Social Inclusion
2025 • Volume 13 • Article 10086
https://doi.org/10.17645/si.10086

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Open Access Journal

Gender Equality Barriers in Agriculture and Life Sciences in Central European Universities

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Submitted: 9 February 2025 **Accepted:** 12 June 2025 **Published:** 7 August 2025

Issue: This article is part of the issue "Gender Equality Plans in European Research Performing Organisations" edited by Katalin Tardos (HUN-REN Centre for Social Sciences / International Business School), Veronika Paksi (HUN-REN Centre for Social Sciences / University of Szeged), Judit Takács (HUN-REN Centre for Social Sciences), and Rita Bencivenga (University of Genoa), fully open access at https://doi.org/10.17645/si.i424

Abstract

The European Union aims to foster research excellence, among others, by increasing gender equality (GE) in the European research area. The mandatory introduction of gender equality plans (GEP) mobilised universities to assess, target, and monitor GE in different fields of science. A wide range of barriers have been explored in STEM fields (science, technology, engineering, and mathematics), characterised by the low participation of women. However, significant obstacles to GE can emerge in relatively more gender-balanced and, therefore, rarely studied fields, such as agriculture and life sciences (ALS). Experiences can differ in Central and Eastern European countries, characterised by rather traditional gender and family norms. This study explores different stakeholders' perceptions of the main barriers of GE, with particular attention to ALS. We conducted nine focus groups (82 participants in total) with middle management, academic staff, and students from Czech, Hungarian, and Slovenian universities, aiming to contribute to the revision of their first GEP. Discussions were centred on recruitment, leadership positions, work–life balance, gender-based violence, sexual harassment, organisational culture, integrating the gender dimension into research and teaching, and institutionalisation of GEPs. Findings revealed that women in ALS face partly similar gender-based obstacles to their counterparts in less gender-balanced fields—perceptions of education and career choices, work–life imbalance, and exclusion by recruitment and promotion practices—and also additional ALS-related challenges of laboratory and fieldwork. Findings highlight the need for institutions to carefully address these areas in their state-of-the-art assessments and develop sector-specific, tailor-made GEPs.

Keywords
academia and higher education; agriculture and life sciences; barriers; Central and Eastern Europe; gender equality; Gender Equality Plans; inclusion of women; stakeholders

1. Introduction

Though women outnumber men in higher education on average, significant gender disparities persist within academia regarding not just the underrepresentation of women in certain disciplines—such as science, technology, engineering and mathematics (STEM; see European Commission, 2024a)—but also in the unequal distribution of academic opportunities of women (Jebsen et al., 2022). In 2021, women comprised just over one-third of researchers in the European Union, with a greater proportion of female researchers employed under precarious contracts compared to their male counterparts. Moreover, in 2018, women were only half as likely as men to attain full professorships (European Commission, 2024a). Structural barriers that impede women's advancement contribute to pronounced vertical segregation not only in male-dominated STEM fields but also in more gender-diverse sectors, such as agriculture and life sciences (ALS; see Begeny et al., 2020). This is particularly evident in disciplines that demand extensive fieldwork or laboratory-based research (Retnaningsih et al., 2022).

Promoting gender equality (GE) in higher education and research aligns with SDG 5 of the United Nations (2015) and the Ljubljana Declaration (Council of the European Union, 2021). The implementation of mandatory Gender Equality Plans (GEPs) aims to support this objective. However, addressing GE-related challenges in the context of the increasingly spreading neoliberal governance in universities remains difficult. The adoption of business sector models in research and innovation (R&I)—which prioritise resource allocation towards research intensity and "marketable" areas—combined with funding cuts, has adversely affected GE in academia (Drew & Canavan, 2020; Rosa & Clavero, 2020). These effects are more pronounced in Central and Eastern European (CEE) countries, where GE receives limited attention within the underfinanced R&I sector. These countries tend to rank lower in EIGE's Gender Equality Index (EIGE, 2024), potentially exacerbating the structural disadvantages faced by women in higher education (European Commission, 2024a).

By the end of 2025, the initial implementation period of the first GEPs will have concluded in most universities in CEE countries. Following the European Union's recommendations, the revised GEPs are expected to address GE in complex, strategic, and tailored ways. Meanwhile, there is little empirical research on how and why GE-related barriers emerge in the context of CEE higher education. To respond to this research gap, we conducted nine focus groups with various stakeholder groups (middle management, academic staff, and students) in Czech, Hungarian, and Slovenian universities. We focused on the ALS fields, as food security is among the European Union's strategic priorities and there is a need to identify the sector-specific barriers. Agricultural higher education could be one of the keys to addressing the agricultural and climate challenges effectively, for which women's empowerment and the promotion of a more gender-diverse workforce are essential (Fertő & Bojnec, 2025). The novelty lies in examining GE barriers in higher education through the core dimensions of GEPs, situated at the intersections of two contextual factors: ALS specificities and CEE regional setting.

2. Background

2.1. GE Barriers in Academia in ALS

Several studies have illuminated multifaceted obstacles that women university students and researchers encounter in STEM disciplines (Kube et al., 2024; Moss-Racusin et al., 2018; Schmader, 2023). Institutional policies, cultural norms, and educational practices collectively shape their experiences and opportunities, ranging from biased evaluation to discriminatory treatment in areas such as admissions, hiring, and salary negotiations, as well as insufficient mentorship (Corneille et al., 2019; Farra et al., 2025). Additional challenges include persistent discrimination, difficulties in achieving work–life balance (Paksi et al., 2022), exclusionary networks such as the "old boys' club" (Suresh et al., 2025), toxic academic masculinities (Bondestam & Lundqvist, 2020), and gender-based violence (GBV; Lipinsky et al., 2022). Structural barriers not only constrain diversity but reinforce prevailing societal stereotypes and biases, thereby impeding women's advancement and further entrenching their marginalisation within the scientific community (Eaton et al., 2020; Régner et al., 2019). Furthermore, their acceptance and career progress could also be biased in the related agribusiness. In academic research, less attention is given to scientific fields and disciplines with gender parity in terms of numbers, such as ALS. However, vertical segregation and discriminatory practices can persist within them, revealing the limitations of parity-focused analyses in fully capturing the structural and cultural dimensions of gender inequality in academia (Fisher et al., 2020).

Research on recruitment and career progression in ALS indicates that there is usually a relatively high women enrolment at the undergraduate level while women are often well represented at the undergraduate level, their presence markedly declines in high-ranking positions, which is an additional significant barrier to the recruitment and retention of women, maintaining gender disparities (Sheltzer & Smith, 2014). Gender bias in hiring practices is frequently underpinned by misbeliefs regarding women's competence and leadership potential (Gibbs & Griffin, 2013; Wilson & Kittleson, 2013). Obstacles in job application processes, gender pay gaps, perceptions that women have to work harder to establish their credentials, and discouragement from entering the profession can all play a role when striving for higher academic positions (Foster & Seevers, 2003). Women, particularly in male-dominated disciplines in ALS with physical demands, often experience gendered bias and a less supportive environment, resulting in the perception that these educational fields and labour sectors are more suited to men (Fiantis et al., 2022; Retnaningsih et al., 2022).

Women in top ALS positions are often compelled to assimilate into masculine cultures, which also perpetuates gender inequalities (Kleihauer et al., 2013; Van Veelen & Derks, 2022). A recent cross-national study (Chan et al., 2024) investigating how scientists in the US, Italy, France, and Taiwan have made sense of gender distribution in physics and biology revealed a widespread belief among academics that women's representation in these examined disciplines is primarily a matter of individual preference. This interpretation complements previous research demonstrating that women are more likely than men to recognize the persistence of structural barriers in science (Cech et al., 2018).

Work–life balance remains a significant challenge for women, often placing them at a systemic disadvantage relative to their male counterparts (Caldarulo et al., 2022; Di et al., 2021). One particularly critical issue is the termination of fixed-term contracts during maternity leave, which disproportionately affects women's academic careers (Hansmann & Schröter, 2018).

Gendered experiences can occur in—often remote and unsafe—laboratories and fields, too. Scholars highlighted how biases and negative stereotypes (Miller & Roksa, 2020) intertwine with sexism and GBV, including sexual harassment (Chakraverty & Rishi, 2022; Van Houweling et al., 2022). As argued by Aguilar and Baek (2020), sexual harassment among students is frequently underreported, largely due to institutional and departmental power asymmetries.

2.2. The Case of CEE Countries

CEE countries share several historical and social characteristics. State socialism, followed by the transition to liberal market democracy, still has its print on recent societal processes in the region. More recently, movements that advocate for maintaining or returning to traditional social norms, particularly regarding family structures and gender roles, have further contributed to an environment that challenges GE (Kuhar & Paternotte, 2017). Within the EU, CEE countries generally exhibit a wider gender gap. Improvements regarding gender-based discrimination, share of care work, and the narrowing of gender pay gaps tend to be slower than in other EU member states (EIGE, 2024).

The gender gap in R&I is often positively correlated with the knowledge and innovation gap in the less research-intensive countries (European Commission, 2024a). Among the three countries selected for our research, the Gender Equality Index is only slightly below the EU average (71) in Slovenia (70.1), but Czechia (59.9) and Hungary (57.8) are lagging (EIGE, 2024). In 2021, the proportion of women researchers was below the EU average of 33.7% in both Czechia (27.1%) and Hungary (29.3%), while Slovenia slightly exceeded it at 34.4%. Although these rates are higher in higher education, Czechia consistently recorded the lowest share of women in all sectors and in higher education. In Hungary, the prevalence of precarious employment among women researchers was the highest in the EU at 16.2% (European Commission, 2021). Furthermore, Hungary had the second-highest glass ceiling index among EU member states in 2022, indicating substantial structural barriers for women's career advancement in research (European Commission, 2024a). It is noteworthy that while the GEPs are recommended to address GBV, neither Czechia nor Hungary has ratified the Istanbul Convention (European Commission, 2024b).

The limited body of literature on STEM barriers in higher education in CEE countries indicates that beyond masculine culture and practices, the under-representation of women in STEM is "co-constituted at the intersections of public policy, the organisation of research, the organisation of domestic life, and individual subjectivities" (Linková, 2017, p. 61). Factors such as heavy workloads, negative stereotypes, biased evaluations, and instances of mistreatment in engineering higher education significantly contribute to the slow career progression of women, and, to some extent, the postponement of family formation (Paksi et al., 2022). The long tradition of extended parental leaves in Czechia and Hungary, shaped by societal norms and the limited availability of childcare facilities, further complicates the reconciliation of professional and family responsibilities (Hobson et al., 2011; Linková, 2017). In Slovenia, women in STEM higher education encounter challenges including the gender pay gap, sexist remarks, work–life imbalance, and vertical segregation (Parmaxi et al., 2024). Moreover, gendered precarity remains a widespread issue among women academics (Murgia & Poggio, 2019; Tardos & Paksi, 2024). To our knowledge, GE in ALS higher education has not been explored in the three countries discussed above.

3. Research Questions and Methodology

The aim of our study was to support GEP implementation by exploring what hinders progress towards GE in CEE universities, with particular attention on ALS fields. We also wanted to provide universities with empirically based guidelines according to sectoral needs. The research question was: What are the main barriers against GE in the context of effective implementation of GEPs in CEE universities?

We applied a qualitative research design by conducting focus groups to examine the perceptions of different stakeholder groups in the universities. Enablers of GE and recommendations by stakeholders were also assessed, but for the present study, we selected barriers as a central focus and did not detail GE enablers or the progress.

Three CEE universities were selected for this study, each offering academic careers across diverse fields, including ALS and STEM disciplines. All three institutions are committed to improving their GE strategy and revising their first GEPs in alignment with sector-specific and institutional priorities. While the overall women-to-men ratios suggest a relatively balanced gender representation, vertical segregation of women remains evident at two of the universities.

Altogether nine mixed-gender focus groups were conducted with three different stakeholder groups: (a) middle management (heads of departments or institutions, heads of administrative units and laboratories, HR managers), (b) academic staff (teachers and researchers), and (c) students. For recruiting, volunteer sampling was applied within purposive sampling, aiming for maximum heterogeneity within the groups, regarding gender, age, academic age, work profile, level of position/study, academic experience, and parental status. This approach enabled us to include diverse voices and the detailed exploration and understanding of the central themes of our investigation (Creswell, 2014). Due to the low awareness of GE in CEE countries, conducting mixed-gender groups was fruitful in fostering group dynamics. Participants were also motivated by the opportunity to contribute to the effective implementation of their GEPs.

The final sample included 50 women and 32 men participants ($N = 82$): 29 middle managers, 26 teachers and researchers, and 27 students, who did not have specific gender knowledge or competence. Within the student and academic staff groups, almost three-quarters of the participants, and in the middle management groups, half of the participants had an ALS and STEM background. The focus groups were conducted in national languages, which did not allow the inclusion of international students. We provided a "safe and brave" environment for participants by providing venues away from spaces suggesting leadership or dominance, and by applying enabling moderation techniques to ensure that participants would feel safe to express their views.

The in-person discussions lasted 90–120 minutes on average/group and centred on seven topics. The five main GEP pillars recommended by the EU (recruitment, leadership positions, work–life balance, GBV and sexual harassment, and integration of the gender dimension into research and teaching) were chosen. Considering the novelty of the GEPs in CEE R&I, the topic of the institutionalisation of GE and the GEP, and the issue of organisational culture, were explored further.

The research plan was approved by each university's ethics committee and it complied with GDPR. Participants received an information sheet about the project and signed a paper-based informed consent form. Discussions were audio and video recorded, transcribed verbatim, anonymised and coded with NVivo software, and thematically analysed (Braun & Clarke, 2006). To ensure anonymity and support the stakeholders' engagement, no further data is provided about the samples.

In the following section, all direct interview quotes were given a code representing the university (Univ. 1–3), stakeholder groups (students = S, academic staff = AS, middle management = MM), and the participant's gender (F or M).

4. Results

At the beginning of the discussions, participants typically did not perceive GE as a problem at their university. This applied equally to all three participating countries and stakeholder groups. Then, in the later rounds, the participants started to comment on problem areas concerning GE. For example, they referred to the difference between the university's policy and practice, the problem of the "motherhood burden," the inequality between men and women in academic career advancement, the resistance of older men to having women in leadership positions, and sexual harassment. Some participants, including women, voiced their concerns about the fairness of gender quotas, while others seemed to be irritated about the expectation that they should accept gender fluidity and the "free choice of gender identities," instead of giving priority to the biologically determined sex categories. At the same time, being tolerant of how people feel about their gender identity was brought up as a counterargument. Participants acknowledged the importance of gender parity, but they saw it as an overly narrow approach: It is "more than just having 50% women and 50% men" (Univ1/MM/P8/F). At the same time, they stressed that a rigid fixation on gender balance should be discouraged, too.

In the following sections, we will examine the barriers to implementing GE as perceived by major stakeholders more closely.

4.1. GE in Recruitment, Career Progression, and Retention

Regarding gender-related experiences in the recruitment of university students, two themes emerged. In the first round, only enrolment statistics were highlighted, including the gender ratio in university faculties. The low level of women's representation in STEM majors was typically considered "healthy" by male participants, who repeatedly added that the low representation of women in some majors reflects the interests of the students. Many participants, particularly at University 1 and University 2, also raised the issue that negative stereotypes about STEM careers play a large role in women not applying to some courses. Concerning agricultural fields, it was strongly emphasised that the number of students in these fields is already decreasing, which is a challenge for the university and the agricultural sector, regardless of gender.

The second theme was the evaluation of the university recruitment processes, both for study and employment. At University 2, the middle managers and academic staff clearly stated that discrimination cannot occur because evaluations are based on merit, and departments always go for competent staff, regardless of gender. Students at the same university also confirmed that they consider admissions

processes to be relatively unbiased. However, they heard about cases when PhD applicants were asked about their marital status and whether they would have children after enrolment. In one of the student groups, participants often experienced gender-based discrimination, though the types of employment were not discussed. This gender bias in the recruitment procedures for lecturers was also confirmed by a male lecturer at University 2.

Regarding career progression, focus group participants found the issue of gender inequality in ALS less relevant because of equal gender representation. However, when they were asked about their experiences at an individual level, a number of barriers emerged, with participants citing having "children" as the main one. Women were clearly mentioned in this regard, but in one case, it was noted that having young children in the family can also be a challenge for men.

The uncertain nature of contracts also appeared as a major obstacle to the academic progression of women academics. A fixed-term contract, if it expires during maternity leave, can completely stall a career, especially if there is no chance of returning to the university.

International mobility has emerged as a career barrier for women. Though more and more conferences provide childcare, it is very costly and cannot be covered by a mobility grant. A middle manager also observed that women employees prefer to be mobile in countries closer to home to get home as quickly as possible, especially if their partner cannot accompany them abroad. This mainly concerns academic staff who are about to habilitate, as three months' experience abroad is a criterion for habilitation, a scientific-pedagogical degree widely applied in CEE.

Retaining students or junior lecturers is a priority for universities, but seniors claim they cannot retain them, especially those who want to start a family. The problem is considered systemic and beyond the university's scope. Students perceived that neither childcare allowances nor starting salaries were enough to enable them to remain in programmes, to become lecturers at the university, or to take out loans.

In the ALS, there are particular difficulties for lecturers or PhD students who take a longer career break. In areas of study requiring laboratory or fieldwork, it is much more challenging to keep colleagues "in the system" because experiments (for example, on plants that have been growing for over a year or in animal husbandry where generation intervals are more than 2–3 years) may be completely ruined during their absence. The increase in incidences of drought due to climate change poses a greater risk, making work unpredictable and unplannable. In some agriculture sectors, such as forestry, women are much less well represented, and it is much more challenging for them to stay in the workforce. Some participants stressed that women have the manual skills and even the stamina in some cases that are required, but they are discouraged from choosing these careers. Support would also be needed, particularly for young mothers, to arrange more flexible laboratory schedules to be able to harmonise work and private life better.

4.2. Gender Balance in Leadership and Decision-Making

Participants had encountered problems with gender parity in leadership at two universities. Both faculty and middle management at University 1 agreed that women's representation at the top constituted a problem. Moreover, from a historical perspective, another faculty member confirmed: "We haven't had a woman

chancellor here at the university yet" (Univ1/AS/P9/M). The academic pipeline was identified, namely that most women can be found in lower academic positions; thus, they do not have the credentials to be elected or selected for higher positions. At University 2, participants assessed the representation of women in leadership as better than at other higher education institutions in the country, although the landscape varied among units to a great extent. At University 3 all stakeholder groups consistently and positively evaluated their situation and prided themselves on having women in top management.

Many of the barriers to GE in leadership might overlap with the barriers to career advancement discussed above. The problem of rigid academic hierarchies and rules was also associated with the underlying reasons for less representation of women in top positions: "The composition of scientific boards and expert committees is mostly based on the titles of the participants" (Univ1/MM/P8/F). This historical set-up, which often blocks change and progress, was evaluated as a masculine environment operating in line with masculine principles and values at one university: "Somewhere the masculine setup just prevents women from getting into some positions….They just don't feel like they're cut out for it" (Univ1/MM/P1/F).

A second group of factors hindering women's equal representation at the top was related to gender biases and discrimination. Several women—middle managers at University 1—noted that although they considered themselves suitable for a leadership position, they were either not offered one or did not invest the energy to get another position at all because they thought it was already decided who would get one. A woman academic staff member commented that "somehow," men ended up the typical winners of academic elections (Univ1/AS/P7/F). Another aspect of gender bias is when women are regarded as less competent in their jobs and potentially questioned as good leaders.

A third group of factors was gender-stereotyped jobs, i.e., the perception of certain positions as suitable only for men or women. A fourth group of factors was related to "motherhood penalty," which is caused by a career break after childbearing, leading to women being delayed in achieving important milestones in their careers:

> Admittedly, if we were to look at who's a professor, dean, associate professor, or the like, there's a great difference there….But mostly it's exactly because most of those women either started their careers and even maybe their PhDs after they had kids. (Univ1/MM/P8/F)

The motherhood penalty is often linked to major problems in managing work–life balance, especially if the mother does not have childcare support. Work–life balance issues might be reinforced by the internal urge women leaders may have to prove themselves, leading them to 'overachieve' at work:

> When I got into a leadership position, I performed tasks almost manically to avoid someone saying that I couldn't do what needed to be done by the deadline with three children. I think that often, women colleagues do not give 100%, but 110% because of this. (Univ2/MM/P5/F)

A fifth group of factors hindering GE in leadership was perceived as women's self-limiting career aspirations, which places the responsibility on women's individual choices. Middle managers from both University 1 and University 3 voiced that even those women who receive support from their spouses or others choose to stay home with their small children.

4.3. Work–Life Balance and Caring Duties

Gender socialisation in the case of barriers to work–life balance and caring duties appeared to be an overarching theme in the discussions. Part of this involves classic, traditional gender roles such as the caring, nurturing mother and the breadwinner father, although there is legislation that allows fathers to stay home with their newborns in CEE countries as well. Long maternity leave was perceived as a career-slowing factor, especially in fields characterised by knowledge intensity and rapid development.

Biological and reproductive factors were framed as something that highly influences—mostly—women's opportunities and choices in the sense of the timing of giving birth. In the narratives, participants noted biological determining factors and how they can affect women and men differently in their professional career choices. However, they also emphasised economic factors because, in many cases, due to the gender pay gap, there is no real choice about working arrangements within the family.

The lack of a supporting environment, social network, and services was a main barrier to work–life balance. A lack of capacity in caring facilities or not having one nearby was a major issue, although relevant differences exist between the universities of the three countries. Single motherhood is an even more loaded example that was brought up in multiple focus groups, as this is associated with having restricted familial support. Other obstacles to balancing parenting and professional roles included having smaller kids and/or children with disabilities who have greater needs in societies characterised by insufficient institutional help.

Challenges with working hours made up a major part of the discussions on work–life balance. It was seen as a characteristic of the scientific field that employers accept people only for full-time positions. There is also the danger of needing to be available all the time, as the experiment length requires. However, participants with different professional backgrounds mentioned that the situation with working hours "differs significantly from department to department and faculty to faculty" (Univ1/MM/P3/F). Regarding working hours, a specificity of agricultural studies was said to be internships, as there are some challenging circumstances, such as seasonality and weather conditions, which have to be taken into account:

> It is precisely during the summer period, when many people rest, that there is the most work. [For example,] if I have three children, my three children are at home during the summer holidays, and then I can't be with them because I'm out on fieldwork. (Univ2/AS/P2/F)

Bureaucratic barriers included changing workplace conditions while someone is on maternity leave (e.g., introducing substitutes, defining new career and research achievements) and issues with foreign employees or the student visa issues of family members, which often resulted in them not accepting positions to maintain family cohesion. A key bureaucratic barrier in managing project funds was childcare expenses, which were not eligible costs. Going on research leave, when one could theoretically take children and families, can be challenging financially, geographically, and also in terms of family time.

4.4. Organisational Culture, Awareness-Raising About Gender Biases, Stereotypes, and Sexism

The problem of "toxic masculinity" as a building block of organisational culture was explicitly discussed by participants from University 1. The metaphor used for the organisational culture was a "hunter culture" (*Univ1*/MM/P5/M), positioning women as prey and/or those who should be squeezed out of prestigious

committees and boards. It was generally agreed that this masculine approach has historical origins, and the new generation is breaking down these norms. Second, an awareness of gender biases and discrimination was addressed among all stakeholder groups related to career advancement and transitioning into leadership positions. While gender biases and discrimination are more generally acknowledged among employees at the workplace, it is important to stress that students can equally suffer from gender bias during their studies due to the asymmetrical relationship between teachers and students. For example, a woman student observed that her professor:

> He kept asking the guys questions [so they could achieve] the minimum grade, and then for the rest of us, girls, he [did not have time because he] had to go to lunch. And then he gave us all lower grades. (Univ2/S/P4/F)

Students at this university also challenged the assumption that it was only the older generation of teachers who had a biased approach to women students, as this attitude could be "inherited" from older colleagues.

FG participants acknowledged gender stereotypes in society and at the universities as an important underlying factor hindering GE in its different formats. Moreover, essentialism—interpreting gender differences based on biological differences—could also be identified: "Women have just a lot more of these things as a handicap [compared] to men…after all, these biological things" (Univ1/S/P3/M). Gender stereotypes and cultural differences related to gender roles were particularly accentuated in the case of international students coming from regions with lower levels of GE, such as the Global South. On the other hand, some of these international students face stigmatisation based on their attitude to gender or their origin and, consequently, exclusion from university life.

Sexism, as a part of the organisational culture, was given significant weight in the narratives. Participants mainly from University 1 and University 2 highlighted problems related to sexism: "It exists, and it's about different innuendos, jokes, and unfair things that are supposed to be funny but are obviously not" (Univ1/AS/P9/M). One men participant explicitly denied the existence of sexist behaviour in their university: "There is no sexism here. I've never experienced that" (Univ3/MM/P6/M). In contrast, another man participant from the same university contemplated the fact that, regarding GE, "things have gone too far" (Univ3/MM/P8/M). One difficulty in taking action against sexism is the delicacy of formulating such messages for colleagues or students. Especially students expressed their concerns about retaliation from their professors: "It's hard to choose words…it's easy in the pub, where you just say, 'fuck off' or something, but to say it politely, that….I'm not comfortable [that is hard]" (Univ1/S/P2/F). Participants opined that covering up for colleagues in such cases was rejected as a form of behaviour.

4.5. Measures Against GBV, Including Sexual Harassment

To understand the main barriers to dealing with GBV, grasping the social context is unavoidable (Fikejzová & Linková, 2025). Participants shared that they have experienced GBV, discrimination, gender stereotypes, and biases in a sexist organisational culture. This includes the objectification of the woman's body, making comments on how one is dressed, different expectations, or assigned roles: "We don't have many women among the students, but sometimes what happens is that…they encounter a kind of, I would say…dehumanisation" (Univ1/MM/P8/F).

However, participants reflected on changing social norms along with changing cultural behaviours and the challenges of these transformations. For some, it was challenging to accommodate to new norms because of socialisation processes associated with different generations: "There are quite a few elderly colleagues [who use] phrases that…are no longer accepted among younger people, but they do not want to offend anyone on purpose. (Univ2/AS/P7/M).

Barriers to reporting abuses or asking for help included the challenges of the sensitivity of the topic, the different interpretations (e.g., where to draw the line between intentional or unintentional acts), and the difficulty of articulating the event. Fear of possible further abuse of power, disadvantages, or "vengeance" in the case of reporting was a crucial barrier. Exam situations appeared to be a prominent site of gender-based discrimination. Most students argued that if someone reports GBV or discrimination, it could backfire later in exam situations—as a woman student from University 2 described: "I was told not to say anything because, at the next exam, they will know that I was the one who probably spoke out on this matter and…they won't let me pass the next exam" (Univ2/S/P4/F). This can also influence further career steps as well. In the academic and social hierarchy, power relations can strongly influence one's ability to speak out. Furthermore, a "safety net protects" those in power (Univ2/S/P4/F) but not necessarily those who are more vulnerable. Fieldwork, laboratory work, and internship were also mentioned as other sites of potential vulnerability associated with exposure to GBV. Another difficulty arose when a grievance was articulated about misbehaviour: It was an institutional challenge to send away "protected" staff, either because of their expertise or advanced age.

Further emerging themes included the lack of knowledge about legal or psychological services provided by the universities. Participants mentioned not knowing where to report issues, the unclear operation of ethics committees, and the challenges of maintaining their anonymity. Finally, the lack of sufficient training on GBV surfaced as an underlying theme several times in the discussions.

4.6. Integration of the Gender Dimension Into Research and Teaching Content

Integrating the gender dimension into research and teaching content appeared to be the least frequently coded content associated with all FG discussions. The most important barrier regarding this compulsory dimension of GEPs is that stakeholders on all levels (management, faculty, and students) do not understand what this criterion refers to, or there are misconceptions about what is expected. The first misunderstanding about what integrating the gender dimension into research and teaching content means is confusing the latter concept with gender balance and gender-equal representation: "There is not much talk about this topic in [the country]….If there is no problem with gender equality, why should there be any proposals at all?" (Univ3/S/P6/M). Furthermore, a link was made between EU projects and the need to include GE as a horizontal criterion and have diverse project teams: "I can say that there [is] certain content…that simply cannot be included according to the…logic and that we simply include it indirectly because we respect the rules" (Univ3/MM/P1/F). In some cases, the gender dimension was understood as motivating women to choose STEM careers.

4.7. Structures for the Institutionalisation of GE

One of the most important barriers to the development and maintenance of structures for GE in higher education institutions is the lack of economic resources. Without dedicated financial resources for GEP implementation, responsible staff for GE will be constrained to proposing initiatives that do not require any substantial financial resources for their implementation. As a first phase of development, prioritising "quick win" solutions is a viable strategy; nevertheless, achieving sustainable structural change is impossible without allocating human and economic resources. As a manager from University 1 pointed out: "There's just a lack of finance, and it's very much an economic issue" (Univ1/MM/P6/M).

Once the GEP is published and the Gender Equality Officer or Working Group is nominated, it may be a significant problem that organisational members are not aware of the implications of these new policies, roles, and initiatives. A participant commented that in their university "there is absolutely no public awareness that we have an Equality Officer….We sat there from three completely different organisational units, and none of us had ever heard of it" (Univ2/AS/P2/F).

5. Discussion

The presented results are part of a broader research design that assessed the status of GE in three CEE universities to support the implementation of their first GEPs. While the project also explored enablers and improvements, this article focuses specifically on barriers to GE, considering the local context and specificities of ALS. Given the consistency in perceived barriers across the institutions, we present the findings in a synthesised manner, following the focus group themes, which consisted of the five thematic areas recommended by the EU, plus two additional areas relevant in the CEE context: general assessment of GE; recruitment; leadership positions; work–life balance; organisational culture; GBV and sexual harassment; integration of the gender dimension into research and teaching; and institutionalisation of GE and the GEP.

Results showed that GE remains a challenge in various CEE higher educational contexts. Participants were often cautious to raise GE-related issues, which is understandable in environments where GE is not embedded in institutional culture. Highly politicised topics, such as gender quotas and gender identity, were mentioned early in discussions but soon avoided, reflecting their controversial status in country contexts (Barát, 2022). It should be noted that the legal recognition of a self-declared gender identity, without undue medical or surgical requirements, and access to changing (binary) gender markers on official documents are possible in Slovenia and Czechia, to a certain extent. In contrast, since 2020, Hungary has banned legal gender recognition altogether, by defining "sex at birth" as a legally unalterable category (Takács et al., 2022, pp. 41–43). At the same time, a notable proportion of participants—primarily male academics and some managerial women—could not identify gender inequalities in their universities, partly because they interpreted GE in terms of the ratio of women to men.

Despite these initial reservations, discussions revealed a wide range of obstacles (Begeny et al., 2020). Although these perceptions do not imply the universal or systemic existence of barriers at the university level, prior research has identified several comparable obstacles in STEM fields (Moss-Racusin et al., 2018), suggesting that, in many cases, gendered patterns emerge from the underlying structures of gendered organisations (Sümer, 2020). In our study, one such recurring pattern related to gender bias and negative

discrimination against women was evident across multiple thematic areas discussed in the focus groups. This included the recruitment of early-career academics, the expiration of fixed-term contracts of young mothers, and leadership positions (Régner et al., 2019).

Gender inequalities were often attributed to biologically determined differences in the interests and competencies between the sexes. Individualist explanations (women's own choice) and essentialist views (women being inherently less or not competent in men-dominated fields) surfaced regularly. Regarding student and faculty recruitment, the essentialist narrative often revolved around perceived deficits in stamina and skills, particularly in male-dominated ALS fields, such as forestry.

Regarding leadership positions, vertical segregation of women represented a complex intersection of structural gender-based barriers. The questioning of women's competence for fulfilling leading positions, the perception that decisions on senior positions are often distributed informally between men colleagues, as well as the discriminatory "mommy track," all hamper women's progression (Van Veelen & Derks, 2022). Meanwhile, several middle managers considered that not taking a managerial position is only due to women's individual choices, and their preference to prioritise family matters over careers, which reflects the dominance of traditional gender and family roles in CEE societies, including the highly gendered nature of caring roles.

Work–life balance emerged as another significant challenge for women, but in some cases for men as well. In the CEE context, part-time employment is generally not a viable option for young mothers, as it adversely affects financial stability and exacerbates job precarity. Paternity leave is also usually not considered for financial reasons; there is a pay gap in favour of men, which is well above the EU average in Czechia and Hungary (Eurostat, 2022). However, traditional societal norms also strongly prescribe maternity leave for families. Although participating universities made significant steps to foster work–life balance, the perceptions of insufficient and ineffective support imply that there is still room for improvement, particularly regarding the retention of women professionals. Specific challenges were highlighted, such as single parenthood—especially of women—or parents of children with disabilities, as well as ALS-related barriers, such as the unpredictability, inflexibility, lack of privacy, and high physical and mental demands of fieldwork, which extend beyond working hours for days and weeks.

The nature of organisational culture is a crucial determinant of whether individuals feel excluded and discriminated against *or* included and belong to the organisation. Beyond the reported positive experiences, here we highlight only the barriers, such as the perception of the glass ceiling, biased evaluations and unsupportive environments that all explain why more women, even middle managers, perceived toxic masculinity in some cases (Bondestam & Lundqvist, 2020), and described the organisational management culture regarding promotions metaphorically as a "hunter culture." This was often associated with shifting meritocratic criteria, which appeared to exclude women from various bodies and thus from decision-making based on "objective" metrics. These results and the perceived old boys' club phenomenon are consistent with previous publications about STEM fields (Jebsen et al., 2022). More students observed that biased treatment and sexism towards women students persisted across men's academic generations in the case of the older universities, though students noted that such practices were slowly diminishing. At the same time, gender-specific challenges have been identified between domestic and international student communities.

Regarding GBV, participants primarily used the term to refer to instances of physical sexual harassment and rape, which were typically perceived as a police matter rather than a university's responsibility to prevent or deal with appropriately. This ignorance may stem from the lack of regulation of GBV, or from GBV being addressed solely within ethical regulations. GBV regulations should handle intersectionality (Humbert et al., 2024) and cover all university settings; in the present research, not only examinations but also fieldwork, laboratory work, and internships were identified as sites of potential exposure to GBV.

Participants agreed that there is a lack of competence, experience, and communication skills regarding GBV, particularly in the context of prevention and awareness-raising within academia and broader society. This deficit contributes to underreporting, as affected individuals often fear reprisals, especially in hierarchical relationships between perpetrators and victims (Lipinsky et al., 2022; Phipps, 2020).

The main barrier to integrating the gender dimension into research and teaching content appeared to be participants' lack of awareness or their misconceptions about it. Furthermore, the absence of dedicated resources for institutionalising GE and GEPs—both from the government and the organisation side—undermines the effectiveness of gender budgeting. These findings are unsurprising, as these universities are in the implementation phase of their first GEPs within the CEE context.

6. Conclusion

Despite gender parity in a university, a wide range of STEM-like gender-related barriers could affect GE, which can be further compounded by ALS-specific challenges. Further, barriers can be extrapolated in CEE contexts, where addressing even inequality between women and men is challenging. Exploring GE barriers within their local context is vitally important to the effective implementation of GEPs; meanwhile, several barriers are worth being considered in Western contexts as well.

Childbearing and childcare are still particularly challenging for women, including those in leadership positions. These challenges stem largely from the unequal distribution of care work and the long-standing tradition of long maternity leave in Czechia and Hungary. The introduction of GEPs may shift the discourse away from individualist and essentialist narratives towards recognition of gender-based structural barriers. Meanwhile, financial constraints often compel families to maintain traditional gender roles even when they conflict with personal values.

The solution for the prevention and proper handling of GBV for staff, students, and top management is to institutionalise a strategy against it, as the price of inaction—both social and institutional—is substantial (Mergaert et al., 2023). While the protection of students seems to be more of a focus for the universities, equal attention is needed for academic and non-academic staff as well. GBV is such a sensitive and frequently avoided issue in the CEE context that it would be worth making it a mandatory element in GEPs.

In the future, CEE universities must prioritise GE, as more gender-equal environments promote social diversity, enhance social justice, and contribute to economic development and sustainability through research excellence. Though the internationalisation of higher education hides further gender-based challenges for universities, the organisational diversity approach could also be strengthened through the case of international students. Furthermore, ALS higher education maintains strong connections to the agri-food

and health sectors, and gender-based negative experiences may deter students from pursuing related careers. Nurturing an inclusive academic culture may mitigate declining enrolments in ALS. Yet, enhancing women's empowerment and participation is vital for addressing future challenges in agri-food systems.

Meaningful progress in GE depends on raising awareness, building sensitivity, and institutionalising both GE principles and GEPs. An inclusive and tailor-made GEP needs to consider national, institutional, and sectoral contexts, preferably within an integrated diversity approach, addressing the needs of all stakeholders, while systematically integrating intersectionality.

Universities need to develop efficient internal communication strategies for reaching stakeholders and making GE policies and GEPs (more) visible. Recent CEE gender regimes are also not the topsoil of GE. Gender budgeting is essential, particularly given the precarious and underfunded R&I sector. Without dedicated financial resources, GE officers are often limited to proposing initiatives that require little to no funding, thus constraining the transformative potential of GEPs.

The research has several limitations. The need to protect participant anonymity imposed constraints on the interpretation of some findings. Further, the transferability of focus group results is inherently limited, yet most of the barriers are likely to exist in other ALS or STEM-focused universities.

Though educational and occupational features of ALS disciplines, such as fieldwork, laboratory work, internship, and the considerable number of international students, are globally relevant, barriers can depend on national and institutional contexts. These challenges require targeted and flexible responses from universities. Future research can explore these features more in-depth across different settings, exploring enablers as well. Ultimately, the institutionalisation of GEPs requires continuing regular and systematic assessments from universities.

Acknowledgments

The authors thank the reviewers for their review and insightful suggestions. We are thankful to our colleagues for organising the focus groups, to the participants for sharing their opinions, as well as to Lóránt Pélyi for his contribution to the literature review.

Funding

Publication of this article was supported by the AGRIGEP project (Assessment and implementation of Agriculture and Life Science Universities' first Gender Equality Plans in widening countries [No. 101094158]), which has received funding from the European Union's Horizon Europe programme. Publication of this article in open access was made possible through the institutional membership agreement between the HUN-REN Centre for Social Sciences and Cogitatio Press.

Conflict of Interests

The authors declare no conflict of interests. In this article, editorial decisions were undertaken by Ulf R. Hedetoft (University of Copenhagen, Denmark).

LLMs Disclosure

The authors used ChatGPT only to improve the academic language of the revised version of their manuscript and format the references.

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