

Students' Sense of School Belonging in PISA 2022: Evidence from Japan in a Global Context

Research Overview

This study examines factors associated with school belonging among Japanese 15-year-olds using PISA 2022 data. Analyzing student-teacher relations, bullying victimization, and socioeconomic status across low, middle, and high belonging groups, findings may contribute to informing global education policy discussions on student well-being and belonging.

Purpose of Study

This study contributes to cross-national dialogue on student well-being by examining how local educational dynamics in Japan illuminate broader global challenges — bridging context-specific evidence with internationally comparable findings to co-create knowledge applicable across cultural settings.

School belonging is internationally recognized as a critical indicator of student well-being and social inclusion; students who feel they belong are significantly less likely to become chronically absent or drop out (OECD, 2018). PISA 2022 data confirm that diminished belonging is a shared global policy challenge, not a nation-specific concern.

Japan presents a paradoxical case within this international landscape. Its BELONG index average of 0.25 substantially exceeds the OECD mean of -0.02 , ranking sixth highest among OECD nations (OECD, 2024). Yet school-refusing students (*futoko*) reached a record 353,970 in 2025 (MEXT, 2025) — the highest ever recorded. This divergence between self-reported belonging and behavioral disengagement raises a fundamental question: what, and whom, do current belonging measures actually capture? Japan's enactment of the Act on Promotion of Measures against Loneliness and Isolation (2023) further signals that belonging deficits extend beyond individual educational outcomes into national social policy — a development of broader international relevance.

This study aims to identify the factors most strongly associated with school belonging among Japanese 15-year-olds, using variables with cross-national comparability within the PISA framework: student-teacher relations (WLE index), bullying victimization, and socioeconomic status (ESCS).

Research Methods

The Japan dataset from PISA 2022 ($n = 5,760$) was analyzed. Students were classified into three groups by self-reported belonging: low, middle, and high. One-way ANOVA and Tukey's post-hoc tests were conducted for each dependent variable. Unweighted data were employed to prevent the systematic exclusion of high-risk low-belonging students, who were disproportionately lost when final student weights were applied due to missing values in background variables — a methodological consideration relevant to international researchers using PISA data.

Results and Discussion

All three variables showed statistically significant between-group differences. Student-teacher relations demonstrated the largest effect ($F = 416.60$, $p < .001$, $\eta^2 = .13$), with means rising monotonically from the low-belonging group ($M = -0.32$) through middle ($M = 0.07$) to high ($M = 0.68$). Bullying victimization was significant across all group pairs ($F = 140.34$, $p < .001$, $\eta^2 = .05$), with the low-belonging group reporting the highest victimization ($M = -0.44$). For ESCS ($F = 5.03$, $p = .007$), significant differences emerged only between the low-belonging group and the other two groups, with no significant difference between the middle and high groups ($p = .835$), indicating a threshold effect.

Student-teacher relations showed the largest effect size among the examined variables, with a substantially stronger association than bullying victimization and a markedly larger effect than ESCS. This suggests that relational aspects of schooling may be particularly important for understanding variations in school belonging across students.

The ESCS results indicate that socioeconomic differences are primarily associated with school belonging at the lower end of the distribution, while differences become less pronounced beyond a certain level. This pattern suggests that material resources may matter most in conditions of disadvantage, whereas relational factors may play a more central role across broader ranges of students.

These findings suggest that student-teacher relationships play a central role in shaping school belonging. While digital technologies and AI may increasingly support instructional processes, the relational and affective dimensions of schooling are less easily substituted. The results therefore highlight the importance of policy approaches that extend beyond bullying

prevention and emphasize the strengthening of student-teacher relationships as a key dimension of school environments.

Keywords

PISA, sense of belonging, school refusal, isolation, student well-being