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Academic and Personal Stress, Self-Esteem, Self-Efficacy, and Sociopolitical Behaviour among European University Students: A Scoping Review

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Systematic Review

Keywords: University students, Stress, Self-esteem, Self-efficacy, Sociopolitical behaviour, Civic engagement, Scoping review, Europe, Psychological well-being, Political participation

Posted Date: November 3rd, 2026

DOI: https://doi.org/10.21203/rs.3.rs-11564459/v1

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Additional Declarations: The authors declare no competing interests.

Abstract

Background

Stress, self-esteem, self-efficacy, and sociopolitical behaviour are relevant to university students' psychological well-being and civic engagement. However, evidence on the relationships between these constructs remains fragmented in Europe. This scoping review mapped empirical research examining associations between at least two of these constructs among university students aged 18–26 years in Europe and identified gaps in the evidence.

Methods

Following Joanna Briggs Institute methodology, the review was reported in accordance with the PRISMA Extension for Scoping Reviews (PRISMA-ScR). Systematic searches of PubMed, ERIC, and EBSCOhost were conducted between July and September 2025, supplemented by a narrative search between September and October 2025. Eligible studies were peer-reviewed empirical quantitative, qualitative, or mixed-methods studies published in English or German between 2015 and 2025. Studies were included if they examined relationships between at least two predefined constructs among university students in Europe. Data were synthesised using descriptive mapping and thematic synthesis.

Results

Of 1,201 records identified, 81 duplicates were removed. Following title and abstract screening of 1,120 records and full-text assessment of 44 articles, 19 studies were included. Studies covered Germany, Poland, Sweden, Belgium, Italy, Norway, Turkey, the Netherlands, and cross-national European comparisons. Most employed quantitative cross-sectional designs (n = 13; 68%), while three used qualitative interviews, one employed mixed methods, and two used longitudinal designs. Samples varied considerably, predominantly comprising higher education students. Stress, self-efficacy, and self-esteem were generally assessed using standardised instruments, whereas sociopolitical variables were measured more contextually. Most studies examined stress alongside psychological resources, particularly self-efficacy. Fewer investigated sociopolitical participation alongside psychological constructs, and direct empirical integration across all four constructs remained limited.

Conclusion

Research linking psychological resources and stress with sociopolitical behaviour among European university students remains limited. Although self-efficacy appears relevant to both well-being and democratic participation, integrative evidence is scarce. Interdisciplinary, cross-national research could

clarify these relationships and inform university strategies supporting student resilience, psychological well-being, and active citizenship.

1. Background

Dimensions Specification and their interrelation

University students encounter academic and personal demands that may generate stress while navigating a developmental period characterised by increasing autonomy, identity formation and transitions in education, employment and financial independence [1],[2]. At the same time, higher education constitutes an important social and institutional context in which students develop and exercise sociopolitical behaviour, including participation in governance, representation and collective action [3],[4]. Self-esteem and self-efficacy represent psychological constructs relevant to how students respond to academic and personal demands and engage in sociopolitical behaviour.

The sociopolitical behaviour of students under stress can be understood through several complementary theoretical perspectives, each emphasising different resources, burdens and processes of socialisation with which individuals internalise social norms, values and ideologies [5]. The Civic Voluntarism Model highlights that resources such as time, money and civic skills enable political participation [6], whereas a grievance-perspective suggest that sudden negative shocks, such as economic crises or unemployment, may trigger protest even under conditions of resource loss [7],[8]. Empirical evidence from Europe indicates that both mechanisms may operate depending on context and historical period [9]. An interactionist socialisation perspective further emphasises that practical political experiences in schools and universities, for example through organising events or holding representative positions, may foster democratic norms, reduce exclusionary attitudes and build trust that supports later civic engagement [3]. Capital and mobilisation approaches combine the logic of civic sources with Bourdieu's concept of capital [10] by highlighting how social background, networks and access to resources influence participation in formal student politics [11]. Perspectives focusing on peers and social norms additionally emphasise the role of identity development, perceived peer behaviour and normative expectations in shaping political action and restraint [12]. Together, these perspectives highlight the roles of individual resources, adverse experiences, social relationships and institutional contexts in shaping sociopolitical behaviour.

The transactional model of stress and coping by Lazarus & Folkman (1984) [13], provides a complementary perspective on how environmental demands are appraised in relation to available coping resources. Within this framework, stress arises when a person perceives their available resources for coping as insufficient to manage the demands of a stressful situation [13]. Self-esteem and self-efficacy represent distinct psychological constructs that may be relevant within this process. Self-esteem refers to an individual's favourable or unfavourable attitude towards the self [14], whereas self-efficacy refers to beliefs concerning one's capability to organise and execute actions required to achieve desired outcomes [15]. Political efficacy is a related but distinct construct concerning perceived capacity to

influence political processes and perceptions of institutional responsiveness [16]. This distinction is particularly relevant when considering research on sociopolitical behaviour, in which political efficacy may be examined alongside general self-efficacy but should not be treated as equivalent to it.

The transactional perspective provides a conceptual link between environmental demands, stress and psychological resources, while participation theories provide a complementary link between resources, opportunities and sociopolitical behaviour. Together, these perspectives provide a framework for examining how the four constructs considered in this review may be related, without presupposing a single direction or causal pathway.

Empirical research has examined different parts of this conceptual field. Studies in Europe have demonstrated that different forms of stress are associated with specific outcomes in sociopolitical behaviour. Academic stress and low psychological well-being have been associated with declining civic engagement, whereas higher well-being, particularly during crises such as the COVID-19 pandemic, has been associated with greater involvement in volunteering and organised forms of participation [17]. Financial pressures have shown different patterns: chronic resource deprivation may reduce institutional participation, while sudden economic shocks, such as rising unemployment, may mobilise protest and collective action [9]. Student protests against tuition fees have similarly been examined as responses to perceived financial risks and the marketisation of higher education [18]. Social pressure and normative stress may also influence whether students choose activist expression or political restraint [12].

Sociopolitical factors can themselves become stressors and may affect both well-being and political engagement. In a survey of US college students, Hispanic and Latinx students, women and sexual minority students reported higher election-related stress, which was associated with stronger depressive symptoms [19]. Longitudinal data from college students identified distinct stress trajectories, with the group characterised by high but decreasing stress showing the strongest civic engagement; this group was disproportionately composed of LGBTQ+ students, women, and transgender or gender-diverse students [20]. Other research has indicated that marginalised students and those strongly affected by the COVID-19 pandemic were more likely to engage in critical forms of activism and protest, whereas support for existing power structures was more closely associated with electoral participation [21]. Diary research has further examined relationships between daily political activity, anticipated election-related stress and exposure to stressors [22]. These findings illustrate that stress and sociopolitical behaviour have been examined as connected domains, while also showing substantial heterogeneity in populations, contexts and forms of behaviour.

Research has also examined relationships between self-esteem, self-efficacy and political behaviour. Self-esteem has been examined as a predictor of civic and political activity in young adulthood [23], while general self-efficacy has been shown to predict political participation among young individuals, including turnout among first-time voters [24]. Political efficacy has also been examined as a mediating factor through which socioeconomic status relates to participation [25] and as a mediator of the relationship between general self-efficacy and political engagement [26]. Survey evidence in the USA has

further suggested that intensive campaign activism increases one's sense of internal political efficacy [27]. European studies have reported generally positive, although sometimes inconsistent, associations between self-esteem and civic engagement [28]. Conversely, low self-esteem has been associated with reduced empathy and lower volunteering in research concerning young adults and social media use [29]. Reviews further emphasise the importance of distinguishing self-esteem from related constructs such as narcissism, because relationships between self-esteem and political interest and engagement may be weaker or context-dependent [30].

Cross-national and demographic variation

Student political behaviour is shaped by national context, institutional arrangements, field of study and social background. Comparative studies across European countries [31],[32],[18],[33],[34] have shown that students attribute different meanings to participation depending on historical and institutional settings. Comparisons between England and Ireland have indicated that contrasting higher-education policies and market structures shape students' political perceptions [31]. Cross-national surveys suggest that graduates from humanities and social science fields, as well as those with advanced degrees, are more likely to engage in political participation, although mechanisms vary by country [34]. Multisite youth surveys identify gender, social class, family political socialisation and political knowledge as predictors of participation across Europe [33]. Turnout analyses in European elections have likewise highlighted education and political interest as determinants across different states [32].

Such variation is relevant to the present review because it points to the importance of considering institutional, socioeconomic and political context when examining relationships among stress, psychological resources and sociopolitical behaviour. Moreover, most of the available literature reports evidence from outside Europe, and particularly from Anglophone contexts [19],[20]. Findings from these settings cannot simply be assumed to represent European university students. A European-focused evidence map is therefore needed to establish which relationships involving academic or personal stress, self-esteem, self-efficacy and sociopolitical behaviour have been investigated and how these relationships have been examined within higher-education contexts across European countries.

Evidence gap and rationale for the scoping review

The reviewed literature indicates that relationships among academic and personal stress, self-esteem, self-efficacy and sociopolitical behaviour have been examined in multiple studies, but the evidence remains fragmented. Preliminary screening has shown that the intersection between the four constructs is under-researched. Whereas psychological studies often investigate stress, self-esteem, or self-efficacy in relation to academic performance or well-being [35],[36],[37],[38], sociological and political science research primarily addresses civic participation or political efficacy [27], rarely linking these variables explicitly. Studies have addressed different parts of this conceptual field, including relationships between stress and sociopolitical behaviour, between self-related resources and sociopolitical behaviour, and between stress and psychological resources. The available evidence, however, has not consistently examined all four constructs within the same study. Moreover, it remains unclear how global self-esteem

relates to specific political actions among students in Europe, and how different forms of stress (academic, financial, social) relate to different modes of sociopolitical participation within the European higher-education context. This fragmentation makes it difficult to determine which relationships among academic or personal stress, self-esteem, self-efficacy and sociopolitical behaviour have been examined among European university students aged 18–26 years, which combinations have received attention, and where evidence remains limited or absent.

This represents the central evidence gap addressed by the present review. Requiring studies to examine all four constructs together would result in little or no evidence. The present review therefore includes studies examining relationships involving at least two of the four constructs. This allows the different combinations of constructs that have actually been studied to be mapped and synthesised without requiring all four constructs to be examined together or imposing a single causal direction on their relationships. A scoping review was considered appropriate to systematically map this heterogeneous and fragmented body of evidence, including the relationships investigated and areas where evidence remains limited or absent.

The review was conducted as the evidence-mapping component of the broader research project “From Self to Society: Psychosocial Determinants of Political Efficacy and Civic Engagement in Psychology Students” (SENSE (ANONYM)). The project employs a mixed-methods approach to investigate how psychology students experience and interpret the interplay between psychological resources and diverse personal, academic, financial, social and political stressors, including the role of socioeconomic and sociodemographic conditions, coping, political efficacy and social behaviour.

Germany provides the empirical context for the SENSE project. Research among German university students has already examined perceived stress and study-related stressors, with studies conducted at TU Dortmund and other German universities [39],[40]. The present scoping review extends this contextual evidence by providing a European map of empirical research examining relationships involving academic or personal stress, self-efficacy, self-esteem and sociopolitical behaviour among European university students, and identifying relevant evidence gaps.

Objective

This scoping review aims to systematically map and synthesise empirical research examining relationships involving at least two of the following constructs - academic or personal stress, self-esteem, self-efficacy, and sociopolitical behaviour - among university students in Europe.

Research question

How has empirical research examined relationships involving at least two of the following constructs - academic or personal stress, self-esteem, self-efficacy, and sociopolitical behaviour - among university students aged 18–26 years in Europe?

2. Methods

A scoping review was conducted to identify and synthesise empirical evidence [41] in order to examine the relationships involving at least two of the following constructs - academic or personal stress, self-esteem, self-efficacy, and sociopolitical behaviour - among university students in Europe. The review followed the Joanna Briggs Institute methodology for scoping reviews [42] and is reported in accordance with the PRISMA Extension for Scoping Reviews (PRISMA-ScR) [43].

The protocol for the overarching project “SENSE (ANONYM)”, of which this scoping review forms a part, was preregistered (https://doi.org/10.17605/OSF.IO/CZQ5J). Ethical approval for the overarching project was obtained (SR-EK-371082025). Separate ethical approval was not sought for the scoping review, as it did not involve the collection of original data from human participants.

Inclusion and Exclusion Criteria (PCC Criteria)

Eligibility criteria were defined using the Population–Concept–Context (PCC) framework.

Inclusion criteria

Studies were eligible if they included university students aged 18–26 years (Population) enrolled in higher education institutions in Europe (Context) and investigated associations between at least two of the following predefined constructs: academic or personal stress, self-esteem, self-efficacy, and sociopolitical behaviour (Concept). For studies in which the age of the university student population was not explicitly reported, the reported mean age was used as the reference value, provided that it fell within the predefined age range of 18–26 years. In studies comprising multiple populations, including university students, only data specifically pertaining to the university student population were extracted and considered for the analysis. Such studies were eligible for inclusion only when the results for the university student population could be clearly and separately identified. Only empirical quantitative, qualitative, or mixed-methods studies published in peer-reviewed journals between 1 January 2015 and 31 December 2025 were considered. The predefined publication date criterion was implemented according to the database-specific search functionalities and available filtering options. The date limits were applied using the respective database settings or, where necessary, incorporated directly into the search strategy. The database-specific search strategies are presented in **Supplementary Table 1.**

The a priori 10-year publication period was defined to ensure both operational feasibility and contemporary conceptual relevance, in accordance with Item 6 of the PRISMA-ScR checklist [43]. This time frame was selected to capture recent developments in European higher education, including contemporary academic stressors and evolving forms of sociopolitical behaviour in an increasingly digitally mediated environment. Restricting the review to the most recent decade was intended to maintain a manageable screening scope while ensuring that the synthesized evidence reflects current educational and sociopolitical contexts and therefore has greater relevance for contemporary research and policy.

Exclusion criteria

Publications had to be available in English or German. Conference abstracts, conference proceedings, dissertations, grey literature, and studies conducted outside of Europe were excluded.

Search Strategy

The search strategy and study selection process were developed in accordance with the PRISMA-ScR guidelines for scoping reviews [43]. Search terms were identified through iterative pilot searches and comprised both controlled vocabulary and free-text terms related to the predefined concepts of stress, self-esteem, self-efficacy, sociopolitical behaviour, university students, and Europe.

To develop a comprehensive and reproducible search strategy, preliminary combinations of search terms and keywords were tested in PubMed, ERIC, and the EBSCOhost platform. EBSCOhost provides access to several relevant bibliographic databases, including APA PsycInfo, APA PsycArticles, PSYNDEX Literature with PSYNDEX Tests, and International Political Science Abstracts. Titles, abstracts, and keywords of potentially relevant articles identified during the pilot searches were examined to identify additional terminology, synonyms, and relevant indexing terms. These terms were subsequently incorporated into and used to refine the final search strategy. In addition, ChatGPT-4 was used as a supplementary tool to support the refinement and optimisation of the final search string.

The final systematic database searches were conducted in PubMed, ERIC, and EBSCOhost between 22 July 2025 and 1 September 2025. To identify potentially relevant studies that may not have been retrieved through the database searches, and thereby reduce the risk of omitting eligible literature, a supplementary narrative search was conducted between 1 September and 4 October 2025. The initial search results were independently reviewed by two additional researchers on September 10 and 16, 2026. Disagreements were resolved by discussion and consensus.

The search terms were applied to the title, abstract, and keyword fields, where available. Within each conceptual category, synonyms and related terms were combined using the Boolean operator OR, while the different conceptual categories were combined using AND (**Table 1**).

[Insert Table 1]

The search strategies applied to each database are presented separately, reflecting the respective database-specific search functionalities and indexing systems (**Supplementary Table 1**).

Study Selection

The searches described above yielded a total of **1201** records (scoping review: *PubMed* = 322; *ERIC* = 778; *EBSCOhost* = 82; narrative search: n = 19).

All records were imported into Zotero (Corporation for Digital Scholarship, 2023) for reference management. Using the software Rayyan (version 1.7.8) [44], 81 duplicates were removed, leaving 1120

unique records for screening. The titles and abstracts of these records were screened according to the predefined inclusion and exclusion criteria, resulting in the exclusion of further 1076 records. The main reasons for exclusion were an incorrect concept (n = 779; e.g., studies without reference to stress, self-esteem, self-efficacy or sociopolitical behaviour), an incorrect population (n = 172; e.g., clinical samples, employed populations, or age groups outside the target range), and an incorrect context (n = 125; e.g., studies conducted outside Europe).

The remaining articles (n = 44) underwent full-text review in accordance with the PCC criteria. During this phase, 25 studies were excluded: six due to an incorrect population, seventeen due to a concept outside the scope of the review, one because it was published before 2015, and one identified as grey literature. Nineteen studies met all inclusion criteria and were included in the final synthesis of this scoping review. The entire selection process is presented in a flow diagram illustrating the different phases of study selection, adapted from the PRISMA statement [45] following the PRISMA-ScR guidelines [43] (Fig. 1).

[Insert Fig. 1]

Data Charting and Synthesis

Data from the 19 included studies were systematically summarised in a data extraction table (**Supplementary Table 2**). The extraction process followed the methodological guidance of Pollock et al. (2023)[46], which emphasises transparency, consistency, and conceptual alignment with the review objectives.

The following information was extracted from each study:

- Study details: authors, year of publication, and keywords
- Participant characteristics: age range, sample size, and field of study
- Study design: country, methodological approach (quantitative, qualitative, or mixed-methods)
- Variables and measures: constructs assessed (e.g., stress, self-esteem, self-efficacy, sociopolitical behaviour) and measurement instruments used
- Context: academic setting, cultural or regional characteristics
- Main findings: key results relevant to the relationship between stress, and/or self-related constructs, and/or sociopolitical behaviour

The extracted data were analysed using both descriptive mapping of study characteristics and thematic synthesis [46]. Relationships between stress, self-esteem, self-efficacy, and sociopolitical behaviour were synthesised narratively to identify common findings, methodological characteristics, and gaps in the literature. Quantitative information (e.g., publication year, country, and study design) was summarised descriptively, while qualitative information (e.g., conceptual focus, contextual aspects, and core findings) was synthesised thematically to identify overarching trends and conceptual linkages.

Based on the extraction table (**Supplementary Table 2**), the studies were systematically compared in terms of their conceptual focus, research design, and operationalisation of variables. Furthermore, similarities and differences in participant characteristics, contextual factors, and findings were analysed to identify emerging patterns, methodological consistencies, and research gaps across the included literature. The combination of descriptive and thematic approaches enabled a comprehensive overview of how stress, self-related factors, and sociopolitical behaviour have been investigated within European university contexts.

3. Results

Study Characteristics

In total, 19 studies met the inclusion criteria, with publication dates ranging from 2015 to 2025 (**Supplementary Fig. 1**). Study characteristics, including design, sample characteristics, and data collection instruments, are presented in **Supplementary Table 2**, while the principal findings are summarised in **Supplementary Table 3**.

The majority of studies (68%; n = 13/19) employed a quantitative, cross-sectional design [47],[48],[35],[3],[37], [17],[34],[49],[50],[38],[51],[52],[23]. Three studies used qualitative interview approaches [18],[53],[11], while one study applied a mixed-methods design [54]. Two studies used longitudinal designs [36],[55], enabling the examination of changes over time.

The included studies represented a diverse geographical distribution, encompassing Germany, Poland, Sweden, Belgium, Italy, Norway, Türkiye, and the Netherlands, as well as several cross-national European comparative studies [3],[17],[34]. Sample sizes varied considerably, ranging from four to 27118 participants, reflecting substantial heterogeneity in study scope and methodology. With respect to the study populations, most samples consisted exclusively or predominantly of students enrolled in higher education. However, several studies included broader or comparative populations, incorporating university staff, graduates, or young adults who were not enrolled in formal higher education [18],[23]. In terms of disciplinary orientation, the included research was predominantly situated within the social sciences, psychology, and medical education, although some studies addressed broader educational and policy-related contexts.

Overall, the evidence base was characterised by considerable heterogeneity in study design, geographical setting, sample size, and population characteristics, with university students representing the primary population of interest.

Variables and Measures

Across the 19 included studies, the constructs of stress, self-efficacy, self-esteem, and sociopolitical behaviour were operationalised through a range of established self-report instruments and qualitative approaches. Detailed information on variables and measures is provided in **Supplementary Table 2**.

Stress was commonly assessed through validated scales such as the Perceived Stress Scale (PSS) [36], [52], the Perceived Stress Questionnaire (PSQ) [35], or the Maslach Burnout Inventory – Student Survey (MBI-SS) [48]. Several quantitative studies embedded stress indicators within broader well-being or mental-health frameworks, including the Hospital Anxiety and Depression Scale (HADS) [54],[52], while others used adapted or ad hoc scales reflecting academic or emotional strain [47]. Self-efficacy was most frequently measured using general or academic versions of the General Self-Efficacy Scale (GSE) [48],[38],[52], the Student Self-Efficacy Scale (SSE) [35], or a four-item scale adapted from Galand et al. (2010) [56], measuring academic self-efficacy beliefs [47]. Some studies applied ad hoc or intervention-specific items [54],[38] or derived political self-efficacy indicators from civic-engagement surveys [3],[34], [50]. Self-esteem was most consistently assessed using the Rosenberg Self-Esteem Scale (RSE) [36], [49],[51],[23]. One study employed the Multidimensional Self-Esteem Inventory (MSEI) [23], and others measured self-esteem using seven items derived from a subscale of the Basic Character Inventory (BCI) [55]. Sociopolitical variables were less frequently assessed and showed greater diversity in operationalisation. The measurement instruments included the Active Citizenship Index [34] and Civic Engagement Scale [17]. Qualitative studies also addressed sociopolitical behaviour and related self- and stress-related experiences through interviews and focus groups: Hjeltnes et al. (2015)[53] explored academic evaluation anxiety and students' experiences of self-acceptance; Lübcke et al. (2018) [11] investigated political participation in relation to students' ability, willingness, and opportunities to become politically active; and Brooks et al. (2020)[18] examined students' political engagement and perceived capacity to exert political influence. Overall, the reviewed studies show substantial variability in measurement approaches: while stress, self-efficacy, and self-esteem were typically assessed using standardised instruments, the operationalisation of sociopolitical variables was more context-specific, reflecting disciplinary and national differences in higher-education research.

Relationships between constructs

Across these included studies (n = 19), eleven investigated relationships between stress and self-efficacy or self-esteem [47],[54],[48],[35],[36],[53],[37],[38],[55],[51],[52]. Across these studies, self-efficacy frequently appeared as a protective or mediating factor in the context of stress, particularly regarding burnout [48], emotional exhaustion [38], and academic adjustment [54],[35]. Hatun & Türk Kurtça (2025) [36] identified a negative relationship between self-esteem and perceived stress and reported an additional link between academic self-efficacy and college belongingness. College belongingness refers to a student's sense of connection and integration within their university community, and it is rooted in the fundamental human drive to connect with others and feel part of a group [36].

De Clercq et al (2024)[47] and Gellisch et al (2024)[35] highlighted stress within the academic transition and its relation to self-efficacy, whereas Sletta et al., (2019)[55] examined stress and self-esteem as predictors of subjective well-being among medical students. Other studies [53],[51] explored social or performance stress in connection with the concept of self-esteem, while Lazarewicz et al. (2025)[37] and Tandon et al., (2024)[52] incorporated stress within broader mental-health frameworks that included self-efficacy. Two studies addressed relationships between stress and sociopolitical behaviour [18],[37]. Both

discussed stress as a contextual factor limiting civic or political participation and noted that high stress levels could reduce students' perceived capacity to engage politically; however, these connections were descriptive rather than statistically tested. Five studies examined associations between sociopolitical variables – such as political self-efficacy, civic engagement, or active citizenship – and self-efficacy or self-esteem [3],[17],[34],[50],[23]. Whereas Kiess, et al. (2024)[3] and Mühleck & Hadjar (2023)[34] focused on political efficacy as a determinant of civic participation, Pavlopoulos et al., (2020)[50] on political efficacy as a mediator between political interest and participation, and Zalewska (2023)[23] on self-esteem and self-efficacy as predictors of citizenship activity. Marciniak et al. (2022) [17] related psychological well-being to civic engagement and referred to prior evidence linking stress and self-constructs to participation during the pandemic period. Lastly, one study investigated the direct relationship between self-efficacy and self-esteem, finding a strong positive association between the two constructs [49].

Overall, most empirical work concentrated on stress in relation to self-related variables, whereas only a few studies connected psychological and sociopolitical dimensions within the same analytic framework. **Supplementary Fig. 2** illustrates the distribution of studies according to the variable combinations they examined.

4. Discussion

This scoping review was the first to be conducted with the aim of mapping and synthesising the research literature examining relationships involving at least two of the following constructs, academic or personal stress, self-esteem, self-efficacy, and sociopolitical behaviour, among university students in Europe. The scoping review identified 19 studies published between 2015 and 2025 that met all inclusion criteria after a thorough selection process that considered predefined concepts, populations, and contexts. The included studies examined relationships involving different combinations of these constructs, primarily using quantitative and, to a much lesser extent, qualitative and mixed-methods designs. Variations were noted in research designs across different studies, reflecting diverse methodological approaches, country-specific contexts and sample characteristics, including age range and field of study. Key findings revealed connections between stress and self-related constructs, including relationships involving sociopolitical behaviour. The results emphasised that while individual studies have explored some of these relationships, there is a significant evidence gap regarding their combined examination. This highlights the fragmented nature of existing research, which often focuses on one or two constructs without a comprehensive view.

Interpretations of findings

Across the nineteen studies included in this scoping review, several consistent patterns and a number of notable inconsistencies emerged.

Constructs

The findings reinforce the relevance of the scoping approach adopted in this review: only 19 studies met the eligibility criteria, and the evidence was distributed across different combinations of the four constructs rather than examining all four within the same study. Most studies focused on stress, self-esteem, and/or self-efficacy, while only seven addressed sociopolitical behaviour, highlighting the limited evidence available on how these factors intersect with sociopolitical participation among European university students.

Studies focused on stress in relation to self-efficacy or self-esteem, for example, by examining how perceived stress predicted burnout and academic exhaustion [48],[38] or how self-efficacy functioned as a buffer against psychological strain and emotional distress [54],[52]. Longitudinal and cross-sectional studies also highlighted inverse associations between perceived stress and self-esteem, showing that higher self-esteem was linked to lower stress and greater life satisfaction [36],[55]. Studies focused on individual coping and adaptation within higher-education contexts rather than on collective or civic outcomes.

The most consistent finding concerns the protective and mediating role of self-efficacy. Studies revealed that university students with higher levels of general or academic self-efficacy reported lower perceived stress, reduced burnout and greater well-being (e.g., [48],[38],[52]). These results suggest that efficacy beliefs function as central psychological resources that buffer stress and promote adjustment to academic demands. In several studies, self-efficacy also mediated the relationship between stress and positive affect or sense of belonging, underlining its importance for motivation and emotional resilience [35],[36],[38]. Evidence on self-esteem was comparatively scarce but showed similar trends. Where assessed, higher self-esteem correlated negatively with perceived stress and positively with well-being and life satisfaction [55],[51],[23]. Yet, unlike self-efficacy, self-esteem was rarely treated as an explanatory or mediating variable. It rather appeared as a general indicator of psychological health [36]. This imbalance in the literature identified by this review reflects the dominance of functional constructs such as self-efficacy in contemporary educational and health psychology and indicates that the motivational and behavioural consequences of self-esteem remain underexplored.

Beyond the European context, similar patterns of associations between stress and self-related resources have been reported across higher-education contexts in different geographical contexts, suggesting that these relationships are not specific to the European setting [57],[58]. International research, however, has also long examined different forms of self-efficacy in relation to civic engagement and prosocial behaviour, including among university students [59],[60],[61] and other young adults [62], extending the role of efficacy beliefs beyond individual adjustment and well-being to collective and civic outcomes. This dimension remains comparatively underdeveloped in the European literature identified by this review.

Research perspectives

An interesting observation across the dataset is the fragmentation of research perspectives. Only a small number of studies connected psychological variables with sociopolitical outcomes such as civic

engagement, political efficacy or active citizenship [3],[17],[34],[50]. These studies consistently found that political efficacy and confidence in one's ability to influence institutions predict higher levels of civic and political participation. For instance, Kiess (2024) [3] demonstrated that young Europeans who had opportunities for political engagement within schools and universities, such as participating in student councils or civic education programmes, reported significantly higher internal political efficacy and were more likely to engage in democratic activities. Similarly, Mühleck & Hadjar (2023) [34] found that students with stronger civic skills and higher perceived political efficacy were more actively involved in political and community life across five European countries. In a Greek university sample, Pavlopoulos et al. (2020) [50] showed that political efficacy mediated the relationship between political interest and both offline and online participation, while Marciniak et al. (2022)[17] linked psychological well-being and self-perceived agency during the COVID-19 pandemic to increased civic engagement across European student samples. However, stress was rarely included in these models, leaving open the question of how experiences of pressure or overload interact with political agency. The absence of integrated models combining stress, self-related variables and sociopolitical behaviour underscore a major conceptual gap in the literature.

Contextual diversity

Another recurrent finding concerns contextual diversity. The studies were conducted in a wide range of countries and academic settings. This heterogeneity influenced both the measurement and the reported effects of key variables. In contrast, most studies focusing on stress and coping were conducted in medical or health-related education, where students face particularly high academic and emotional demands. Medical students tended to be overrepresented in studies on academic stress and burnout, appearing as the primary population in at least five investigations [54],[48],[35],[37],[55]. Meanwhile, social-science and humanities students appeared more frequently in studies centred on civic engagement and political efficacy [18],[3],[11],[17],[34]. This disciplinary imbalance may partially account for the separation between psychological and sociopolitical strands of research, as the academic environment and institutional context differ substantially across these fields.

Methodological variations

Methodologically, the dominance of cross-sectional quantitative designs restricts causal inference. Although several longitudinal and qualitative studies (e.g., [36],[53]) provided deeper insight into developmental and experiential processes, most research relied on single-time self-report measures. Moreover, the strength and direction of reported associations between stress and self-related variables were not entirely consistent across studies. For example, Erschens et al. (2024)[48] and Sanseverino et al. (2023)[38] reported strong negative correlations between self-efficacy and perceived stress, whereas De Clercq et al. (2024)[47] and Gellisch et al. (2024)[35] found only small or moderate effects depending on the subscale or academic transition phase examined. Similarly, while Hatun & Türk Kurtça (2025)[36] observed a clear negative relationship between self-esteem and stress, Lazarewicz et al. (2025)[37] reported more ambiguous patterns when self-efficacy was included alongside mental well-being

indicators. These inconsistencies could reflect differences in measurement instruments, ranging from the Perceived Stress Scale (PSS) and Maslach Burnout Inventory–Student Survey (MBI-SS) to ad hoc self-developed questionnaires,as well as contextual variation in sample composition, study design, and cultural setting.

Integration into the Broader Research Context

Theoretical and empirical frameworks

The results of this scoping review can be meaningfully interpreted in light of the theoretical and empirical frameworks outlined in the introduction. Overall, the reviewed evidence provides partial support for interactionist and resource-oriented perspectives on student political behaviour but only limited confirmation of grievance-based mechanisms. In accordance with Lazarus and Folkman (1984) [13] transactional model of stress and coping, most studies conceptualised stress as a dynamic interaction between personal and environmental demands. For instance, Erschens et al. (2024)[48] examined how perceived stress among medical students resulted from the imbalance between academic workload and available coping resources, showing that higher stress levels were associated with lower self-efficacy and increased burnout symptoms. The consistent finding that self-efficacy acts as a protective and mediating factor supports this model's assumption that cognitive appraisals and coping resources determine emotional and behavioural responses to stress [48],[36],[38],[52]. At the same time, the near-exclusive focus on intra-individual processes highlights a disciplinary bias: psychological coping was often studied in isolation from the broader social and political environments in which students operate.

At a broader level, Brooks et al. (2020) [18] observed that patterns of grievance-based mobilisation differ substantially across Europe. Young individuals in countries where they occupy a more peripheral social position and face limited access to formal political institutions were less likely to participate in conventional forms of politics but more inclined to express dissent through protests or informal activism. Kiess (2024) [3] similarly highlighted the importance of contextual and institutional factors, showing that while aggregate protest rates among students remain low in countries such as Poland, Sweden, Switzerland and the United Kingdom, the relationship between youth political engagement and democratic attitudes is particularly strong. In Sweden, for example, political engagement during education was associated with increased political trust and decreased xenophobia, with approximately 40.8% of this relationship mediated by political trust, a pattern second only to Germany. This finding underscores that engagement itself, rather than national context alone, is the key mechanism linking perceived grievances to democratic orientations. In addition, Pavlopoulos et al. (2020)[50] showed that political interest explained only a small proportion of variance in conventional participation but that efficacy beliefs and perceived group-status changes were stronger predictors of unconventional, protest-oriented activities. This aligns with the assumption that grievances are most likely to translate into collective action when accompanied by feelings of efficacy and accessible opportunity structures. Taken together, these studies suggest that grievances can indeed foster political participation, but primarily

when they intersect with enabling conditions such as civic skills, participatory cultures and institutional openness. In their absence, as remains the case in many European contexts, social and academic grievances tend to result in individual coping or disengagement rather than sustained collective mobilisation.

The integration of self-related constructs into models of civic behaviour also offers important insights. The consistent positive association between self-efficacy and civic participation echoes research demonstrating that political efficacy mediates the translation of psychological resources into political action (e.g., [50]). Similarly, Cohen et al. (2001) [25] found that personal-psychological variables such as self-esteem, locus of control and political efficacy mediate the relationship between socioeconomic status and political action, indicating that the effect of social position on participation operates primarily through individual perceptions of competence and agency. However, the limited evidence connecting self-esteem to sociopolitical outcomes indicates that global self-worth alone may not be a reliable predictor of civic activity, supporting Cichocka et al. (2018) [63], who argue that self-esteem effects are context-dependent and often confounded with related constructs such as social confidence. Furthermore, the cross-national variation observed among the included studies aligns with the comparative evidence summarised in the introduction. The findings confirm that political socialisation and civic engagement are strongly shaped by institutional and cultural contexts [31],[34]. In several Southern and Eastern European countries, engagement was more often linked to economic insecurity and grievance-related participation, whereas in Western and Northern Europe it tended to reflect resource-based models of voluntary involvement [9],[3],[17]. This geographical variation underscores that the relationship between stress, efficacy and civic engagement is not uniform across Europe but moderated by welfare structures, civic culture and political opportunity environments. Yet, much of the empirical evidence stems from cross-cultural samples generalised to Europe, with comparatively few studies explicitly focusing on European higher education systems [18].

Strengths and Limitations

A key strength of this review is its rigorous and transparent approach to mapping fragmented evidence on academic or personal stress, self-esteem, self-efficacy and sociopolitical behaviour among university students in Europe. Following the JBI and PRISMA-ScR frameworks, it applied predefined eligibility criteria, systematically searched multiple databases and disciplinary fields, and used a structured approach to data extraction and synthesis. As the intersection of psychological and sociological constructs is still an emerging field, and most studies tend to focus on only one disciplinary dimension [64], including studies examining relationships involving at least two constructs, rather than requiring all four to be examined together, the review captures the different combinations of constructs investigated across disciplinary and research traditions. Its European focus addresses the limited representation of European university populations in a literature dominated by evidence from Anglophone countries outside Europe.

Regarding limitations, the identification of the European context of records was sometimes challenging because geographical information was not always explicitly reported, while some records also included non-target populations such as school pupils. The included studies were heterogeneous in design, measures and populations: for example, medical students were overrepresented in stress research, whereas social-science students appeared more frequently in studies of civic engagement. Variation in measurement instruments and the predominance of cross-sectional designs limited direct comparison across studies and constrained conclusions about the direction and temporal ordering of relationships. Several qualitative studies addressed relevant aspects of the conceptual field but did not use standardised measures of stress or self-efficacy. Thus, methodological and terminological heterogeneity might have limited the identification of relevant records. Studies examining related constructs - such as *coping, empowerment*, or *agency* - often use divergent terminology and are thus not indexed under standardised psychological or sociopolitical keywords.

The restriction to peer-reviewed publications in English and German may have resulted in relevant studies published in other languages among the more than 40 official languages spoken in Europe being missed. However, the 2015–2025 review period encompasses increasing use of English for international scientific publication, which is expected to have reduced the number of relevant studies unavailable because of language restrictions. Moreover, the time restriction to the period 2015–2025, while necessary for topical relevance, may have excluded earlier theoretical groundwork connecting stress and political behaviour in student populations such as Teixeira & Menezes (2005) [28]. Finally, access to a limited set of bibliographic databases may have as well resulted in relevant studies indexed elsewhere not being identified.

5. Conclusion

This scoping review examined how stress, self-esteem, self-efficacy, and sociopolitical behaviour associations have been studied among European university students. The analysis showed that while stress and self-efficacy are well-researched and consistently linked in academic contexts, self-esteem is underrepresented, and sociopolitical behaviour remains a marginal topic in psychological student research. The reviewed evidence highlights robust associations between personal resources and well-being, yet it also reveals a lack of integrative perspectives capable of linking these psychological dimensions to civic participation or political action.

The findings underline the importance of self-efficacy as both a protective resource against stress and a foundation for democratic participation. This suggests that students' perceptions of competence and agency are not only relevant for personal well-being but also for their willingness and capacity to engage in social and political life.

Future research should therefore adopt interdisciplinary and cross-national perspectives that combine psychological resource models with sociological theories of participation. Such approaches could help

universities and policymakers better understand how to support students in developing resilience, self-efficacy, and active citizenship within diverse European higher-education systems.

Declarations

Ethics approval and consent to participate

The protocol for the overarching project “SENSE (ANONYM)” of which this scoping review forms a part, was preregistered (https://doi.org/10.17605/OSF.IO/CZQ5J). Ethical approval for the overarching project was obtained SR-EK-371082025). However, separate ethical approval was not sought for the scoping review, as it did not involve the collection of original data from human participants.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

Funding

The Behavioral Epidemiology, Institute of Clinical Psychology and Psychotherapy, Technische Universität Dresden, Germany (TUD) was involved in providing funding for aspects pertinent to this study. It also supported the salary of the corresponding author JNK during the research process. We further acknowledge support by the Open Access Publication Fund of the TU Dresden and the Saxon State and University Library Dresden (SLUB) with VAT-ID: DE 190021717.

Authors' contributions

OM: Conceptualization, Methodology, Formal analysis, Investigation, Writing - Original Draft, Visualization

Acknowledgements

Not applicable.

Availability of data and materials

Not applicable.

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Tables

Table 1 is not available with this version.

Figures

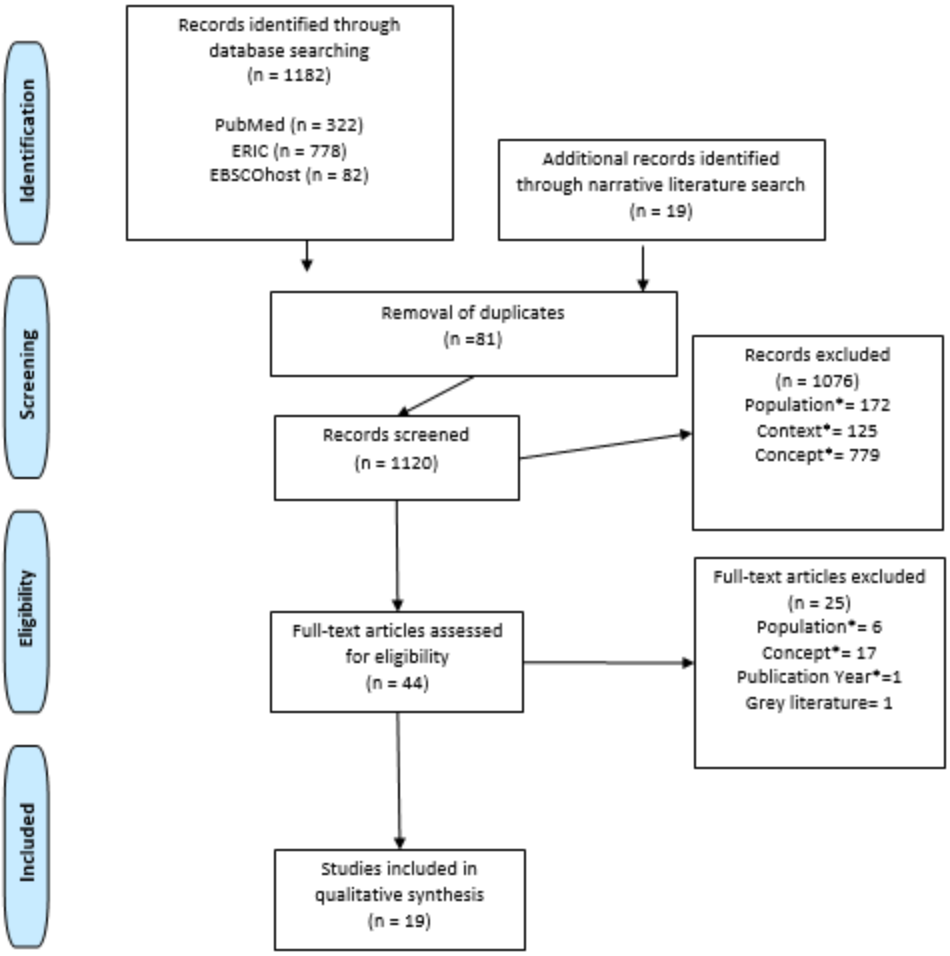


Figure 1: PRISMA 2009 Flow Diagram

Legend = * not meeting defined study characteristics

Figure 1

See image above for figure legend

Supplementary Files

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- SupplementaryTable3.docx

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- PRISMAScRchecklist.docx
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