



# Gender Inequity in K-12 Education

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**Abstract.** The purpose of this paper is to investigate gender inequality in education during the K-12 period and to analyze and propose further suggestions thereby raising the attention of schools, families, and the community to achieve gender equality in education at an earlier time. This article analyzes gender inequalities in education from four aspects: 1) gender inequality in textbooks; 2) attitudes and ways of teachers and parents towards children; 3) gender-related rights to education; 4) children's problems regarding gender inequality in education. Despite the efforts made by various countries to achieve gender equality in education in recent decades, there are still gender inequalities in the current situation, which may come from various aspects.

**Keywords:** K-12 Education Textbook · Student

## 1 Introduction

Gender inequalities exist in most countries of the world. These gender inequalities can have a disproportionate impact on children's development and a significant impact on their maturation, which can influence their future choices and development in life. In particular, the study of gender equality in K-12 education is important for children who receive a lot of information from the outside world during the K-12 period. Based on the findings from a growing empirical literature which suggests that gender equity in education promotes economic growth, reduced fertility, child mortality, and undernutrition [1]. This paper will review four aspects of gender equality in K-12 education, including textbooks, teachers and parents, the right to education, and the children themselves. This will inspire people to achieve gender equality in education, and some of the solutions proposed in this paper will inspire society and schools in their future initiatives.

## 2 Equality in Textbooks

Gender and sex have different definitions. Sex refers to a set of biological attributes in humans and animals. Gender refers to the socially constructed roles, behaviors, expressions and identities of girls, women boys, men, and gender diverse people" [2]. Despite the advancement of women in recent decades and efforts to eliminate all forms of gender inequality in education, true gender equality in the curriculum has yet to be achieved.

## 2.1 Illustration and Language

Despite the increase in gender equality in textbooks today, school textbooks still contain gender-biased information and stereotypes about men and women. Some textbooks show women appearing mostly in indoor activities and men in outdoor activities [3]. Some texts and illustrations in textbooks and the representation of women and men in the domains of quantitative balance and gender stereotyping, show female invisibility, male firstness and stereotypical images [4–7].

A country where gender inequality is very strongly represented in textbooks is Saudi Arabia, a country with a specific religious-cultural context where women are almost completely deprived of careers in textbooks and where women are poorly represented in both visual and linguistic visibility. Even in Saudi Arabia, only a single gender of the male is present in the textbooks of first-grade schools [4]. In countries such as Pakistan, Australia, and Japan, which have been working to eliminate all kinds of forms of gender inequality in education, truly balanced attitudes and approaches to masculinity and femininity remain elusive [4–7]. Children learn to walk, talk and behave in the way that their community expects boys and girls should [8].

Younger children will almost always do or imitate what they have been taught and what they have seen, especially when it comes to textbooks, which they see as standard answers, children learn firmly what is taught in textbooks as they form their three perspectives and as they develop physically and mentally, so that gender inequality in textbooks may limit child's development. Children's interests, ambitions and skills are prematurely shaped by the textbooks they consume, potentially affecting everything from the subjects they choose to study to the careers they eventually pursue.

If all educated children's careers are influenced by gender inequality in textbooks, this will inevitably affect the future health of all walks of life, then the gender inequality in textbooks may even affect the balanced development of society. Overall, there is a need to break down gender stereotypes in textbooks so that our children can explore, learn and dream and reach their unlimited potential without limits.

## 2.2 Stereotypes in Teaching Books

Not only are women's subordination visually and linguistically represented, but also there are many descriptions in textbooks that reflect gender stereotypes. Kerkhoven argues that in the field of education it can be seen that there are more men than women in scientific occupations [9]. And it is necessary to propose a more balanced representation to achieve more gender-balanced science [9]. Hong Kong has made efforts to widely disseminate the value of equal opportunity in recent decades, yet stereotypical gender stereotypes still persist in recent textbooks, with women having a more limited range of social roles than men [6]. Both women and men have unlimited possibilities, and textbooks, as instructional books, should not contain restrictions that confine the minds of men and women. Otherwise, they may waste the great potential that people have, which is not only a loss for the individual but also an important factor in slowing down the development of society. Therefore, it is necessary and indisputable to eliminate gender stereotypes from textbooks.

### **2.3 The Gender Blindness of Designers and Authors**

Many countries and societies have been working to break down gender inequality in textbooks for a long time, and one of the essential reasons why this has not been achieved for so long may be the ignorance of the textbook writers. Ullah argues that the gender blindness of the curriculum designers and textbook authors is an issue of serious concern, which contributes to the perpetuation of gender inequality [5].

The direct way to address gender inequality in textbooks is to correct the gender blindness of textbook designers and writers, otherwise no matter how good the policy is, it will not be implemented well. Gender equality in textbooks can only be achieved directly if the gender blindness of textbook writers is eliminated. This may require publishers to scrutinize the qualifications and attitudes of textbook writers towards gender equality, and the government to take textbook writers into account when introducing relevant policies.

## **3 Teachers and Parents Toward Children**

### **3.1 Teacher's Behavior**

Educational research and policy making on this topic reveal how the two activities have been linked, primarily through the work of teachers and their organizations [10]. And most teachers hold the ideas that “boys are good at math, and girls are good at reading”. But sometimes teachers’ math anxiety carries consequences for girls’ achievement by influencing girls’ beliefs about who is good at math [11]. But this fear has sometimes had a more negative impact on girls’ math performance than their math ability. This can cause many girls who are already talented in math to become unsure of themselves because of the anxiety their teachers bring to the table, thus burying their talent. The author thinks that teachers in schools should first abandon this gender stereotype and give boys and girls the same guidance and confidence so that they can develop freely without prejudice or confinement and explore their potential, creating more possibilities.

### **3.2 Number of Male and Female Teachers**

Many studies have shown that there is an imbalance between the number of female and male teachers [12–14]. It is with the highest percentage of female teachers in elementary schools at 57.9%, followed by middle schools with 52.1% female teachers, and high schools with a higher percentage of male teachers at 49.4% female teachers [15]. When the proportion of female teachers is greater, students are more influenced by female teachers, and both male and female students are subconsciously guided by the language and behavior of female teachers. In contrast, when there is a greater proportion of male teachers, students involuntarily imitate more of the male teacher’s personality and habits. The author believes that while pursuing gender equality in education content, it is also necessary to focus on the balance of male and female teachers, a factor that may be overlooked. This will enable gender equality in education to be achieved more comprehensively.

### 3.3 Parental Behavior

In addition to school, the family is another factor that greatly influences children, and sometimes the influence of parents' expectations and behaviors can cause gender distortion in children. According to Jacquelynne S. Eccles, not only at school, but also at home, parents distort their perceptions of their own children in gender role stereotypical activities such as math and sports [16]. Parents perceived science as more important for boys and expected higher performance of boys. Jobs related to math or science were seen as more male-dominated [17]. Children education is mainly composed of in school and at home, parents' behavior and look for in a child has a very big effect on children, it will produce direct and subtle role in a child's development, I don't think parents should give their children cap, set up some with the expectation of gender inequality, should let the child the freedom to explore gender, choose their own love and career.

### 3.4 Use of Teaching Tools

Trawick argues that when equipping classrooms with toys, teachers must be observant, reflective, and responsive to the needs of individual children, just as they are in all other aspects of teaching [18]. Teachers should pay attention to the selection of teaching tools in daily teaching activities, and not choose teaching tools guided by gender stereotypes. Teachers should give children of different genders the same tools and opportunities to learn in ways that are most appropriate and enjoyable for them.

## 4 Rights to Education

It is widely known that the education of women in many countries contributes to the overall social development and economic growth, especially in developed countries. There are many studies that show that educating one woman is equivalent to educating a family [1]. If a woman does not have the right to education, it means that her husband and all her children are not educated. If there are many such families, the damage to the development of a country and society can be imagined. Both the inequality in the education of men to women and women to men can have a very serious negative impact on income and the economy statistically [19]. Gender inequality in education by lowering the average level of human capital directly affects economic growth [20].

Therefore, it is well-founded and important to advocate for equal rights for men and women in education and to achieve gender equality in education. Although women's equal rights have been legally established in some countries and regions, especially in the field of education, a wide range of approaches have been taken, but the results have not fully achieved equality in women's right to education [21]. The state and relevant authorities may need to pay more attention and take more effective measures to achieve gender equality in education.

## 5 Student

### 5.1 Student's Own Gender Stereotypes

Despite efforts to remedy the universality of gender disparity in mathematics classrooms across the globe, many females have internalized the belief that they are not capable of

finding success in mathematics and that their contributions in the classroom are not valued [22]. In classes of physical education, male students in comparison to female students are somewhat more intrinsically motivated, and much more ego-oriented [23]. With respect to gender stereotypes about running in school, girls become less and less interested in running in sports and less willing to do so as they progress through the grades [24]. Girls make internal settings about themselves regarding sports regarding gender. As they get older, from kindergarten to high school, boys and girls will increasingly use personalized information about their gender, representing a gradual and increasing solidification of students' gender settings themselves, which is bound to lead to choices in their studies and in their lives [25]. Female students who are not confident from the heart about subjects such as mathematics and physical education and the limits of their settings, will develop a fear of difficulties and learning these subjects. Girls should abandon gender stereotypes and try each course with confidence.

## **5.2 The Relationship Between Boys and Girls**

The relationship between boys and girls also becomes more and more negative with age, which will reduce the contact and communication between boys and girls and make them lack communication between genders, which will lead them to misunderstand their gender settings and lack divergent thinking [21]. Furthermore, it is not conducive to their overall development.

## **5.3 Psychological Problems of Students Related to Gender Inequality in Education**

Children in kindergarten through 12th grade are in a stage of cognitive and thinking development where they are usually held to the standards of textbooks, teachers, and parental teachings. If they find themselves in the process of being taught different standards, children's gender self-identity becomes skewed and they come to believe that they are incorrect and different.

Over time, they can become unconfident and develop a sense of inferiority. These children are afraid to show their gender perception to the teachers, parents and classmates around them, and they are afraid that they will be looked at differently and hurt, thus accumulating more and more self-doubt and negative emotions inside them, which will affect their mental health and produce various psychological diseases. If they close themselves off from this and lose confidence in themselves and in society, it will distort their hearts and may make them do things that hurt themselves or hurt society. Schools should set up mental health teachers to bring mental health courses to students on a regular basis, and do regular psychological counseling for students to find out if there are students with mental illnesses in a timely manner. In addition, schools should set up a 24-h open psychological counseling phone number that can give students a way to relieve stress when they need to.

In addition, the authors believe that schools should also focus on the inclusion and education of sexual minority students. There is basically no description of sexual minorities in education, let alone whether there is a special way to educate them, and education should include teaching and caring for students from all groups.

## 6 Conclusion

The purpose of this paper is to review gender equality in K-12 education, analyze its root causes, and take effective measures to achieve gender equality in education at early times.

This paper analyzes the phenomenon, causes, and consequences of gender inequality in pedagogy from 4 aspects and proposes the corresponding solution: 1) The illustrations and texts in the textbooks show gender inequality and still have some gender-stereotyped contents, which fundamentally may be overlooked as a result of gender blindness of the textbook writers; 2) Teachers' and parents' attitudes toward children's gender-related issues. The number of teachers and the expectations that teachers and parents have of their children can influence the choices children make about gender; 3) In many countries and regions, women's rights to education are still difficult to secure, which can have a negative impact on the entire family; 4). Children in K-12 see what they are taught as standard answers and can become less confident in themselves because of stereotypical content, which might affect their mental health.

These four areas not only have a negative impact on the children's own development and psychology but also have a negative impact on family and society. Through the investigation and analysis of this phenomenon, the author hopes to draw society's attention to the phenomenon of gender inequality, hoping to find the root cause and take more effective measures to achieve gender equality and rebuild a more resilient and development potential society.

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