

The science of belonging: Exploring the concept, drivers, barriers and evidence-based solutions to cultivate belonging in K–12 education

Summary

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Background and purpose

School belonging refers to students feeling accepted, respected, included, safe, and comfortable in their learning environment (Goodenow, 1993). A substantial body of research links school belonging to **lower rates of mental-health problems** (Allen et al., 2018; Allen et al., 2024; Arslan et al., 2020), **greater academic motivation** (Allen et al., 2018), **improved wellbeing** (Arslan et al., 2020; Rincon et al., 2024) and **positive life outcomes that extend well into adulthood** (Anderman, 2002; Boston, Warren, 2017).

Despite its importance, the evidence base offers limited guidance on how belonging can be fostered across different contexts and developmental stages. This lack of clarity constrains schools' ability to implement targeted, evidence-informed strategies, leaving many students without adequate support.

This report synthesizes recent research and policy evidence to clarify how school belonging is conceptualized in K–12 education and what this means for practice. It identifies evidence-informed strategies to strengthen students' sense of belonging, while also highlighting key limitations and gaps in the current evidence base. The report aims to provide school leaders and educators with clear, actionable guidance to support student belonging.

Belonging and wellbeing

Feeling a sense of belonging at school is closely linked to young people's wellbeing. Research shows that students who feel they belong at school tend to report better wellbeing, greater engagement in learning and lower levels of distress, while students who feel they do not belong are more likely to struggle. This sense of belonging develops through everyday experiences at school, particularly through positive relationships with peers and teachers, feeling safe, being treated fairly and having opportunities to participate in school life. Put simply, fostering students' sense of belonging is an important part of supporting their wellbeing.

The International Baccalaureate (IB) and the Wellbeing Research Centre at the University of Oxford have collaborated on extensive research related to student wellbeing (Taylor et al., 2022). Building on this earlier work, the current literature review on belonging deepens understanding of student wellbeing by exploring belonging as an important relational aspect of students' school experience that is closely associated with wellbeing.

Method

Researchers used a narrative synthesis approach, drawing together evidence from peer-reviewed studies, meta-analyses, and systematic reviews in psychology, education and wellbeing. Studies were included if they focused on K–12 education and examined how belonging is defined, what factors support or hinder it, which interventions are effective or how it can be measured. Priority was given to large-scale and high-quality studies.

Findings

Conceptualizing school belonging

The literature emphasizes that schools need a shared, practical definition of belonging to move from disconnected activities to coherent action. While the field still draws on a classic relational definition (feeling accepted, respected, included and supported), more recent work expands belonging to include identity, feeling valued, opportunities to participate, and a strong link to physical and psychological safety. Belonging is understood both as a **basic human need** and as a context-dependent experience shaped by classroom practice, peer culture, school structures, families and wider social conditions, such as culture and history.



Drivers and barriers in schools and digital environments

Belonging is shaped primarily by students' everyday experiences of being known, valued and supported, as well as by opportunities to participate, the relational skills of adults and students, positive peer cultures, and inclusive school and classroom climates. The strongest evidence base points to relational and opportunity-based drivers, while key barriers are often structural and systemic, including unsafe climates, exclusionary norms, bullying and cyberbullying, and digital exclusion. Importantly, repeated experiences of non-belonging can create downward spirals that undermine trust, motivation and later efforts to rebuild connection.

Interventions and implementation

Belonging-focused interventions span early childhood, K–12, and non-formal settings, and most often focus on students whose belonging is most fragile. Across contexts, more effective approaches tend to share three features: relational safety and respect; identity-affirming and culturally sustaining practice; and genuine opportunities for student agency and participation. Evidence suggests that multi-level designs—operating across classrooms, school climate, leadership and learning environments—are more promising than isolated activities. While many practitioner-led approaches show local improvements in inclusion and belonging, their impact is highly context-dependent and relies on intensive relational work. Overall, there is coherent conceptual and moderate empirical evidence that intentionally designed instructional and leadership practices can strengthen belonging, particularly for marginalized students, though stronger causal and long-term evidence is still needed.

Measurements and ethical considerations

The evidence shows that school belonging can be measured using a range of quantitative, qualitative and mixed-methods approaches, each capturing different aspects of students' experiences. Large-scale studies rely mainly on standardized self-report surveys. These measures generally show acceptable reliability and expected links with wellbeing and engagement, but evidence for broader validity and fair comparisons across cultures and groups remains uneven. Qualitative and participatory approaches provide essential insight, particularly for marginalized students, but cannot support comparison on their own. The literature also highlights important ethical considerations: measures can embed cultural assumptions, and belonging data can cause harm if misused or interpreted without context. More defensible approaches for schools combine brief, validated measures over time with qualitative reflection and clear safeguards.

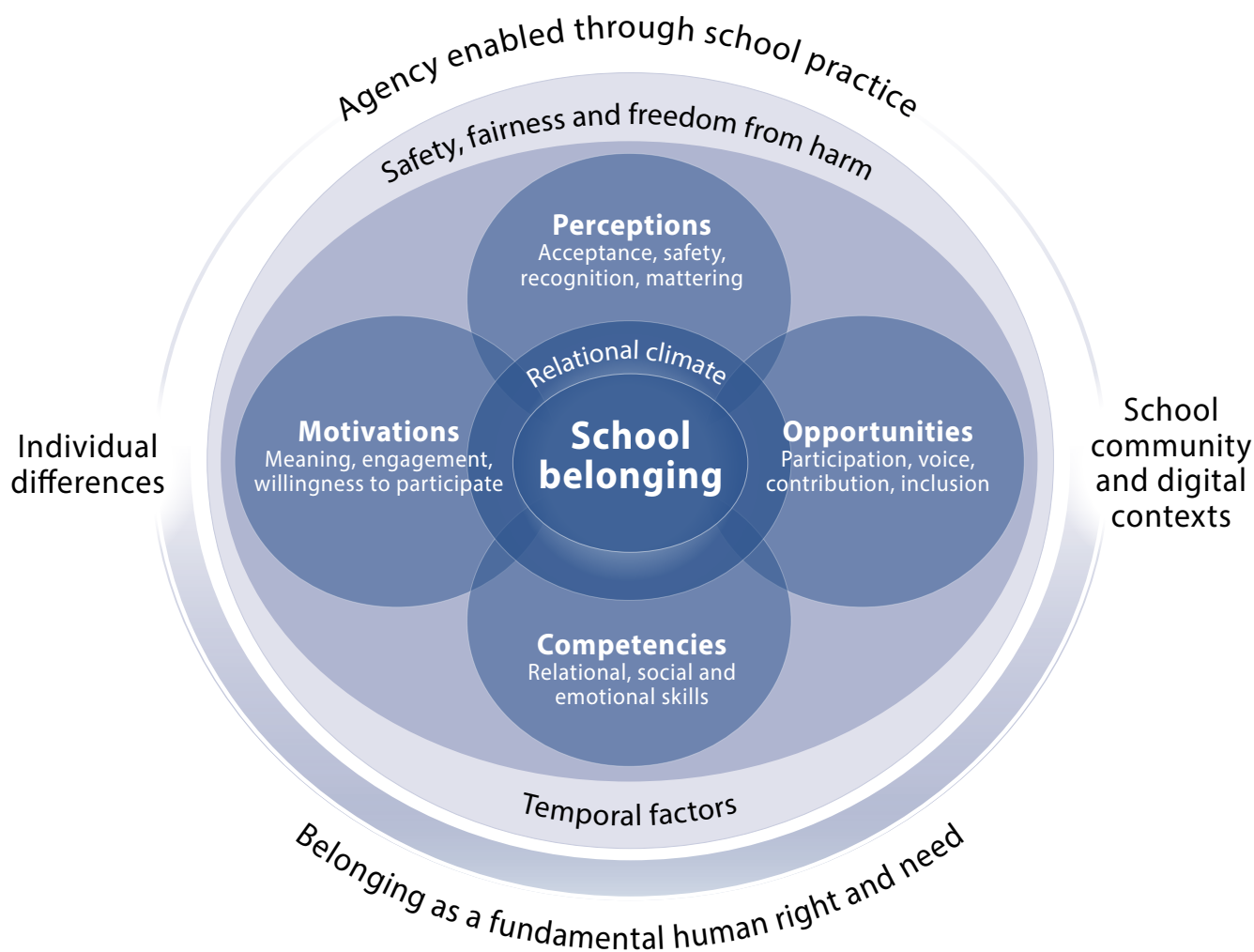
A framework of belonging

School belonging is conceptualized as both a fundamental human need and a product of social contexts. Need-based and self-determination perspectives position belonging as essential to students' engagement, wellbeing and learning, emphasizing the role of supportive relationships and needs-affirming teaching practices. Socioecological frameworks extend this view by highlighting that belonging is co-constructed across multiple systems, including peers, classrooms, families and communities, rather than residing solely within individuals.

Integrating these perspectives, Allen's (2025) framework treats school belonging as an ongoing, negotiated process shaped by multiple influences.

School belonging can therefore be defined as: a student's experienced sense of legitimate membership within the school community. It is grounded in perceived relational value, safety and recognition, and is sustained through everyday opportunities to participate meaningfully in learning and social life, as shaped by the cultural, structural and relational conditions of physical and digital school environments.

Figure 1: The International Baccalaureate framework of school belonging



Perceptions (students' day-to-day interpretations): Belonging is strengthened when students consistently receive signals that they are safe, respected, and valued by adults and peers. Small, everyday interactions accumulate into a stable sense of being noticed and treated fairly at school (Goodenow, Grady, 1993; Flett, 2022).

Competencies (skills and capacity to build inclusion): Belonging is strengthened when educators and students possess the skills and capacities needed to build inclusive relationships. Key competencies include educators' ability to enact relational and culturally responsive practices, prevent and address exclusion, and adapt routines so that differences in ability, language or confidence do not limit participation. These competencies also include students' development of social and emotional skills for working effectively with others (Ryan, Deci, 2000; Allen et al., 2018).

Motivations (the willingness to participate and risk connection): Students' engagement depends on whether they expect acceptance or rejection, particularly during transitions or periods of stress. Uncertainty about social fit can reduce participation and amplify the impact of setbacks (Leary, 2005; Walton, Cohen, 2007, 2011).

Opportunities (structured, meaningful chances to connect and contribute): The strongest evidence suggests that belonging improves when schools provide regular, inclusive opportunities for student participation through classroom routines, peer collaboration, extracurricular activities, student voice and supportive digital spaces. These opportunities are most effective when embedded in regular school practice rather than offered as one-off events (Allen et al., 2018; Korpershoek et al., 2020).

These factors operate within broader cultural, structural and historical contexts, and help explain both stable and context-specific experiences of belonging. By linking psychological processes with school- and system-level conditions, the framework offers practical guidance for strengthening belonging through policy, practice and leadership (Allen, 2025; Walton, Cohen, 2007).

Conclusions

The evidence indicates that school belonging is built through ordinary, cumulative experiences, including predictable relational care from adults, respectful peer cultures, fair responses to harm, and meaningful opportunities for students to contribute and be recognized. Belonging and wellbeing are mutually reinforcing over time, suggesting a clear theory of change: schools strengthen belonging by intentionally shaping the daily conditions that support participation, safety, recognition and connection. However, the intervention literature reveals a practical gap. Belonging is often measured but is less often directly targeted, highlighting the need for belonging-first approaches that can be rigorously and ethically evaluated.

Cultivating a sense of school belonging is fundamental to educational success and equity. The evidence is clear that when students feel they belong, they are more likely to thrive academically, socially and emotionally. For this reason, belonging should be treated as a basic condition of schooling rather than an optional extra. Belonging requires a design mindset: it is strengthened when schools intentionally shape the everyday conditions that students interpret as signals that they truly belong.

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A copy of the full report is available at: ibo.org/en/research. For more information on this study or other IB research, please email research@ibo.org.

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