



**2020/2017(INI)**

14.9.2020

# OPINION

of the Committee on Women's Rights and Gender Equality

for the Committee on Culture and Education

on artificial intelligence in education, culture and the audiovisual sector  
(2020/2017(INI))

Rapporteur for opinion: Maria da Graça Carvalho



## SUGGESTIONS

The Committee on Women's Rights and Gender Equality calls on the Committee on Culture and Education, as the committee responsible, to incorporate the following suggestions into its motion for a resolution:

- A. whereas gender equality is a core principle of the European Union enshrined in the Treaties, and should be reflected in all EU policies, including in education, culture, and the audiovisual sector, as well as in the development of technologies such as Artificial Intelligence (AI), these being key channels for changing attitudes and challenging stereotypes and gender biases in existing social norms; whereas the development of digitalisation and technologies like AI are fundamentally transforming our reality and their regulation today will highly influence our future societies; whereas there is a need to advocate for a human-centred approach anchored in human rights and ethics for the development and use of AI;
- B. whereas Article 21 of the EU Charter of Fundamental Rights prohibits discrimination on a wide range of grounds and should be a guiding principle; whereas multiple forms of discrimination should not be reproduced in the design, input, development and use of AI systems based on gender-biased algorithms, or in the social contexts in which such algorithms are used;
- C. whereas past experiences, especially in technical fields, have shown us that developments and innovations are often based mainly on male data and that women's needs are not fully reflected; whereas addressing these biases requires greater vigilance, technical solutions and the development of clear requirements of fairness, accountability and transparency;
- D. whereas incomplete and inaccurate data sets, the lack of gender-disaggregated data and incorrect algorithms can distort the processing of an AI system and jeopardise the achievement of gender equality in society; whereas data on disadvantaged groups and intersectional forms of discrimination tend to be incomplete and even absent;
- E. whereas gender inequalities, stereotypes and discrimination can also be created and replicated through the language and images disseminated by the media and AI-powered applications; whereas education, cultural programmes and audiovisual content have considerable influence in shaping people's beliefs and values and are a fundamental tool for combatting gender stereotypes, decreasing the digital gender gap, and establishing strong role models; whereas an ethical and regulatory framework must be in place ahead of implementing automatised solutions for these key areas in society;
- F. whereas science and innovation can bring life-changing benefits, especially for those who are furthest behind, such as women and girls living in remote areas; whereas scientific education is important for obtaining skills, decent work, and jobs of the future, as well as for breaking with gender stereotypes that regard these as stereotypically masculine fields; whereas science and scientific thinking are key to democratic culture, which in turn is fundamental for advancing gender equality;
- G. whereas women are significantly under-represented in the AI sector, whether as creators, developers or consumers; whereas the full potential of women's skills,

knowledge and qualifications in the digital and AI fields as well as that of information, communication and technology (ICT), along with their reskilling, can contribute to boosting the European economy; whereas globally only 22 % of AI professionals are female; whereas the lack of women in AI development not only increases the risk of bias, but also deprives the EU of diversity, talent, vision and resources, and is therefore an obstacle to innovation; whereas gender diversity enhances female attitudes in teams and team performance and favours the potential for innovation in both public and private sectors;

- H. whereas in the EU one woman in ten has already suffered some form of cyberviolence since the age of 15 and cyberharassment remains a concern in the development of AI, including in education; whereas cyberviolence is often directed at women in public life, such as activists, women politicians and other public figures; whereas AI and other emerging technologies can play an important role in preventing cyberviolence against women and girls and educating people;
  - I. whereas the EU is facing an unparalleled shortage of women in Science, Technology, Engineering and Mathematics (STEM) careers and education, given that women account for 52 % of the European population, yet only for one in three of STEM graduates;
  - J. whereas despite the positive trend in the involvement and interest of women in STEM education, the percentages remain insufficient, especially considering the importance of STEM-related careers in an increasingly digitalised world;
1. Considers that AI has great potential to promote gender equality provided that already existing conscious and unconscious bias are eliminated; stresses the need for further regulatory efforts to ensure that AI respects the principles and values of gender equality and non-discrimination as enshrined in Article 21 of the Charter of Fundamental Rights; stresses, further, the importance of accountability, of a differentiated and transparent risk-based approach, and of continuous monitoring of existing and new algorithms and of their results;
  2. Stresses the need for media organisations to be informed about the main parameters of algorithm-based AI systems that determine ranking and search results on third-party platforms, and for users to be informed about the use of AI in decision-making services and empowered to set their privacy parameters via transparent and understandable measures;
  3. Recalls that algorithms and AI should be ‘ethical by design’, with no built-in bias, in a way that guarantees maximum protection of fundamental rights;
  4. Calls for policies targeted at increasing the participation of women in the fields related to STEM, AI and the research and innovation sector, and for the adoption of a multi-level approach to address the gender gap at all levels of education, with particular emphasis on primary education, as well as employment in the digital sector, highlighting the importance of upskilling and reskilling;
  5. Recognises that gender stereotyping, cultural discouragement and the lack of awareness and promotion of female role models hinders and negatively affects girls’ and women’s opportunities in ICT, STEM and AI and leads to discrimination and fewer opportunities

for women in the labour market; stresses the importance of increasing the number of women in these sectors, which will contribute to women's participation and economic empowerment, as well as to reducing the risks associated with the creation of so-called 'biased algorithms';

6. Encourages the Commission and the Member States to purchase educational, cultural and audiovisual services from providers that apply gender balance in their workplace, promote public procurement policies and guidelines that stimulate companies to hire more women for STEM jobs, and facilitate the distribution of funds to companies in the educational, cultural and audiovisual sectors that take account of gender balance criteria;
7. Emphasises the cross-sectoral nature of gender-based discrimination rooted in conscious or unconscious gender bias and manifested in the education sector, the portrayal of women in the media and advertising on-screen and off-screen, and the responsibility of both public and private sectors in terms of proactively recruiting, developing and retaining female talent and instilling an inclusive business culture;
8. Calls on the Commission and the Member States to take into account ethical aspects, including from a gender perspective, when developing AI policy and legislation, and, if necessary, to adapt the current legislation, also including EU programmes and ethical guidelines for the use of AI;
9. Encourages the Member States to enact a strategy to promote women's participation in STEM, ICT and AI-related studies and careers in relevant existing national strategies to achieve gender equality, defining a target for the participation of women researchers in STEM and AI projects; urges the Commission to address the gender gap in STEM, ICT and AI-related careers and education, and to set this as a priority of the Digital Skills Package in order to promote the presence of women at all levels of education, as well as in the upskilling and reskilling of the labour force;
10. Recognises that producers of AI solutions must make a greater effort to test products thoroughly in order to anticipate potential errors impacting vulnerable groups; calls for work to be stepped up on a tool to teach algorithms to recognise disturbing human behaviour, which would identify those elements that most frequently contribute to discriminatory mechanisms in the automated decision-making processes of algorithms;
11. Underlines the importance of ensuring that the interests of women experiencing multiple forms of discrimination and who belong to marginalised and vulnerable groups are adequately taken into account and represented in any future regulatory framework; notes with concern that marginalised groups risk suffering new technological, economic and social divides with the development of AI;
12. Calls for specific measures and legislation to combat cyberviolence; stresses that the Commission and the Member States should provide appropriate funding for the development of AI solutions that prevent and fight cyberviolence and online sexual harassment and exploitation directed against women and girls and help educate young people; calls for the development and implementation of effective measures tackling old and new forms of online harassment for victims in the workplace;
13. Notes that for the purpose of analysing the impacts of algorithmic systems on citizens,

access to data should be extended to appropriate parties, notably independent researchers, media and civil society organisations, while fully respecting Union data protection and privacy law; points out that users must always be informed when an algorithm has been used to make a decision concerning them, particularly where the decision relates to access to benefits or to a product;

14. Calls on the Commission and the Member States to devise measures that fully incorporate the gender dimension, such as awareness-raising campaigns, training and curricula, which should provide information to citizens on how algorithms operate and their impact on their daily lives; further calls on them to nurture gender-equal mindsets and working conditions that lead to the development of more inclusive technology products and work environments; urges the Commission and the Member States to ensure the inclusion of digital skills and AI training in school curricula and to make them accessible to all, as a way to close the digital gender divide;
15. Stresses the need for training for workers and educators dealing with AI to promote the ability to identify and correct gender-discriminatory practices in the workplace and in education, and for workers developing AI systems and applications to identify and remedy gender-based discrimination in the AI systems and applications they develop; calls for the establishment of clear responsibilities in companies and educational institutions to ensure that there is no gender-based discrimination in the workplace or educational context; highlights that genderless images of AI and robots should be used for educational and cultural purposes, unless gender is a key factor for some reason;
16. Highlights the importance of the development and deployment of AI applications in the educational, cultural and audiovisual sectors in collecting gender-disaggregated and other equality data, and of applying modern machine learning de-biasing techniques, if needed, to correct gender stereotypes and gender biases which may have negative impacts;
17. Urges the Commission and the Member States to collect gender-disaggregated data in order to feed datasets in a way that promotes equality; also calls on them to measure the impact of the public policies put in place to incorporate the gender dimension by analysing the data collected; stresses the importance of using complete, reliable, timely, unbiased, non-discriminatory and gender-sensitive data in the development of AI;
18. Calls on the Commission to include education in the regulatory framework for high-risk AI applications, given the importance of ensuring that education continues to contribute to the public good, as well as the high sensitivity of data on pupils, students and other learners; emphasises that in the education sector, this deployment should involve educators, learners and the wider society and should take into account the needs of all and the expected benefits in order to ensure that AI is used purposefully and ethically;
19. Calls on the Commission to encourage the use of EU programmes such as Horizon Europe, Digital Europe and Erasmus+ to promote multidisciplinary research, pilot projects, experiments and the development of tools including training, for the identification of gender biases in AI, as well as awareness-raising campaigns for the general public;
20. Stresses the need to create diverse teams of developers and engineers to work alongside

the main actors in the educational, cultural and audiovisual sectors in order to prevent gender or social bias being inadvertently included in AI algorithms, systems and applications; stresses the need to consider the variety of different theories through which AI has been developed to date and could be further advanced in the future;

21. Points out that the fact of taking due care to eliminate bias and discrimination against particular groups, including gender stereotypes, should not halt technological progress.

## INFORMATION ON ADOPTION IN COMMITTEE ASKED FOR OPINION

<b>Date adopted</b>	10.9.2020
<b>Result of final vote</b>	+: 28 -: 3 0: 4
<b>Members present for the final vote</b>	Christine Anderson, Simona Baldassarre, Robert Biedroń, Vilija Blinkevičiūtė, Annika Bruna, Margarita de la Pisa Carrión, Gwendoline Delbos-Corfield, Rosa Estaràs Ferragut, Frances Fitzgerald, Cindy Franssen, Heléne Fritzon, Lina Gálvez Muñoz, Arba Kokalari, Alice Kuhnke, Elżbieta Katarzyna Łukacijewska, Maria Noichl, Pina Picierno, Sirpa Pietikäinen, Samira Rafaela, Evelyn Regner, Diana Riba i Giner, Eugenia Rodríguez Palop, Christine Schneider, Jessica Stegrud, Isabella Tovaglieri, Ernest Urtasun, Hilde Vautmans, Elissavet Vozemberg-Vrionidi, Chrysoula Zacharopoulou, Marco Zullo
<b>Substitutes present for the final vote</b>	Maria da Graça Carvalho, Derk Jan Eppink, Elena Kountoura, Radka Maxová, Susana Solís Pérez

## FINAL VOTE BY ROLL CALL IN COMMITTEE ASKED FOR OPINION

28	+
PPE	Maria da Graça Carvalho, Rosa Estaràs Ferragut, Frances Fitzgerald, Cindy Franssen, Arba Kokalari, Elżbieta Katarzyna Łukacijewska, Sirpa Pietikäinen, Christine Schneider, Elissavet Vozemberg-Vrionidi
S&D	Robert Biedroń, Vilija Blinkevičiūtė, Heléne Fritzon, Lina Gálvez Muñoz, Maria Noichl, Pina Picierno, Evelyn Regner
Renew	Radka Maxová, Samira Rafaela, Susana Solís Pérez, Hilde Vautmans, Chrysoula Zacharopoulou
Verts/ALE	Gwendoline Delbos-Corfield, Alice Kuhnke, Diana Riba i Giner, Ernest Urtasun
GUE/NGL	Elena Kountoura, Eugenia Rodríguez Palop
NI	Marco Zullo

3	-
ID	Annika Bruna
ECR	Derk Jan Eppink, Jessica Stegrud

4	0
ID	Christine Anderson, Simona Baldassarre, Isabella Tovaglieri
ECR	Margarita de la Pisa Carrión

Key to symbols:

+ : in favour

- : against

0 : abstention