

School Climate and Students' Sense of Belonging: A Literature Review, Psychosocial Mechanisms, and Practical Implications for the Indonesian Context**Tetty Winda Siregar**

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Abstract: This literature review synthesizes the relationship between school climate and students' sense of belonging, encompassing definitions, dimensions, psychosocial mechanisms, mediators–moderators, and practical implications for Indonesian schools. Based on a review of English- and Indonesian-language articles from the past ±30 years, we found a consensus that school climate dimensions safety and order, the quality of teacher student and peer relationships, learning-oriented teaching practices (formative feedback, autonomy), and collaborative leadership are positively correlated with belonging. The most consistent pathways involve social support and perceived fairness/voice, which foster students' affective attachment to school; in turn, this enhances academic engagement, achievement, and attendance while reducing risky behaviors (e.g., bullying and absenteeism). Common instruments such as the Psychological Sense of School Membership (PSSM; Goodenow) and various school climate surveys (Thapa; Wang & Degol) demonstrate strong reliability, though cross-cultural and grade-level validation in Indonesia remains limited. Practical implications recommend restorative anti-bullying programs, strengthening social-emotional learning (SEL) competencies, implementing autonomy-supportive pedagogy, and promoting student voice mechanisms aligned with the *Kurikulum Merdeka* and P5 initiatives. We propose a local research agenda emphasizing longitudinal or quasi-experimental studies, measurement invariance testing, and multilevel analyses.

Keywords: school climate; sense of belonging; student engagement; SEL; *Kurikulum Merdeka*.

INTRODUCTION

Over the past three decades, two key constructs school climate and sense of belonging have gained wide scholarly attention due to their consistent associations with academic engagement, achievement, and students' psychological well-being. *School climate* refers to the perceived quality of school life as experienced by students, teachers, and staff, encompassing dimensions such as safety, relationship quality, teaching practices, and institutional governance and environment (Fink 2023; Wang, Degol, and Guo 2019) In contrast, *sense of belonging* captures the extent to which students feel accepted, valued, and integral to their school community (Coque et al. 2016; Tarantino, Makopoulou, and Neville 2022).

Contemporary conceptual frameworks position school climate as a contextual enabler that fosters belonging through pathways of social support, perceived fairness, and participatory opportunities (*student voice*). Synthesized evidence shows that safe, supportive, and learning-oriented schools are more likely to nurture students' affective attachment, which in turn enhances engagement and learning outcomes (Saputra et al. 2020; Wang et al. 2019). Thus, understanding how the multiple dimensions of school climate synergistically build belonging holds both theoretical and practical significance for improving school quality.

Goodenow's (1993) seminal contribution introduced the Psychological Sense of School Membership (PSSM) as a reliable instrument to assess adolescents' belonging. Early validation demonstrated strong internal reliability and meaningful links with motivation and academic effort, suggesting that belonging serves as a key mediator between everyday school experiences and learning behaviors. Similarly, (Coque et al. 2016) review highlighted the fundamental human need for social connectedness in schools as a prerequisite for effective learning, positioning belonging at the heart of student well-being.

Consistent with this, recent meta-analyses indicate that teacher-, peer-, and school-level factors particularly teacher support and positive classroom climate are strong predictors of belonging (Tarantino et al. 2022). These findings extend correlational evidence into quantitative syntheses and provide clear directions for school-based interventions: strengthening relationships, offering formative feedback, and granting guided learning autonomy.

At the dimensional level, (Saputra et al. 2020) emphasize five interrelated domains safety, relationships, teaching and learning, institutional environment, and school improvement processes that shape perceptions of school climate. Meanwhile, (Wang et al. 2019) summarize that climates characterized by high academic expectations, procedural justice, and student participation are associated with improved engagement and achievement. Both frameworks converge on the conclusion that school climate is not merely a background condition but an active lever for educational transformation.

In the Indonesian context, the implementation of the *Kurikulum Merdeka* and the *Projek Penguatan Profil Pelajar Pancasila* (P5) emphasizes learner-centered approaches, autonomy, and social-emotional competence development. These principles resonate with international evidence underscoring the importance of safe, supportive, and fair school climates for fostering belonging. However, local challenges—such as interregional

resource disparities, large class sizes, and diverse school cultures—serve as moderating factors that must be considered when designing evidence-based interventions.

The psychosocial mechanisms linking school climate and belonging are often explained through Self-Determination Theory (fulfilment of relatedness and autonomy needs), social support models, and organizational/procedural justice frameworks. Classroom environments that provide formative feedback, opportunities for voice, and warm relationships tend to enhance students' feelings of competence and value, thereby strengthening their identification with school. In other words, small changes in classroom interactions or assessment design can create meaningful improvements in students' attachment and engagement.

At the same time, the literature indicates that the effects of school climate on academic outcomes are frequently mediated by belonging. Safe and fair schools enhance belonging, which subsequently increases engagement and attendance while reducing risk behaviours such as bullying and absenteeism (Tarantino et al. 2022; Wang et al. 2019). Meta-analytic findings reinforce this pattern and highlight teacher student relationships as a strategic intervention focus.

Building on this body of knowledge, the present manuscript offers a narrative scoping review of school climate and students' sense of belonging, focusing on psychosocial mechanisms, measurement tools, and practical implications relevant to Indonesian schools. Our goal is to integrate fragmented terminology and findings while proposing realistic policy and practice recommendations to strengthen student attachment across educational levels and contexts.

STUDY LITERATURE

Definition and Conceptual Scope

School climate is defined as the quality and pattern of school life experiences as perceived by students, teachers, and staff across dimensions of safety, relationships, teaching practices, and the institutional (Elloy and Patil 2014; Wang et al. 2019). Sense of belonging refers to the feeling of being accepted, valued, and part of the school community (Coque et al. 2016). The two are interrelated: a positive school climate generally fosters belonging, which in turn is associated with greater engagement and academic achievement.

Dimensions of School Climate and Indicators

Comprehensive reviews identify at least four core domains:

- 1. **Safety and order** (anti-bullying policies, fair discipline),
- 2. **Relationships/interactions** (teacher support, peer respect),
- 3. **Teaching practices** (high expectations, formative feedback, learning autonomy), and
- 4. **Leadership and participation** (student involvement in decision-making, procedural justice) (Thapa et al., 2013; Wang & Degol, 2016).

These domains shape how students interpret their daily school experiences, which in turn build affective attachment.

Table 1. Mapping of School Climate Dimensions to Indicators and Theoretical Links

Dimension	Key Indicators	Theoretical Link	Impact on Belonging
Safety & Order	Anti-bullying policy; rule consistency	Psychological safety as a prerequisite for community attachment	Sense of security ↑ → acceptance ↑
Relationships/Interactions	Teacher warmth; peer support	Social support model	Feeling valued/accepted ↑ → school identification ↑
Teaching Practices	Formative feedback; autonomy; differentiated instruction	Self-Determination Theory (needs for relatedness & autonomy)	Intrinsic motivation ↑ → belonging ↑
Leadership & Participation	Student voice; procedural fairness	Organizational justice and voice theory	Trust ↑ → affective commitment to school ↑

Sense of Belonging: Structure and Outcomes

The PSSM instrument (Goodenow, 1993) conceptualizes belonging as a multidimensional construct comprising perceived acceptance, affective identification with school, and social connectedness. Consistently, belonging correlates positively with academic engagement and achievement, and negatively with absenteeism and risky behavior

Psychosocial Mechanisms Linking Climate and Belonging

Three major pathways emerge in the literature:

1. **Social support** (from teachers and peers), which nurtures feelings of being valued;
2. **Fairness and voice**, which foster institutional trust; and
3. **Learning autonomy**, which enhances intrinsic motivation.

Together, these processes strengthen students' attachment to school. In essence, school climate functions as a context that fulfills basic psychological needs, promotes the internalization of school values, and cultivates a sense of belonging.

Key Empirical Evidence

Meta-analyses summarizing hundreds of effects show that teacher–student relationships and positive classroom climate are strong predictors of belonging across levels and contexts, with small-to-moderate but consistent effect sizes (Allen et al., 2018). Correlational and longitudinal studies reviewed by Wang and Degol (2016) also indicate that academic aspects (high expectations, goal clarity) and school safety directly predict engagement, partly mediated by belonging. Meanwhile, Thapa et al. (2013) highlight that multi-level interventions (safety policy, teaching practices, student participation) tend to be most effective.

Moderating Factors

The strength of the climate–belonging relationship may vary by educational level (transition from primary to secondary to high school), gender, socioeconomic status, urban–rural setting, and class size (Wang et al. 2019). Cultural context also matters: in more collectivist societies, the emphasis on relational harmony may amplify the influence of relationship-oriented domains.

Instruments and Psychometric Issues (Brief)

Belonging is typically measured using the PSSM (Goodenow, 1993), while school climate is assessed through multidimensional surveys based on frameworks by (Cohen 2014; Wang et al. 2019). Construct validity and internal reliability are generally strong;

however, many studies emphasize the need for cross-cultural adaptation and measurement invariance testing across grade levels and gender to enable valid group comparisons.

Research Gaps and Future Directions

First, there remains a lack of longitudinal and quasi-experimental studies testing the effectiveness of climate interventions on belonging and academic outcomes. **Second**, stronger psychometric validation is needed within the Indonesian context, including invariance testing. **Third**, there is a scarcity of research in non-urban, madrasah, and vocational school settings. Addressing these gaps would enrich context-specific evidence and inform more equitable and effective school policy.

RESEARCH METHOD

Conceptual Framework

The conceptual framework of this paper positions school climate as a *proximal context* that shapes students' sense of belonging through a series of psychosocial processes occurring within classrooms and the broader school community. Rather than viewing climate as a passive backdrop, we emphasize that its core dimensions safety, relationships, teaching practices, and participatory leadership act as active levers that dynamically influence students' emotional and cognitive experiences on a daily basis. Within this framework, belonging is not merely an outcome but a mediating construct that explains why improvements in school climate often translate into greater engagement and achievement.

First, within the realm of *safety and order*, schools that consistently enforce anti-bullying policies and provide safe reporting mechanisms create **psychological safety**. Such safety reduces social threats and opens space for positive affect toward school. When students believe their dignity is protected, they are more likely to form emotional attachment and participate actively in class. In terms of Self-Determination Theory (SDT), these conditions fulfill the basic need for *relatedness* a prerequisite for intrinsic motivation and, consequently, belonging.

Second, in the *relational domain*, the quality of teacher–student relationships serves as a key engine of belonging. Warm, fair, and clear interactions communicate that students are seen and valued as individuals. Meta-analytic evidence indicates that teacher support and positive classroom climate exert small-to-moderate yet consistent effects on belonging across educational levels. Psychologically, supportive relationships enhance students'

perceptions of competence and agency, fostering affective identification with the school and willingness to adhere to community norms.

Third, *learning-oriented teaching practices* particularly formative feedback, high yet realistic expectations, and autonomy support signal that students' efforts are meaningful and recognized. When students are provided with task choices, transparent success criteria, and opportunities for revision, they experience a sense of control over learning. These conditions activate motivational pathways of *competence and autonomy*, reinforcing emotional connectedness to the classroom and school. In essence, pedagogy and assessment design serve as daily conduits through which climate translates into belonging.

Fourth, *leadership and participation* offer the structural foundation of procedural justice and student voice. Transparent decision-making processes from jointly formulating classroom rules to operating student councils build institutional trust. From the lens of organizational justice theory, experiences of *voice* and *correctability* (the ability to challenge or appeal decisions) strengthen perceived fairness and sense of ownership toward the institution. This trust consolidates students' attachment not only to teachers but to the school's collective identity.

In the overall framework, sense of belonging functions as a mediator bridging the influence of school climate on academic engagement (behavioral, emotional, cognitive) and achievement. The causal sequence—climate → (support/safety/voice/autonomy) → belonging → engagement/achievement—is the most consistently reported pathway in the literature (Thapa et al., 2013; Wang & Degol, 2016). Alongside this primary mediation, direct effects of climate (e.g., safety) on prosocial or antisocial behavior and attendance also operate in parallel.

The framework also incorporates moderating factors that shape pathway strength: educational transitions (elementary → junior high → senior high) that often reduce belonging, variations by gender, socioeconomic status, class size, and urban–rural context. In collectivist societies such as Indonesia, relational and community domains tend to carry greater weight; however, an emphasis on harmony should not obscure the importance of procedural fairness and authentic participation.

Finally, this conceptual framework is designed to be operational and actionable for school programs. Each climate dimension maps onto specific, evidence-based practices:

1. *Safety* → restorative anti-bullying policies;
2. *Relationships* → advisory periods or mentoring sessions;

3. *Teaching* → rubrics, formative feedback, and task choice;
4. *Leadership* → student councils and classroom policy surveys.

Together, these strategies aim to enhance belonging as a proximal target that subsequently drives engagement, attendance, and achievement. For evaluation, both process indicators (e.g., feedback quality, mentoring frequency) and outcome indicators (e.g., belonging scores, engagement rates, absenteeism) should be monitored to assess dose–response effects and guide continuous school improvement.

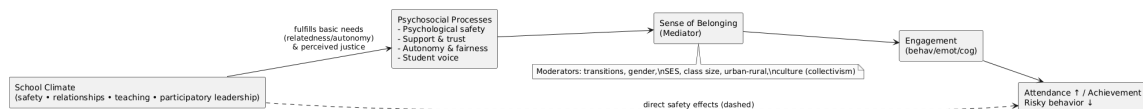


Figure 1. Scheme Method

RESULT

School Climate → Belonging → Academic & Psychosocial Outcomes

Cross-study evidence shows a consistent pattern: students' perceptions of a safe, supportive, fair, and learning-oriented climate are strongly correlated with an increased sense of belonging. The mechanisms are multilayered: psychological safety reduces social threats, making students more ready to form affective identification; warm relationships communicate personal value; and autonomy-supportive teaching practices foster agency and competence. The combination of these factors produces a stable affective attachment that drives behavioral, emotional, and cognitive engagement, better attendance, and lower risky behaviors such as bullying or truancy.

Beyond direct associations, belonging frequently mediates the relationship between climate and outcomes across study designs. Schools with clear academic expectations and strong procedural justice tend to have students reporting higher belonging, which in turn explains much of the variance in engagement and achievement. Several longitudinal studies also indicate a plausible temporal direction: improvements in classroom climate early in the year are followed by increases in belonging and engagement by mid- or end-year. However, possible bidirectional feedback should be noted—highly engaged classrooms may improve perceived climate—hence intervention evaluations should monitor both directions simultaneously.

Teacher Roles and Classroom Practices

Teachers play a central role as everyday change agents. Respectful, consistent, and fair teacher–student interactions form a classroom microclimate rich in psychological messages: “*You matter, you are capable, and your voice counts.*” This microclimate is the most immediate environment students experience, often exerting stronger effects on belonging than school-wide policies. Formative feedback practices (frequent, specific, progress-oriented) confirm student growth, reduce uncertainty, and provide clarity conditions that sustain attachment.

Moreover, autonomy-supportive strategies such as allowing topic/task choices, co-creating rubrics, and promoting self-reflection enhance students’ sense of control over their learning. When students have voice in the process, they internalize learning goals and link academic success to their identity as members of the classroom community. Ultimately, the combination of structure (clear expectations) and autonomy (meaningful choice) creates a pedagogical sweet spot most conducive to belonging.

Safety and Anti-Bullying: From Policy to Restorative Practice

The safety dimension extends beyond the absence of physical violence to include psychological safety freedom from ridicule, stigma, or disproportionate punishment. Clearly defined, socialized, and consistently enforced anti-bullying policies are prerequisites. Yet the greatest effectiveness occurs when policy translates into daily practice: supervision of vulnerable areas (corridors/toilets), anonymous reporting channels, and routine emotional check-ins in class. Restorative approaches focused on repairing relationships and fostering responsibility align more closely with belonging goals than purely punitive systems.

Successful implementations typically combine bystander education (empowering witnesses to act safely), parent engagement, and coordination with counseling services. Thus, the message students receive is not merely “*Do not bully,*” but “*This community protects one another.*” Such communitarian messaging directly strengthens collective identification and belonging.

Indonesian Context: Kurikulum Merdeka, P5, and Resource Disparities

The Kurikulum Merdeka and Projek Penguatan Profil Pelajar Pancasila (P5) provide structural foundations for schools to cultivate climates that promote autonomy, voice, and collaboration. P5, with its cross-disciplinary, action-oriented projects, naturally creates

spaces for authentic engagement when students perceive their contributions as meaningful, belonging increases. Differentiated learning also allows individual needs to be met without sacrificing a shared sense of classroom community.

However, resource disparities between urban and rural areas and large class sizes serve as real moderators. Schools with high teacher–student ratios and limited facilities may struggle to sustain intensive feedback loops or student voice mechanisms. Therefore, low-cost adaptations such as 10–15-minute advisory periods, concise rubrics, or periodic class polls can serve as transitional strategies that still enhance belonging in resource-limited contexts.

Moderators and Differential Effects

The climate–belonging relationship is not uniform across all students. Educational transitions (elementary → middle → high school) often produce temporary declines in belonging due to changing social and academic structures. Targeted interventions during these transitions peer mentoring–based orientations or cooperative learning groupings can mitigate such drops. Gender and socioeconomic status also moderate effects; for instance, students facing economic hardship may be more sensitive to signals of fairness and material support.

Urban–rural context and school culture determine which strategies are most effective. In environments with strong collectivist norms, programs emphasizing community contribution (e.g., service-learning projects) may boost belonging more than individual-focused interventions. Conversely, in highly diverse schools, emphasizing procedural fairness and creating safe dialogue spaces (student forums) helps build cross-group trust.

Summary of Evidence and Implications for Intervention Design

Overall, the literature points to a multi-level intervention model:

1. Restorative safety policies at the school level,
2. Relational strengthening and feedback practices at the classroom level, and
3. Empowered student voice at the individual/group level.

Effective designs integrate process indicators (e.g., feedback quality, mentoring frequency) and outcome indicators (belonging, engagement, attendance scores) to enable schools to monitor progress and pursue continuous improvement. Embedding interventions

within a plan–act–reflect cycle ensures they evolve from short-term programs into institutionalized elements of school culture.

Table 2. Mapping of Strategies to Mechanisms and Outcomes

Level	Strategy	Mechanism Pathway	Proximal Outcome	Final Outcome
School	Restorative anti-bullying policy; reporting channels	Psychological safety; institutional trust	Sense of security ↑	Absenteeism ↓; incidents ↓
Classroom	Formative feedback; task choice; co-created rubrics	Competence & autonomy	Engagement ↑	Achievement ↑
Individual/Group	Mentoring; <i>student voice</i> / student council	Social support; collective identification	Belonging ↑	Prosocial behavior ↑

General Principles of Measurement

Measuring sense of belonging and school climate requires instruments that are reliable and valid across educational levels and cultural contexts. The general principle is to ensure content validity (alignment of indicators with construct definitions), construct validity (factor structure consistent with theory), and internal reliability (item consistency). Additionally, when instruments are used across different groups (e.g., elementary vs. middle school, male vs. female), measurement invariance testing is necessary to guarantee that score comparisons are fair and meaningful.

In practice, a sound measurement process begins with linguistic–cultural adaptation, small-scale piloting, and subsequent confirmation of factor structure through Confirmatory Factor Analysis (CFA) or Structural Equation Modeling (SEM). Reports should include key psychometric metrics: Cronbach’s α or McDonald’s ω (≥ 0.70 for exploratory use; ≥ 0.80 for high-stakes decisions), factor loadings (≥ 0.40), and model fit indices (CFI/TLI ≥ 0.90 ; RMSEA ≤ 0.08 ; SRMR ≤ 0.08). Procedures for handling missing data, response bias, and common method variance (CMV) should also be documented.

Sense of Belonging Instruments

The most widely used instrument is the Psychological Sense of School Membership (PSSM) (Goodenow, 1993), available in the full 18-item version and shorter variants (8–13 items). PSSM captures three dimensions: acceptance, affective identification, and social connectedness. Example items include: “*I feel like a real part of this school*” and

“Teachers at this school respect me.” Scores are calculated as the mean or sum of items; negatively worded items are reverse-coded before aggregation.

Beyond the PSSM, several school connectedness scales emphasize attachment to the school, teachers, and peers. These are concise and easy for students to understand, though their construct coverage may be narrower. In the Indonesian context, it is advisable to integrate a few teacher/peer connectedness items to capture collectivist relational nuances.

School Climate Instruments

School climate surveys typically follow the frameworks of (Wang et al. 2019), encompassing the dimensions of safety, relationships, academic practices (expectations, feedback), and institutional environment. Each dimension is operationalized through 4–8 items.

1. Example of a safety item: *“Anti-bullying rules are enforced consistently.”*
2. Example of an academic practice item: *“My teacher gives feedback that helps me improve my work.”*

A crucial design consideration is the balance between scale length and measurement precision. For routine school surveys, a 20–24 item version (≈ 5 –6 items per dimension) is typically sufficient and not burdensome for respondents. For academic research, extended versions with 32–40 items enhance dimensional precision and reliability.

Language–Cultural Adaptation and Pilot Procedures

Adaptation follows a forward–back translation procedure conducted by two independent translators, followed by expert panel reviews (education/psychology) and cognitive interviews with 6–8 students to ensure item comprehension. A pilot test ($n \approx 30$ –50) should then assess response distribution, preliminary reliability, and participant feedback. Revise or clarify ambiguous items before launching the main survey.

Ethical procedures include obtaining school approval, parental informed consent (for participants under 18), and student assent. Ensure anonymity and clearly state that participation is voluntary and can be discontinued at any time without academic consequences.

Psychometric Analyses

Conduct separate CFAs for the PSSM and school climate instruments, testing one-versus multi-factor models according to theoretical expectations. Proceed with multi-group measurement invariance testing (configural, metric, scalar) across educational levels and gender. Common criteria for acceptable fit change are $\Delta CFI \leq 0.010$ and $\Delta RMSEA \leq 0.015$. Report ω for reliability and Average Variance Extracted (AVE) and Composite Reliability (CR) if applying a convergent–discriminant validity framework.

To mitigate common method variance (CMV), combine data sources (e.g., students report belonging; teachers report teaching practices) or apply temporal separation (measure constructs at different times). Statistically, use a marker variable or latent CMV factor if necessary, though priority should be given to sound data collection design.

Scoring, Missing Data Handling, and Data Quality Checks

Use a 5-point Likert scale with consistent anchors. Apply reverse coding to negatively worded items. For missing data under 5%, use mean imputation per scale; for missing data over 5%, consider Full Information Maximum Likelihood (FIML) in SEM or multiple imputation. Check for outliers, straight-lining responses, and unrealistically short response times as indicators of data quality.

Table 3. Summary of Recommended Instruments and Psychometric Properties

Construct	Instrument	#Items	Sample Item	Target Reliability	Notes
Sense of Belonging	PSSM (Goodenow)	18 (8–13 short form)	“I feel like a real part of this school.”	$\alpha/\omega \geq 0.80$	Test invariance across school level & gender
School Connectedness	Connectedness Scale	5–15	“I feel close to my teacher.”	$\alpha \geq 0.70$	Concise; add peer domain items
School Climate – Safety	Safety Subscale	5–6	“Anti-bullying rules are consistently enforced.”	$\alpha \geq 0.75$	Rule socialization is essential
School Climate – Relationships	Relationship Subscale	5–6	“My teacher respects me.”	$\alpha \geq 0.80$	Overlaps conceptually with belonging
School Climate – Teaching Practices	Academic Subscale	5–6	“Feedback helps me improve my work.”	$\alpha \geq 0.80$	Emphasizes autonomy & clear expectations

Construct	Instrument	#Items	Sample Item	Target Reliability	Notes
School Climate – Institutional Environment	Institutional Subscale	4–6	“School decisions are transparent.”	$\alpha \geq 0.75$	Focus on voice & fairness

CONCLUSION

This review affirms that a safe, supportive, fair, and participatory school climate serves as a crucial foundation for the development of students’ sense of belonging. The four key dimensions safety, quality of relationships, autonomy- and feedback-oriented teaching practices, and leadership that amplifies student voice function as *active levers* shaping students’ daily psychological experiences. Consistently, belonging operates as a proximal mediator linking school climate to engagement, attendance, achievement, and prosocial behavior, while simultaneously reducing risk behaviors. Thus, enhancing belonging should not be viewed merely as a desirable outcome but as a strategic and measurable policy target for schools.

In practical terms, effective implementation requires multi-level interventions that reinforce one another: restorative safety policies and a structured student voice architecture at the school level; classroom pedagogy centered on formative feedback rubrics and meaningful autonomy at the classroom level; and mentoring by teachers or peers at the individual or group level. A one-year implementation framework employing the PDSA (Plan–Do–Study–Act) cycle, integrated process–proximal–final indicators, and clear RACI (Responsible–Accountable–Consulted–Informed) role assignments enables continuous improvement even in resource-limited settings. Alignment with the *Kurikulum Merdeka* and the *P5 (Projek Penguatan Profil Pelajar Pancasila)* provides a natural pathway to institutionalize belonging-promoting practices within the school culture rather than treating them as temporary programs.

Looking ahead, research priorities in Indonesia should include strengthening causal evidence through longitudinal or experimental designs, testing measurement invariance across educational levels and regions, and evaluating the cost-effectiveness of low-cost intervention packages. Open science initiatives such as sharing adapted instruments, anonymized datasets, and analysis code will accelerate collective learning across schools. By combining student-centered policies, evidence-based pedagogical practices, and a

replicative research ecosystem, Indonesian schools can build a robust sense of belonging as the foundation for both educational quality and students' psychological well-being.

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