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Educating Across Cultures: Experiences of International Student Women in STEM

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ABSTRACT: *This study explores the experiences of international female students from Kosovo and Albania pursuing undergraduate STEM degrees in the United States. The participants expressed pride in studying STEM abroad, driven by access to scholarships, top-tier resources, and mentorship. While facing obstacles such as culture shock, homesickness, language barriers, and unfamiliar teaching methods, they demonstrated resilience and determination. The study also reveals how participants view STEM education as a path to self-empowerment, professional growth, and economic mobility. Their experiences underscore the importance of institutional support systems—including inclusive practices and targeted resources—in promoting academic integration and success. This research contributes to the growing discourse on international education and gender empowerment in STEM, particularly in male-dominated fields, and highlights the societal value of fostering diversity and inclusion within global higher education. This study contributes to international education scholarship by highlighting the gendered and culturally situated adaptation processes of international women in STEM, with practical implications for academic advice, peer mentoring and institutional inclusion policies.*

Keywords: adaptation, gender, higher education, international students, STEM

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INTRODUCTION

Higher education is often seen as a gateway to opportunity, offering individuals the chance to broaden their knowledge, pursue their ambitions, and transform their lives. For women, particularly those entering male-dominated fields such as science, technology, engineering, and mathematics (STEM), this journey is both inspiring and challenging. Earning a STEM degree requires ambition, resilience, and hard work, but for international students, it also means adjusting to new cultural, social, and academic environments. This study explores the experiences of 13 women from Kosovo and Albania who left their home countries to pursue undergraduate STEM degrees in the U.S. Their stories offer a unique perspective on balancing personal goals, cultural expectations, and the quest for academic excellence in an international context.

For these women, studying abroad was more than just earning a degree—it was a transformative journey to break societal barriers and defy gender norms. As pioneers in their families, many were the first to study abroad, carrying the weight of their community hopes alongside their own dreams. Owing to the United States' world-class educational resources, mentorship, and professional opportunities, these women faced cultural differences, demanding academics, and the emotional challenges of living far from home. However, they approached these obstacles with resilience, reframing difficulties as opportunities for growth and learning.

Scholarships played a crucial role in enabling these opportunities. For many participants, scholarships were more than financial support; they recognized their dedication and potential. However, this support came with a sense of responsibility to honor their families' sacrifices and succeed academically. Living on campus with peers from diverse cultural backgrounds fostered meaningful exchanges but also underscored the emotional complexities of being far from family, especially during holidays and personal milestones.

Gender dynamics added another layer to their experiences. As women in STEM, these participants not only pursued their personal ambitions but also served as social and cultural role models in breaking barriers in fields traditionally dominated by men. Their accomplishments went beyond individual success—they symbolized progress toward gender equity and equality, inspiring younger generations in Kosovo and Albania to dream and aim boldly and globally.

This study examines the experiences of international female students as they navigate the academic, cultural, and social aspects of their journeys. It highlights the challenges they face and the strategies they use to overcome them while also contributing to broader discussions on the role of international education in promoting diversity, inclusion, and empowerment in STEM fields.

This study is significant because it examines the unique intersection of gender, education, and cultural adaptation for women from Kosovo and Albania. It highlights how quality and inclusive international education can drive personal and professional growth while advancing societal progress in regions where traditional gender roles persist. By documenting the barriers these women faced

and the strategies they used to overcome them, this research aims to contribute to global conversations about diversity and inclusion in STEM fields.

Although the experiences of international students have been widely examined, few empirical studies have focused on women from underrepresented regions entering STEM fields at U.S. universities. This study addresses that gap by exploring how international student women from Kosovo and Albania navigate academic, social, and cultural adaptation in STEM programs. Guided by a qualitative phenomenological approach, this study offers new insight into the intersection of gender, culture, and disciplinary identity and contributes to current debates in international student research by proposing implications for institutional support, advising, and inclusive STEM environments.

LITERATURE REVIEW

Study abroad programs have been identified as a vital avenue for enhancing the educational experiences. Research indicates that participation in these programs can significantly increase students' intercultural competence and professional networks, which are crucial for career advancement (Ruth et al., 2018; Stemler et al., 2014). For women, particularly those from underrepresented backgrounds, these experiences can provide unique opportunities to engage with diverse perspectives and gain access to resources that may not be available in their home country (Petrie-Wyman et al., 2020; Anderson et al., 2015). The structured nature of research-integrated study abroad programs has been shown to be particularly beneficial, as they offer women the chance to engage in hands-on research experiences that can bolster their confidence and competence in STEM fields (Ruth et al., 2018; Petrie-Wyman et al., 2020).

Furthermore, the impact of studying abroad extends beyond academic enrichment; it also fosters personal growth and resilience. Women who study abroad often report increased self-efficacy and a greater sense of agency in their educational and career choices (Petrie-Wyman et al., 2020; Anderson et al., 2015). This empowerment is crucial in combating the stereotypes, prejudices and discrimination that women face in STEM, as it equips them with the confidence to pursue their interests and challenge societal norms (Ertl et al., 2017; Cheryan et al., 2017). Additionally, the international exposure and experience gained through study abroad can increase employability, as employers increasingly value global competencies and diverse experiences (Anderson et al., 2015; Stemler et al., 2014).

In recent years, there has been a notable increase in the participation of international female students in science, technology, engineering, and mathematics (STEM) education within the United States. This trend reflects a broader global movement toward diversifying STEM fields and promoting gender equity. According to the National Science Foundation's 2023 report, women now constitute 43% of the U.S. workforce for scientists and engineers under 75 years old, with this figure rising to 56% among those under 29 years old. This upward trajectory is indicative of the growing involvement of women, including international students, in STEM disciplines (National Science Foundation, 2023).

This increased representation of women in STEM, including those from international backgrounds, has been accompanied by significant academic and social challenges. While international students bring diverse perspectives and skills, they often face unique barriers, such as cultural adjustment, language difficulties, and social isolation (Glass et al., 2015; Andrade, 2006). For women in STEM, these challenges are compounded by gender-specific issues, including implicit biases, gender stereotyping, and the lack of female role models and mentors in male-dominated fields (Hill et al., 2010; Ertl et al., 2017).

Recent scholarship in the *Journal of International Students* has emphasized the field-specific nature of academic adaptation, particularly the role of peer networks and targeted advising support for international students in STEM disciplines (Zou & Fu, 2025). Research also shows that psychological and sociocultural adjustment processes are shaped by access to community and institutional belonging structures (Gebregergis & Csukonyi, 2025), whereas gendered patterns in STEM participation remain influenced by immigration status and representation in academic spaces (Rahming, 2022). These studies collectively support the need for research that examines both gender and disciplinary identity within international student experiences.

The increased representation of women in STEM fields, particularly among international students, has been accompanied by significant academic and social challenges. Research indicates that while these students contribute diverse perspectives and skills to their academic environments, they often encounter unique barriers, such as cultural adjustment, language difficulties, and social isolation. For example, universities must recognize and address the specific needs of international students to increase their satisfaction and success within the academic community. Hussein & Schiffelbein (2020). Similarly, international students faced numerous challenges during the COVID-19 pandemic, including mental health issues and difficulties accessing support services, which exacerbated feelings of isolation and stress (Müller & Fischer, 2023).

The challenges faced by women in STEM are further compounded by gender-specific issues. Implicit biases and gender stereotyping remain prevalent in male-dominated fields, creating significant hurdles for women pursuing STEM education (Eaton et al., 2020). Furthermore, the absence of social support systems can intensify acculturative stress among international students, negatively affecting their academic performance and overall well-being (Yeh & Inose, 2003). These challenges are particularly relevant for women, who may face intensified difficulties due to societal expectations and the lack of female role models in STEM disciplines.

Furthermore, research indicates that gender can significantly influence the academic challenges faced by international students, with female students often reporting higher levels of academic stress and adjustment difficulties than their male counterparts do (Raji, 2019). The need for targeted support strategies to address the unique challenges faced by international students, particularly those from underrepresented backgrounds, was further emphasized (Stott, 2022). The intersection of gender and cultural identity thus plays a critical role in shaping the

experiences of women in STEM, necessitating a nuanced understanding of their challenges and the development of tailored support mechanisms.

In addition to the academic and cultural challenges faced by international female students in STEM, research highlights the importance of institutional and peer support in fostering success. For example, Kristiana et al. (2022) emphasized that social support networks, including mentorship and culturally responsive faculty, play a critical role in mitigating acculturative stress and enabling students to navigate the challenges of adapting to new academic and social environments. A wide mentorship program can empower STEM students, particularly those from historically underrepresented groups, by fostering a sense of belonging and increasing their retention rates (Ravishankar et al., 2024). This aligns with the findings of Diallo (2023), who emphasized that fostering a culture where mentorship is prioritized enhances job satisfaction and retention rates among female professionals, particularly in STEM fields. Similarly, Hernandez et al. (2023) highlighted that mentorship networks play a crucial role in facilitating women's integration into STEM careers by providing essential social capital and access to resources that can aid their professional development, and Malchuk et al. (2021) emphasized the importance of mentorship in academic medicine, noting that mentorship is particularly vital for female junior faculty, as it helps address inequities in leadership and fosters a more inclusive environment.

The experiences of international female students in STEM highlight the complex interplay between cultural, academic, and gender-specific factors, challenges and even barriers. Cultural adjustment difficulties, language barriers, and the absence of strong social support networks are compounded by implicit biases, gender stereotyping, and the lack of role models in male-dominated fields. While existing research has demonstrated the importance of institutional interventions, such as mentorship programs and inclusive policies, there remains a need to explore how these challenges uniquely manifest for women from underrepresented regions, including Kosovo and Albania. This study seeks to address this gap by exploring the lived experiences of these international female students, shedding light on their strategies for overcoming barriers, and contributing to the broader discourse on diversity, inclusion, and empowerment in the STEM field.

The context of Kosovo—the current study

Cultural expectations and societal norms in Kosovo and Albania have historically influenced women's participation in STEM fields. Traditional gender roles and patriarchal values often steer women away from pursuing careers in STEM, leading to underrepresentation in these disciplines (Ferati et al., 2023). A scoping review by Ferati et al. (2023) highlights the prevalence of gender stereotypes in Western Balkans, noting that these stereotypes significantly impact women's educational choices and career aspirations in STEM.

Despite these social and cultural challenges and barriers, there has been a notable increase in women's involvement in STEM within the region. In recent years, Kosovo has made significant strides in promoting women's participation in

STEM fields. Notably, women now constitute 50% of students in STEM disciplines at the University of Pristina, representing a substantial shift in these traditionally male-dominated areas (UN Women, 2024). This increase underscores the impact of initiatives aimed at improving access to and participation in women, particularly through educational reforms, scholarships, and mentorship programs. Nevertheless, despite these advancements, significant challenges persist in maintaining long-term participation and addressing the cultural, societal, and economic barriers that deter women from pursuing or progressing in STEM careers. According to a study by UNICEF (2024), despite increasing participation in higher education in STEM fields, there is a gender gap in the representation of women in the labor market of more than 30%.

Kosovo's increasing gender diversity in STEM is the result of targeted efforts to bridge the gender gap. For example, the Ministry of Education, Science, Technology, and Innovation has introduced numerous initiatives to support young women pursuing careers in STEM. One of the most impactful programs has been a scholarship program that has benefitted many women and girls. These scholarships not only provide financial support but also act as symbolic investments in breaking down traditional gender roles and creating opportunities for women to engage in STEM fields at both the academic and professional levels (UN Women, 2024). The growing representation of women in technical fields at the University of Pristina, with women comprising 50% of STEM students, is a testament to the success of these programs.

Organizations such as the American Advising Center – EducationUSA Network assist students in pursuing studies in the U.S., including women in STEM fields. Several organizations have evidenced the increasing interest of young women in STEM fields (Raberyn, 2023). Furthermore, the presence of women-focused initiatives at the university level creates an environment that actively counters traditional societal expectations, empowering more young women to pursue careers in science and technology.

Despite these promising developments, women in Kosovo still face significant cultural and societal challenges. Gender stereotypes remain a pervasive issue, with societal norms often steering women toward caregiving roles and away from technical professions. As Ferati et al. (2023) argue, these deeply rooted cultural beliefs continue to influence career aspirations and educational choices, particularly for women in rural areas, where access to quality education and infrastructure remains limited. This creates a cycle of inequality, as young girls in rural areas are often excluded from opportunities to engage in STEM from an early age, making them less prepared for future academic and career pursuits.

Another critical challenge is the psychological toll of breaking societal norms. Research by Kelmendi and Jemini-Gashi (2022) highlights the significant gender role stress and psychological distress faced by women in Kosovo, who pursue careers in male-dominated fields such as STEM. Women often experience societal resistance and lack support from family and peers, which exacerbates feelings of isolation and limits their ability to thrive in these disciplines. These findings underscore the importance of fostering not only structural support but

also cultural shifts that encourage women to see themselves as capable and welcome participants in STEM fields.

International initiatives have also played a role in promoting gender diversity in STEM. Programs such as TechGirl provide mentorship and global exposure to women from Kosovo and Albania pursuing STEM careers. This U.S. Department of State program offers participants a chance to develop leadership skills and build connections with STEM professionals from around the world. The program has been instrumental in equipping women with the tools and confidence to navigate the challenges of working in male-dominated fields (Institute of International Education, 2024). These types of cross-cultural exchanges can inspire broader systemic changes by providing examples of success stories and creating a global network of women who can advocate for change in their home countries.

Kosovo's advancements in STEM education for women are promising but require sustained effort to address systemic challenges. Socioeconomic factors, cultural expectations, and psychological barriers continue to hinder progress, particularly in rural communities. By expanding scholarship programs, fostering mentorship opportunities, and implementing cultural and educational reforms, Kosovo can build on its progress and create an environment where women are fully empowered to pursue and thrive in STEM careers. This study focuses on the academic, cultural, and social experiences of international female students from Kosovo and Albania pursuing STEM education in the United States, aiming to explore how these women navigate challenges and leverage opportunities to succeed. Their experiences contribute to the broader discourse on fostering gender equity in STEM and highlight the importance of international education in empowering women to break barriers in male-dominated fields.

METHOD

Research Design

This study utilized a qualitative research approach, incorporating focus group discussions to examine the experiences of international female students pursuing undergraduate STEM education in the United States. Qualitative research is particularly suited for examining the lived experiences of individuals, offering rich and nuanced insights into how cultural, academic, and social factors shape their journeys (Creswell & Poth, 2018). Focus group discussions were selected as the primary method to encourage participants to share their experiences, foster group dialog, and identify common themes in their academic, social, and cultural adaptation processes. This method facilitates the exploration of shared and contrasting perspectives, capturing the complexity of participants' experiences in a dynamic and interactive environment (Sim & Waterfield, 2019).

Focus groups provide participants with an opportunity to express, exchange and reflect on their challenges and successes alongside peers with similar experiences, creating an environment of mutual communication and understanding. This collaborative process not only elicited deeper insights into their individual experiences but also revealed collective challenges and strategies

for coping with the demands of STEM education as international students. The semistructured framework guiding the discussions ensured consistency while allowing for flexibility, enabling participants to introduce topics they deemed significant to their experiences (Merriam & Tisdell, 2016). This design facilitated the emergence of both anticipated and novel themes, contributing to a comprehensive understanding of the participants' academic and cultural adaptation in STEM.

Participants

The study included 13 international female students divided into two focus groups. The participants were selected via purposive and snowball sampling methods. Purposive sampling ensured that all participants met the study criteria: being international students from Kosovo or Albania and pursuing undergraduate STEM degrees in the United States. Snowball sampling was utilized to expand the participant pool through referrals, leveraging social networks to identify individuals who could provide meaningful insights (Naderifar et al., 2017).

Among the total participants, eight were from Kosovo, and five were from Albania. The participants' ages ranged from 19--22 years, with an average age of 20 years, reflecting their status as students in the final two years of their undergraduate programs. All participants were enrolled in bachelor's degree programs in STEM fields and had received scholarships to support their education in the U.S. Among them, seven participants were on full scholarships, whereas the remaining six had partial scholarships.

Table 1: Individual Participant Demographics and Focus Group Distribution

Participant's Code	Age	Scholarship	Origin	Focus Group
P1	20	Full	Kosovo	Live
P2	21	Full	Kosovo	Live
P3	19	Full	Kosovo	Live
P4	21	Full	Kosovo	Live
P5	20	Partial	Kosovo	Live
P6	21	Partial	Kosovo	Live
P7	19	Partial	Kosovo	Live
P8	21	Partial	Kosovo	Live
P9	21	Full	Albania	Online
P10	20	Full	Albania	Online
P11	22	Partial	Albania	Online
P12	20	Partial	Albania	Online
P13	21	Partial	Albania	Online

During their studies, all participants resided on campus, sharing accommodations with roommates from both the U.S. and other countries. This

living arrangement enriched their cultural and social experiences, offering unique insights into their adaptation and interactions within diverse educational environments.

Data collection

Two separate focus group sessions were conducted to explore the experiences of international female students pursuing undergraduate STEM education in the United States. Each session involved a distinct set of participants, providing diverse perspectives and insights.

Live Focus Group: The first focus group was held in person, with participants from Kosovo at the American Advising Center – EducationUSA Kosovo toward the end of December 2024, during the participants' winter break. This timing allowed participants to engage in the discussion without the demands of their academic schedules. The venue was selected for its accessibility and familiarity, fostering a comfortable and open environment for discussion.

Online Focus Group: The second focus group, with participants from Albania, took place in January 2025 via Google Meet and included a different set of participants who were actively studying in the United States at the time. The online format provided flexibility and accessibility, allowing participants to share their experiences from their respective locations while balancing their academic obligations.

Both focus groups lasted approximately 90 minutes and were moderated by the first author of the study via a semistructured discussion guide. The questions covered participants' academic experiences, challenges related to cultural adaptation, and perceptions of the support systems available to international students in STEM programs. Probing questions were used to encourage participants to elaborate on their responses and explore emergent themes in greater depth.

The focus group discussions were audio-recorded with participants' informed consent to ensure the accurate capture of their responses and preserve the integrity of their narratives. Verbatim transcription of the recordings was conducted to maintain the authenticity of the participants' voices and provide a reliable foundation for analysis (Creswell & Poth, 2018). Additionally, field notes were taken during the sessions to document nonverbal cues, group dynamics, and contextual observations that enriched the interpretation of the data (Nowell et al., 2017). These complementary data sources provided a comprehensive understanding of the discussions, allowing for nuanced insights into the participants' experiences and interactions.

Data analysis

Thematic analysis was employed to analyze the data, following Braun and Clarke's (2006) six-step framework to ensure a systematic and rigorous approach. This process included becoming familiar with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and

producing the final report. Coding was conducted manually to allow the researcher to engage closely with the data and capture the nuances of the participants' narratives. Predetermined codes were derived from literature on international students and STEM education, whereas inductive coding allowed for the emergence of novel themes directly from the data.

The coding process involved reading and rereading the focus group transcripts to identify recurring patterns and key points of discussion. Initial codes were generated for significant statements or ideas, which were then grouped into broader themes through an iterative process. This manual approach ensured that the complexity and richness of the participants' experiences were thoroughly explored. To maintain trustworthiness, the analysis was reviewed and discussed among the research team, and reflective notes were used throughout to ensure that the researcher's interpretations were grounded in the data (Sim & Waterfield, 2019).

Ethical Considerations

The study adhered to established ethical guidelines, including those outlined by the American Psychological Association (APA, 2017), to ensure that the research was conducted with integrity, respect, and accountability. All participants were provided with detailed information about the study's purpose, procedures, and rights as participants, in line with ethical principles for conducting research with human subjects (Creswell & Poth, 2018). Informed consent was obtained prior to participation, ensuring that the participants understood their voluntary involvement and their right to withdraw at any time. Confidentiality and anonymity were maintained by assigning pseudonyms in the transcripts and reports, protecting the identity of the participants (Wiles, 2013).

Trustworthiness and Research Rigor

To ensure the quality and credibility of the studies, multiple strategies were implemented throughout the research process. First, credibility was supported through prolonged engagement with the data, iterative coding, and member checking, where participants were invited to review preliminary thematic interpretations to confirm accuracy and resonance with their experiences. Transferability was strengthened by providing thick, contextualized descriptions of participant backgrounds, institutional settings and cultural contexts, allowing readers to assess relevance to other populations and settings. Dependability was enhanced by maintaining a detailed audit trail documenting decisions made during recruitment, data collection, coding development and theme refinement. Finally, confirmability was established through reflexive memo-writing, peer debriefing among the research team, and ongoing attention to researcher positionality, allowing analytic decisions to be grounded in participant narratives rather than researcher assumptions. These strategies collectively ensured methodological integrity and strengthened the trustworthiness of the study's findings.

FINDINGS

The findings from the focus groups revealed several key themes related to the experiences of international female students pursuing undergraduate STEM education in the U.S. These themes provide insights into both the challenges and positive aspects of their academic and cultural journeys.

Excitement and Pride in Studying STEM and in the USA

The participants conveyed a profound sense of excitement and pride in pursuing STEM disciplines in the United States, viewing them as transformative opportunities that many had long aspired to achieve. For these students, studying STEM in the U.S. was not merely an academic endeavor but a milestone symbolizing access to world-class education, cutting-edge resources, and unparalleled opportunities for growth and development in their chosen fields. This pride was heightened by the fact that all participants had earned scholarships to support their studies, with many noting that this financial assistance not only validated their hard work but also made their dreams attainable. Scholarships were seen as prestigious recognition of their potential, further fueling their motivation to succeed.

Adding to their pride was the unique position they held as first-generation students studying abroad in their families. This status carried a deep sense of responsibility and accomplishment, as they broke new ground and paved the way for future generations. For many, this journey was more than personal—it represented a source of inspiration and hope for their families and communities. The participants frequently expressed a sense of duty to excel, both to honor the sacrifices made by their families and to uphold the opportunities provided by their scholarships. Studying STEM in the United States, particularly under these circumstances, was described as a life-changing experience, marked by gratitude, determination, and a commitment to making a meaningful impact both academically and beyond.

"Receiving the scholarship was like a dream come true—it showed me that all my hard work and sacrifices were worth it." (P3).

"Being the first in my family to study abroad isn't just about me—it's about showing my younger siblings and others in my community what's possible." (P1).

"Studying STEM in the U.S. feels like a once-in-a-lifetime opportunity, and I am determined to make the most of it, not just for myself but for my family and my future." (P8).

This theme illustrates how international STEM scholarships function not only as financial support but also as identity-affirming validation mechanisms, reinforcing a sense of achievement, motivation and social responsibility; institutions that recognize this emotional meaning can design advising,

recognition programs and student-leadership pathways that sustain this early pride throughout the academic journey.

Culture Shock and Homesickness

All the participants reported experiencing significant culture shock upon arriving in the United States, as they encountered notable differences in social norms, communication styles, and academic expectations. Everyday aspects of life, such as food and living arrangements, pose additional challenges. The participants highlighted difficulties adjusting to the unfamiliar food culture, often missing the home-cooked meals and traditional dishes with which they grew up.

Living on campuses also shaped their cultural adaptation. The participants often shared dormitories with roommates from diverse cultural backgrounds, which provided opportunities for cultural exchange but also occasional misunderstandings. The shared living arrangements were vastly different from the family-oriented environments they were accustomed to back home, contributing to feelings of homesickness. Many expressed missing the daily presence and emotional support of their families, describing moments when the physical distance felt particularly overwhelming. This longing for family was compounded during major holidays and milestones, where the absence of loved ones was the greatest.

"I never realized how much I would miss my mom's cooking until I couldn't have it—it's not just the food; it's the comfort and familiarity it brings." (P13).

"Living with people from different cultures taught me so much, but at times, I just wished I could go back to the warmth of my family at home." (P10).

"Holidays were the hardest—I'd video call my family, but it wasn't the same as being there with them." (P2).

This theme highlights the need for universities to provide culturally responsive emotional-well-being support, including peer-community spaces, culturally familiar gatherings, mentorship from senior international students, and mental health services attuned to collectivist family structures and migration-related grief, rather than assuming that all students adapt independently.

Appreciation for Academic and Professional Opportunities

A recurring theme in the discussions was the participants' deep gratitude for the academic and professional opportunities afforded by studying in the United States. Many highlighted the unparalleled access to cutting-edge facilities, state-of-the-art laboratories, and advanced technology, which significantly enhanced their learning experiences. The participants frequently expressed appreciation for the research opportunities available to them, which they viewed as crucial for

developing practical skills and deepening their understanding of their respective STEM fields.

The mentorship provided by faculty members emerged as another valued aspect, with participants noting how their professors' expertise, guidance, and encouragement had a profound impact on their academic journeys. Additionally, the chance to collaborate and network with peers and professionals—both within their institutions and through broader academic and industry events—was seen as an invaluable resource for career development. These opportunities not only helped participants expand their professional horizons but also fostered a sense of belonging and achievement in highly competitive academic environments. For all participants, these experiences were transformative, serving as pivotal stepping stones for their future aspirations. The exposure to world-class resources and a global professional network reinforced their commitment to excelling in their fields and contributing meaningfully to their home countries or the international STEM community.

"The research facilities here are incredible—having access to such advanced labs has completely changed how I approach learning and problem-solving." (P8).

"My professors have been amazing mentors—they not only guide me academically but also inspire me to push beyond what I thought I was capable of." (P5).

"Networking with peers and professionals has opened doors I never thought possible—it's given me the confidence to see myself thriving in this field globally." (P11).

This theme underscores how access to laboratories, research mentorship and networking opportunities serves as a powerful mechanism for long-term STEM identity development, suggesting that universities should intentionally design research pipelines, internship pathways and faculty mentoring structures that are accessible to international women rather than treating such access as incidental or merit-based privileges.

Academic Challenges

The participants expressed gratitude for the rigorous academic environment in the U.S. STEM programs but also identified several notable challenges. Many described the workload and high expectations as demanding, necessitating significant adjustments to effectively manage their time and balance academic responsibilities with personal well-being. The demanding nature of STEM coursework, combined with frequent assessments, lab work and strict deadlines, often presents a steep learning curve.

Language barriers were another common hurdle, particularly for all participants as nonnative English speakers. Some described initial struggles in fully understanding technical terminology, engaging in classroom discussions, or even completing assignments. These difficulties were intensified by cultural

differences in classroom interactions, such as the expectation to actively participate, voice opinions, and engage with professors—practices that were less common in their home educational systems.

Unfamiliar pedagogical approaches also pose challenges. The participants noted that the U.S. approach, which often emphasizes independent learning, critical thinking, and collaborative projects, was a great contrast to the lecture-based methods they were accustomed to. Adapting to these new academic norms requires considerable effort and adjustment.

"The workload was intense—I had to completely rethink how I managed my time just to keep up with the pace." (P7).

"At first, I struggled with the technical language in English—it took extra effort to fully understand the material and feel confident in class." (P3).

"Group projects and class discussions were so different from what I was used to—it took time to adjust, but they truly pushed me to think critically and engage more actively." (P6).

This theme reinforces the need for scaffolded academic support systems—such as discipline-specific writing assistance, multilingual tutoring in technical vocabulary, classroom participation coaching and inclusive pedagogical design—to prevent language-linked disadvantage from being misinterpreted as a lack of ability, a pattern disproportionately affecting international women in male-dominated STEM fields.

"Everyone should study STEM. STEM is the future!"

An unexpected yet significant theme that emerged from the discussions was the participants' strong advocacy for STEM education. Many participants expressed the belief that studying STEM could serve as a pathway to self-empowerment, equipping individuals with the knowledge, skills, and confidence needed to navigate and excel in an increasingly technology-driven world. For these students, STEM education was not only an academic pursuit but also a means of achieving personal growth, independence, and professional success.

The participants frequently highlighted the vast number of employment opportunities available in STEM fields, emphasizing how these disciplines provide access to high-demand careers with competitive salaries and significant potential for growth and development. They viewed STEM education as key to economic stability and upward mobility, particularly for individuals from underrepresented or economically disadvantaged backgrounds.

This advocacy was rooted in the transformative impact that STEM education had on their own lives. Many spoke passionately about how their studies had expanded their horizons, given them a sense of purpose, and opened doors to opportunities they had previously thought unattainable. Their personal experiences fueled a desire to inspire others, particularly women in their home countries and those from similar backgrounds, to consider STEM as a means of achieving self-sufficiency and making meaningful contributions to society.

"Everyone should study STEM. STEM is the future! It's not just about getting a job—it's about understanding the world and shaping it." (P5).

"I wish more people, especially women, realized how many doors STEM can open—it's a way to gain independence and make a real difference." (P9).

"Studying STEM has completely changed my perspective on what I can achieve—it's given me the tools to dream bigger and aim higher." (P13).

This theme reflects the transformative role of STEM education in producing economic mobility, self-empowerment and future-oriented agency for women from underrepresented regions, indicating that policy makers and institutions should view international STEM education not merely as training but also as a structural intervention for gender equity, labor-market diversification and long-term social change.

DISCUSSION

The findings extend recent international student research by illustrating how academic, social and cultural adaptation processes intersect with gender and disciplinary identity in STEM programmes. Consistent with Zou and Fu (2025), participants relied heavily on peer networks and institutional advice to navigate field-specific expectations. The emotional and relational aspects of adjustment echo the sociocultural adaptation patterns identified by Gebregergis and Csukonyi (2025), whereas participants' descriptions of gender-based barriers align with Rahming's (2022) work on immigrant women's STEM trajectories. Together, these findings position international women in STEM as a population navigating multiple, overlapping layers of adaptation and identity negotiation. The academic rigor of STEM programs, combined with language barriers and cultural differences, presents significant challenges for international students (Sawir et al., 2008). However, these difficulties are often accompanied by opportunities for resilience, skill building, and personal growth, as highlighted by the participants in this study.

Cultural adjustment emerged as a central theme, which is consistent with the literature that underscores the emotional and social challenges international students encounter when navigating unfamiliar cultural norms and environments (Andrade, 2006). The participants highlighted homesickness and the absence of familial support as particularly challenging, compounded by the need to adapt to new social and academic expectations. Despite these obstacles, many participants demonstrated adaptability, finding strength in peer support networks and a shared sense of community.

The advocacy for STEM education articulated by participants reinforces its role as a vehicle for economic and social empowerment. STEM fields offer significant career opportunities and economic stability, making them an attractive path for individuals seeking professional and personal advancement (Blickenstaff, 2005). For women from Kosovo and Albania, this empowerment carries

additional significance, as it challenges traditional gender norms and creates opportunities to address systemic inequities and inequalities. The participants' journeys highlight how international education can function as a catalyst for gender equality, equipping women with the skills and confidence to succeed in male-dominated fields and contribute to societal change.

The findings of this study highlight the importance of institutional practices that support the academic and cultural integration of international students. Providing targeted resources, such as academic tutoring, cultural adjustment workshops, and mentorship programs, can ease the transition for international students and enhance their ability to succeed. Additionally, fostering inclusive campus environments that celebrate diversity and promote cross-cultural understanding is essential for reducing isolation and building a sense of belonging among international students.

This study contributes to the growing recognition of the unique experiences of international female students in STEM, highlighting their resilience, determination, and potential to excel. Future research should explore the long-term outcomes of international female students in STEM, focusing on their career trajectories, contributions to their fields, and the impact of their experiences on their home communities. Comparative studies examining the experiences of international students across different regions and institutions could provide further insights into the factors that support or hinder their success. Furthermore, research that includes the perspectives of faculty and administrators could shed light on the institutional practices and policies that best support the integration and success of international students.

By addressing systemic challenges and fostering inclusive practices, higher education institutions can empower international students to achieve their aspirations and contribute meaningfully to the advancement of STEM fields. The findings underscore the need for sustained efforts to support diversity and inclusion, ensuring that the transformative potential of STEM education is accessible to all. For women from regions such as Kosovo and Albania, access to international education represents a pivotal step toward gender empowerment and societal progress, paving the way for greater equity in STEM and beyond.

Conclusion

This study explored the academic and cultural experiences of 13 international female students pursuing undergraduate STEM degrees in the United States. Through focus group discussions, participants provided insights into the challenges and opportunities they encountered while navigating rigorous academic environments and adapting to a new cultural context. Their experiences highlighted the interplay between personal ambition, cultural adaptation, and the demands of STEM education.

The participants expressed deep gratitude for the opportunities afforded by their scholarships, which provided access to world-class resources, mentorship, and professional networks. These elements were pivotal in shaping their academic and career trajectories. Despite facing significant obstacles such as culture shock,

homesickness, language barriers, and unfamiliar pedagogical approaches, participants demonstrated resilience and determination. They often view these challenges as opportunities for personal growth and professional development, further motivating their commitment to success. Their advocacy for STEM education emphasized its transformative potential, particularly in providing economic mobility, self-empowerment, and societal contributions.

This study also sheds light on the intersection of gender and educational opportunity, particularly for women from regions such as Kosovo and Albania, where traditional gender roles have historically limited access to education, particularly in male-dominated fields such as STEM. For these participants, studying STEM in the U.S. represented a significant step toward breaking gender barriers and challenging societal norms. Their success reflects a broader trend of increasing female participation in STEM, as well as the critical role of international education in fostering gender empowerment. By attaining quality education internationally, these women not only are reshaping their own lives but also serve as role models for young women in their home countries, demonstrating that gender and cultural norms should not limit aspirations or potential.

The findings of this study contribute to the existing body of literature on international female students and STEM education, underscoring the need for institutional support systems that address both academic and cultural challenges. By fostering inclusive environments and providing targeted resources, educational institutions can play a significant role in empowering international students, especially women, to excel and contribute meaningfully to their professional fields.

This study reinforces the importance of access to scholarships, mentorship, and professional opportunities in shaping the experiences and outcomes of international students in STEM. It also highlights the broader societal benefits of promoting diversity and inclusion in STEM fields, particularly through the engagement of women and other underrepresented groups. These findings highlight the ongoing need for efforts to create equitable opportunities for international female students and ensure their success both academically and professionally.

Implications

Structured peer-mentoring programs linking incoming international women in STEM with advanced students, alumni and female faculty should be established.

Provide culturally and linguistically responsive advice that recognizes both gendered barriers and the disciplinary demands of lab-based STEM education. Collaboration between international offices and STEM departments should be strengthened to integrate academic tutoring, research access, mental health services and career development support.

Exhibit opportunities for international women to join research teams, pay assistantships and leadership roles, moving beyond token representation toward structural inclusion.

Institutional messaging and recruitment materials portray international women in STEM as visible contributors, not exceptions, helping counter imposter feelings and gender-based underrepresentation.

One limitation of the current study is related to the method of data collection. While virtual focus groups provided flexibility and made it easier for participants to join from different locations, the format may have limited deeper engagement among participants. Some individuals might have felt less at ease in sharing personal or culturally sensitive experiences in an online setting. The absence of in-person interaction also meant that valuable nonverbal cues and spontaneous group dynamics were not captured. Future studies might consider using in-person or hybrid interviews to create a more open and comfortable environment for discussion.

Another limitation concerns the narrow cultural scope of the participant sample. Although the study includes women from two different countries—Kosovo and Albania—these groups share a common language and cultural heritage. While this offered meaningful insight into a specific regional experience, the findings may not fully capture the broader range of challenges and opportunities faced by international women in STEM fields from more diverse cultural and geographical backgrounds. Including participants from a wider variety of countries and educational systems would help build a more complete picture of the international student experience in STEM fields.

Future research directions could include a comparative analysis across different STEM disciplines or institutions to uncover discipline-specific barriers and enablers. Investigating how experiences differ across engineering, computer science, biology, or mathematics, for example, may reveal unique patterns of support or discrimination that can inform more targeted interventions. Moreover, longitudinal studies that follow international women in STEM from entry to postgraduation could provide valuable insights into the long-term impact of international education on career development and gender equity in the global STEM workforce.

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REFERENCES

- Andrade, M. S. (2006). International students in English-speaking universities: Adjustment factors. *Journal of Research and Research in International Education*, 5(2), 131–154.
<https://www.researchgate.net/publication/249630465>
- American Psychological Association. (2017). *Ethical principles of psychologists and code of conduct*. <https://www.apa.org/ethics/code>
- Anderson, P. H., Hubbard, A., & Lawton, L. (2015). Student motivation to study abroad and their intercultural development. *Frontiers: The Interdisciplinary Journal of Study Abroad*, 26(1), 3952. <https://doi.org/10.36366/frontiers.v26i1.354>
- Blickenstaff, J. C. (2005). Women and science careers: Leaky pipeline or gender filter? *Gender and Education*, 17(4), 369–386.
<https://www.tandfonline.com/doi/full/10.1080/09540250500145072>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
https://www.researchgate.net/publication/235356393_Using_thematic_analysis_in_psychology
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE Publications.
<https://revistapsicologia.org/public/formato/cuali2.pdf>
- Cheryan, S., Ziegler, S. A., Montoya, A. K., & Jiang, L. (2017). Why are some stem fields more gender balanced than others?. *Psychological Bulletin*, 143(1), 1-35. <https://doi.org/10.1037/bul0000052>
- Diallo, M. S., Wright, C. C., Coombs, A. A. T., & Vetter, T. R. (2023). Assuring the groundwork for success: mentorship, sponsorship, and allyship for practicing anesthesiologists. *Anesthesia & Analgesia*, 137(4), 754-762. <https://doi.org/10.1213/ane.0000000000006646>
- Eaton, A. A., Saunders, J. F., Jacobson, R. K., & West, K. (2020). How gender and race stereotypes impact the advancement of scholars in STEM: Professors' biased evaluations of physics and biology postdoctoral candidates. *Sex Roles: A Journal of Research*, 82(3-4), 127–141. <https://doi.org/10.1007/s11199-019-01052-w>
- Ertl, B., Luttenberger, S., & Paechter, M. (2017). The impact of gender stereotypes on the self-concept of female students in STEM subjects with an underrepresentation of females. *Frontiers in Psychology*, 8. <https://doi.org/10.3389/fpsyg.2017.00703>
- Ferati, M., Demukaj, V., Kurti, E., Mörtberg, C., Shahrabai, K., & Kerolli Mustafa, M. (2023). Gender stereotypes and women participation in STEM fields in the Western Balkans: A scoping review. *Academic Journal of Interdisciplinary Studies*, 12(2), 228.
https://www.researchgate.net/publication/369029103_Gender_Stereotypes_and_Women_Participation_in_STEM_Fields_in_the_Western_Balkans_A_Scoping_Review

- Gebregergis, W. T., & Csukonyi, C. (2025). Unveiling psychological and sociocultural adaptation patterns of international students in Hungary. *Journal of International Students, 15*(4), 97-118. <https://doi.org/10.32674/jis.v15i4.97>
- Hernandez, P. R., Patterson, M. S., Nyanamba, J. M., Adams, A. S., Barnes, R. T., Bloodhart, B., & Fischer, E. V. (2023). Webs of science: mentor networks influence women's integration into stem fields. *Frontiers in Ecology and the Environment, 21*(9), 404-410. <https://doi.org/10.1002/fee.2666>
- Hussein, I. and Schiffelbein, K. (2020). University professors' perceptions of international student needs. *Journal of Applied Learning & Teaching, 3*(1). <https://doi.org/10.37074/jalt.2020.3.1.8>
- Institute of International Education. (2024). *TechWomen expands to Albania: Applications open for Albanian women in STEM*. <https://www.iie.org/news/techwomen-expands-to-albania-applications-open-for-albanian-women-in-stem/>
- Kelmendi, K., & Jemini-Gashi, L. (2022). An exploratory study of gender role stress and psychological distress of women in Kosovo. *Women's Health, 18*, 1-10. <https://journals.sagepub.com/doi/full/10.1177/17455057221097823>
- Kristiana, I. F., Karyanta, N. A., Simanjuntak, E., Prihatsanti, U., Ingarianti, T. M., & Shohib, M. (2022). Social Support and Acculturative Stress of International Students. *International Journal of Environmental Research and Public Health, 19*(11), 6568. <https://doi.org/10.3390/ijerph19116568>
- Malchuk, A. M., Coffman, M., Wilkinson, E., & Jabbarpour, Y. (2021). Gender concordance of first and senior authors in family medicine journals. *Family Medicine, 53*(2), 92-97. <https://doi.org/10.22454/fammed.2021.355251>
- Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). Jossey-Bas.
- Müller, N. and Fischer, L. (2023). Acculturation of international students: post Covid era. *International Journal of Research Publication and Reviews, 4*(5), 1508-1513. <https://doi.org/10.55248/gengpi.234.5.39556>
- Naderifar, M., Goli, H., & Ghaljaie, F. (2017). Snowball sampling: A purposeful method of sampling in qualitative research. *Strides in Development of Medical Education, 14*(3), e67670. https://www.researchgate.net/publication/324590206_Snowball_Sampling_A_Purposeful_Method_of_Sampling_in_Qualitative_Research
- National Science Foundation. (2023). *Diversity and STEM: Women, Minorities, and Persons with Disabilities 2023*. [Online] Available: <https://nces.nsf.gov/pubs/nsf23315/report/the-stem-workforce>
- Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods, 16*(1), 1–13. https://www.researchgate.net/publication/320188032_Thematic_Analysis_Striving_to_Meet_the_Trustworthiness_Criteria
- Petrie-Wyman, J., Murrell, A. J., & Schultz, B. (2020). Recognizing the impact of study abroad on women business students: results from a mixed methods

- global competency survey. *Frontiers: The Interdisciplinary Journal of Study Abroad*, 32(3), 22-50. <https://doi.org/10.36366/frontiers.v32i3.578>
- Raberyin, E. (2023). Kosovo Women Leaving Their Mark in ICT. [Online] Available: <https://prishtinainsight.com/kosovo-women-making-their-mark-in-the-ict-mag/>
- Rahming, S. G. (2022). The STEM glass ceiling: The influence of immigration status on STEM trajectories of Afro-Caribbean women. *Journal of International Students*, 12(1), 156-174. <https://doi.org/10.32674/jis.v12i1.156>
- Raji, M. O. (2019). Experiences and adjustment challenges of nigerian international students in United Kingdom higher institutions. *International Affairs and Global Strategy*. <https://doi.org/10.7176/iags/70-01>
- Ravishankar, S., Spencer-Drakes, T. C. J., Fernandes, I. H., Hayes, M. I., Coopwood, S., Spencer, I., & Neal, S. E. (2024). Empowering STEM students: A university-wide mentorship program fostering retention and belonging. *Journal of Cellular Physiology*. <https://doi.org/10.1002/jcp.31348>
- Ruth, A., Brewis, A., Blasco, D., & Wutich, A. (2018). Long-term benefits of short-term research-integrated study abroad. *Journal of Studies in International Education*, 23(2), 265-280. <https://doi.org/10.1177/1028315318786448>
- Sawir, E., Marginson, S., Deumert, A., Nyland, C., & Ramia, G. (2007). Loneliness and international students: An Australian study. *Journal of Studies in International Education*, 12(2), 148-180. https://www.researchgate.net/publication/249632072_Loneliness_and_International_Students_An_Australian_Study
- Sim, J., & Waterfield, J. (2019). Focus group methodology: Some ethical challenges. *Quality & Quantity*, 53(6), 3003-3022. https://www.researchgate.net/publication/334497937_Focus_group_methodology_some_ethical_challenges
- Stemler, S. E., Imada, T., & Sorkin, C. K. (2014). Development and validation of the wesleyan intercultural competence scale (wics): a tool for measuring the impact of study abroad experiences. *Frontiers: The Interdisciplinary Journal of Study Abroad*, 24(1), 25-58. <https://doi.org/10.36366/frontiers.v24i1.335>
- Stott, C. (2022). Partnering with students to support international students in an australian university setting. *International Journal for Students as Partners*, 6(2), 69-78. <https://doi.org/10.15173/ij sap.v6i2.4517>
- Wiles, R. (2013). What are qualitative research ethics? Bloomsbury Academic. <https://library.oapen.org/bitstream/handle/20.500.12657/58724/9781849666534.pdf?sequence=1>
- UN Women. (2024). *Breaking barriers: How STEM scholarships are empowering Kosovo's young women*. <https://eca.unwomen.org/en/stories/news/2024/08/breaking-barriers-how-stem-scholarships-are-empowering-kosovos-young-women>

- UNICEF, (2024). *Advocacy brief: Girls' vision for the future in Kosovo. Empowering girls in STEM.*
<https://www.unicef.org/kosovoprogramme/stories/advocacy-brief-girls-vision-future-kosovo>
- Yeh, C. J., & Inose, M. (2003). International students' reported English fluency, social support satisfaction, and social connectedness as predictors of acculturative stress. *Counseling Psychology Quarterly*, 16(1), 15–28.
<https://psycnet.apa.org/record/2003-06383-003>
- Zou, Y., & Fu, S. (2025). Navigating academic acculturation among international students: Peer networks, advising and field-specific challenges in STEM and non-STEM fields. *Journal of International Students*, 15(8), 161-184. <https://doi.org/10.32674/jis.v15i8.161>

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