



Education as a Strategic Domain of National Security Culture in the Information Age: A Qualitative Scoping Review

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Abstract: National security culture has emerged as an important factor shaping state behavior in contemporary international relations. In the current geopolitical environment, culture increasingly functions as a dimension of warfare and of national security, including information security. Drawing on a qualitative scoping review and grounded-theory-informed coding within a constructivist framework, this article examines the role of culture in the formation of nation-states' security visions and behaviors, with particular attention to education as a mediating domain in these processes. The analysis shows that security-related patterns are increasingly embedded in educational discourses, while education itself is evolving into a distinct site of ideological formation that influences the broader culture of national and information security. Particular attention is given to identity, the securitization of education, and the risks associated with this process, including over-securitization, constraints on academic openness, and vulnerabilities within higher education and distance-learning environments. The article also proposes a conceptualization of the securitization landscape as contributing to the emergence of an inertia-based self-developing system in education. The study contributes to the literature by advancing the understanding of education as an underexplored yet strategically important domain of national security culture in the information age.

Keywords: National Security Culture, Information Security, Education, Securitization, Identity, Intercultural Education

1. Introduction

Since Katzenstein's influential formulation of the "culture of national security," scholarship has increasingly recognized that security cannot be understood solely through power, alliances, or geography; rather, it is also shaped by culture, identity, and institutional meaning-making (Katzenstein, 1996). In this view, the world is organized not only through material capabilities but also through regional, cultural, and institutional complexes. Consequently, perspectives that overlook culture and identity are no longer sufficient to explain the complexity of a rapidly changing world (Katzenstein, 1996). In contemporary geopolitics and international relations, cultural and ideological factors have therefore become central to the definition of threats, the construction of national interests, and the conduct of national security policy. In the twenty-first century, this development has become particularly visible in the sphere of information security, where narratives, values, and ideological contestation have emerged as crucial dimensions of national security. Political Islam and the ideology of the "Russian world" are among the most visible examples of how security challenges are intertwined with culture and identity.

Within this context, education occupies a foundational position in the formation of national security culture. It contributes to the development of national and citizenship identity, shapes perceptions of global order and disorder, and increasingly reflects securitization processes. At the same time, the educational sphere is itself influenced by national and global security paradigms. This two-way relationship is multifaceted and extends across identity formation, radicalization risks, cybersecurity awareness and practice, and broader value-based perceptions, including sustainability-related orientations. Education, therefore, should not be viewed merely as a neutral site of knowledge transmission; rather, it also functions as a domain in which security meanings are communicated, reproduced, and normalized.

This argument is closely related to constructivist approaches in international relations. Frappier (2012), writing nearly two decades after Katzenstein's work, argued that the United States' ability to respond effectively to the Global War on Terrorism depends not only on strategic capacity but also on an adequate understanding of the nature of the threat. His discussion suggests that security strategy becomes limited when it fails to engage properly with the identity-based and cultural foundations of conflict. In particular, he shows that defining terrorism exclusively as a conflict against radical Islam, while neglecting the broader ways in which religion and identity shape perceptions and loyalties, narrows strategic understanding and weakens policy responses (Frappier, 2012). From a constructivist perspective, this is a signifi-

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-nt point because actors' perceptions of interests are shaped by beliefs, identities, and socially produced meanings rather than by material calculations alone.

Similarly, Stanarevic and Gacic (2014) argue that ideas of security support identity maintenance, survival, and the ongoing development of individuals, groups, and communities, while culture determines how specific values are identified, prioritized, and institutionally located. Recent European developments further illustrate this connection between security and identity. Prugneau (2023) demonstrates that, beginning in 2015, the French and British governments increasingly "renationalized" their approaches to citizenship and national community in response to crises such as terrorism and Brexit. By examining speech and policy on citizenship, security, and counter-extremism, Prugneau (2023) shows how governments have sought to mobilize national identity as part of security discourse.

The French case is particularly illustrative. Following the Paris terrorist attacks, François Hollande proposed controversial measures such as the extension of citizenship deprivation, largely in the name of national unity and the defense of the "republican contract" (Zalc, 2018). Manuel Valls similarly linked nationality, patriotism, and unity, arguing that legal reforms should be accompanied by explicit declarations of commitment and attachment to the nation (Déclaration de M. Manuel Valls, Premier ministre, 2016). More broadly, the persistence of identity-centered policies across changing political orientations suggests that socio-cultural interpretations of division have gained increasing prominence within mainstream politics. In this regard, Rydgren and Odmalm (2019) argue that the politicization of socio-cultural issues, alongside the depolarization of economic ones, has contributed to the rise and normalization of identity-focused political discourse.

This broader return of culture to global affairs has been widely noted in security studies. Bilandžić (2018) observes that, after the Cold War, culture re-entered the global scene with renewed force, influencing responses to economic disruption, shaping the goals and strategies of global actors, and generating new forms of transnational linkage. Although security studies have expanded to include military, political, societal, economic, and environmental dimensions, culture has often remained underdeveloped as a core analytical category (Bilandžić, 2018). Nevertheless, culture is increasingly recognized as a factor that shapes how security is defined and enacted. As Bilandžić (2018) suggests, culture may function as a threat target, as an independent security sector, and as a determinant of national security decision-making. This view is also reflected in the work of Semenets-Orlova et al. (2022), who emphasize culture's influence on the definition and implementation of security strategies.

Katzenstein's (1996) central insight remains especially relevant here: security interests are defined by actors who respond to cultural factors. Even where identities appear relatively stable, internal and interpersonal cultures continue to shape how actors understand their objectives and how they pursue them. Thus, culture offers a repertoire of values, customs, and interpretive frames through which communities understand risk, legitimacy, and appropriate response. Although debate continues over the explanatory weight of norms and ideas, culture remains one of the strongest lenses through which actors' interests and security priorities can be interpreted.

This line of reasoning is reinforced by constructivist scholarship on identity and security. As Jarvis and Holland (2015) note, traditional security studies were largely grounded in Westphalian and state-centric assumptions, with the survival of the state treated as the primary goal of international politics. However, the post-Cold War expansion of constructivist thinking challenged this narrow view by showing that identity is not peripheral to security, but constitutive of it. Security is shaped by how political communities define themselves, how they distinguish between "self" and "other," and how they interpret threat in relation to collective norms and beliefs (Jarvis & Holland, 2015). Mikail and Aytakin (2016) similarly argue that identity provides an important cultural foundation for understanding global politics, especially in diverse and non-Western contexts.

In the information age, the relationship between culture and security has acquired an even more urgent dimension through information security and information warfare. Information has become a powerful instrument in both political and military struggle, and its strategic use poses serious risks to national security (Olteanu, 2024; Sharpe et al., 2025). The growth of cyber conflict and information warfare demonstrates that security can no longer be understood only in physical or institutional terms. A country's culture, including its values, beliefs, and practices, shapes how people and organizations perceive risks, adhere to security norms, and develop cybersecurity maturity. In turn, the strategic culture of a nation-state influences both cyberspace policy and conduct (Williams, 2020). Sharpe et al. (2025) go further by arguing that culture should be recognized as a "sixth domain of warfare." Their argument is significant because it expands the understanding of conflict beyond land, sea, air, space, and cyberspace to include the cognitive and social dimensions that shape human judgment, group behavior, and strategic action.

Against this background, education emerges as a particularly important, yet insufficiently integrated, domain of analysis. Education plays a major role in national security by cultivating informed citizens, critical awareness, and value-based orientations that help individuals assess and respond to risks ranging from cyber threats to geopolitical conflict. However, education is not only a protective or developmental resource; it is also a site in which national identity, security narratives, and perceptions of threat are formed and reinforced. Despite the growing relevance of this relationship, the literature remains fragmented. Studies on culture and national security, identity and constructivism, securitization, and information security have developed largely in parallel, while the role of education as a mediating and self-reinforcing domain within national security culture has received comparatively limited integrated attention.

This gap is important for both theoretical and practical reasons. Theoretically, it limits our understanding of how security culture is reproduced beyond formal state institutions and strategic documents. Practically, it obscures the ways in which educational systems can simultaneously strengthen resilience, critical awareness, and responsible citizenship, while also contributing to over-securitization, exclusionary narratives, or ideologically rigid understandings of identity and belonging. In the context of the information age, where security challenges increasingly operate through discourse, digital environments, and cultural contestation, clarifying the role of education becomes particularly significant.

Accordingly, the novelty of this study lies in bringing together scholarship on culture, identity, national security, information security, and education in order to conceptualize education as a self-reproducing and strategically important domain within national security culture. The article contributes to the literature by integrating these strands into a more coherent interpretive framework and by showing that education does not merely support national security indirectly through skills or

knowledge production; rather, it also participates directly in shaping the cultural and ideological conditions through which security is understood.

An intercultural communication perspective is also important to this inquiry because security discourses are never culturally neutral. Educational institutions shape how learners interpret difference, belonging, national identity, and perceived threat, especially in multicultural and internationally connected settings. For this reason, the relationship between education and national security culture also has intercultural implications, since processes of inclusion, exclusion, dialogue, and boundary-making are embedded in the ways security is communicated and normalized. Therefore, this article aims to assess how culture and identity affect security and to examine the role of education as a major driver in the formation and maintenance of national, and particularly information, security culture. More specifically, it seeks to trace the core patterns through which education influences this landscape and to outline a conceptual model of the educational factors that shape the culture of national security in nation-states.

To guide the review, the study addresses the following questions:

RQ1: How does the literature conceptualize education as a domain in the formation and reproduction of national and information security culture?

RQ2: Through which processes do identity, securitization, and information security concerns enter educational systems and practices?

RQ3: What theoretical, practical, and policy implications emerge from understanding education as a strategic site of national security culture in the information age?

2. Methodology

This study was conducted within a qualitative research paradigm. Methodologically, it combines elements of a scoping review with grounded-theory-informed coding in order to identify, organize, and interpret the major themes emerging from the literature on national security culture, information security, and the role of education in shaping these domains. This design was considered appropriate because the study does not seek to test predetermined hypotheses; rather, it aims to explore and conceptually synthesize the ways in which education contributes to the formation and reproduction of national and information security culture.

The review was based on a structured search of literature indexed in Wiley, ScienceDirect, MDPI, JSTOR, and ERIC. These databases were selected because together they provide broad coverage of social sciences, education, interdisciplinary policy research, and security-related scholarship relevant to the present topic. At the first stage of the search, the following queries were used: “culture of national security,” “culture of information security,” and “role of education in shaping national security domain.” The search focused primarily on titles and abstracts in order to identify conceptually relevant publications. This initial stage yielded 72 records. After the initial retrieval, records were screened for relevance on the basis of title and abstract review. Publications that did not engage substantively with education, culture, identity, securitization, or information security were removed. A second-stage review of the remaining sources was then conducted through focused reading and iterative coding. This process resulted in the exclusion of sources that were conceptually peripheral, insufficiently analytical, or limited to purely technical aspects of security without educational relevance. The final corpus comprised 55 sources for full thematic analysis.

In the second stage, the titles and abstracts of the retrieved publications were examined using a grounded-theory-informed analytical approach in order to identify additional categories emerging from the literature itself. On the basis of this preliminary coding, a second round of searching was undertaken using the additional terms “securitization in education,” “distance learning,” “radicalization,” and “aggressive soft power.” This iterative procedure made it possible to refine the search in accordance with the conceptual development of the study rather than relying only on an initially fixed set of terms.

The inclusion criteria were as follows: English-language articles, reports, analytical publications, and expert materials published between 2012 and 2025. Sources were retained when they addressed one or more of the following dimensions in a conceptually relevant way: national security culture, information security, identity, securitization, radicalization, cybersecurity, or the role of education in shaping these fields. The selection process also took into account the clarity, analytical relevance, and conceptual value of each source. Publications were excluded when they fell outside the thematic focus of the study, treated security only in a purely technical sense without conceptual relevance to education or culture, or lacked sufficient analytical substance for inclusion in the review. After screening and refinement, 55 sources were retained for final analysis.

The analytical phase relied on the principles of theoretical saturation and coding, or thematic saturation. In qualitative inquiry, theoretical saturation is reached when further examination of the material no longer generates substantially new properties of the emerging conceptual explanation, while coding saturation refers to the point at which recurrent codes and themes are repeatedly observed without significant new additions or relationships emerging from the data. In this study, the search and coding process continued until the selected body of literature no longer yielded substantially new thematic categories relevant to the role of education in shaping security culture.

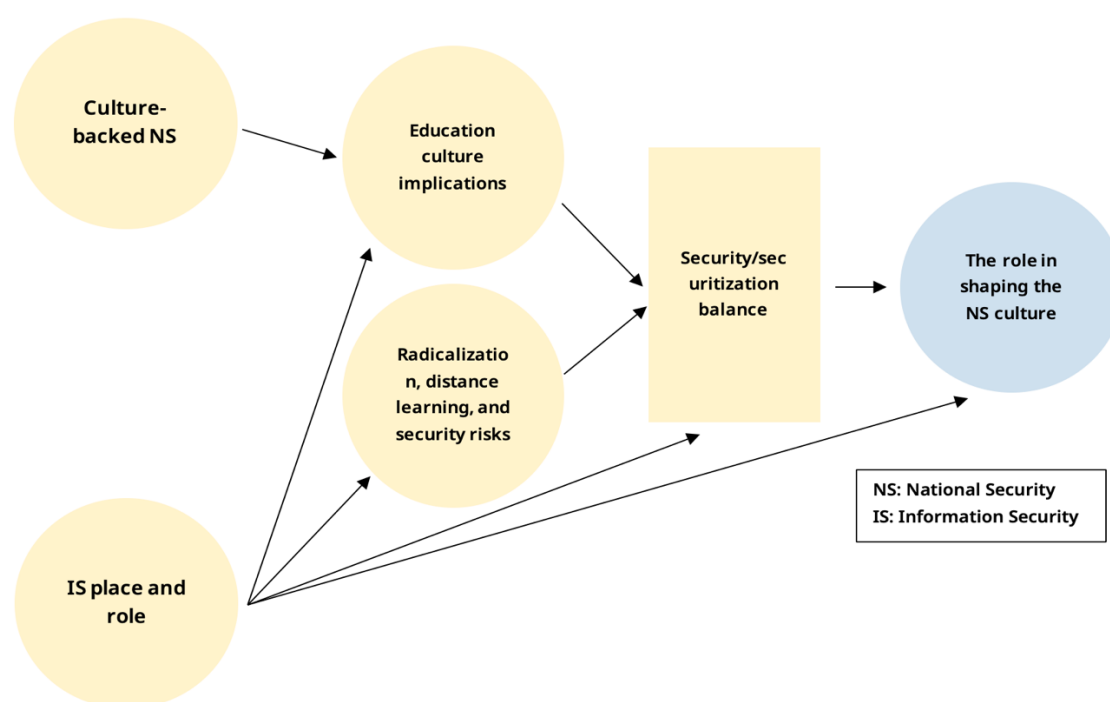
The selected materials were then subjected to qualitative content analysis within a constructivist interpretive framework. This approach was appropriate because the study is concerned with how meanings of security, identity, and education are socially constructed across the literature rather than with measuring variables quantitatively. The coding process proceeded inductively. First, recurrent concepts and patterns were identified from the reviewed texts through open reading of titles, abstracts, and relevant full-text sections. Second, these recurring concepts were grouped into broader analytical clusters through axial coding. Third, these clusters were further integrated into higher-order interpretive categories through selective coding. Because of space limitations, the full open-coding matrix is not presented. However, the results of axial and selective coding are summarized in Table 1 to demonstrate the analytical logic of the study. The coding process moved from recurring concepts identified in the literature toward broader interpretive themes explaining how education contributes to the formation of national and information security culture.

Table 1: Results of axial and selective coding

Axial coding categories	Selective coding themes
National consciousness and national security awareness	Culture of security
Identity formation, citizenship values, and belonging	Culture of security
Information warfare and information threats	Information security culture
Cybersecurity awareness and security practices	Information security culture
Securitization discourse and securitization policy	Securitization in education
Educational responses to perceived threats	Securitization in education
Distance learning vulnerabilities and digital exposure	Distance learning and security risks
Radicalization risks in educational settings	Radicalization
Ideological influence and aggressive soft power	Aggressive soft power
Value transmission, integrity, and intelligence formation	Inertia self-developing system

Source: developed by the authors

As shown in Table 1, the coding process revealed that the literature clusters around several interrelated themes, including the culture of security, information security culture, securitization in education, distance-learning-related security risks, radicalization, aggressive soft power, and the self-reinforcing role of education in shaping security-oriented values and perceptions. These themes provided the analytical structure for the subsequent interpretation of findings. The final corpus of 55 sources made it possible to identify deeper patterns in the role of education in shaping security culture. In this sense, grounded-theory-informed coding functioned as an inductive analytical tool for generating categories from the literature rather than imposing a rigid predefined framework. Analytical rigour was strengthened through repeated reading of the selected materials, constant comparison across sources, and iterative refinement of codes and themes until stable interpretive categories were reached. On this basis, the study outlines the current state of the field and formulates the main analytical propositions and conclusions. At the same time, several limitations should be acknowledged. The review was limited to English-language sources published between 2012 and 2025 and to materials indexed in the selected databases. Consequently, relevant studies published in other languages or outside these databases may not have been captured. In addition, because the study is qualitative and interpretive in nature, its aim is conceptual explanation and thematic synthesis rather than statistical generalization.

**Figure 1:** The logic of research. Source: developed by the authors

3. Results

The thematic analysis generated seven interrelated analytical strands: culture of security, information security culture, securitization in education, distance learning and security risks, radicalization, aggressive soft power, and the inertia-based self-developing role of education. The results are presented below in relation to these themes.

3.1. Education and geopolitics: latent penetration trends within ‘political quality’ approach

The reviewed literature indicates that education performs a far broader role than the mere transmission of knowledge. It also contributes to analysis, forecasting, and the cultivation of capacities relevant to national defense and security. In this sense, education is closely connected to the ability of a state to prepare citizens and institutions to interpret changing geopolitical conditions and respond to external risks. Nevertheless, a substantial part of the literature continues to frame education’s contribution to national security primarily in instrumental terms, such as workforce quality, research and development capacity, and human capital formation (Orikpe, 2013; Ngozi et al., 2019; Pieczywok, 2018). Although these functions are undoubtedly important, the cultural dimension of education in relation to national security remains comparatively underexplored. More specifically, insufficient attention has been given to the way education helps shape the very paradigm through which national

security is understood within the nation-state.

At the same time, the findings show that states seeking to consolidate or strengthen their geopolitical position increasingly recognize education as a strategic instrument of securitization, national security reinforcement, and information security resilience. This tendency is particularly visible in studies focused on China. Wang (2024), for example, argues that higher education institutions play an irreplaceable role in ideological and political education by cultivating students' national consciousness and strengthening national security awareness. His study contributes to the theoretical development of ideological and political education by examining its relationship with national security education in universities. In doing so, it proposes an integrated framework through which national security education can be embedded within ideological and political education and offers practical pathways for implementation in higher education settings (Wang, 2024).

A similar orientation can be seen in other studies. Zeng (2023) examines the integration of red culture education into ideological and political education and identifies three pathways through which such content may be incorporated into civic education courses. The purpose of this integration is to increase the effectiveness of ideological and political education among university students. Likewise, Wang et al. (2022) developed and implemented a set of intercultural education methods for overseas students in China that combine intercultural education with ideological and political education. This approach, later described by Wang (2024) as involving "one goal, two combinations, three pathways, four capabilities, and five management measures," is presented as a model that enhances international students' intercultural adaptability, fosters a more favorable understanding of China, and improves the overall quality of education for international students. In a related contribution, Yao Si (2022) proposes the incorporation of Party history education into the ideological and political education of medical students, emphasizing its relevance to political quality formation.

Taken together, these studies demonstrate that education is increasingly understood not only as a developmental sector but also as a mechanism through which political orientation, national identity, and security awareness are cultivated. The findings further suggest that the educational environment itself should be viewed in broad terms. It encompasses not only physical infrastructure, but also institutional and cultural conditions that shape how educational goals are pursued (Shcherbak et al., 2023; Smolinska et al., 2024). From this perspective, governmental support and financial investment become central elements of educational securitization. National and local authorities may seek to strengthen national security education by enhancing regulatory oversight, improving institutional guidance, and allocating dedicated financial resources. In this regard, Wang (2024) proposes the creation of a dedicated fund for national security education in universities in order to support research, teaching, and practice-oriented activities and thereby improve both the quality and effectiveness of such education. Furthermore, the studies reveal a latent but increasingly visible trend: education is being positioned as a geopolitical instrument through which states shape security-oriented values, reinforce national consciousness, and increase resilience to informational and ideological threats (Wang et al., 2022; Shcherbak et al., 2023; Smolinska et al., 2024). This finding supports the argument that education should be analyzed not only as a social or developmental sphere, but also as an emerging domain of national security culture.

3.2. Education as a new domain of securitization

The reviewed literature indicates that education, particularly higher education, is increasingly being positioned as a new domain of securitization. Bryan et al. (2023) show that the securitization of contemporary states in response to terrorism and perceived terrorist threats is both significant and far-reaching. However, the findings of the present review suggest that the scope of securitization now extends beyond terrorism alone. In the current geopolitical environment, securitization increasingly encompasses the perceived risks of military intervention, interstate rivalry, and broader ideological confrontation, a trend that has become especially visible after Russia's invasion of Ukraine. In this context, states are not only responding to immediate security threats, but are also expanding the institutional and discursive boundaries of security into educational settings.

Accordingly, securitization, which was once largely confined to security forces and defense institutions, has expanded in both purpose and mechanism. This expansion has introduced new policy actors into the security landscape, including teachers, universities, and educational administrators. As a result, educators are increasingly assigned a distinct securitizing role because of their close and sustained engagement with young people. Civic education, including personal, social, and health education, has thus become a site of both opportunity and tension. On the one hand, some scholars and policymakers argue that education should be securitized in order to prevent radicalization and identify students who may be vulnerable to extremist influence. On the other hand, critics view this trend with concern, arguing that it compromises the ethical integrity of education by placing teachers in the contradictory position of building trust while simultaneously participating in surveillance. Such a dual role raises broader democratic concerns, particularly when ordinary educational spaces become sites of suspicion and monitoring. At the same time, Cottee (2016) complicates this binary by suggesting that the relationship may also operate in the opposite direction, with educational language and practices increasingly permeating security policy rather than merely security logic entering education.

The literature further shows that information security policy has profound implications for education, particularly for higher education, and these implications are not uniformly positive. The Five Eyes alliance, for example, affects universities through its consequences for academic freedom, research collaboration, and security governance. Kendall (2022) argues that espionage laws, particularly in countries such as Australia, may discourage legitimate research and teaching on sensitive issues and thereby constrain academic freedom. While intelligence-sharing arrangements are intended to serve national security, they may also expose universities and research institutions to increased pressure to regulate research, secure sensitive information, and monitor academic engagement more closely. In this regard, Kendall (2022) warns that such developments may undermine the pursuit and dissemination of knowledge for public benefit and may even threaten democratic principles. Kendall (2019) additionally notes that alliances such as Five Eyes may generate power asymmetries, with larger member states exerting disproportionate influence over smaller partners.

This tension is particularly visible in legal reforms concerning espionage. Hardy and Williams (2022) note that, in Australia, nine new espionage offenses were introduced in 2018. These provisions criminalize certain forms of dealing with information or materials on behalf of, or in communication with, a "foreign principal," particularly where there is intention or

recklessness regarding national security consequences. The broadness of such definitions has important implications for higher education because academic research, international collaboration, and teaching on politically sensitive issues may become subject to heightened scrutiny. Thus, measures introduced in the name of national security can alter the conditions under which universities operate, narrowing spaces for open inquiry and international scholarly exchange.

A similar securitizing trend is visible in school curricula. Kosińska and Stek-Łopatka (2024) critically examine the discourses surrounding modifications to citizenship education in Poland following the Russo-Ukrainian War. Their study shows that curricular reform was framed through a securitizing logic in which the war in Ukraine became a direct justification for educational change. At the same time, the authors identify a covert political dimension in these changes and highlight the use of what they term “ministryplaining” toward education stakeholders who voiced criticism. The clearest changes appeared in the field of safety education, which has been taught in Polish schools since 2009. As Blicharz and Chabska (2016) note, this area of education had earlier roots in a militarized social system under communism. After the outbreak of the Russo-Ukrainian War in 2022, however, the basic curriculum was revised in ways that shifted emphasis from health-oriented instruction toward defense-oriented attitudes. In primary education, for instance, the aim of “fostering individual and social health-promoting attitudes” was replaced by the objective of “fostering defensive attitudes” (Kosińska & Stek-Łopatka, 2024).

Moreover, the studies suggest that education is no longer simply adjacent to security policy; rather, it is becoming one of its operational domains (Hardy and Williams, 2022; Bryan et al., 2023; Kosińska and Stek-Łopatka, 2024). Whether through counter-radicalization frameworks, legal restrictions on academic work, information security governance, or curriculum reform, educational institutions are increasingly involved in defining, transmitting, and institutionalizing security priorities. This confirms that securitization is expanding into education not only as a matter of policy implementation, but also as a broader transformation in the relationship between schooling, citizenship, knowledge, and state power.

3.3. The UK’s case

The relationship between national security and education in the United Kingdom has become increasingly intertwined through policy frameworks that combine security concerns with the promotion of national identity, often giving rise to a form of neo-nationalism. In particular, the Prevent Duty and the promotion of Fundamental British Values (FBV) have required schools to engage more directly in identity formation and security-related responsibilities, while higher education institutions have faced growing tension between international openness and security-driven restrictions, including those associated with the National Security Act 2023. The main aspects of nationalism in UK education and security, together with the relevant policy context, are summarized in Table 2.

Table 2: Key aspects of nationalism in UK education and security and corresponding policy context

Key aspects of nationalism in education and security	Policy context
Securitization of education (Prevent Duty). By encouraging educational personnel to identify risks of radicalization, the Prevent Duty effectively turns schools into sites of counterterrorism practice. Some educators argue that this has a chilling effect on free speech and embeds a patriotic ideology within educational settings, whereas others interpret it as a protective measure.	Foreign Influence Registration Scheme. Introduced under the National Security Act 2023, this scheme affects how foreign entities operate within UK institutions.
Promotion of Fundamental British Values (FBV). FBV is frequently presented as a means of fostering national identity, although in practice it may blur the boundary between civic patriotism and more exclusionary forms of nationalism.	Counterterrorism expansion. In response to state-level and transnational threats, the government has proposed stronger powers that may affect academic freedom and institutional autonomy.
Neo-nationalism and “Global Britain.” Following Brexit, the United Kingdom has increasingly promoted a neo-nationalist discourse centered on sovereignty and national distinctiveness. This has implications for international collaboration, university research, and the recruitment of international students.	Social cohesion. UK policy continues to grapple with the tension between the country’s diverse, multicultural social reality and the desire to promote a unified sovereign identity.
Economic nationalism. Education is also mobilized within a nation-branding strategy that links national identity with competitive economic performance by presenting UK education as a distinctive and superior national asset.	
Risks of far-right nationalism. Rising nationalism has also been associated with intensified social tensions, while far-right movements may themselves constitute a national security threat, particularly where immigrant communities become targets.	

Source: Developed by the authors based on HM Government (2025), Henshall et al. (2024), and James (2022).

It is particularly revealing that the UK’s *National Security Strategy 2025* is entitled *Security for the British people in a dangerous world*. This framing reflects a broader narrative in which national resilience, sovereignty, and strategic capability are closely linked to education. The strategy explicitly states: “We will cultivate existing national strengths across the Union, such as our soft power and cultural reach and our financial, services, science and technology, energy and higher education sectors” (HM Government, 2025). This statement demonstrates that higher education is not viewed merely as a developmental sector, but also as a strategic national asset within the wider security architecture.

Henshall et al. (2024), in their article “‘Fundamental British values’: navigating nationalism and teacher practice,” argue that many nation-states in the early twenty-first century experienced weakened economic sovereignty and growing inequality,

leading them to seek stability in ethnic and national identity. According to the authors, this tendency contributed to the rise, or at least the clearer exposure, of mass populist politics in countries such as the United States, India, Brazil, Hungary, Poland, and Turkey. In the British context, they show that the contemporary identity crisis is rooted in both global pressures and historically specific national developments. The decline of Britain's imperial role and the subsequent reconfiguration of British influence in world affairs altered older conceptions of national mission and belonging. At the same time, devolution transferred substantial legislative powers, including powers related to education, to Scotland, Wales, and Northern Ireland, thereby reshaping the institutional and ideological environment in which educational actors operate (Henshall et al., 2024).

Within this context, teachers and school administrators have increasingly been positioned as actors within a broader security framework. Henshall et al. (2024) argue that policy discourse has encouraged the expectation that teachers should function, at least in part, as instruments of state surveillance. They further note that the 2012 revisions to the Teachers' Standards required headteachers to actively promote British values within what they describe as a totalizing discourse of civic nationalism that claims to accommodate difference and plurality while simultaneously disciplining it. This reveals the extent to which education has become a site in which national identity, social cohesion, and security policy converge.

A similar concern is raised by James (2022), who examines the implications of the 2015 Prevent Duty. Under this policy, public sector employees are legally required to give "due regard" to the need to prevent vulnerable individuals from being drawn into terrorism and extremism. In practice, this requirement has also placed pressure on educational institutions to promote Fundamental British Values as a safeguard against extremism. James (2022) argues that British values are embedded in classroom teaching as the normative opposite of terrorism and extremism, but also warns that this discourse may reproduce in-group and out-group constructions of belonging that resemble ethno-nationalist standards of acceptability associated with far-right ideology. Taken together, the UK case illustrates how education can become deeply embedded within security governance. Schools and universities are increasingly expected to contribute not only to learning and citizenship formation, but also to surveillance, identity regulation, and the management of ideological risk. This confirms that education in the UK has become an important site through which national security discourse is institutionalized and enacted.

3.4. Self-developing system in education: a 'product' of securitization and identity creation

The reviewed literature further suggests that such a securitization landscape may lead to the emergence of an inertia-based self-developing system in education, which in turn contributes to the broader culture of national and information security. In this system, education does not simply react to isolated security concerns; rather, it progressively internalizes them, translates them into pedagogical and institutional practices, and reproduces them over time. In this sense, the process resembles a self-learning cycle similar to Kolb's model.

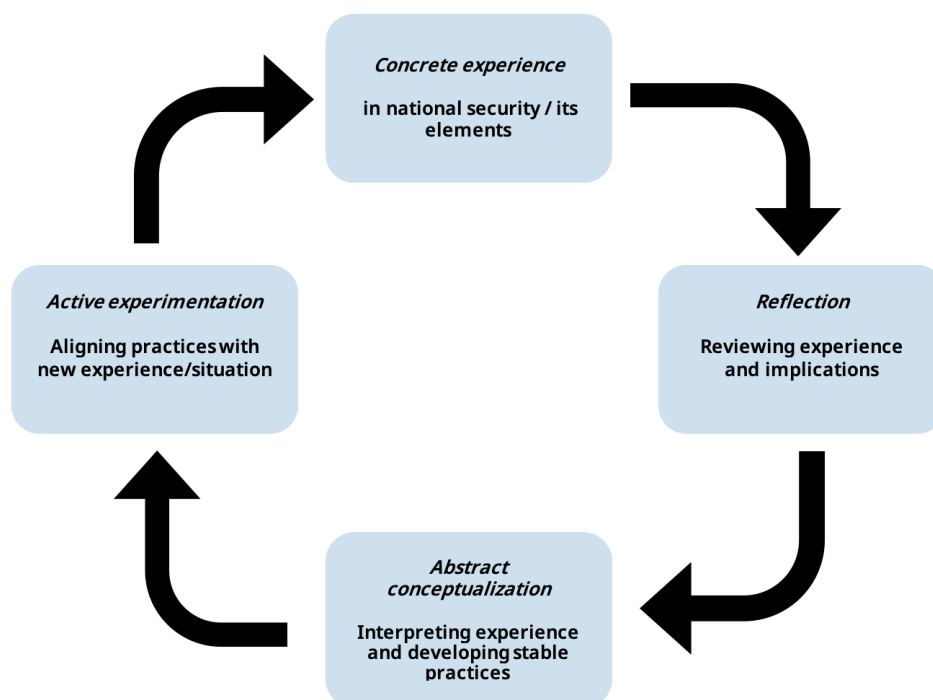


Figure 2: Securitization landscape leading to the emergence of an inertia self-developing system in education. Source: developed by the authors

The first stage is concrete experience, in which a new situation or event related to national security, particularly information security, generates concern and triggers an educational response. The second stage is reflection, during which the experience is reviewed, and its implications are assessed. The third stage is abstract conceptualization, in which the experience is interpreted and translated into more stable practices, policies, or conceptual frameworks. The fourth stage is active experimentation, in which these established practices are tested and adjusted in response to new security-related situations. Through repeated cycles, education develops an inertia-like capacity to absorb security concerns and reproduce them institutionally.

Although the present study does not empirically validate this concept or test it against alternative explanatory models, it may serve as a useful starting point for future research on the interrelationship between securitization and education within national security studies. The findings of the review indicate that the real securitization landscape and the role of education

within it still receive insufficient systematic attention in the academic literature. Existing expert opinion and regulatory developments remain scattered and often lack a coherent and comprehensive analytical framework. As a result, education, including scientific activity within higher education institutions, may be overlooked in broader security debates.

Under these conditions, an important task for regulators and stakeholders is to prevent the development of negative forms of securitization that restrict academic cooperation, narrow institutional autonomy, or intensify ideological rigidity. Instead, more balanced and constructive approaches are needed. In this regard, examples such as dual-use quantum programs developed by Five Eyes member states, often through research partnerships among academic institutions and public and private actors, indicate that collaboration can be structured in ways that support both innovation and security objectives. Such arrangements may offer a more productive model for aligning educational development with national security needs without undermining openness and international cooperation. Schematically, it can be depicted as follows (see Figure 2 above):

4. Discussion

The findings of this review confirm that higher education occupies a strategic position in the strengthening of national cybersecurity through research production, workforce development, and cooperation among academic institutions, business actors, and government agencies (Derstuganova, 2024a, 2024b, 2025; Hoian et al., 2024; Nikonenko et al., 2022; Popovych et al., 2022; Tarasenko et al., 2024). Universities are not merely sites of knowledge transmission; rather, they are institutional environments in which technical competence, security awareness, and strategic capacity can be cultivated. In order to create a more secure digital environment, higher education institutions can establish comprehensive cybersecurity programs, integrate security-awareness instruction into existing curricula, and encourage students to pursue careers in cybersecurity and related fields (Lysenko et al., 2024a, 2024b, 2025). In this sense, the educational domain contributes not only to national preparedness in technical terms but also to the broader formation of a security-oriented culture.

A particularly important example is provided by Otoom et al. (2024), who propose the Educational Computer Emergency Response Team (EduCERT) framework as an integrated mechanism for strengthening national cybersecurity through cooperation in the higher education sector. By improving cybersecurity and reducing cybercrime through cooperative incident management, knowledge exchange, and university awareness programs, the EduCERT framework addresses a significant governance gap. Its eight interrelated components include infrastructure, governance, knowledge development, awareness, incident management, evaluation, and continuous improvement. Through collaboration between higher education institutions and the National Computer Emergency Response Team, the framework is designed to enhance cybersecurity capacity at the national level. Jordan's implementation of this model further demonstrates its practical applicability and suggests that the framework may serve as a useful foundation for cybersecurity governance in higher education. More broadly, the adaptability, efficacy, and best-practice orientation of EduCERT indicate that its principles may be transferable beyond a single national context, thereby contributing to the wider academic discussion on global cybersecurity governance (Otoom et al., 2024).

This interpretation is reinforced by broader evidence on inter-institutional cooperation. Collaboration among universities, government agencies, and business groups facilitates the sharing of resources, expertise, and strategic planning, thereby enabling more tailored approaches to cybersecurity governance. Initiatives such as EduCERT demonstrate the importance of integrated response mechanisms designed specifically for higher education, while the EDUCAUSE Cybersecurity Governance Toolkit illustrates how institutional cybersecurity strategies may be aligned with broader organizational goals (Otoom et al., 2024; Ulven & Wangen, 2021). Taken together, these examples support the argument that education should not be treated as a peripheral element of national security, but as a strategic institutional arena in which cybersecurity culture can be developed, sustained, and transmitted.

At the same time, the discussion cannot be confined to technical or organizational aspects of cybersecurity alone. The reviewed literature also points to the risks associated with strategic research data leakage, foreign ideological influence, and the radicalization of students, especially within digital learning environments. These risks highlight the need to pay closer attention to interactive learning environments, distance education, and the technological systems that support them (Alqahtani et al., 2023). Recent data suggest that younger populations remain vulnerable to extremist content online. According to the Home Office (2023), 14% of those arrested for terrorism offenses in the year ending 31 March 2023 were aged 17 or younger. This indicates that extremist narratives are reaching age groups that overlap with school and university populations, often through digital spaces that may also intersect with educational platforms.

The reviewed studies suggest that extremist actors increasingly use social media, gaming platforms, and online educational tools as entry points, often targeting individuals between 15 and 25 years of age. Narratives based on rigid "us versus them" divisions or the glorification of violence as a form of resistance can be embedded in educationally adjacent materials or circulated through digital learning ecosystems. In some instances, gamified platform features such as rewards or points may increase the appeal and immersive character of extremist content (Kalhor & Khan, 2022). Therefore, the security implications of distance learning extend beyond technical vulnerabilities such as weak authentication or insecure data transmission. They also include ideological exposure, narrative manipulation, and the operation of soft-power influence through educational channels.

Within this context, education may also perform a preventive and protective role. The literature suggests that sustainability education can contribute to the prevention of violent extremism by fostering critical thinking, empathy, and resilience against polarizing ideologies. Encouraging students to become engaged and responsible citizens may help address some of the root causes of radicalization, including ignorance, exclusion, and inequality. Education for sustainable development encourages questioning, reflection, and empathy, all of which are essential for countering simplistic binaries and preventing the spread of hatred and prejudice. In this sense, the educational domain may support not only national security in a narrow protective sense, but also the cultivation of social capacities that reduce vulnerability to extremism.

A related, though more secondary, strand of the literature concerns the role of public-private partnership, sustainability-oriented practice, and sustainable manufacturing in the wider security landscape. Vinodh (2020) argues that sustainable manufacturing has important national security implications because it can reduce reliance on foreign supply chains, improve resilience to disruption, enhance environmental protection, stimulate innovation, and generate social and economic benefits.

From this perspective, sustainable manufacturing strengthens resilience by encouraging local production, reducing exposure to external shocks, and supporting technological advancement. It may also contribute to resource security and climate resilience, both of which increasingly intersect with national security considerations. When introduced through educational curricula, especially through applied training and internship-based public-private partnerships, this strand may contribute to a more constructive culture of national security, one rooted not only in protection from threat but also in resilience, sustainability, and long-term capacity-building (Abdalmuttaieb et al., 2019; Vinodh, 2020). Nevertheless, within the overall structure of the present study, this dimension should be understood as complementary rather than central.

The preventive role of education is also underscored by the work of Sabic-El-Rayess et al. (2023), who argue that preventing extremism and violence in schools and colleges requires resilience-building and innovative pedagogical approaches. Their research seeks to understand how a student's movement toward radicalization is shaped by multiple actors and variables. In a related contribution, Sabic-El-Rayess (2021) develops a model of radicalization grounded in the notion of educational displacement. This concept refers not simply to physical exclusion from educational settings, but to the experience of invisibility and non-recognition that arises when students feel that their voices are not heard in actual or virtual classrooms. Such experiences may heighten the risk of radicalization. This insight is highly significant for the present study because it suggests that security risks do not arise only through external ideological penetration, but also through internal failures of inclusion, belonging, and recognition within educational systems themselves.

At the same time, the literature makes clear that direct causal evidence linking educational interventions to reductions in violent extremism remains limited. As Kyburz et al. (2019) note, it is difficult to identify straightforward causal effects because the relationship between education and violence is mediated by numerous contextual variables. Even so, some intervention-based evidence is instructive. In Afghanistan, researchers working with Mercy Corps found that a combination of vocational training and cash transfers produced a durable decline in support for armed opposition groups, whereas neither intervention alone had strong long-term effects (Kyburz et al., 2019). Similarly, in Liberia, an agricultural employment initiative targeting high-risk young men led to increased income, reduced illegal activity, and lower interest in mercenary work, although its effects on hostility, peer networks, and attitudes toward violence and democracy were limited (Kyburz et al., 2019). These findings suggest that education-related interventions may be most effective when embedded within broader economic and social support systems rather than implemented in isolation.

A broader pattern emerging from the literature concerns the consequences of underinvesting in education relative to defense priorities. Kain (2011) observed that the United States shifted from spending substantially more on education than defense to spending substantially more on defense by 2011. Although it would be methodologically inappropriate to claim a direct causal link between spending patterns and later social unrest, this contrast nonetheless raises an important interpretive issue: when education is marginalized in national priorities, the long-term development of civic resilience, critical consciousness, and social trust may also be weakened. Kain's (2011) broader argument remains relevant in this respect, namely that societies may overinvest in coercive power while underinvesting in the development of human capacities.

The reviewed literature also shows that distance learning and internationalized educational environments are vulnerable to soft-power influence and aggressive educational diplomacy. The issue, therefore, extends beyond purely technical security concerns. Educational institutions may become channels through which foreign actors shape narratives, loyalties, and perceptions of legitimacy. The example of Confucius Institutes and the activities of some Chinese student and scholar associations has generated sustained controversy in Australia, Canada, the United Kingdom, and the United States, especially in relation to academic freedom and patriotic mobilization within overseas student communities. These cases reinforce the argument that education is not merely exposed to security challenges from outside, but is itself a contested arena in which geopolitical influence may be exercised.

Furthermore, the U.S. Government Accountability Office has noted that online environments may facilitate radicalization by enabling contact, isolation, and the spread of extremist content (*Online Extremism is a Growing Problem*, 2024). This observation is important for the present study because it confirms that the educational domain, especially in its digital form, is increasingly entangled with wider national security challenges. At the same time, the findings consistently suggest that education can play a significant role in mitigating these risks and in shaping a stronger culture of both national and information security. However, this role must be approached carefully. Over-securitization remains a substantial danger, especially when educational institutions become excessively oriented toward surveillance, ideological filtering, or exclusionary definitions of belonging. These findings also have a clear intercultural communication dimension. Educational institutions do not only transmit security awareness; they also shape how learners interpret cultural difference, national belonging, and the legitimacy of particular identities within the political community. In this respect, security-oriented educational discourse may either encourage intercultural understanding and critical dialogue or reinforce exclusionary boundaries between "self" and "other." This makes intercultural communication central to the study of educational securitization, particularly in multicultural societies and internationally connected higher education environments.

From a theoretical perspective, the findings of this study extend the literature by showing that education should be understood not merely as a supporting sector for national security, but as a constitutive domain in which security culture, identity, and information-security norms are produced and reproduced. The review demonstrates that security is not only institutional or military in character; it is also pedagogical, discursive, and cultural. In this sense, the article contributes to the conceptual integration of national security culture, securitization, information security, and education by showing that educational systems help shape how threats are interpreted, how belonging is defined, and how security practices become normalized. This also strengthens the argument that education is a strategic site of identity construction and therefore central to constructivist understandings of security.

From a practical perspective, the findings suggest that schools and universities should do more than simply introduce technical cybersecurity content. They should also build inclusive educational environments, strengthen digital literacy, promote critical thinking, and reduce forms of educational displacement that may heighten vulnerability to radicalization. Interactive and distance-learning environments require not only better technical protection, but also stronger safeguards against ideological manipulation, extremist recruitment, and foreign influence. Likewise, cooperation among universities, industry, and

government should be structured in ways that improve resilience without undermining academic freedom, institutional trust, or openness to international collaboration.

From a policy perspective, the findings indicate that policymakers should adopt balanced educational security strategies. First, they should invest in national and institutional cybersecurity capacity through dedicated educational frameworks, training programs, and coordinated response mechanisms such as sector-specific cybersecurity governance models. Second, they should support inclusive pedagogical approaches that reduce marginalization, foster belonging, and address the socio-educational conditions that can make young people more vulnerable to radicalization. Third, they should develop regulatory frameworks that protect national interests without transforming education into a purely surveillance-oriented domain. Finally, policymakers should ensure that security-related educational policies are designed with broad stakeholder participation, including educators, students, researchers, public authorities, and civil society actors, so that protection is balanced with academic freedom, pluralism, and democratic legitimacy.

This study demonstrates that education occupies a paradoxical but indispensable position within national and information security. On the one hand, it is essential for building cybersecurity capacity, strengthening resilience, preventing radicalization, and cultivating informed and responsible citizens. On the other hand, it may become a vehicle of surveillance, ideological control, or geopolitical penetration. The major challenge, therefore, is not simply to intensify the securitization of education, but to develop forms of educational governance that enhance security while preserving openness, inclusion, critical thought, and international cooperation. Taken together, the discussion shows that the review questions are closely interconnected. The literature conceptualizes education as a constitutive domain of security culture; this domain is shaped through identity formation, securitization practices, digital security concerns, and ideological influence, and it generates important theoretical, practical, and policy implications for how education should be governed in contemporary societies.

5. Conclusions

The findings of this study indicate that the constructed identities of states, governments, and other actors, together with the broader cultural-institutional framework, are among the key factors shaping security strategy. In a rapidly changing global environment, approaches that downplay the role of culture and identity are no longer sufficient to explain the behavior of nation-states or the logic of contemporary security policy. Culture has become a determining element in international relations and the wider geopolitical landscape, and these patterns are increasingly embedded in national educational discourses.

In this sense, education should be understood not merely as a supportive social institution but as an important domain through which national and information security culture is formed, reproduced, and normalized. As the analysis has shown, education contributes to the development of knowledge and awareness concerning national interests, threats, and responsible citizenship. At the same time, it participates in shaping ideological orientations and security-related perceptions that may influence the broader social understanding of national and information security. However, the strengthening of national and information security culture through education is not without risk. Although a strong security culture may reduce society's vulnerability to information warfare and related threats, it may also generate forms of over-securitization that deepen internal divisions and produce new risks from within. For this reason, the educational role in security formation should be approached in a balanced manner. It should promote awareness, resilience, and civic responsibility without turning education into an excessively rigid, exclusionary, or surveillance-oriented sphere.

The study also suggests that the positive role of education in shaping national and information security culture depends on the active engagement of multiple stakeholders, including educators, students, parents, community actors, and policymakers. In this regard, close stakeholder cooperation and public-private partnerships may provide effective mechanisms for strengthening education's constructive contribution to security culture while maintaining institutional openness and social relevance. Although the study is limited by the absence of empirical validation, which was beyond its intended scope, it nevertheless provides an integrative perspective on the development of national security culture and its implications for the educational sphere. In doing so, it offers a conceptual basis for future research on the interconnections among culture, identity, securitization, information security, and education.

Future research should move beyond conceptual synthesis and test the present framework empirically. In particular, comparative studies across national contexts could examine how different political and educational systems embed security culture in curricular, institutional, and policy practices. Further research may also validate the proposed inertia-based self-developing model of education through case studies, discourse analysis, or interview-based investigation. Such work would strengthen understanding of how education mediates the relationship among identity, securitization, information security, and intercultural communication in contemporary nation-states.

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