Effect of minority-stress and representation on learning

A short literature review and autoethnographic approach

A. Ćuprija, N. Patel, L. Rosenquist Ohlsson

Abstract

This report explores how minority stress, microaggressions, and representation affect learning experiences in higher education. Through a combined approach of literature review and autoethnographic reflection, we examine the psychological mechanisms underlying feelings of exclusion in academic settings and their impact on student performance and well-being. The literature review establishes theoretical foundations by examining microaggression classification, minority stress theory, and the relationship between belongingness and academic success. Research evidence demonstrates that underrepresented students face a "chilly climate" characterized by reduced sense of belonging, which directly undermines cognitive capacity and academic achievement. We also consider inclusive pedagogical approaches that can mitigate these effects. Three autoethnographic accounts from doctoral students with diverse backgrounds including experiences as a "third culture kid," an international student navigating multiple European academic contexts, and perspectives on peer dynamics versus faculty representation illustrate how these theoretical concepts manifest in lived experiences. Our findings suggest that while structural representation matters, peer interactions and institutional climate play equally critical roles in fostering belonging. We conclude by emphasizing the need for institutions to move beyond superficial diversity rhetoric toward substantive measures that address both systemic barriers and the psychological impacts of exclusion in higher education. Such measures include comprehensive faculty training on cultural scaffolding and microaggression awareness, restructuring curricula to accommodate diverse backgrounds, creating intentional cross-cultural peer interactions, and implementing brief psychological interventions like social-belonging exercises that have demonstrated effectiveness in reducing achievement gaps. Ultimately, fostering authentic belonging requires coordinated efforts across individual, departmental, and institutional levels.

Introduction and Aim

The feeling of not belonging somewhere is something most people have encountered at some point in their lives. In higher education, this sense of exclusion can be amplified by systemic factors such as microagressions, biases and lack of representation. These experiences are not only emotionally exhausting but can also affect the learning process and students' participation in essential activities.

While diversity initiatives have become commonplace in higher education institutions, the gap between stated commitments and lived experiences remains significant. Students from marginalized backgrounds continue to navigate academic environments where subtle forms of exclusion persist, often invisible to those in majority groups. Research demonstrates measurable impacts on academic performance, mental health, and career trajectory.

Fortunately, there are frameworks that can help us explain why these feelings arise and how they impact academic performance. Understanding these mechanisms can help us develop strategies for inclusion and equity. In this report, we have reviewed some relevant literature and reflected on our own experiences through an autoethnographic lens. By combining theory with reality, we aim to identify challenges and propose practical measures, in hope that future generations will not have to endure negative consequences of exclusion in higher education.

Background & Literature Review

Microaggression and minority stress

Microaggressions are subtle and often unintentional verbal remarks, behaviours or actions that convey negative messages toward marginalized groups (Sue et al., 2007) and can be categorized into three types:

- Microinsults: Remarks, assumptions or behaviors that demean identity, e.g. questioning the competence of a female student of color.
- Microinvalidations: Dismissing systemic barriers or negating lived experiences by e.g. saying "I don't see race".
- Microassaults: Derogatory, and more deliberate, acts, such as making racial jokes or avoiding group work with minority peers (Sue & Spanierman, 2020; Berk, 2017).

In classrooms and labs, these behaviors manifest through e.g. repeatedly mispronouncing names, scheduling exams on religious holidays or ignoring women in discussions (Suárez-Orozco et al., 2015). Such acts create an unwelcoming climate and decrease students' confidence and engagement, often leading to withdrawal and reduced participation (Nadal et al., 2014; Johnson, 2007).

Minority stress theory, first articulated by Ilan Meyer in 2003, explains how these experiences build up over time and impact mental health of minority identities related to sexual orientation (Meyer, 2003). In this model, distal stressors include external prejudice and microaggressions while proximal stressors, as a result, involve internal stress processes and hypervigilance.

Together, the stressors increase risks of anxiety, depression, and lower self-esteem (Nadal et al., 2014). Minority stress also amplifies stereotype threat - the fear of confirming negative stereotypes - which, in academic contexts, can undermine working memory and problem-solving capacity (Meyer, 2003; Almarzouki, 2024).

The combined effect of microaggressions and minority stress lowers the cognitive capacity needed for complex tasks, which can explain why students report lower productivity and diminished sense of belonging. In turn, this discourages their participation in discussions, collaborative work, and leadership development, leading to systemic inequalities and lack of representation in many disciplines (Almarzouki, 2024; Ogunyemi et al., 2020).

Belongingness and representation

A student's sense of belonging in higher education critically influences their academic journey and well-being. Defined as a "fundamental human motivation" (Gopalan & Brady, 2020), belonging is a psychological "hub" facilitating positive outcomes (Gopalan & Brady, 2020). This feeling of acceptance is not peripheral but a key predictor of student success, engagement, and mental health. The literature reveals, however, that this belonging is not experienced equitably across all student populations.

Research links a student's sense of belonging to key success metrics (Walton et al., 2015). A national study of 4-year institutions found that greater belonging is positively associated with persistence, use of campus services, and better mental health (Gopalan & Brady, 2020). Conversely, a lack of belonging saps student motivation and directly contributes to "inequality in achievement" (Walton, 2021). This evidence positions belonging not as a peripheral feeling, but as a central mechanism for academic success.

Underrepresentation creates a "chilly climate" that undermines belonging for students from marginalized groups (Walton et al., 2015). National data confirm that underrepresented racial-ethnic minority and first-generation students report lower belonging at 4-year colleges (Gopalan & Brady, 2020). For example, in male-dominated engineering majors (<20% women), female students earned lower GPAs than male peers, a gap absent in gender-diverse majors (Walton et al., 2015). This stems from the marginalization of a "chilly climate," which imposes a cognitive burden that impairs performance, not from a lack of ability.

The literature shows a significant "belonging gap" linked to student representation that fuels academic and well-being disparities. Traditional institutional reassurances, however well-intended, often fall short because they may not fully acknowledge students' valid concerns or the environmental cues that undermine belonging, as they ignore legitimate student concerns and negative environmental cues (Walton, 2021). To foster genuine belonging and equity, institutions must move beyond rhetoric. They must address the structural and psychological barriers of a "chilly climate" to ensure all students have the foundational security needed to thrivein their learning.

Design

Inclusive pedagogics and adaptive measures

Fostering an inclusive classroom starts with teachers recognising their students' need for more inclusion (Banks, 1993; Gay, 2013; Sandoval et al., 2020), especially during remote teaching (Senathirajah et al., 2025). Educators tend to agree that effective teaching requires mastery of both content knowledge and pedagogic skills, but only a few are enthusiastic about multicultural education (Gay, 2002). This does not have to be seen as a high-cost adaptation, but rather a more varied style of teaching. Using culturally diverse examples, cases, and metaphors in teaching materials can better the learning outcomes for all students, and allowing multiple modes of demonstrating competence (oral, written, multimodal) can even out the playingfield, so to speak.

Gay (2002) focuses on a North American teaching environment and highlights the importance of teachers' knowledge going beyond the basics of cultural diversity. It is not just the awareness, respect, or general recognition of the fact that ethnic groups have different values, or may express similar values in various ways. Gay (2002) also mentions the impact housing conditions and other factors outside of the classroom can have on achievements in the classroom. In their paper, it is mentioned that certain ethnic groups are given priority to communal living, which is not the case for Sweden. However, Lund has separate housing specifically for students of non-European citizenship, meaning the housing situation could look different for different groups after all. This is valid both for teaching in- and outside the classroom. Remote teaching can both amplify or alleviate inequalities. Students with unstable housing, limited quiet space, limited resources, or low-quality internet are at higher risk of disengagement (Senathirajah et al., 2025). Remote teaching can also add a certain level of anonymity, without the camera turned on, or a nametag showing, all students are equally able to share their own identity, academic or not. In-person settings can in contrast offer more opportunities for spontaneous interactions, observational cues, and informal support, and contribute to a satisfactory learning outcome in a more efficient, and natural manner.

Schachner et al. (2021) discusses two pathways to a more inclusive teaching style: *common-inground* and *multicultural*. *Common-inground* refers to a similarities-focused style, which promotes feelings of belonging, reduces perceived threat, and avoids essentialising identity categories for students. *Multicultural* instead refers to a differences-focused style, where minority students' cultural identities are validated, fostering authenticity and psychological safety. The most inclusive learning environment, Schachner et al. (2021) concludes, integrates both. Examples of this include (i) highlighting previous work of a varied group of researchers, not only the historical majority (white men), (ii) not letting students decide their own groups in the beginning of courses, but force them to mix so that the students encounter different peers and no one is left out, (iii) incorporate a varied examination style (oral, written, or hybrid), and (iv) focus on the subject that all students have chosen to study, but at the same time remember that every student is an individual.

Autoethnographic approach

Reflection: Ajsa

Being raised in the fusion of a Bosniak home and a Swedish small town has its pros and cons when entering academia. As a so-called "third culture kid," I developed a blended cultural identity, adaptability to new situations, and cultural awareness. However, not fully belonging to any single culture can create a sense of rootlessness and make it difficult to establish long-term connections. In both Sweden and Bosnia, I often get the question: "Where are you really from?" - a subtle reminder of not really belonging anywhere to a full extent, and a microaggression communicating exclusion.

None of these feelings stopped me from completing postgraduate studies in physics or securing a position in STEM, but they may have been detrimental to my mental health. I often had a tendency to overthink and overdo things, like performing excessively well to make sure I am "worth my spot", aligning with the mentioned theory about distal and proximal stressors (like the fear of confirming negative assumptions about me) consuming cognitive resources.

Coming from a pretty equal classroom, I noticed a clear difference in representation when starting my bachelor's at Chalmers: mostly white men among peers and teaching assistants, while lecturers consisted of both men and women. Nevertheless, I made both male and female friends, and some of them with roots outside Sweden, so I never felt completely isolated. I even joined organizations for female and non-binary students and equality within the program. These actions, I suppose, were ways to create belonging in an environment with limited representation, and to understand the latter.

My master's program, taught in English, allowed for interactions with international exchange students. Suddenly, I was on the other side of the table, being in a Swedish-speaking majority, and I often found myself choosing to study with Swedish-speaking peers, likely seeking familiarity. In my PhD studies, the environment became highly international - nobody belongs and thus, everyone belongs! The microaggression I run into nowadays is Swedish-speaking staff often assuming I can only communicate in English, likely due to my name and appearance, reminding me of my inner "third culture kid".

Reflection: Nishant

My path from India to Europe has been shaped as much by shifting environments as by the subjects I studied. During my Bachelor's and Master's studies in India, academia felt familiar in ways I never had to think about. The cultural rhythm of classrooms, the shared assumptions, and the ease of communication created a sense of belonging that made the challenges of being a student feel more manageable. Even without a family roadmap, the environment itself felt like home.

This changed when I moved to France for my international Master's in material science. I found myself in a landscape where students often arrived with pre-existing networks and a shared cultural language that I wasn't yet part of. It wasn't hostility, just a kind of subtle distance that's natural when people have grown up together. I attended classes, studied on my own, and often retreated to my dorm. I hesitated to participate, not because I lacked curiosity, but because I

worried about standing out or not quite fitting the academic and social rhythm around me. My learning became more functional than engaging, and that surprised me.

Italy offered a shift. The atmosphere felt more open, and I found it easier to connect with peers and navigate academic life. And now, in Sweden, pursuing my PhD in physics, I'm part of an international research group where everyone has arrived from different places. I often think that there's comfort in a community where no one automatically belongs, so everyone makes space for each other.

Here, I've found my confidence again. I ask questions, I participate and I feel present. Maybe experience plays a role, but I also believe environments profoundly shape how freely we can show up. Even imperfect forms of representation, not about appearance, but about shared experiences of navigating new systems can create enough room for belonging to take root.

Reflection: Lovisa

Throughout my higher education, I have rarely questioned whether the social group I "belong to" have been represented among my teachers. I am a white woman, who has a tendency to take up a lot of social space and find most subjects very interesting. Even during my second exchange in Mozambique - a beautiful country in southern Africa - no thought of lack of representation struck me. Although now that I look back at it, I realize that I was one out of only two white students, while all lecturing staff through all three courses I took, were of European or Middle Eastern descent, and the remainder of my *colegas* (classmates are referred to as colleagues in Mozambique) were black. It was a wonderful learning environment, and I made great friends in those classes, but the culture differed from the academic environment in Lund. Teachers, no matter their education, are referred to as *Professors* and their last name, classmates are referred to as *colegas* and there is a strict dress code. Yet, I would say I felt that I belonged in this classroom to a much greater extent than the one I experienced in Svalbard.

My first exchange took place on an Arctic island in Svalbard, where there is no native population - whoever lives on Svalbard moved there. Its students and staff are a mix of people from all over the globe, many with Scandinavian ties. It is a beautiful place, and I made good friends, but I did not feel that I belonged. My fellow students were at times very competitive, at times rude, and at times even bullying me and other students. I learned a lot here because I was deeply interested in the topics, and I enjoyed a social life because I was lucky to have good roommates, but the classrooms were not remotely as inclusive, or as welcoming, as that of Mozambique.

I have had a similar experience in Lund, with me feeling more belongingness in a classroom with international students, rather than those of Scandinavian. I realize that the belongingness is not, at least for me, affected by the teaching staff, but by my fellow students. Group work or not, a classroom with students that I feel more comfortable around, makes me more motivated to study and be engaged in the classroom.

Summary

Our reflections reveal how belonging and learning in higher education are shaped by context. Across different countries and institutions, we had different experiences of inclusion, sometimes enhanced by microaggressions such as subtle exclusions or assumptions based on language and appearance. These experiences align with the taxonomy, showing that classroom climate strongly influences engagement.

Representation is a recurring theme, yet our stories suggest that peer dynamics often matter more. While gaps in staff diversity were noted, we emphasize that collaborative and supportive peer environments foster confidence and motivation to participate in our studies. This supports research highlighting social integration as a key driver of belonging.

Minority stress theory helps explain some of our coping strategies: to either overperform in order to “prove one’s worth” and fight stereotype threat or to withdraw from certain contexts and potentially miss out on meaningful learning activities. This can be tied to Meyer’s proximal stressors, which may consume cognitive resources and reduce participation.

Together, our reflections and theory highlight the need for inclusive classroom practices that address peer climate, so future students can thrive without the burden of proving they belong.

Assessment and evaluation

As mentioned, responsibility for creating an inclusive climate falls partially onto the students themselves, but teachers have a crucial role in this. Blended learning activities and forms of examination - written or oral, solo or in mixed groups - should offer varying ways of attaining and demonstrating competence to accommodate diverse strengths. While minority status and belongingness should not influence grading, considering e.g. religious holidays can remove unnecessary barriers. Keeping the students anonymous while grading can also help them feel safe against stereotype threat and subconscious biases that teachers may have. Evidently, teachers can do so many small things to create a welcoming classroom.

To evaluate the proposed measures, the assessment would have to reflect both academic achievements and inclusivity of the learning environment. Collecting anonymous student feedback may help quantify their comfort in certain activities, the fairness of the teacher’s grading, participation in collaborative work, and other factors that may impact the experienced level of inclusivity. Comparing this feedback, participation rates, and grades before and after implementation should provide a view of the impact . This approach ensures that evaluation is not only a measure of knowledge but also of whether the learning environment supports equity and authentic belonging.

Contributions

All authors wrote their own autoethnographic account, but commented and revised the full paper. The authors have contributed specifically to the following parts:

Ajša Ćuprija: Introduction, Micro Aggression and minority stress, Summary of Autoethnographic approach, Assessment and Evaluation

Nishant Patel: Abstract, Belongingness and representation, Feedback from Peers and Presentation slides

Lovisa Rosenquist Ohlsson: General outline, final touches and Inclusive pedagogics and adaptive measures

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Appendix: Feedback from peers

Peer feedback highlighted some areas for improvement. They encouraged clarifying how widespread the problem or theoretical model is. They recommended specifying whether microaggressions tend to come more from peers or teachers, and offering more concrete, practical strategies that teachers can implement. They also suggested briefly addressing how remote teaching relates to the topic. Additionally, peers noted the importance of discussing the fine line teachers navigate between being inclusive and overstepping, and advised strengthening the connection between the autoethnographic reflections and the theoretical framework. They requested clearer examples of assessment criteria and emphasized the need to moderate strong expressions to maintain an academic tone.

In response to this feedback, we added citations where needed, included concrete solutions that teachers can practically implement, and adjusted some expressions to maintain appropriate academic tone. We also summarized our autoethnographic reflections to compare our experiences and to connect them with minority-stress theory. We also have added another section about Assessment and evaluation which should help teachers to implement practical strategies.