

**Chapter 1 : Single-sex education: the pros and cons**

*Discussed are the effects of sex-stereotyping on achievement and self-concept in science and mathematics students. Although parents rarely treat sons and daughters differently, other adults, especially teachers, tend to sex-stereotype students. It is suggested that multiple-choice testing.*

This article has been cited by other articles in PMC. Abstract Background Gender- and sex-specific medicine is defined as the practice of medicine based on the understanding that biology dictated by sex chromosomes and social roles gender are important in and have implications for prevention, screening, diagnosis, and treatment in men and women. In light of the many ways that sex and gender influence disease presentation and patient management, there have been various initiatives to improve the integration of these topics into medical education curriculum. By studying the opinions of US allopathic and osteopathic-enrolled students on the extent to which their schools address these topics and their understanding of these topics, this study examined the role of gender specific medicine in the US medical school curriculum. Methods An email solicitation with link to an anonymous survey was sent to approximately 35, student members of five US medical student organizations. Data was analyzed as a complete data set to evaluate national trends and via subset analysis using chi-square, paired t test, and one-way anova. Results A total of students responded. The majority of respondents strongly agreed that sex and gender medicine SGBM improves patient management When asked specifically about inclusion of an identified sex and gender-based medicine curriculum at their institution, students answered not sure at Males reported a higher rate of exposure to SGBM content areas in medical history taking, domestic violence than women. However, current curricular offerings fall short of providing students with adequate coverage of specific evidence-based health differences. Electronic supplementary material The online version of this article doi: Therefore, sex and gender medicine is defined as understanding that biology and social roles are important in and have implications for prevention, screening, diagnosis, and treatment [ 5 ]. Because sex and gender play a significant role in the medical management of patients, it is paramount that these topics be incorporated into medical research and education. These differences in physiology and pathophysiology between males and females are evident in many disease processes, diagnostic tests, and treatment options. In a recent review of scientific literature, over articles dealing with sex and gender differences in disease presentation were found [ 3 ]. For instance, it is widely accepted that cardiovascular disease CVD presents differently in men and women, and that the knowledge of such differences is a critical component of the clinical armamentarium [ 6 ]. In addition to disease presentation, sex and gender influence treatment efficacy. For example, in the case of the sleep aid, zolpidem, women have a much lower metabolism rate resulting in higher plasma concentrations and sensitivity [ 7 ]. Thus, at equal doses, zolpidem causes longer periods of impairment in women. Acknowledging that sex and gender have medical implications has led to various initiatives to improve the integration of these topics into the medical education curricula. Following the AAMC surveys, four additional studies between and were conducted to track curricular progress in incorporating this topic. These studies identify a lack of comprehensive integration of sex and gender medicine into the basic sciences and clinical education [ 11 , 12 ]. National student survey Based on these previous studies, it is apparent that medical education in the USA has not adequately integrated sex and gender-based medicine into its curricula. Methods Sample A convenience sample of male and female US medical student members of the following national medical student organizations: Inclusion criteria were students who attended 4-year MD or DO medical schools where either all 4-year or the last two clinical years were completed on campuses located in the USA. Students from international medical schools and naturopathic medical schools were excluded. A total of approximately 35, medical student members of the organizations received the solicitation email and responded. The estimated total membership of the organizations is likely a duplicate count as cross membership with other organizations is possible. Instrumentation The online survey contained seven topic areas: The practice of medicine based on the understanding that biology dictated by sex chromosomes and social roles gender are important in and have implications for prevention, screening, diagnosis, and treatment; and in the design and implementation of

health research, policy, programs and services in men and women. Demographic data s included: The content areas were chosen as having level one or two evidence for the differences described. Although free-text entry was included in the survey, the responses and comments were not analyzed in this manuscript. Qualtrics survey software was used to build and administer the survey and all data were automatically de-identified through the software; questions in the demographics subsection did not include any identifying information. Because the email solicitation was sent to student members at different levels in their medical education, survey logic was incorporated to ensure that questions remained relevant to the student based upon their current education and experience. For example, only third and fourth year students were shown questions regarding specific institutional offerings Question 6a, 7a as a majority of medical school program introduce electives during those years Additional file 1. For the purposes of this work, extensive revisions were incorporated by the authors, medical students at Albany Medical College, and a survey design and statistical analyst from Belmont University. Participants were recruited through third-party distribution of an IRB approved email specifically concerning the survey. Student members of the five participating medical student organizations were contacted by their respective organization. As part of their membership, students of these organizations had previously agreed to be contacted for various purposes including surveys. No compensation or incentive was offered to study subjects and participation was strictly voluntary. The email solicitation described the intent of the study and included the link to the electronic survey. Statistical analysis Data from the de-identified survey responses were analyzed both as a complete data set to evaluate national trends and via subset analysis according to demographic data collected. Gender differences between mean responses to Likert scale questions were analyzed by conducting independent samples t tests, and mean differences by year-in-school were analyzed by performing one-way ANOVAs and means for homogenous subsets were further explored and validated through the use of Tukey post hoc tests. ANOVA analysis was also performed to compare exposure to sex and gender differences between different class years. Results Demographics One hundred and fifty four schools were represented by the survey respondents, with participation from students, of which met the inclusion criteria for final analysis. The highest frequency of respondents attended medical school in New York Students from multi-disciplinary medical schools those affiliated with other health science programs such as pharmacy and nursing schools comprised The respondents were divided almost equally between those attending state-supported public institutions Students from MD only schools composed

## Chapter 2 : Why Gender Matters in the Classroom: The Differences Between Boys and Girls | TeachHUB

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Experts agree that nature i. Schools can magnify or diminish gender differences by providing environments that promote within-gender similarity and between-gender differences, or the inverse within-gender variability and between group similarity. Teachers and peers directly influence gender differentiation by providing boys and girls with different learning opportunities and feedback. Teachers and peers are also sources of learning about gender. Teachers present curricular materials that contain gender stereotypic behaviour, and peers exhibit gender stereotypic attitudes and behaviour. Children internalize gender stereotypes and prejudices, which in turn guide their own preferences and behaviours. Observational studies allow researchers to examine gender differences, attitudes, and behaviours across a range of school types. Experimental studies allow for the identification of school-related causes of gender differences. Many educators endorse cultural gender stereotypes e. First, teachers often model gender stereotypic behaviour. Young children whose teachers labeled and used gender showed higher levels of gender stereotyping than their peers. Like teachers, peers contribute to the socialization of gender difference via multiple pathways. Upon entering school, children encounter large numbers of peers, many of whom model traditional gender behaviour, producing and reinforcing the content of gender stereotypes. In addition, schools are characterized by gender segregation. When many peers are available, children tend to select same-sex playmates. In addition, more work is needed to identify effective means to prevent and minimize gender biased attitudes and behaviour. Future research is also needed to document the experiences of children who do not conform to traditional gender roles e. Unfortunately, teachers receive relatively little training in recognizing and combating gender stereotypes and prejudicesâ€”their own and othersâ€”and, as a consequence, teachers often model, expect, reinforce, and lay the foundation for gender differentiation among their pupils. Thus, most schools create and maintainâ€”rather than counteractâ€”traditional gender stereotypes, biases, and differences. Implications for Parent, Services, and Policy Educational policy makers should resist the creation of gender segregated educational contexts e. Relationships in infancy, childhood, and adolescence. The developmental course of gender differentiation: Conceptualizing, measuring, and evaluating constructs and pathways. Monographs of the Society for Research in Child Development. Handbook for achieving sex equity through education. The Johns Hopkins University Press; Iegle-Crumb C, Humphries M. Girls and boys in school. Rutgers University Press; A developmental intergroup theory of social stereotypes and prejudice. Elsevier Academic Press; A study of the functional use of gender in the classroom. Differing levels of gender salience in preschool classrooms: The stability and consequences of same-sex peer interactions. Implications for theories of gender development and educational practice. The gender socialization process in schools: Will We Make It? The pseudoscience of single-sex schooling. From the dress-up corner to the senior prom: Navigating gender and sexuality diversity in preK schools. How to cite this article: Martin CL, topic ed. Encyclopedia on Early Childhood Development [online]. Accessed November 11,

*Sex differences in education are a type of sex discrimination in the education system affecting both men and women during and after their educational experiences.*

Developed Countries[ edit ] In developed countries, women are still underrepresented in science, technologies, engineering and mathematics. Second Sexism In Education[ edit ] Sex discrimination against males also happens in education. We might call discrimination against males as the "second sexism". This kind of sexism is not taken seriously even by people who oppose sex discrimination. And the discrimination against male students will often happen here. Brophy and Good reviewed studies show that male students will be considered more negative than female students by teachers, especially female teachers, in elementary school. Many teachers feel more connection to girls and feel rejecting toward boys which lead to a negative relationship with boys. First, many sociologists of education view the educational system as an institution of social and cultural reproduction. Research such as May Ling Halim et al. Jenny Rodgers identifies that gender stereotypes exist in a number of forms in the primary classroom, including the generalization of attainment levels based upon sex and teacher attitudes towards gender appropriate play. This ultimately leads to the unfolding of a self-fulfilling prophecy in the academic and behavioral performances of the students. She defines this term as the consistent and unconscious use of words and grammatical forms by teachers that denigrate women and emphasize the assumed superiority of men, not only in lesson content but also in situations of disciplinary procedure. As a result, school books, media and curriculum content all give students the impression that females do not create history which contributes to the damaging assumption that females cannot transform the world, whereas men can. This creates a linguistic double standard which can again be seen to contribute to long-term gender disparities in behavior. If a girl conforms to institutional ideals by learning her lessons well, speaking appropriately and not bothering the teacher then her success is downplayed in comparison to the equivalent behavior in a male pupil. As a result, this reinforcement will foster submissiveness and self-depreciation; qualities which society does not hold in great esteem. However, if she does not conform then she will be admonished more harshly than her equivalent male pupils and also be viewed in a more negative light. She will be regarded as problematic and disruptive to the class, which may ultimately impact her academic performance and career prospects in the future. Citing the research of Guasp, she maintains that heteronormative discourse still remains the norm, both in schools and in wider western society. Thus, one of the major challenges to gender equality is the concealment of sexual diversity under the dominance of heteronormativity. Indeed, Rodgers cites these teaching approaches as conforming to hegemonic masculinity , and attributes this method to the marginalization of students who do not conform to their stereotypical gender roles. This is important because course-taking represents a large gender gap in what courses males and females take, which leads to different educational and occupational paths between males and females. For example, females tend to take fewer advanced mathematical and scientific courses, thus leading them to be ill-equipped to pursue these careers in higher education. This can further be seen in technology and computer courses. For example, society suggests that women should be mothers and responsible for the bulk of child rearing. Therefore, women feel compelled to pursue educational pathways that lead to occupations that allow for long leaves of absence, so they can be stay-at-home mothers. Hidden curriculum is the idea that race, class, and gender have an influence on the lessons that are taught in schools. Some curriculum have even been rewritten to highlight the roles played by white males. An example of this would be the way wars are talked about. Lee, and Abraham Lincoln. Whereas woman or men of color such as Harriet Tubman as a spy for the Union, Harriet Beecher Stowe or Frederick Douglass, are downplayed from their part in the war. Shop classes and advanced sciences are seen as more masculine, whereas home economics, art, or humanities are seen as more feminine. The problem comes when students receive different treatment and education because of his or her gender or race. Girls may be encouraged to learn skills valued in female-dominated fields, while boys might learn leadership skills for male-dominated occupations. For example, as they move into the secondary and post-secondary phases of their education, boys tend to gravitate

more toward STEM courses than their female classmates. Parents may spend differently based on gender of their children which is a unequal treatment. Shaleen Khanal studied the expenditure people spent on girls and boys in Nepal. Also, parents in Nepal are more willing to spend more money in order to let boys to go to private school for the better education. Sex discrimination in high school and college course-taking also results in women not being prepared or qualified to pursue more prestigious, high paying occupations. Sex discrimination in education also results in women being more passive, quiet, and less assertive, due to the effects of the hidden curriculum. Because gender is something we learn, day-to-day interactions shape our understandings of how to do gender. Their communicative interactions may also single out other students. For example, a teacher may call on one or two students more than the others. This causes those who are called on less to be less confident. A gendered example would be a teacher expecting a girl to be good at coloring or a boy to be good at building. These types of interactions restrict a student to the particular role assigned to them. While a teacher may not purposely try to communicate these differences, they may tend to make comments based on gender physical ability. A female, on the other hand, might be told she is too masculine looking to where she becomes more reserved and less motivated. Females may not find interest in science, technology, engineering, or math STEM , because they have not been exposed to those types of classes. This is because interactions within the school and society are pushing them towards easier, more feminine classes, such as home economics or art. They also might not see many other women going into the STEM field. This then lowers the number of women in STEM, further producing and continuing this cycle. Because of interactions from teachers, such as saying boys do not usually cook, males may then be less likely to follow careers such as a chef, an artist, or a writer. Most notable is the soaring rates of female participants, which has surpassed the enrollment and participation rates of their male counterparts. In fact, the latest national test scores, collected by the NAEP assessment, show that girls have met or exceeded the reading performance of boys at all age levels. The literacy gap in fourth grade is equivalent to males being developmentally two years behind the average girl in reading and writing. At the middle school level, statistics from the Educational Testing Service show that the gap between eight-grade males and females is more than six times greater than the differences in mathematical reasoning, mathematical reasoning favoring males. These findings have spanned across the globe as the International Association for Evaluation of Educational Achievement IEA found gender to be the most powerful predictor of performance in a study of 14 countries. First of these is an innate difference in the brain function of males and females. Females have the advantage in their left hemisphere with speaking, reading and writing. Their right hemisphere allows females to feel empathy and to better understand and reflect on their feelings and the feelings of others. Both hemispheres are actively contributing to necessary literacy practices. On the other hand, boys use their left hemisphere to recall facts and rules and to categorize, while their right-hemisphere is used with visual-spatial and visual-motor skills, which enables them to excel in topics like geography, science, and math. Males are therefore less likely to share opinions about literature and less likely to express to a teacher when having difficulty, feeling frustrated or just plain not understanding the material. Instead, males fidget, get distracted, receive reprimands, and often quit altogether. These include, but are not limited to, their own gender identity, social and cultural issues, religion, technology, school cultures, teaching styles, curriculum, and the failures of pre-service and in-service teaching courses. The first is achievement; boys typically take longer to learn than girls do, although they excel over females when it comes to "information retrieval and work-related literacy tasks". Also, boys tend to read less than girls in their free time. This could play a role in the fact that girls typically "comprehend narrative and expository texts better than boys do". In Hamilton, Ontario, Cecil B. Single-gender classes were most popular, and although no specific studies have shown a statistical advantage to single-gender literacy classes, the overall reaction by boys was positive: Websites, handouts Incorporating technology. Computer Learning Games, Cyberhunts Allowing time for movement. Spelling Bees, Jeopardy, Hangman Choosing books that appeal to boys. Boys-only Book Club The gender gap and homeschooled children[ edit ] Schools are not philosophical, social or cultural vacuums. The social structure of many schools do not produce adequate results for many boys. Many parents who home school their children observe that there is a smaller gender divide in academic test results. One study by the HSLDA revealed homeschooled boys 87th percentile and girls 88th percentile scored

equally well. Racial disparity and disparity based on socioeconomic background is also less pronounced. A major factor in student achievement is whether a parent had attained a tertiary education. Especially in some developing countries, the improvement of economic make government pay more attention on education which is helpful for increasing gender equality in education. Also, relevant law also play a important role on decreasing gender discrimination in education. China[ edit ] China used to have big issue in gender inequality in education. But the huge development in economic and society since s actually became a major factor which improve the gender equality. Government have more money to invest the education system and more schools were built during these years. People including girls have more chances to have opportunities to go to school. However, there is a difference in education of gender equality between urban area and rural area. Before s, the discrimination in admission blocked many females from school. Title IX required school admission must treat women and men equally and also decrease the society pressure put on women in education.

## Chapter 4 : NASSPE: Research > Gender Differences in Learning

*Sex Differentiation and Schooling (Heinemann Organization Ins Schools Series) [Michael Marland] on blog.quintoapp.com \*FREE\* shipping on qualifying offers. Language:blog.quintoapp.com DIFFERENTIATION AND SCHOOLING (ORGANIZATION IN SCHOOLS) (map).*

What do we know about differences in how girls and boys learn? There are significant differences in the ways girls and boys learn, differences which are more substantial than age differences in many ways. In other words, a 7-year-old girl and a 7-year-old boy differ, on average, on parameters such as "How long can you sit still, be quiet, and pay attention? Most American schools segregate kids on the basis of age differences: And yet, on some parameters - such as how long a child can sit still, be quiet, and pay attention - the sex differences e. If you visit an all-girls kindergarten and then an all-boys kindergarten, you will be struck by how differently the children learn. If you visit an all-girls 12th-grade classroom and an all-boys 12th-grade classroom, the differences are more subtle. Some 6-year-old boys just have to stand and make buzzing noises in order to learn. There are gender-specific personality traits which affect how children learn. However, cross-cultural studies over the past 30 years have provided little support for this hypothesis. Educational psychologists have consistently found that girls tend to have higher standards in the classroom, and evaluate their own performance more critically. Alan Feingold, "Gender differences in personality: See also the important paper by Diane Ruble and her associates, "The role of gender-related processes in the development of sex differences in self-evaluation and depression, Journal of Affective Disorders, volume 29, pages , Because girls do better in school as measured by report card grades , one might imagine that girls would be more self-confident about their academic abilities and have higher academic self-esteem. Paradoxically, girls are more likely to be excessively critical in evaluating their own academic performance. Conversely, boys tend to have unrealistically high estimates of their own academic abilities and accomplishments. We arrive at one of the most robust paradoxes teachers face: Consequently, the most basic difference in teaching style for girls vs. Educational psychologists have found fundamental differences in the factors motivating girls vs. Most boys, on the other hand, will be less motivated to study unless the material itself interests them. Higgins, "Development of self-regulatory and self-evaluative processes: Sroufe editors , Self processes and development, Minneapolis: University of Minnesota Press, , pp. See also the more recent paper by Eva Pomerantz and Jill Saxon, "Conceptions of ability as stable and self-evaluative processes: Girls and boys experience academic difficulties very differently. Boys, in contrast, appear to see their failures as relevant only to the specific subject area in which they have failed; this may be due to their relative lack of concern with pleasing adults. In addition, because girls view evaluative feedback as diagnostic of their abilities, failure may lead them to incorporate this information into their more general view of themselves. Boys, in contrast, may be relatively protected from such generalization because they see such feedback as limited in its diagnosticity. A girl-friendly classroom is a safe, comfortable, welcoming place. Forget hard plastic chairs: Let the girls address their teacher by her or his first name. Context enhances learning for most girls, but often just bores the boys. The boys are just the opposite," he said. Can we please just learn the song already? With boys, you can stimulate their interest by focussing on the properties of numbers per se. Keep it real and keep it relevant. Teaching Fibonacci numbers to boys: The reciprocal of that number is equal to that same number minus 1. We can write that statement in equation form, like this: Tell the boys that mathematicians refer to this number as Phi. Sure enough, this number Phi has the characteristic we were looking for: Now, you change the subject or appear to change the subject. You tell them about the Fibonacci series. Recall that a Fibonacci series is formed by adding two numbers to yield a third number, and reiterating the process to form a sequence. The simplest Fibonacci sequence is:

## Chapter 5 : Sex and gender in medical education: a national student survey

*Gender roles are the patterns of behaviors, attitudes, and expectations associated with a particular sex—“with being either male or female. For clarity, psychologists sometimes distinguish gender differences, which are related to social roles, from sex differences, which are related only to physiology and anatomy.*

Does single-sex education boost academic success? Read the arguments for and against. The National Association for Single-Sex Public Education estimates that approximately public schools now offer some form of single-sex education. What is fueling this movement? And what are the risks and benefits of single-sex education? A driving force in the single-sex education movement is recent research showing natural differences in how males and females learn. Putting this research into practice, however, has triggered a debate that extends beyond pure academics. Political, civil rights, socioeconomic and legal concerns also come into play. As the debate heats up, it helps to understand all sides of the issue. Other influences stem from the way parents and society nurture the child: Making the case for single-sex education Those who advocate for single-sex education in public schools argue that: Leonard Sax and others agree that merely placing boys in separate classrooms from girls accomplishes little. But single-sex education enhances student success when teachers use techniques geared toward the gender of their students. Some research indicates that girls learn better when classroom temperature is warm, while boys perform better in cooler classrooms. Some research and reports from educators suggest that single-sex education can broaden the educational prospects for both girls and boys. Advocates claim co-ed schools tend to reinforce gender stereotypes, while single-sex schools can break down gender stereotypes. For example, girls are free of the pressure to compete with boys in male-dominated subjects such as math and science. One mother, whose daughter has attended a girls-only school for three years, shared her experience on the GreatSchools parent community: In , Education Secretary Margaret Spellings eased federal regulations, allowing schools to offer single-sex classrooms and schools, as long as such options are completely voluntary. This move gives parents and school districts greater flexibility. Few educators are formally trained to use gender-specific teaching techniques. For a sensitive boy or an assertive girl, the teaching style promoted by advocates of single-sex education could be ineffective at best or detrimental at worst. Educating students in single-sex schools limits their opportunity to work cooperatively and co-exist successfully with members of the opposite sex. At least one study found that the higher the percentage of girls in a co-ed classroom, the better the academic performance for all students both male and female. Professor Analia Schlosser, an economist from the Eitan Berglas School of Economics at Tel Aviv, found that elementary school, co-ed classrooms with a majority of female students showed increased academic performance for both boys and girls. In high school, the classrooms with the best academic achievement were consistently those that had a higher percentage of girls. Schlosser theorizes that a higher percentage of girls lowers the amount of classroom disruption and fosters a better relationship between all students and the teacher. The American Council on Education reports that there is less academic disparity between male and female students overall and a far greater achievement gap between students in different racial, ethnic and socioeconomic groups, with poor and minority students children faring poorly. Bridging that academic chasm, they argue, deserves more attention than does the gender divide. Measuring public perception How does the general public view single-sex education? To answer that question, Knowledge Networks conducted a nationwide survey in early More than one-third of Americans feel parents should have the option of sending their child to a single-sex school. If the single-sex education movement continues, you may find yourself in a position to vote for or against it in your own community.

## Chapter 6 : Stanford Women's Health & Sex Differences Center | WHSDM Center | Stanford Medicine

*sex schooling may facilitate an increase in all of these factors through children seeing the segregation of the genders and hearing teachers' and schools' messages about the differences between.*

Chapter 7 : Sex differences in education - Wikipedia

*Gender Differences in Education\** This paper surveys the trends in gender gaps in education, their causes and potential policy implications. I show that female.