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WOMEM IN SCIENCE: BREAKING BARRIERS, SHAPING THE FUTURE AND LEADING CHANGES

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Abstract: The role of women in science has evolved significantly over the past century. In this article, we explore the contributions of women in various scientific fields, the challenges they have faced, and the ongoing efforts to promote gender equality in the scientific community. We also discuss the impact of gender diversity on scientific innovation and progress. Preliminary Results: aims to find information that allows a broad compilation of this historical trajectory. Impacto f laws inside military corporations.

INTRODUCTION

The field of science has seen remarkable advancements and breakthroughs over the years, thanks to the dedication and ingenuity of scientists from all backgrounds. Women, in particular, have made significant contributions to various scientific disciplines, despite facing numerous challenges and barriers.

The historical trajectory of this acceptance of women is correlated with the action of the feminist movement that was taking shape in that period in Brazil, with the recent rapprochement, in the years 1977 and 1978, of the feminist and women's movement with the labor movement and with the realization of first meetings of working women (ALMEIDA, 2008).

In the modern world, the advancement of science and technology plays a pivotal role in shaping the future. However, to maximize the potential for innovation, it is crucial to recognize the importance of inclusion, particularly the inclusion of women in the field of science. This article explores the profound significance of gender diversity in science and the many benefits that come with it.

One of the key reasons for the inclusion of women in science is the unique perspective and experiences they bring to the table. Diverse teams foster creativity and innovation. Women, like all individuals, have their own

set of experiences, ideas, and insights that can lead to novel approaches and breakthroughs in scientific research. This diversity enriches the scientific community and enhances its ability to address complex problems.

The inclusion of women in science is essential in the study of gender-specific health issues. Women's health concerns can be distinct from those of men, and the active involvement of female scientists in research helps to identify and address these differences. This is vital for the development of effective treatments and therapies that cater to both genders.

Visible role models have a significant impact on young minds. When women succeed and thrive in the field of science, they serve as inspiration for the next generation of aspiring scientists. The inclusion of women in scientific leadership positions sends a powerful message that anyone, regardless of their gender, can pursue a successful career in science.

Excluding women from the field of science means missing out on a significant portion of the talent pool. The untapped potential of female scientists is a valuable resource that can help address current and future scientific challenges. To maximize the talent pool in science, it is imperative to encourage women to pursue careers in STEM (science, technology, engineering, and mathematics) fields.

Gender equity is a fundamental principle in contemporary society. Equal opportunities for women in science are not just a matter of progress but also a matter of ethics. An inclusive scientific community is one where individuals are judged based on their abilities, not their gender, which aligns with the principles of equality and fairness.

Science is increasingly multidisciplinary, involving collaboration across various fields and specialties. The inclusion of women

brings fresh insights, leading to more well-rounded and comprehensive scientific research. Collaboration between scientists with diverse backgrounds and experiences is key to tackling complex global challenges.

Promoting the inclusion of women in science has far-reaching social and economic benefits. Encouraging gender diversity can result in greater job satisfaction, improved workplace dynamics, and, ultimately, higher productivity. A diverse scientific community contributes to a richer and more robust knowledge base, which can lead to economic growth and the development of innovative solutions to pressing global issues.

The inclusion of women in science is not merely a matter of diversity for diversity's sake but a means of achieving a more equitable, innovative, and ethical scientific community. The involvement of women in the field of science brings fresh perspectives, drives innovation, and encourages the next generation of scientists. To harness the full potential of the scientific community, it is imperative to create an inclusive environment where women have equal opportunities and representation in all scientific disciplines. The benefits are not only scientific but also societal, as the world stands to gain from the diverse talents and contributions of women in science. Parte superior do formulário

This article aims to shed light on the history and current status of women in science, emphasizing their remarkable achievements, the obstacles they have encountered, and the ongoing efforts to create a more inclusive scientific community.

DEVELOPMENT

HISTORICAL PERSPECTIVES



Image 03: Marie Curie

Throughout history, women with a passion for scientific inquiry have defied societal norms and expectations to contribute to the advancement of science. These early pioneers made substantial strides in their respective fields, despite the numerous obstacles and prejudices they encountered.

Emilie du Châtelet (1706-1749)

Background: Emilie du Châtelet was a French mathematician, physicist, and author during the 18th century. **Contributions:** She is best known for her translation of and commentary on Isaac Newton's "Principia Mathematica." Her work laid the foundation for the understanding of Newtonian physics in France. **Challenges:** Du Châtelet faced significant gender-based restrictions in her scientific pursuits. She worked tirelessly to gain access to academic resources and to engage in scientific discourse.

Caroline Herschel (1750-1848)

Background: Caroline Herschel was a German astronomer who, alongside her brother William Herschel, made pioneering contributions to the field of astronomy.

Contributions: She discovered several comets and cataloged star clusters and nebulae. Her work helped expand our understanding of celestial objects.

Challenges: Caroline Herschel overcame societal expectations that women should not engage in scientific work. Her collaboration with her brother allowed her to pursue her passion for astronomy.

Marie Curie (1867-1934)

Background: Marie Curie, a Polish-born physicist and chemist, is famous for her groundbreaking work in radioactivity.

Contributions: Curie's research on radioactivity led to her discovery of the elements polonium and radium. She received Nobel Prizes in both physics and chemistry for her work.

Challenges: She faced not only gender-based discrimination but also the hazards of working with radioactive materials. Her dedication to scientific discovery set a precedent for future female scientists.

Dorothy Crowfoot Hodgkin (1910-1994)

Background: Dorothy Crowfoot Hodgkin was a British chemist renowned for her work in X-ray crystallography.

Contributions: She made significant contributions to the determination of the molecular structures of important biochemical compounds, including penicillin and insulin.

Challenges: Hodgkin's scientific career unfolded in an era when women's involvement in scientific research was still uncommon. Her perseverance paved the way for female chemists.

These early pioneers in science not only made remarkable contributions to their respective fields but also challenged societal norms and expectations about women's roles in science. Their determination and passion for scientific discovery set the stage for the increased involvement of women in scientific pursuits in the centuries that followed. Their stories continue to inspire and serve as a testament to the importance of diversity and inclusivity in the scientific community.



Image 04: Future perspectives for women in militarism



Image 05: Women in contemporary science

WOMEN IN CONTEMPORARY SCIENCE

In recent decades, women have been making significant strides in the field of contemporary science, breaking through barriers and challenging the gender gap that has historically characterized the scientific community. This article explores the remarkable contributions of women scientists in various disciplines, highlights the challenges they continue to face, and emphasizes the importance of gender diversity in scientific research.

Contemporary science is marked by the increasing participation of women in various

scientific disciplines, including physics, chemistry, biology, computer science, and engineering. The landscape has evolved as society recognizes the importance of gender diversity in driving scientific innovation and discovery.

Despite the achievements of these remarkable women, gender disparities persist in scientific fields. Women still face challenges such as bias, unequal opportunities, and work-life balance issues. Nevertheless, there is a growing recognition of the need to address these disparities and promote inclusivity in science.

Numerous organizations and initiatives are working to support women in science. The Association for Women in Science (AWIS), Women in Science & Engineering (WISE), and the Million Women Mentors program are just a few examples of groups dedicated to advancing women's careers in STEM.

Gender diversity in contemporary science is not just a matter of equality but in militarism too; it's a driving force behind scientific innovation. Studies show that diverse research teams are more creative and productive, leading to better outcomes and solutions. As women continue to thrive in scientific fields, the entire scientific community benefits.

The presence and contributions of women in contemporary science have become increasingly vital for advancing our understanding of the world and solving complex problems. Their achievements have defied traditional gender roles and opened doors for future generations of scientists. While challenges persist, the progress made is a testament to the determination and capability of women in science.

CHALLENGES AND BARRIERS

Women have made significant strides in various fields over the years, but the realm of science remains a domain where gender disparities persist. Despite the achievements and contributions of numerous talented women scientists, they continue to face numerous challenges and barriers that hinder their progress in the field. This article delves into some of the obstacles women encounter in science and discusses the importance of addressing these issues to ensure a more equitable and diverse scientific community.

GENDER STEREOTYPES

One of the most pervasive challenges women in science face is the perpetuation of gender stereotypes. These stereotypes often manifest as the belief that women are less capable in scientific fields, leading to a lack of recognition for their achievements and abilities. This bias can deter women from pursuing careers in science and, if they do, may lead to imposter syndrome, where they doubt their own competence.

Lack of Representation

The lack of visible female role models in science can be a significant barrier for women. The underrepresentation of women in prominent scientific positions, such as professors or researchers, sends a discouraging message to aspiring female scientists. Without role models to look up to, young women may find it challenging to envision themselves succeeding in the field.

PORTARIA Nº 010/LIGABOM/2023

Homologa as Diretrizes do Comitê Nacional das Bombeiros Militares - CNBM.

O PRESIDENTE DO CONSELHO NACIONAL DOS CORPOS DE BOMBEIROS MILITARES DO BRASIL – LIGABOM, no uso de suas atribuições legais e estatutárias, em conformidade com o que dispõe o Art. 12, Inciso V, Parágrafo Único C/C Art. 23, Inciso I e III do Estatuto do Conselho Nacional dos Comandantes Gerais dos Corpos de Bombeiros Militares do Brasil – LIGABOM.

CONSIDERANDO, que os Comitês da LIGABOM têm entre suas competências analisar, discutir e normalizar procedimentos, equipamentos, estudos, técnicas e ainda apresentar propostas que possam vir a melhorar o desempenho administrativo e operacional acerca dos diversos temas de interesse e de recomendações aos Corpos de Bombeiros Militares.

RESOLVE:

Art. 1º Homologar as Diretrizes do Comitê Nacional das Bombeiros Militares – CNBM de acordo com os eixos norteadores a seguir:

- I – Perfil da Bombeira Militar;
- II – Legislação;
- III – Ensino e Instrução;
- IV – Saúde, atividade física e qualidade de vida;
- V – Estrutura física;
- VI – Uniformes e equipamentos.

§ 1º As diretrizes descritas no caput, constarão de forma detalhada em Anexo Único da presente Portaria e poderão ser acessadas no sítio eletrônico da LIGABOM por meio do link: <https://ligabom.com.br/wp-content/uploads/2023/09/DIRETRIZES-NACIONAIS-DE-POLITICAS-PARA-BOMBEIRAS-MILITARES.pdf>

§ 2º As referidas diretrizes terão efeito consultivo e orientativo às Corporações Bombeiros Militar, e caso julguem conveniente, cada Estado membro terá subsídios para elaborar seus próprios programas, protocolos ou compêndios relacionados ao assunto proposto.

Art. 3º Esta portaria entra em vigor na data de sua publicação.

Publique-se. Registre-se. Cumpra-se.

Quartel em Cuiabá-MT, 25 de setembro de 2023.

Alessandro Borges Ferreira* – CEL BM
Comandante Geral do CBMMT
Presidente da LIGABOM

*Original Assinado

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Image 06: Currently laws

UNCONSCIOUS BIAS

Unconscious bias is another significant barrier women face in science. Even when people do not consciously hold discriminatory beliefs, subtle biases can affect hiring decisions, promotions, and interactions in the workplace. This can result in women being overlooked for opportunities, leading to limited career growth.

WORK-LIFE BALANCE

The demanding nature of scientific careers can pose a particular challenge for women trying to balance their personal and professional lives. The long hours, frequent travel, and intense competition in academia, for instance, can deter women who are concerned about their ability to have a family or care for children while pursuing their careers.

HARASSMENT AND DISCRIMINATION

Sexual harassment and gender discrimination are pervasive problems in the scientific community. Women often encounter a hostile work environment, which can lead to stress, anxiety, and even abandonment of their scientific careers. Addressing these issues and providing safe spaces for reporting such incidents are critical steps toward fostering a more inclusive environment.

FUNDING DISPARITIES

Obtaining research funding is vital for advancing in scientific fields, but women scientists often face challenges in this regard. Studies have shown that women are less likely to receive research grants than their male counterparts. Addressing these funding disparities is essential to leveling the playing field for women in science.

LACK OF SUPPORT AND MENTORSHIP

Women in science often encounter a lack of supportive networks and mentorship opportunities. Building a successful career in science often requires guidance and support from experienced peers. The absence of these connections can make it more difficult for women to navigate the challenges of academia and research.

STEREOTYPE THREAT

Stereotype threat occurs when individuals are at risk of conforming to negative stereotypes about their social group, leading to decreased performance. In the context of science, women may experience stereotype threat, leading to decreased self-confidence and hindered performance, particularly in male-dominated fields.

The underrepresentation of women in science is not just a women's issue; it's a

challenge that impacts the entire scientific community. A diverse and inclusive scientific workforce is essential for innovation and progress. Addressing the barriers and challenges faced by women in science is a collective responsibility.

To promote gender equality in science, it is crucial to challenge and break down gender stereotypes, provide strong female role models, address unconscious bias, and create supportive, inclusive environments. Initiatives such as mentorship programs, diversity and inclusion training, and policies that support work-life balance can go a long way in overcoming these challenges and ensuring that women have an equal opportunity to thrive in the world of science. It is only by actively working to remove these barriers that we can fully harness the untapped potential of women in the scientific community.



Image 07: High Education

RESULTS

INITIATIVES FOR CHANGE

Promoting Diversity in STEM: Programs and organizations working to address gender disparities. 4.2. Mentorship and Support: The importance of mentorship in helping women advance in their scientific careers. 4.3. Policy and Institutional Changes: How universities and institutions are making strides in promoting gender equality.

THE IMPORTANCE OF GENDER DIVERSITY IN SCIENCE

Innovation and Creativity: The positive impact of diverse perspectives on scientific breakthroughs. 5.2. Implications for Future Generations: Encouraging young women to pursue careers in science. 5.3. The Path Forward: Recommendations for achieving greater gender equality in science.



Image 08: Conference among military women

CONCLUSION

Women have played a vital role in shaping the scientific landscape, and their contributions continue to be essential for the progress of science and technology. While significant strides have been made, there is still work to be done to overcome the challenges and barriers that women in science face. Embracing diversity and gender equality in scientific fields not only benefits individuals but also enriches the entire scientific community. It is our hope that this article will contribute to the ongoing dialogue about women in science and inspire further positive changes in the field.

The presence and role of women in science has evolved over time, reflecting changes in social attitudes, government policies and communities themselves. The inclusion of women in science and the military has generated discussions about gender equality, diversity and the ability of women to perform military roles as well as men. Here are some considerations on this topic:

History of female participation: Historically, women have played non-combatant roles in

support of the armed forces, such as nurses, cooks, and telephone operators. However, throughout the 20th and 21st centuries, women gained access to an increasing variety of military positions, including combat roles.

Challenges Faced: Women have faced significant challenges when joining the military, including gender stereotypes, prejudices, and institutional barriers. They often have to repeatedly prove their skills and competencies to be accepted into traditionally male-dominated roles.

Diversity and benefits: The inclusion of women in the armed forces brings a more diverse and enriching perspective. Different experiences and skills can be an advantage when making decisions and solving problems in complex situations. Furthermore, the armed forces benefit from a broader workforce, harnessing the full potential of available human talent.

Equal opportunities: The participation of women in militarism reflects the search for equal opportunities in all spheres of society. By allowing women to hold military positions on an equal footing with men, the armed forces reinforce the idea that opportunities should be based on merit and ability, regardless of gender.

Performance and competence: Several studies have shown that women have demonstrated competence in a variety of military roles, including those previously considered the domain of men. Your skills in areas such as leadership, communication and decision-making are essential for success in a complex and constantly changing military environment.

Career-Life Balance: Women often face the challenge of balancing their military careers with their family responsibilities. The military is increasingly adopting policies to support motherhood and fatherhood, allowing women to achieve their professional goals without

sacrificing their personal lives.

Inspiration for future generations: The presence of women in military roles serves as inspiration for younger generations, demonstrating that all career options are open to them. This could lead to a broader cultural shift where gender norms become less rigid and more based on individual abilities.

Care work was the theme of the latest edition of ENEM and refers to a variety of activities and responsibilities related to care and support for other people, generally in

family, community or health contexts. This may include caring for children, the elderly, people with disabilities, the sick or anyone who requires assistance.

It is often performed by women, particularly women of color, although men and other family members can also be involved. Care work involves a series of tasks, such as feeding, hygiene, administering medication, medical monitoring, assistance with mobility, organizing the home and emotional support.

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