's kind of shocking that we haven't really done anything about it" (McAlpin, 2005, p. 5). Scieszka's work to promote male reading led him to write, *Guys Write for Guys Read,* a compilation of essays, comics, and advice on boyhood by famous male authors and illustrators such as Stephen King, Matt Groening, and Gary Paulsen (National Public Radio [NPR], 2005; Sciezka, 2005). Since it was established, Guys Read field offices have opened in "libraries, classrooms, and living rooms" around the world, in over 180 locations in countries such as the US, Bahrain, Brazil, South Korea, the UAE, and the UK (Google Maps, 2017; Guys Read, 2017a, p.1).

Conclusion

Overall, the case study on the US explored a number of areas where boys are falling behind girls in education. Boys in the country on average have lower GPAs than girls, lower scores than girls in reading on both national and international assessments, and are underrepresented in higher education. While there is a federally supported nation-wide education initiative, My Brother's Keeper, operating to support boys, it is only targeting a particular section of the male population. As the section on the unique challenge in this case study outlined, it may be that boys from low SES backgrounds, regardless of race, need additional support when it comes to education. The final section of the report offers a holistic overview of the issues boys are facing, examines what is next for boys, and suggests possible recommendations for ways to support males moving forward.

What Next for Boys?

This chapter summarizes the findings of earlier chapters and brings together the main themes in order to explore what comes next. It begins by reviewing the extent and scope of male underachievement in education. It then looks at how gender interacts with socio-economic status, geography, and race, followed by a discussion of the impact of male underachievement on society, and finally the barriers to change.

The Extent & Scope of Male Underachievement

Over the past 50 years, there has been a fundamental shift in the education and gender paradigm. A number of factors, including a quantitative expansion in access to education for both boys and girls and a substantial change in the demands of the labor market (Acker, 1987; OECD, 2011; Powell & Snellman, 2004), have contributed to a situation in which many males are increasingly struggling, both in terms of educational attainment and employment. Boys in the UK, the US, and many other countries are now more likely to drop out of school, to be suspended or expelled from school, and less likely to go on to higher education than girls (Brush, Shin, Shrestha, & Tietjen, 2011; Finn & Servoss, 2014; OECD, 2015a). However, boys are not disadvantaged just in terms of the quantity of education. They are also lagging in terms of educational outcomes, from literacy to science, and there are reversing trends even in mathematics, a subject historically the domain of males.

In terms of literacy, a key ingredient for success in today's workplace and society (Department of Education and Skills, 2007), males across the world score significantly lower than females across a range of national and international assessments (Mullis, Michael, Foy, & Drucker, 2011; OECD, 2015a). In the 2015 round of PISA, males scored 27 points less than females on average, with the largest gap being in Jordan where boys scored 72 points less than females (OECD, 2016a). On the 2011 PIRLS, girls had a 16-point advantage over boys and there has been little reduction in this gap over the two most recent cycles of this assessment (Mullis et al., 2012). The largest gap between boys and girls on the 2011 PIRLS was recorded in Saudi Arabia, where boys scored, on average, 54 points less than girls (Mullis et al, 2012).

In science, gender parity, as measured by international assessments such as TIMSS, has essentially been reached. In a comparison of the 16 countries that participated in TIMSS in both 1995 and 2015, Grade 8 boys went from scoring higher in science than Grade 8 girls in 15 countries (21 points higher on average) in 1995, to only three countries (two points higher on average) in 2015 (Mullis, Martin, & Loveless, 2016b). In mathematics, where boys used to enjoy an advantage, scores have also narrowed. On the TIMSS 2015 Grade 8 mathematics assessment, boys did better than girls in six countries and girls did better than boys in seven countries, with the remaining 26 countries showing no statistically significant gender differences (Mullis, et al. 2016b). In the 2015 PISA, 24 countries out of 72 recorded girls doing better than boys in mathematics, up from only 13 countries out of 65 in 2012 (Mullis et al, 2016a). Even in countries where a gender gap in favor of males in PISA mathematics remains, it is still only half that of the male-female literacy gap (Mullis et al, 2016a).

Intersections of Gender & Socio-Economic Status, Geography, and Ethnicity

In order to formulate explanations for why this new gender gap is emerging, we examined a number of factors including socio-economic status, geography and ethnicity. Each is summarized below.

Socioeconomic Status

Looking more closely at the data, we find that it is not every male (or female for that matter) that is at risk, but rather that certain groups of males are more at risk than others. Overall, the literature finds that socioeconomic status (SES) is a reliable predictor of both male and female underachievement (Aikens & Barbarin, 2008; Caldas, 1993; Sirin, 2005). However, when it comes to gender, both quantitative and qualitative data suggest that SES has a larger effect on male academic achievement than on female academic achievement. SES also emerged in the interviews as a barrier to boys' achievement. One of our interviewees, a US professor, stated, "The [gender inequality in education] problem is greater the further you move into the income distribution. The further you go down, the education attainment gap grows more and more" (US interview 3, 2017). Table 8.1 below demonstrates how SES affects student achievement of American students on PISA 2015. The gap between students from the lowest wealth quintile and students from the highest wealth quintile is significant in all measures. Between the poorest and richest boys, there was a 63-point difference in mathematics, 65-point difference in science, and 61-point difference in reading. However, poor boys generally underperformed even compared to girls in the same SES bracket. Low SES boys fell behind low SES girls by seven points in science and 40 points in reading, with no significant difference observed in mathematics. The gap between the richest girls and the poorest boys is even more striking, with 62-point difference in mathematics, 68-point different in science, and 90-point difference in reading. Considering that boys score nine points higher than girls in mathematics and seven points higher in science at the national level, these results warrant special attention, since they reveal that male advantage diminishes almost completely across all domains when socioeconomic effects are considered.

Subject	Gender	Lowest 20% SES	Top 20% SES
Mathematics	Boys	430	493
	Girls	430	492
Science	Boys	451	516
	Girls	458	519
Reading	Boys	438	499
	Girls	478	528

Source: Generated using PISA 2015 data

Table 8.1 US PISA 2015 results by gender and socioeconomic status (in wealth quintiles) [41]

41. The wealth quintiles were created using PISA's wealth variable, which uses a roster of household goods that are both general and country specific.

In the UAE, there is also evidence of achievement differences based on socioeconomic backgrounds of Emirati students. In the UAE, Emirati parents, who can afford it, typically choose to send their children to private schools, especially in Dubai where around 60 percent of all Emiratis are in private schools (Knowledge and Human Development Authority [KHDA], 2012). The differences between low and high SES become more obvious in this situation. Overall, in the UAE on the 2015 PISA reading assessment, boys in the lowest SES quintile scored an average of 316 points, while boys in the highest quintile scored an average of 370 points, a difference of 54 points. However, by looking at the type of curriculum we can get a better look at inequalities for Emiratis in particular. Table 8.2 displays a comparison of PISA 2015 scores between Emirati students in public schools (free for citizens) and Emirati students in private UK curriculum schools (some of the most expensive in the UAE). As can be seen, Emirati boys attending public schools scored significantly less than Emirati boys attending private schools, particularly compared to those attending UK curriculum schools, and even below the national male average.

Subject	All Boys	Public Boys' Schools — Male Emiratis	UK Curriculum Private — Male Emiratis
Mathematics	424	364	429
Science	424	363	410
Reading	408	344	406
			Source: Generated using PISA 2015 data

Table 8.2 UAE PISA 2015 results comparison between male Emiratis in public schools and UK curriculum

The data from international assessments makes clear that even in very wealthy countries, such as the United Arab Emirates, SES has a large influence on achievement and appears to exacerbate gender differences. In addition to socioeconomic status however, we can also see geographic variations in male achievement.

Geographic Differences in Male Attainment

By using data from national and international assessments, we find boys in the Arab World and the Caribbean to be at particularly high risk of underachievement, as well as a growing number of boys living in the Balkans, Eastern Europe and the Nordic countries (OECD, 2015b, 2016a). Finland, one of the highest performing countries on international assessments, shows the most significant gender gap not just among the Nordic countries, but also across OECD countries participating in PISA 2015 (OECD, 2015a). Finnish girls outperformed Finnish boys by 19 points in science, eight points in mathematics, and 47 points in reading (OECD, 2016a). Box 8.1 below explores this phenomenon in more detail.

Box 8.1 Overlooking Boys in Education in the Nordic Countries

While the Nordic countries of Denmark, Finland, Iceland, Norway, and Sweden are often praised for their gender equity, their results on international education assessments show that their boys are falling behind girls (OECD, 2015a; Zahidi, 2013). From the inception of international assessments, the Nordic countries have consistently placed at the top of the performance scales, with Finland ranking first on PISA in 2000 (OECD, 2000). While Nordic countries continue to perform relatively well on PISA overall, a gender disparity in favor of females has become a key characteristic of their education systems, with the exception of Denmark. In 2015, girls in each of the Nordic countries scored better than boys in all three measures of PISA (excluding Denmark) (OECD, 2016a). Similar patterns were also observed in the 2015 administration of TIMSS, where Grade 4 girls in Finland, Norway, and Sweden outperformed boys in both mathematics and science (Martin et al., 2016; Mullis et al., 2016a).

Of the Nordic countries, the case of Finland is particularly interesting from a gender parity perspective. In Finland, girls significantly outperformed boys in all measures of the PISA 2012 and 2015, with girls achieving almost 50 points more than boys in reading. This makes Finland the country with the biggest reading gender gap in the OECD. Furthermore, Finland's gender gap in science is also the widest in all OECD countries. While Finland still maintains its relatively high position in its average scores, it experienced a drop in all three categories in 2015, which has been attributed by some to the declining performance of Finnish boys' (OECD, 2016a). Loveless (2015) argues that Finland's high position on PISA scores is "completely dependent on Finnish girls" and that Finnish boys' scores are only just on par with the OECD average (p. 12). The Nordic countries offer a compelling example that illustrates boys' underperformance as not simply a problem for low-income countries, but rather an issue that exists in countries at all SES levels.

There are also particular geographic differences within countries. In the US, the plight of poor, rural males is something that has gained attention with the election of Donald Trump (Macgillis & Propublica, 2016; Williams, 2016). However, much of the discussion has been negative and dismissive of these areas and the people there are seen as 'hillbillies' (Vance, 2016) or 'rednecks' (Tobar, 2016) or even 'deplorables' (Chozick, 2016) and as somehow responsible for their own situations and thereby responsible for getting themselves out of them (Cohn, 2016; Tankersley, 2016). As a result, a deeper exploration of issues relating to the quantity and quality of education for this group is needed. Finally, many scholars point to the role of race in terms of exacerbating gender differences and here too we find that there are certain races that are more at-risk in particular contexts.

Ethnicity, Gender, & Attainment

When it comes to the intersection of gender and race, different countries have different groups of males at risk. In the US, low SES black males perform the worst on national assessments, but only slightly worse than low SES Native American males, whose overall performance is lower than any other group (Bohrenstedt, Kitmitto, Ogut, Sherman, & Chan, 2015). However, we also find that low SES white males from economically disadvantaged areas in the US such as West Virginia and Alabama perform as poorly as other disadvantaged racial groups such as Native Americans and Hispanics[42] (National Center for Education Statistics, 2015). In the UK, low SES white males perform worse than males in every other ethnic and racial group, as well as worse than all females (House of Commons, 2014; Ofsted, 2015). In the Caribbean, low SES black males are also the lowest performing students, much like in the case of the US (Bailey & Charles, 2010). In the Middle East, indigenous males from the UAE and Qatar also achieve lower scores than non-native males in these two countries (OECD, 2015a; Ridge, 2014).

The differences within ethnic (racial) groups, however, are almost as important as the differences across race. There has been a tendency in Western contexts to resort to a blanket stereotyping of white males as universally privileged (Camhi, 2015) due to high performance of high SES white males who drive up average scores for white males, effectively obscuring issues related to low SES white males whose educational outcomes are much more on par with low SES minority groups. The result of this has essentially been the prevention of low SES white boys, such as those living in the Appalachian region in the US, from receiving much needed assistance in education (Eisenberg, 2015). Many of these boys live not only in abject poverty, but as a result of a universal belief in universal white male privilege, without access to the same kind of support programs that their female or ethnic minority counterparts may receive (Foundation Center and the Campaign for Black Male Achievement, 2015; The World Bank, 2017). Thus, it is important to consider the intersections of SES, race and gender when thinking about policy solutions going forward, as each has an important part to play.

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42. The results are based on Grade 8 reading and mathematics scores from the 2015 NAEP.

The Impact of Male Underachievement on Society

This study reveals a familial and cyclical pattern to boys' underachievement, in which more boys from the West are growing up in homes where the father is absent for a variety of reasons (Horn & Sylvester, 2002; McLanahan, Tach, & Schneider, 2013). Research from the UK finds that a typical teenager is now more likely to own a smart phone than to live with their father (Guy & Burghart, 2014). The issue of fatherless homes was a key theme in interviews as well, with one UK policymaker stating, "Women are bringing up children on their own. The boys are increasingly their own masters and, very often, the school [and others] cannot control them" (UK interview 1, 2017). One US professor noted, "There is evidence that male students are particularly harmed by the absence of a father in the household" (US interview 5, 2017). Recent research supports this opinion finding that boys who do not have fathers in the home tend to do less well in school compared to girls, and even than their sisters (Autor et al., 2015; Krein & Beller, 1988; Santrock, 1972; Sigle-Rushton & McLanahan, 2004). When boys perform poorly in school or drop out of school, they struggle to find secure and stable work. This makes them less attractive on the marriage market and more likely to become absent fathers themselves; and thus, the cycle continues (Autor et al., 2015). We also find issues related to fathers and academic achievement in the Middle East. A forthcoming study of father involvement across 10 countries in the region finds that a lack of involvement of fathers in schooling negatively affects their sons' educational attainment. Preliminary analysis on the Kuwaiti and Jordanian sample finds that participants from these countries who perceived their fathers to be less actively involved in their school life tended to have lower levels of education (Ridge & Jeon, Forthcoming).

For males, poor achievement at school and fewer years of education have also led to a host of social problems that influence both males and females. Poorly educated males are more likely to commit violent crimes (often against females) (Mackey & Immerman, 2004), more likely to engage in risky behaviors and substance abuse (Bronte-Tinkew, Moore, Capps, & Zaff, 2006; Mandara & Murray, 2006), and vastly more likely to go to prison (Harper & McLanahan, 2004). An interviewee working with struggling youth in the UK also witnessed this, saying, "[Male] disengagement from school is often because they see more lucrative rewards, albeit short-term, from crime" (UK interview 6, 2017). If they do not end up in prison, they could be more likely to commit suicide, to be diagnosed with attention-deficit/hyperactivity disorder (Brent, Perper, Moritz, & Liotus, 1995), to be overweight (Struass & Knight, 1999), and to have certain lifestyle diseases such as diabetes (Horn & Sylvester, 2002).

Finally, there is a wider impact on political outcomes, particularly in contexts such as the UK and the US. Both the election of Donald Trump in the US, and the British vote to leave the European Union (Brexit), drew attention to low SES, white males who were subsequently blamed for the outcome by those who voted to remain (O'Neill, 2016). On Brexit, a think tank official in the UK

said, "There's a very disgruntled population, especially in industrial towns where people are kicking back. People are saying they don't like the life they're being offered... there are a lot of unhappy people, and this feeds down to the next generation [from fathers]. So, in that sense, there's a bigger national issue [fueling the underachievement of boys]" (UK interview 3). Elsewhere in Europe — especially in the Balkans and the countries of the Eastern bloc of the former Soviet Union — where we see the same story of females outperforming males (Gortazar, 2014; UNESCO, 2015), there is also a reported increase in support for conservatism and the far-right by poorly educated and low SES white males (Inglehart & Norris, 2016).

Barriers to Change

Perhaps the most surprising aspect about the issue of male underachievement in education is not that male disadvantage is growing, but that there is a staggering lack of research and policies directed towards issues relating to disadvantaged males, particularly in the education sector. Interviewees from all of the participating countries in this report spoke to this issue and expressed frustration over the lack of programs that support struggling boys in school. One UK think tank official stated, "We all know this underperformance of boys is the case. We all know but seem to do nothing about it" (UK interview 3, 2017). A Qatari respondent said, "[Programs for males] are very much a neglected thing. My personal explanation would be that Qatar is very outward looking in terms of [its] policymaking — it's about women, girls, the UN...I hope there are programs for boys in the future" (GCC interview 7, 2017).

In the UAE, a country with one of the largest reverse gender gaps in the world, there are, to our knowledge, only two programs in the entire country dedicated to helping at-risk boys succeed in school, one of which is only limited to approximately ten boys per year. In larger countries, such as the US, where non-profits and philanthropy abound, we could only find one national program, My Brother's Keeper (MBK), which specifically targets male underachievement alongside some other smaller initiatives such as Guys Read and Project MALE for Latinos (The White House, 2016). However, the programmatic offerings in MBK and Project MALE are restricted to boys of color, thus leaving low SES white boys without the same initiatives, even though some of them live in as much deprivation as their minority counterparts. In the UK, despite multiple national reports highlighting the challenges facing boys, there are only about a dozen initiatives targeting and helping at-risk boys currently in place and no highly visible national ones.

At the international level, the absence of programs targeting at-risk boys is even more acute. Among the major international donor agencies, it has only been in the past five years that there has even been an acknowledgement of the fact that many countries that once had a gender divide favoring

males now have a divide favoring females (Ridge, 2014). Unfortunately, male disadvantage in education is often not viewed as a problem in need of attention, whereas girls' education continues to be perceived as an urgent issue to be addressed by international organizations and celebrities alike (Autor & Wasserman, 2013). The narrow focus on girls is further strengthened by the Sustainable Development Goal (SDG) 5, which aims to "Achieve gender equality and empower all women and girls" (UN General Assembly, 2015, p.18, emphasis added), while no SDG has a specific goal related to boys or men. Furthermore, SDG 4, which aims to "Ensure inclusive and quality education for all and promote lifelong learning" (UN General Assembly, 2015, p.17) also fails to recognize specific issues relating to boys. While the attention given to girls' education is needed, the fact that boys are not mentioned in SDG 5 is problematic in the same way that their exclusion from the MDGs was problematic, as it limits the conversation on gender to a focus on just females (Ridge, 2014). In this way, international organizations continue to be out of touch with the changing realities of a reverse gender gap in education.

The biggest barrier to change, however, is simply a lack of thorough, high quality research that would greatly assist schools, states, governments and multilateral organizations to focus on the issue of male underachievement.

Future Research & Policy Recommendations

While efforts have been made to address various challenges facing boys and men in education and beyond, there is still much to be done in order to help at risk males not only reach their potential in education, but also become fully contributing members of society. Firstly, there is a need for more and better quality research, and, secondly, a need for more effective policy interventions. Each point is addressed below.

Future Research

Overall, there is a great need for more rigorous research on issues related to male underachievement.** A crude search of Amazon's online catalog of education theory books yields 1,030 titles from a search for "girls' education" and only 740 titles for "boys' education". In addition, many of the books found on boys' education were not research-based, but rather written for parents or teachers based on anecdotal evidence. Without high quality, empirical research that seeks to understand and unpack issues surrounding the under-achievement of boys, there is little hope for substantive policy change to occur in the future.

Firstly, the costs and benefits of male underachievement should be quantified to adequately assess the potential impact of underperforming males. In much the same way that girls' disadvantage became quantified as an economic cost to families, societies, and countries (Chaaban & Cunningham, 2011; Girl Effect, 2011), there is also a need to quantify the cost of poorly or under-educated boys and/or the benefits of boys receiving meaningful education. The fact that there are 14.5 men in prison per one woman in prison worldwide (Communicating with Prisoners, n.d.), and that, in places such as the US, 68 percent of these males in prisons are high school dropouts, points to a very real social and economic cost (Harlow, 2003). For every one male Fortune 500 CEO, there are approximately 5,236 male inmates in US prisons, who cost taxpayers approximately $150 million every year to keep incarcerated[43] (Henrichson & Delaney, 2012; Kearney, Harris, Jacome, & Parker 2014).

Secondly, there needs to be more research identifying the specific populations of boys that are most at risk. This would enable education authorities to consider and adopt programs that address the different needs of at-risk boys rather than employing a one-size-fits-all approach. While many policymakers believe that addressing one need or one group will have a trickle-down effect on other needs of the greater population, there is little evidence to suggest that this actually happens. As such, policymakers need to ensure that the right populations of boys receive the interventions that they need, respectively. All of this begins with understanding the extent and magnitude of the problem at hand. Many underperforming boys come from socioeconomically disadvantaged backgrounds, and are often without financial and social capital required to advocate for change on a broader level. When these realities are coupled with the fact that the international agencies, whose mandates supposedly assure the right for quality education for all, are almost solely focused on the needs of girls, boys' issues fail to gain the momentum needed to drive change.

43. This figure was calculated using the average annual cost to keep an inmate multiplied by 5,236. In 2010, the US spent over $80 billion on corrections expenditures (Kearney Harris, Jacome, & Parker, 2014).

Policy Recommendations

After reviewing the literature, the quantitative and qualitative data, and programmatic initiatives from around the world, we identified several policy recommendations that we believe could help improve the achievement and engagement of boys. These recommendations are divided into four different levels: the home, the school/district, the national, and the international.

Home

While this paper focused largely on educational institutions and the labor market in terms of their role in helping or hindering males, there is also a part for policymakers to play in assisting families with boys. Two home based areas in particular could help improve male attainment and engagement in school. The first is creating programs for parents to help them understand the negative impact of excessive online gaming for boys, and the second is establishing programs to engage fathers in reading to their children.

1. Establish programs for parents to provide awareness of and strategies to address the negative impact of excessive online gaming

New research has found that boys spend more time using computers at home than girls do, particularly for gaming (Zimbardo, & Coulombe, 2015). Research has found that boys spend an average of 13 hours a week gaming while girls spend only five hours (Zimbardo, & Coulombe, 2015). The OECD has found that boys are not only more likely to play games, but they are also more likely to play on a daily basis (OECD, 2015a). In addition to sleep deprivation, boys are also becoming increasingly isolated and are unable to develop important socialization skills if they spend significant amounts of time online (Zimbardo, & Coulombe, 2015). This further hinders boys when it comes to them finding employment and being able to thrive at work.

However, many parents are unaware of the significant negative impact of excessive gaming, particularly games played collaboratively (OECD, 2015a). As such, programs for parents about the dangers of excessive gaming and/or unrestricted Internet use should be required in all schools or even local health clinics for new parents. Such programs could also encourage more outdoor or real life activities. By helping parents become aware of the many risks that their children and boys, in particular, are exposed to online, boys may be able to become better socialized and able to be develop some of the critical soft skills necessary for success in the modern world.

2. Implement father son/daughter reading programs

The importance of fathers reading to their children has been shown to have a significant impact on a child's language and cognitive skills throughout their life (Pancsofar, Vernon-Feagans, & Family Life Project Investigators, 2010). While any parent reading to children is a good thing in itself, having

only mothers read to the children further reinforces the notion that reading is a feminine activity (Clark & Rumbold, 2006; Pancsofar, 2010). When fathers read to their children, it gives both boys and girls the idea that reading is not a gender specific activity. For boys, it also gives them permission to love books and reading without being seen as 'girly'. Schools, hospitals, or community health centers could run programs for new fathers that show them different ways of reading to their children beginning as babies. One such initiative is Reach Out and Read, a nonprofit that incorporates books into pediatric care and encourages families to read together (Reach Out & Read, 2017). Their main approach is to make first contact with parents at the hospital before the baby even goes home. By giving books to all new parents, with a focus on fathers, and talking to them about benefits of reading, we increase the likelihood of fathers reading to their children throughout their lives (Duursma, 2014).

School/District

At the school and district levels, there are numerous strategies that policymakers can employ in order to boost male achievement and engagement. Three such approaches have been identified here. The first recommendation is to develop robust data management systems that allow identification of at-risk boys. The second is to have a range of supplementary programs that target boys and their families, including reading programs and life skills programs. Finally, there would need to be a program in place to ensure that teachers are given training in how to make literacy more engaging for boys.

1. Develop robust data management systems

Currently, most schools around the world lack the proper data management system required to identify boys most at risk of falling behind or discontinuing education. One of the primary criticisms about programs targeting boys has been that not all boys are at-risk, and that group-specific approaches need to be implemented to yield more focused results (Warner, 2013). However, there has not been any systematic effort made to identify such boys. By not only collecting data on achievement but also noting individual family and socioeconomic circumstances, schools would be better able to identify boys (and their families) who would most benefit from intervention programs.

2. Offer a range of supplementary intervention programs targeting at-risk boys

Schools can provide a range of supplementary programs, either after or during school to assist at-risk boys and their families. In particular, there is a need for programs focused on improving reading and literacy in general. By engaging boys in after-school clubs that introduce new topics and books that deal with practical components of life, schools would be able to encourage boys to engage better in learning, while forging a more meaningful and nurturing relationships with them. Working with Men in the UK is one such example of an organization supporting at-risk youth boys through supplementary school programs.

3. Provide training for teachers on boy-friendly pedagogies

Current research on the biological differences between males and females has found that boys need much greater movement in the classroom and more hands-on or kinesthetic activities in order to keep them engaged (Jantz, 2014; McGregor, E., Swabey & Pullen, 2015; Sarabi-Asiabar, Jafari, Sadeghifar, Tofighi, Zaboli, et al., 2014). However, many teachers are not familiar with such research and continue to teach in ways that are more suited to learners who can keep still for long periods of time and absorb information through verbal or written forms. In addition to biological differences, boys are also more likely to have behavioral disorders (Owens, 2016), making it crucial for teachers to be prepared with a range of pedagogical strategies to engage boys who might be struggling with such issues. When teachers gain the necessary tools to address different needs of boys through training, their relationships with students are more likely to improve and thus create more positive teaching and learning experience. Furthermore, these teaching strategies ultimately benefit all students including girls, as they create a more dynamic and active classroom that caters to a range of learning styles.

National

At the national or country level, policymakers need to adopt a much broader and long-term approach to the issue of male underachievement. Perhaps the most important national concern is funding more research on issues related to boys and men, with education being at the core. Secondly, a range of nationally funded programs for fathers in order to keep them engaged in their child's life, regardless of their marital status is needed. Finally, more efforts need to be made to attract men to the teaching profession at all levels.

1. Establish research funds targeted at exploring issues of male disadvantage

Through providing funding for research that specifically examines male disadvantage, there will be a much greater understanding of the issues facing men and boys. This, in turn, will enable the formation of more targeted and thus effective policies. The current shortage of research on the issues facing men and boys in specific national contexts hinders meaningful discussion of the issues. A special emphasis on quantitative research is also needed in order to inquire into the economic costs and benefits of underachieving males, so that policymakers are able to assess the significance of this issue in societal context.

2. Develop national programs promoting father involvement in education

A growing body of research finds that the more actively and positively involved fathers are in their children's lives, the higher the self-esteem of the children (Amato, 1994; Bulanda & Majumdar, 2009; Ridge & Jeon, forthcoming), which in turn leads to more positive outcomes across the

lives of both boys and girls. A much more deliberate and concerted effort at the national level to promote fathers' involvement in the schooling of their children is needed. Again, this is too often seen as a mother's responsibility, which sends negative signals about the value and importance of education to boys in particular. By implementing national programs that work with schools and other educational institutions to engage fathers, the educational experience of both boys and girls could be further enriched.

3. Increase the numbers of males entering and completing teacher training programs

While the research evidence on the relationship between teacher's gender and student achievement is mixed (Croninger & Lee, 2001; Dweck, et al., 1978; Hanushek, 2005; Holmund & Saund, 2008; Mulholland & Hansen, 2003), the importance of having more male teachers goes beyond improving academic outcomes. Having positive male role models in educational contexts can have a positive influence on boys, especially if they do not have any at home, as the role models can help to effectively instill the value of education. In the past, education was traditionally a male dominated profession, but over time, it has become female dominated. This gender imbalance in schools has created few problematic issues, such as depriving students of positive male role models, and contributing to the negative perception of the teaching profession as a low-status and low-paid job (Garon, 2013; Startz, 2016). Increasing the number of males in the teaching profession could therefore benefit not only students, but also teachers themselves as well.

International

At the international level, multilateral agencies and initiatives have potential to make a difference in addressing the issue of global male underachievement. In particular, the Global Partnership for Education (GPE) could have a unique opportunity to create a stream focused on at-risk boys. The World Bank or UNESCO could also create a platform that would serve as a hub for any research, programmatic information, funding opportunities or the like about boys and men. Finally, there is also an opportunity to create a global award for innovative programs that support at-risk boys and their families.

1. Create a stream focused on at-risk boys in the Global Partnership for Education

The Global Partnership for Education currently has ten focus areas, including one specifically focused on girls (Global Partnership for Education, 2017). However, there is no stream that focuses on boys. By excluding boys as a specific focus and only rewarding efforts that focus on girls, international organizations such as the GPE reduce the amount of attention paid to boys and marginalizes them in policy initiatives. By creating a stream dedicated to supporting at-risk boys, countries in which male underachievement is an issue are able to focus on boys without being seen as out of step with international priorities.

2. Establish an online portal to hub any resources relating to educating boys and men

A key challenge in preparing this report was the difficulty of finding resources and programmatic initiatives that focused on boys or men. International agencies such as the World Bank and/or UNESCO could create a knowledge portal that would gather such information into a single repository, which would assist researchers and policy makers alike. In this way, best practices could be shared and lessons learned could be more easily disseminated.

3. Launch a global award for innovative programs that support at-risk boys and their families

A key way that other global issues have become more widely addressed and recognized is through having an award program that celebrates achievements made in the particular area (Neckermann, Cueni, & Frey, 2009; Straz, 2015). An international award for innovative programs that address the issue of male underachievement could showcase achievements and also bring greater attention to the issue of male underachievement. Much in the way that the World Innovation Summit for Education (WISE) has become a celebration of innovation in education and brings people together, an award focused on one supporting males could achieve similar results. It would also provide countries from the Global North and South the opportunity to share ideas and efforts in a single forum.

Conclusion

Globally, quantitative advances have been made in education, and today, we have almost achieved universal primary education, and are close to achieving universal secondary education. There have also been significant gains made in the education of formerly excluded sections of society, such as females and minorities. All of this is to be celebrated. However, it is important that academics, practitioners, and policymakers not remain disconnected from the new challenges in education that negatively affect males - and especially those from disadvantaged backgrounds. As greater numbers of jobs become automatized and jobs that were largely the purview of working class males disappear, it is critical that we re-engage boys and men in the education sector in order to help them gain both secure employment and purpose in their lives. In doing so, we not only help boys and men to regain their own lives, but we also build stable and secure communities to the benefit of everyone. It is our hope that this report not only sparks discussion, but also leads to meaningful programmatic interventions in the coming weeks, months, and years.

Appendices

Appendix 1 — Interview Questions

1. Could you briefly describe your organization, including its mission and core activities?

2. Could you tell us about your role and the kind of work that you do, in particular if there is anything in relation to males and/or education?

3. How would you describe the situation for males in education in your area and your country?

4. What are some of the key issues that you have seen with regard to gender and education in your country?

5. In your opinion, which males or females are most at risk of performing poorly or dropping out of school in your country? How much of a role do you think that SES plays in this?

6. What role do you think that the family plays in this?

7. What is the role of the school and teachers? Do you think that teacher attitudes towards girls and boys have some part to play in the current situation?

8. What about the curriculum? Some people have commented that the current school curriculum is alienating or uninteresting to boys. Do you think that this is the case, why or why not?

9. In the face of falling numbers of males continuing on to university, why do you think that higher education is no longer as appealing to males as it has been in the past?

10. Should there be a wider range of post-secondary education options available to cater to males and females who are less academic?

11. What policy or programmatic efforts have been made in your country to address issues relating to gender and education?

12. How successful have these been in your opinion and why?

13. Globally, there is now a trend towards male underperformance across all subjects, not only literacy, why do you think this is happening?

14. Do you think there is enough attention given by policymakers/the media/ academia to the issue of male underachievement in your context?

15. In your opinion what should students, families, schools and policymakers do going forward in order to achieve gender equity?

16. We have seen a decline in the types jobs that were traditionally male dominated, such as manufacturing. What do you think this might mean longer term for the labor market? Do you think that we might see a complete role reversal whereby women work and men stay home, and do you think this is something that men want?

17. Do you have any final thoughts or comments on this topic?

Appendix 2 — Poorest 20 US counties and educational attainment by gender

County	State	Per captia income ($)	Largest ethnic group	Largest ethnic group (%)	Less than high school degree (%)			Bachelor's degree or higher (%)		
					M	F	Diff	M	F	Diff
National Average	-	28,930	White	61.6a	14.1	12.7	1.4	29.7	29.9	-0.2
Ziebach	South Dakota	12,877	Native American	71.4	15.4	11.6	3.8	10.1	17.8	-7.7
Lake	Tennessee	12,810	White	67.4	29.5	26.2	3.3	7.2	11.7	-4.5
Clay	Georgia	12,790	Black	59.2	20.1	20.5	-0.4	7.7	7.8	-0.1
McKinley	New Mexico	12,614	Native American	77.5	27.0	26.0	1.0	10.3	11.8	-1.5
Jefferson	Mississippi	12,601	Black	84.8	26.6	20.4	6.2	11.5	21.1	-9.6
Starr	Texas	12,483	Hispanic	95.8	54.3	53.2	1.1	7.7	9.9	-2.2
Issaquena	Mississippi	12,423	Black	64.0	43.9	29.0	14.9	4.9	12.6	-7.7
Hancock	Georgia	12,358	Black	72.0	31.4	22.4	9.0	8.3	12.8	-4.5
Union	Florida	12,291	White	69.4	31.2	14.0	17.2	6.8	10.1	-3.3
Claiborne	Mississippi	12,229	Black	84.6	28.1	16.8	11.3	12.2	18.4	-6.2
Telfair	Georgia	12,155	White	49.2	33.1	16.1	17.0	5.4	15.3	-9.9
Holmes	Mississippi	11,972	Black	82.0	30.0	26.5	3.5	11.9	12.6	-0.7
Todd	South Dakota	11,616	Native American	86.1	24.9	21.2	3.7	13.6	15.2	-1.6
Kusilvak Census Area	Alaska	11,569	Native American	91.4	19.9	26.8	-6.9	3.4	5.6	-2.2
Willacy	Texas	11,413	Hispanic	87.7	37.6	36.7	0.9	6.6	10.2	-3.6
Buffalo	South Dakota	11,372	Native American	79.0	18.1	18.0	0.1	9.2	9.8	-0.6
East Carroll Parish	Louisiana	11,313	Black	67.4	37.2	23.6	13.6	6.8	11.3	-4.5
McCreary	Kentucky	10,880	White	89.3	29.1	25.7	3.4	4.9	9.5	-4.6
Oglala Lakota	South Dakota	9,150	Native American	91.3	21.6	20.5	1.1	9.7	14.9	-5.2
Wheeler	Georgia	8,292	White	56.3	28.5	11.6	16.9	2.8	11.4	-8.6

Source: U.S. Census Bureau, 2015

Table A. Poorest 20 US counties and educational attainment by gender (2015)

Note: Population 25 years and over, 2011-2015 American Community Survey 5-Year Estimates.
a U.S. Census Bureau, 2015

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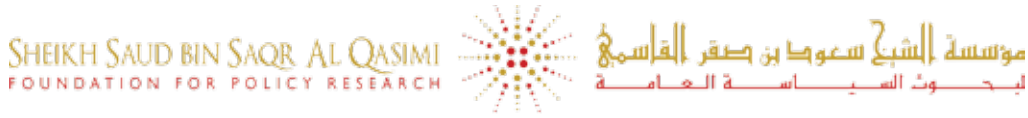
The Sheikh Saud bin Saqr Al Qasimi Foundation for Policy Research was established in 2009 to aid in the social, cultural, and economic development of Ras Al Khaimah, a northern emirate in the United Arab Emirates (UAE). Established through Emiri decree, the Foundation is considered a non-profit, quasi-governmental organization and is the visionary initiative of Sheikh Saud bin Saqr Al Qasimi, UAE Supreme Council Member and Ruler of Ras Al Khaimah. His Highness places great value on education and research, and the Al Qasimi Foundation was created to generate a world-class body of research on Ras Al Khaimah and the broader UAE region, develop local capacity in the public sector, and engage the community in its work.

His Highness seeks to ground policy decisions firmly in relevant bodies of research that reflect the best thinking in the world as well as the local Ras Al Khaimah and UAE contexts. To this end, the Al Qasimi Foundation serves as a bridge between the research and policy making communities — bringing to scholars' attention public policy questions important to Ras Al Khaimah, and, in turn, disseminating research findings to promote innovative policy tools and models that will impact positive social change. The Al Qasimi Foundation approaches its work collaboratively, and aims to establish relationships with talented scholars and world-class universities, innovative public policy research centers, established government institutions, and strategic partners in the private and non-governmental sectors.

Although education was the initial focus for Al Qasimi Foundation initiatives, the Foundation has branched into other public policy areas, including urban planning and development, public health, economics, and the environment. Even as its portfolio of programs and activities has expanded, the Al Qasimi Foundation's research grants and teacher professional development workshops remain among its signature offerings.

WISE

world innovation summit for education

مؤتمر القمة العالمي للابتكار في التعليم

An Initiative of Qatar Foundation

The World Innovation Summit for Education was established by Qatar Foundation in 2009 under the leadership of its Chairperson, Her Highness Sheikha Moza bint Nasser. WISE is an international, multi-sectoral platform for creative, evidence-based thinking, debate, and purposeful action toward building the future of education. Through the biennial summit, collaborative research and a range of on-going programs, WISE is a global reference in new approaches to education.

The WISE Research series, produced in collaboration with experts from around the world, addresses key education issues that are globally relevant and reflect the priorities of the Qatar National Research Strategy. Presenting the latest knowledge, these comprehensive reports examine a range of education challenges faced in diverse contexts around the globe, offering action-oriented recommendations and policy guidance for all education stakeholders. Past WISE Research publications have addressed issues of access, quality, financing, teacher training, school systems leadership, education in conflict areas, entrepreneurship, early-childhood education, and twenty-first century skills.

Acknowledgments

Disclaimer

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