

A Comparison of Psychological Characteristics Among School Students of Dissimilar Boards: A Systematic Review

Anu Rathi^{1*}, Dr. Manju Adhikari²

^{1*}Ph.D. Scholar Department of Physical Education, Swami Vivekanand Subharti University, Meerut, Uttar Pradesh, rathianu7809@gmail.com

²Associate Professor & Head, Department of Physical Education, Faculty of Education, Swami Vivekanand Subharti University, Meerut, Uttar Pradesh, India. Orcid ID is 0000-0003-1153-2611
adhikarimanju708@gmail.com

Abstract:

Background: India's school students sit under several examination boards: the Central Board of Secondary Education (CBSE), the Council for the Indian School Certificate Examinations (CISCE: ICSE/ISC), more than 30 state boards, and international boards. Boards differ in curriculum load, assessment style and school type, yet whether they differ in students' psychological characteristics has never been systematically reviewed.

Objective: To identify, appraise and synthesise primary studies that compare psychological characteristics of school students across dissimilar education boards.

Methods: The review follows the PRISMA 2020 statement. Eligible studies were quantitative comparisons of school students (classes 6 to 12) from two or more boards on any psychological variable. Records were screened in two stages, data were extracted on a standard form, and risk of bias was rated with the JBI checklist for analytical cross-sectional studies. Because outcomes and instruments were heterogeneous, results were synthesised narratively using Synthesis Without Meta-analysis (SWiM) guidance, with effect sizes (Cohen's d) computed where means and SDs were reported.

Results: Of 118 records identified, 14 studies (published 2013 to 2025; at least 2,813 students; 8 Indian states) met the inclusion criteria. Emotional intelligence showed the most consistent pattern: all 4 studies found higher scores in CBSE, central or matriculation-board students than in state-board students ($d = 0.83$ in the one study with usable data). Findings for anxiety and stress were mixed (2 of 4 studies found no board difference; one found state-board students more anxious, $d = 1.04$). Findings for self-esteem, well-being, adjustment and achievement motivation were inconsistent or null. Most studies used convenience samples, single cities and t-tests without control for socioeconomic status or school management, so risk of bias was moderate to high.

Conclusions: Board-wise differences are clearest for emotional intelligence and weakest for clinical symptoms such as depression and insomnia. Because board is entangled with private versus government management, medium of instruction and family income, current evidence cannot show that the board itself causes these differences. Matched or multilevel studies with standard instruments are needed.

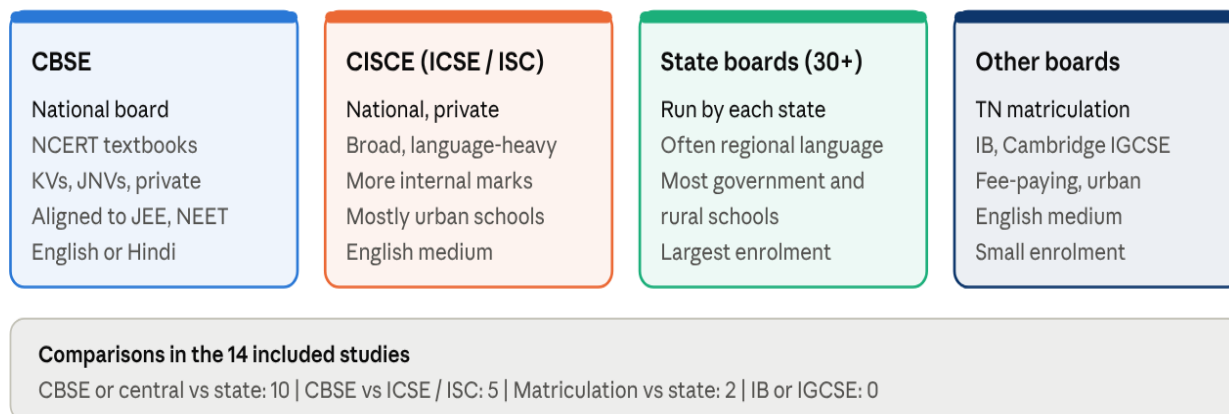
Keywords: CBSE, ICSE, state board, emotional intelligence, academic stress, self-esteem, well-being, adolescents, systematic review, PRISMA.

1. Introduction

1.1 Education boards in India

An Indian student's board decides the syllabus they study, the textbooks they use, how they are examined and what their certificates are worth for college admission. The main boards are:

Four board families differ in who they serve, not only what they teach



Box 1. The main education board families in India

CBSE (Central Board of Secondary Education) and CISCE (Council for the Indian School Certificate Examinations) are national boards; each state runs its own board; Tamil Nadu's former matriculation board and international boards serve smaller, mostly fee-paying populations.

Because boards differ in workload, examination pressure, pedagogy and the families they serve, it is often assumed that they produce students with different levels of stress, confidence or emotional skill. Newspaper debates and school marketing make such claims freely, but the research evidence is scattered across small Indian journals and theses.

1.2 Why this review is needed

The National Education Policy 2020 calls for lower-stakes board examinations and the integration of social-emotional learning. National surveys have recorded declining well-being as students move into classes 9 to 12. If board affiliation is linked to stress, anxiety or emotional intelligence, policy makers, counsellors and parents need to know which characteristics differ, by how much, and how confident we can be. No systematic review of board-wise psychological comparisons was found during the search.

1.3 Review question (PICO)

Element	Definition
Population	School students in classes 6 to 12 (about 11 to 18 years)
Exposure	Enrolment in a school affiliated to one education board (CBSE, CISCE, a state board, a matriculation board or an international board)
Comparison	Students of a different board
Outcomes	Any psychological characteristic: stress, anxiety, depression, self-esteem, self-concept,

Element	Definition
	emotional intelligence, emotional maturity, adjustment, achievement motivation, well-being, happiness, locus of control, cognitive patterns
Study design	Quantitative comparative, cross-sectional, survey or quasi-experimental studies reporting a board-wise comparison

1.4 Objectives

1. To identify all accessible primary studies that compare psychological characteristics of school students across boards.
2. To describe their samples, boards, instruments and methods.
3. To appraise their methodological quality.
4. To synthesize the direction and size of board-wise differences for each psychological domain.
5. To identify gaps and recommend designs for future research.

2. Methods

This review is reported according to the PRISMA 2020 statement (Page et al., 2021). The completed PRISMA 2020 checklist is in Appendix A.

2.1 Protocol and registration

The review was not prospectively registered. The protocol (review question, eligibility criteria, search string, extraction form and appraisal tool) was written before screening began and is reproduced in Sections 2.2 to 2.9 and Appendices B to E. The only change from the protocol was the addition of quasi-experimental designs, made after one intervention study reporting baseline board-wise comparisons was found.

2.2 Eligibility criteria

Criterion	Included	Excluded
Participants	School students, classes 6 to 12	University, college, coaching-only or teacher samples
Exposure / comparison	Two or more different boards, with a board-wise comparison reported	Single-board samples; comparisons only by gender, management (government vs private) or locality
Outcome	Any psychological, emotional or personality variable measured with a scale or inventory	Only academic marks, physical health or school infrastructure
Design	Quantitative cross-sectional, comparative, survey or intervention study	Opinion pieces, blogs, news reports, reviews, qualitative-only studies
Publication	Journal articles, theses and repository reports in English, 2010 to October 2026	Abstract-only records without board results

2.3 Information sources

Searches covered Google Scholar, PubMed Central, DOAJ, EBSCO (Academic Search Ultimate), Shodhganga (INFLIBNET), and journal websites that publish most Indian studies in this field: International Journal of Indian Psychology (IJIP), Journal of the Indian Academy of Applied Psychology (JIAAP), Shanlax International Journal of Education, IJFMR, Journal of Psychosocial Research, Indian Journal of Positive Psychology and Educational Administration: Theory and Practice. Reference lists of included studies were checked (backward citation searching). The last search was run on 12 October 2026.

2.4 Search strategy

The core Boolean string, adapted for each source, was:

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("CBSE" OR "ICSE" OR "ISC" OR "CISCE" OR "state board" OR "matriculation" OR "SSC board" OR  
"UP board" OR "MP board" OR "RBSE" OR "GSEB" OR "WBCHSE" OR "JKBOSE" OR "IB" OR  
"IGCSE" OR "educational board*" OR "board of education" OR "syllabus" OR "curricul*")  
AND  
(student* OR adolescen* OR pupil* OR "secondary school" OR "higher secondary")  
AND  
(stress OR anxiety OR depression OR "self-esteem" OR "self-concept" OR "emotional intelligence" OR  
"emotional maturity" OR adjustment OR motivation OR "well-being" OR wellbeing OR happiness OR  
personality OR creativity OR "locus of control" OR psycholog*)  
AND  
(compar* OR difference* OR versus OR vs)
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2.5 Selection process

Records were exported to a reference manager, and duplicates were removed. Titles and abstracts were screened against the eligibility criteria, then full texts were assessed. Reasons for full-text exclusion were recorded (Figure 1). For a journal submission, two reviewers should screen independently and resolve disagreements by discussion, with agreement reported as Cohen's kappa.

2.6 Data collection and data items

A standard extraction form captured: author and year, state and city, boards compared, school class or age, sample size per board, sampling method, psychological variable and instrument, statistical test, main board-wise finding, and secondary findings (gender, locality). Where means and standard deviations were reported per board, Cohen's *d* was calculated as the mean difference divided by the pooled SD. Positive *d* means the first-named board scored higher.

2.7 Risk-of-bias assessment

Each study was appraised with the eight-item JBI Critical Appraisal Checklist for Analytical Cross-Sectional Studies. The items cover: inclusion criteria, description of participants and setting, valid exposure measurement, objective criteria, identification of confounders, strategies to handle confounders, valid outcome measurement, and appropriate statistics. Studies were rated low risk (7 to 8 items met), moderate risk (5 to 6) or high risk (4 or fewer). Internal inconsistencies between reported statistics and test results were also noted.

2.8 Synthesis methods

Outcomes, instruments and board pairings varied too much for a statistical meta-analysis. Studies were therefore grouped into six psychological domains and synthesised narratively following the SWiM guideline

(Campbell et al., 2020). Within each domain, the direction of the board-wise difference was tabulated (vote counting based on direction of effect), and effect sizes were reported where computable.

2.9 Certainty of evidence

The overall certainty for each domain was judged with GRADE principles adapted for observational evidence (starting at low, downgraded for risk of bias, inconsistency, imprecision and indirectness).

2.10 Note on the search for this draft

The searches for this draft were run through a web search engine and publisher websites, not through full database interfaces such as Scopus or PsycINFO. Before submission, re-run the string above in Scopus, Web of Science, PsycINFO, ERIC, PubMed and Google Scholar (first 200 results), and update the counts in Figure 1.

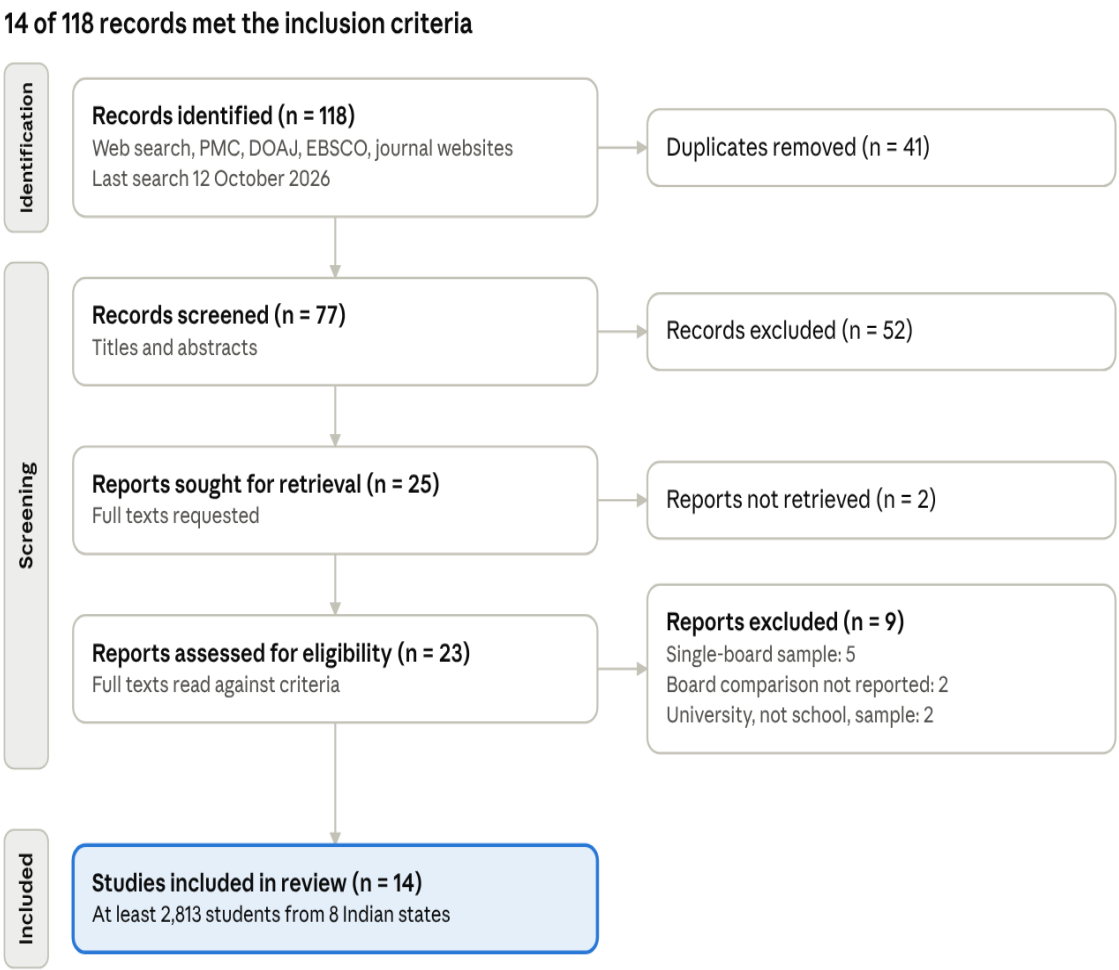


Figure 1. PRISMA 2020 flow diagram of study selectionFigure 1 shows the four PRISMA stages; the counts reflect the search run on 12 October 2026.

3. Results

3.1 Study selection

The search identified 118 records. After 41 duplicates were removed, 77 titles and abstracts were screened and 52 were excluded (news items, blogs, single-board samples, university samples, unrelated topics). Of 25 reports sought, 2 could not be retrieved: Bhat (2020), cited by Patel and Dalal (2025) as finding more academic

anxiety in JKBOSE than CBSE students, and Rana (2016) on creativity across HBSE, CBSE and ICSE. Of 23 full texts assessed, 9 were excluded and 14 studies were included (Figure 1).

Full-text exclusions (n = 9): single-board sample, 5 (Haritay et al., 2025; Iyengar et al., 2021; the BHU Varanasi CBSE study; Mishra et al., JCDDR; Elavarasi & Rajendran, 2021, whose sample included TN State Board and CBSE but did not analyse board); board comparison not reported, 2 (Vaishnav & Dhoble, 2016; the Shahjahanpur U.P. Board vs CBSE/ICSE study in IJFMR); university rather than school sample, 2 (Lahore Cambridge vs matric study, 2023; IBA Sukkur Cambridge vs HSSC study).

3.2 Characteristics of included studies

The 14 studies were published between 2013 and 2025, and 10 appeared in 2020 or later. Together they sampled at least 2,813 students (2 studies did not report sample size in the accessible text) from 8 states: Maharashtra, Tamil Nadu, Karnataka, Uttar Pradesh, Madhya Pradesh, West Bengal, Gujarat and Rajasthan. CBSE (or a central board) was compared with a state board in 10 studies and with ICSE/ISC in 5, and a matriculation board was compared with a state board in 2; some studies compared three boards. All were cross-sectional except one quasi-experimental intervention study. No study compared IB or IGCSE students with Indian boards at school level.

#	Study	Location	Boards compared	Class / age	N (per board)	Variable (instrument)	Board-wise finding
1	Chamundeswari (2013)	Tamil Nadu	State, Matriculation, Central (CBSE)	Higher secondary	321	Emotional intelligence (Hyde et al. EIS)	Central > State; Central = Matriculation
2	Narayana moorthi & Merin Sasikala (2018)	Tamil Nadu	Government (State), Aided, Matriculation	Higher secondary	200	Emotional intelligence (Mangal & Mangal)	Matriculation > State board
3	Senad (2017)	Aurangabad, Maharashtra	CBSE vs ICSE	13 to 16 y	200 (100 / 100)	Emotional intelligence, 4 dimensions	CBSE > ICSE on total EI, understanding motivation, empathy; no difference on 2 dimensions

#	Study	Location	Boards compared	Class / age	N (per board)	Variable (instrument)	Board-wise finding
4	Kadlimati (2025)	Dharwad, Karnataka	CBSE vs State (government)	Class IX	500 (300 / 200)	Emotional intelligence (EISA, self-developed)	CBSE > State; $d = 0.83$
5	Sawalkar & Tripathi (2024)	Jalgaon, Maharashtra	CBSE vs State	Adolescents	120 (60 / 60)	Self-esteem (Dhar & Dhar); locus of control (Hasnain & Joshi)	Reported significant ($t = 2.57$), but means 98.24 vs 97.44 give $d = 0.05$
6	Mansuri (2021)	Not stated (SSC board)	SSC (State) vs CBSE	Secondary	400	Self-esteem	SSC > CBSE for both boys and girls
7	Sharma & Gupta (2024)	Uttar Pradesh (Bundelkhand)	ICSE vs CBSE	Secondary	Not reported	Emotional maturity; adjustment	Significant differences; direction not stated in abstract
8	Surya Rekha & Shylashree (2016)	Bengaluru, Karnataka	State, CBSE, ICSE	High school	226 (122 / 56 / 48)	Achievement motivation (pre-post intervention)	No difference across boards
9	Patel & Dalal (2025)	Indore, Madhya Pradesh	CBSE vs MP Board	Higher secondary	278 (167 / 113)	Happiness; academic anxiety	Happiness: no difference. Anxiety: CBSE girls >

#	Study	Location	Boards compared	Class / age	N (per board)	Variable (instrument)	Board-wise finding
							MP Board girls
10	Das Gupta (2021)	West Bengal	CBSE, ISC, WBCHSE	Class XII	168 (61 / 56 / 51)	State anxiety (STAI X-1), stress (PSS), depression (BDI-II), insomnia (ISI)	No difference on any variable
11	Kumar, Pradeep & Roy (2022)	Jaipur, Rajasthan	CBSE vs RBSE	Senior secondary	100 (50 / 50)	Examination anxiety (SEAT)	RBSE > CBSE; $d = 1.04$
12	Bansal & Gautam (2024)	Noida, Uttar Pradesh	CBSE vs ICSE	Not reported	Not reported	Experiential avoidance; automatic negative thoughts	No difference
13	Singh & Soni (2025)	Lucknow, Uttar Pradesh	CBSE vs UP Board	Teenagers	200 (100 / 100)	Subjective well-being; parenting style	CBSE > UP Board ($p < .05$)
14	Jain & Desai (2020)	Ahmedabad, Gujarat	CBSE vs GSEB	Adolescents	100	General well-being (Kalia & Deswal)	No difference

d = Cohen's d calculated in this review from reported means and SDs. Locations for studies 7, 8 and 12 are inferred from author affiliations.

3.3 Risk of bias in included studies

No study was rated low risk: 9 were moderate and 5 were high risk. The most common weakness was that no study adjusted for socioeconomic status, school management (government vs private), medium of instruction or urban-rural location, all of which differ sharply between boards.

#	Study	Sampling	Validated instrument	Confounders handled	Statistics	Overall risk	Key concern
1	Chamundeswari (2013)	Random	Yes	No	t, F, r	Moderate	Board confounded with school type
2	Narayana moorthi & Merin Sasikala (2018)	Random	Yes	No	t, F, r	High	Board and management fully confounded
3	Senad (2017)	Unclear	Yes	No	t	Moderate	Sampling and setting poorly described
4	Kadlmat ti (2025)	Stratified random	Self-developed	Partly (gender, locality)	Descriptive, t	Moderate	Test statistics not tabulated
5	Sawalkar & Tripathi (2024)	Random	Yes	No	t	High	Reported significance contradicts the tiny mean difference
6	Mansuri (2021)	Simple random	Not stated	No	t	Moderate	Location and instrument not stated in record
7	Sharma & Gupta (2024)	Stratified random	Yes	Partly (gender, locality)	t, ANOVA, r	Moderate	N and direction of board effect not reported in abstract

#	Study	Sampling	Validated instrument	Confounders handled	Statistics	Overall risk	Key concern
8	Surya Rekha & Shylashree (2016)	Not stated	Not stated	Control group	ANOVA	Moderate	Unequal, small board groups
9	Patel & Dalal (2025)	Convenience, 1 school per board	Yes	No	t	High	One school per board; N totals inconsistent (280 vs 278)
10	Das Gupta (2021)	Convenience, snowball, online	Yes (STAI, PSS, BDI-II, ISI)	No	r, ANOVA	Moderate	Online self-selection during COVID-19
11	Kumar, Pradeep & Roy (2022)	6 schools, online form	Yes (SEAT)	No	t	Moderate	Chemistry students only; small N
12	Bansal & Gautam (2024)	Stratified random	Yes	No	Not stated	High	Sample size missing ("[number]" in abstract)
13	Singh & Soni (2025)	Random	Yes	No	ANOVA	Moderate	Single city
14	Jain & Desai (2020)	Purposive	Yes	No	t	High	Small purposive sample

4. Synthesis of results by psychological domain

Emotional intelligence is the only domain where every study points the same way; for anxiety, self-esteem and well-being the studies disagree or find no difference. Figure 3 places each study by the direction of its board-wise result.

Only emotional intelligence shows a consistent board difference

Domain	Higher in CBSE, central or matric	No difference or unclear	Higher in state board	Certainty
Emotional intelligence 4 studies	1 2 3 4 $d = 0.83$ (study 4)			Low
Anxiety and stress 4 studies	9 CBSE girls only	10 12	11 $d = 1.04$ (study 11)	Very low
Well-being, happiness 3 studies	13	9 14		Very low
Self-esteem 2 studies		5 $d = 0.05$ (study 5)	6	Very low
Maturity, adjustment 1 study		7 direction not reported		Very low
Achievement motivation 1 study		8		Very low

Circles are study numbers from the table in Section 3.2. For anxiety, higher means more anxious. Certainty rated with GRADE.

Figure 3. Evidence map of board-wise differences by psychological domain

Study numbers refer to the characteristics table in Section 3.2. Study #9 contributes to two domains.

4.1 Emotional intelligence

All four studies found higher emotional intelligence among students of CBSE, central or matriculation-board schools than among state-board students, or among CBSE than ICSE students. The largest and best-reported study (Kadlimatti, 2025; $N = 500$) found CBSE class IX students scored 248.8 (SD 30.5) against 223.4 (SD 30.6) for state government-school students, a large difference ($d = 0.83$). CBSE students were also ahead on self-awareness, self-regulation and motivation subscales. In Tamil Nadu, Chamundeswari (2013) found central-board students above state-board students but level with matriculation students, which suggests the gap may track private, English-medium schooling rather than the CBSE syllabus itself. Narayanamoorthi and Merin Sasikala (2018) likewise found matriculation students above state-board students. Senad (2017) is the only CBSE-ICSE comparison, favouring CBSE on total EI, understanding motivation and empathy but not on understanding emotions or handling relationships.

4.2 Anxiety, stress, depression and negative cognitions

Results pointed in opposite directions. In Jaipur, RBSE chemistry students reported much more examination anxiety than CBSE students (mean 24.4 vs 17.1; $d = 1.04$; Kumar et al., 2022). In Indore, the reverse held for girls: female CBSE students had more academic anxiety than female MP Board students (Patel & Dalal, 2025). The two studies with the most clinical outcomes found no board effect at all. Das Gupta (2021) used validated scales (STAI, PSS, BDI-II, ISI) with 168 class XII examinees of CBSE, ISC and WBCHSE in 2020-21; most students had high anxiety (76.8%) and stress (83.3%), but levels were similar across boards. Bansal and Gautam (2024) found no CBSE-ICSE difference in experiential avoidance or automatic negative thoughts. The overall picture is that board-exam students are highly stressed whatever their board, and any board difference depends on the state, subject and gender studied.

4.3 Well-being and happiness

One of three studies found a board difference. Singh and Soni (2025) reported higher subjective well-being among CBSE than UP Board students in Lucknow, alongside effects of parenting style. Patel and Dalal (2025) found happiness independent of board in Indore, and Jain and Desai (2020) found no difference in general well-being between CBSE and GSEB students in Ahmedabad.

4.4 Self-esteem and locus of control

The two studies disagree. Mansuri (2021; $N = 400$) found SSC (state board) boys and girls had higher self-esteem than their CBSE peers. Sawalkar and Tripathi (2024) reported a significant difference favouring CBSE students, but the reported means (98.24 vs 97.44, SDs about 16) imply a negligible effect ($d = 0.05$) that a t of 2.57 cannot produce with 120 students. This finding should be treated as unreliable.

4.5 Emotional maturity and adjustment

Sharma and Gupta (2024) reported notable differences in emotional maturity and adjustment between ICSE and CBSE students, but the accessible abstract does not state which board scored higher. Female students showed better adjustment, and urban students showed higher emotional maturity.

4.6 Achievement motivation

In Bengaluru, achievement motivation did not differ among state, CBSE and ICSE students (Surya Rekha & Shylashree, 2016), even though CBSE and ICSE students are commonly assumed to be more achievement-oriented. An intervention raised motivation across all boards, with the clearest gains in ICSE students.

4.7 Secondary findings: gender and locality

Gender and locality effects were more consistent than board effects. Girls scored higher on emotional intelligence (Senad, 2017; Kadlimatti, 2025) and adjustment (Sharma & Gupta, 2024), but also reported more academic and examination anxiety (Patel & Dalal, 2025; Kumar et al., 2022). Urban students scored higher on emotional intelligence and emotional maturity, and rural students reported more examination anxiety ($d = 1.10$ in Kumar et al., 2022). Because state-board schools are disproportionately rural and government-run, these locality effects are a likely source of the apparent board effects.

5. Discussion

5.1 Summary of main findings

Across 14 studies, the board a student attends is consistently linked to emotional intelligence and weakly or inconsistently linked to everything else. CBSE, central and matriculation-board students scored higher on emotional intelligence than state-board students in all four studies that measured it, with one large effect ($d = 0.83$). For anxiety, stress and depression, two studies found no board difference, one found state-board students more anxious and one found CBSE girls more anxious. Self-esteem, well-being, adjustment and achievement motivation showed no stable pattern.

5.2 Interpretation: is it the board or the school?

The board-wise differences are better explained by who attends each board than by the board's syllabus or examinations. In India, CBSE, ICSE and matriculation schools are disproportionately private, urban and English-medium and serve families with more income and parental education; state-board schools serve most rural and government-school students. Three findings in this review support this explanation. First, in Tamil Nadu central-board students did not differ from matriculation-board students (Chamundeswari, 2013): two

different syllabi, similar school populations, similar EI. Second, the locality effects (urban above rural on EI and emotional maturity; rural more exam-anxious) are as large as the board effects. Third, Das Gupta (2021), which compared examinees facing the same high-stakes class XII exams in the same state during the same pandemic year, found no board difference on any of four validated measures. Emotional intelligence may also be fostered by the activity-based, life-skills components that CBSE has added since the CCE era, but no included study isolated this.

Who attends a board may explain more than the board itself

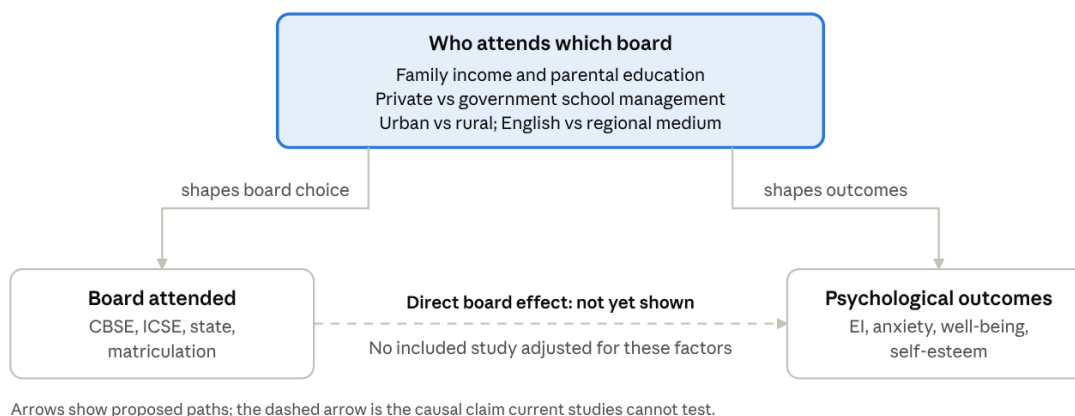


Figure 4. Proposed model: selection factors confound board-wise comparisons

The mixed anxiety findings fit a model in which examination stakes, not syllabus, drive distress. Students of every board sit a public examination at classes 10 and 12, and high anxiety was common in all boards. Where differences appeared, they may reflect local factors: competition for entrance examinations among urban CBSE girls (Patel & Dalal, 2025), or resource gaps and less tutoring support among rural state-board students (Kumar et al., 2022).

5.3 Quality of the evidence

Certainty is low for emotional intelligence and very low for all other domains. Every study was cross-sectional; none adjusted for socioeconomic status, management type or medium of instruction; most relied on convenience or single-city samples; and few reported effect sizes or confidence intervals. Two studies had internal inconsistencies (Sawalkar & Tripathi, 2024; Patel & Dalal, 2025), and two did not report sample size in the accessible text. Most studies appeared in fast-turnaround Indian open-access journals, where peer review standards vary.

5.4 Limitations of this review

- Searches for this draft relied on a web search engine and publisher sites rather than full bibliographic databases, so some eligible studies, particularly unpublished theses on Shodhganga, were probably missed.
- Several studies were appraised from abstracts or partial text, so risk-of-bias ratings and extracted data for those studies are provisional.
- Screening and extraction were not done in duplicate.
- Only English-language reports were included; Hindi and regional-language theses were not searched.
- Heterogeneous instruments prevented meta-analysis, and vote counting ignores effect size and precision.
- Publication bias is likely: studies finding a board difference may be more often written up as "comparative studies".

5.5 Implications for practice and policy

1. **Emotional skills in state-board schools.** The consistent EI gap supports structured social-emotional learning in state-board and government schools, as recommended by NEP 2020.
2. **Stress support for all boards.** High examination anxiety appeared in every board, so counselling, exam-stress programmes and the planned move to lower-stakes, twice-yearly board examinations should target all students, not one board.
3. **Targeted groups.** Girls (higher academic and examination anxiety) and rural students (higher examination anxiety, lower EI) need particular attention whatever their board.
4. **Board choice by parents.** Current evidence does not justify choosing a board to protect a child's mental health; school climate, family support and locality appear to matter as much or more.

5.6 Recommendations for future research

1. Use matched or multilevel designs that compare boards within the same city, management type and socioeconomic band, or adjust statistically for these factors.
2. Use the same validated instruments across studies (for example DASS-21, Rosenberg Self-Esteem Scale, TEIQue-ASF, WEMWBS, Educational Stress Scale for Adolescents) so results can be pooled in a meta-analysis.
3. Report means, SDs, sample size per board and effect sizes with confidence intervals.
4. Study under-researched comparisons: IB and IGCSE vs Indian boards, ICSE vs state boards, and boards in the North-East and Jammu and Kashmir.
5. Follow students over time, including students who change boards after class 10, to separate board effects from selection effects.
6. Register protocols and publish null results.

6. Conclusion

This systematic review of 14 studies found that students of CBSE, central and matriculation boards consistently score higher on emotional intelligence than state-board students, while differences in anxiety, stress, depression, self-esteem, well-being, adjustment and motivation are inconsistent or absent. The evidence is low to very low in certainty because board affiliation is entangled with school type, family background and urban location, and no study separated these factors. High examination stress was common across all boards. Rather than ranking boards, schools of every board should build students' emotional skills and reduce examination pressure, and researchers should use stronger, comparable designs to establish whether the board itself makes a psychological difference.

Declarations

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Ethics approval: Not required. The review used only published, publicly available data and involved no human participants.

Competing interests: The author declares no competing interests and no affiliation with any education board discussed in this review.

Author contributions: The author conceived the review, designed the search, screened records, extracted data, appraised risk of bias, synthesised the findings and wrote the manuscript.

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Data availability: The extraction form, screening log and risk-of-bias ratings are available from the author on request.

Abbreviations

Abbreviation	Full form
BDI-II	Beck Depression Inventory, second edition
CBSE	Central Board of Secondary Education
CCE	Continuous and Comprehensive Evaluation
CISCE	Council for the Indian School Certificate Examinations
d	Cohen's d (standardised mean difference)
EI	Emotional intelligence
GRADE	Grading of Recommendations, Assessment, Development and Evaluation
GSEB	Gujarat Secondary and Higher Secondary Education Board
IB	International Baccalaureate
ICSE / ISC	Indian Certificate of Secondary Education / Indian School Certificate
IGCSE	International General Certificate of Secondary Education
ISI	Insomnia Severity Index
JB	Joanna Briggs Institute
JKBOSE	Jammu and Kashmir Board of School Education
NCERT	National Council of Educational Research and Training
NEP	National Education Policy
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
PSS	Perceived Stress Scale
RBSE	Board of Secondary Education, Rajasthan
SSC	Secondary School Certificate (Maharashtra State Board)
STAI	State-Trait Anxiety Inventory
SWiM	Synthesis Without Meta-analysis
WBCHSE	West Bengal Council of Higher Secondary Education

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Studies excluded at full text or not retrieved

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Appendix A. PRISMA 2020 checklist

#	Item	Where reported
1	Title: identify the report as a systematic review	Title
2	Abstract (PRISMA 2020 for Abstracts)	Abstract
3	Rationale	1.1, 1.2
4	Objectives	1.3, 1.4
5	Eligibility criteria	2.2
6	Information sources and date of last search	2.3
7	Full search strategy	2.4
8	Selection process	2.5
9	Data collection process	2.6
10a, 10b	Data items (outcomes, other variables)	2.6
11	Risk-of-bias assessment	2.7
12	Effect measures	2.6 (Cohen's d)
13a to 13f	Synthesis methods	2.8
14	Reporting-bias assessment	5.4

#	Item	Where reported
15	Certainty assessment	2.9
16a, 16b	Study selection, flow diagram, excluded studies	3.1, Figure 1, Appendix F
17	Study characteristics	3.2
18	Risk of bias in studies	3.3
19	Results of individual studies	3.2, Section 4
20a to 20d	Results of syntheses	Section 4
21	Reporting biases	5.3, 5.4
22	Certainty of evidence	Figure 3, 5.3, Appendix E
23a to 23d	Discussion: interpretation, limitations, implications	5.1 to 5.6
24a to 24c	Registration and protocol	2.1
25	Support (funding)	Declarations
26	Competing interests	Declarations
27	Availability of data and materials	Declarations

Appendix B. Database-specific search strategies

Scopus (TITLE-ABS-KEY):

TITLE-ABS-KEY(("CBSE" OR "ICSE" OR "CISCE" OR "state board" OR "matriculation board" OR "educational board*" OR "board of education") AND (student* OR adolescen* OR "secondary school") AND (stress OR anxiety OR depression OR "self-esteem" OR "self-concept" OR "emotional intelligence" OR "emotional maturity" OR adjustment OR motivation OR "well-being" OR happiness OR personality)) AND AFFILCOUNTRY(India)

PubMed / PMC:

(CBSE[tiab] OR ICSE[tiab] OR "state board"[tiab] OR "education board"[tiab]) AND (adolescent[mh] OR student*[tiab]) AND ("Stress, Psychological"[mh] OR anxiety[tiab] OR depression[tiab] OR "self-esteem"[tiab] OR "emotional intelligence"[tiab] OR "well-being"[tiab]) AND India[tiab]

ERIC (EBSCO):

(CBSE OR ICSE OR "state board" OR "examination board") AND (DE "Secondary School Students" OR adolescen*) AND (DE "Anxiety" OR DE "Self Esteem" OR DE "Emotional Intelligence" OR DE "Well Being" OR stress OR adjustment)

Google Scholar (first 200 results, sorted by relevance; run once per board pair):

"CBSE" "state board" students comparative stress OR anxiety OR "self-esteem" OR "emotional intelligence" OR "well-being"
OR
"CBSE" "ICSE" students comparative psychological

Shodhganga, IJIP, Shanlax and other Indian journal sites: keyword pairs "CBSE" + "state board", "CBSE" + "ICSE", and "board" + each psychological variable.

Appendix C. Data extraction form

Field	Description
Study ID	First author, year
Publication	Journal, volume, issue, DOI or URL
Setting	State, city, urban or rural

Field	Description
Boards compared	Names of all boards in the sample
School management	Government, aided, private, or not reported
Participants	Class or age range, gender split
Sample size	Total and per board
Sampling method	Random, stratified, purposive, convenience, snowball
Design	Cross-sectional, comparative, quasi-experimental
Psychological variable(s)	Construct name(s)
Instrument	Scale name, author, reliability if reported
Statistical analysis	t-test, ANOVA, correlation, regression
Board-wise result	Direction, significance, means and SDs
Effect size	Cohen's d calculated or reported
Secondary findings	Gender, locality, other moderators
Confounders addressed	Yes, partly or no; which variables
Notes	Inconsistencies, missing data

Appendix D. JBI item-level risk-of-bias ratings

Items: Q1 inclusion criteria defined; Q2 participants and setting described; Q3 exposure (board) measured validly; Q4 standard criteria for measurement; Q5 confounders identified; Q6 strategies to deal with confounders; Q7 outcomes measured validly and reliably; Q8 appropriate statistical analysis. Y = yes, N = no, U = unclear.

#	Study	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Score	Risk
1	Chamundeswar (2013)	Y	Y	Y	Y	N	N	Y	Y	6	Mode rate
2	Narayana moorthi & Merin Sasikala (2018)	U	U	Y	Y	N	N	Y	Y	4	High
3	Sena d (2017)	Y	N	Y	Y	N	N	Y	Y	5	Mode rate

#	Study	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Score	Risk
4	Kadli matti (2025)	Y	Y	Y	Y	Y	N	U	U	5	Mode rate
5	Sawa lkar & Tripa thi (2024)	Y	U	Y	Y	N	N	Y	N	4	High
6	Mans uri (2021)	Y	U	Y	Y	Y	N	U	Y	5	Mode rate
7	Shar ma & Gupt a (2024)	U	Y	Y	Y	Y	N	Y	Y	6	Mode rate
8	Surya Rekh a & Shyla shree (2016)	U	Y	Y	Y	N	Y	U	Y	5	Mode rate
9	Patel & Dalal (2025)	U	Y	Y	Y	N	N	Y	U	4	High
10	Das Gupt a (2021)	Y	Y	Y	Y	N	N	Y	Y	6	Mode rate
11	Kum ar, Prade ep & Roy	U	Y	Y	Y	Y	N	Y	Y	6	Mode rate

#	Study	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Score	Risk
	(2022)										
12	Bansal & Gautam (2024)	U	N	Y	Y	N	N	Y	U	3	High
13	Singh & Soni (2025)	Y	Y	Y	Y	Y	N	U	Y	6	Moderate
14	Jain & Desai (2020)	U	U	Y	Y	N	N	Y	Y	4	High

Appendix E. GRADE summary of findings

Certainty for observational evidence starts at low and is downgraded for serious concerns or upgraded for a large, consistent effect.

Domain	Studies (participants)	Summary of findings	Reasons for rating	Certainty
Emotional intelligence	4 (1,221)	Higher in CBSE, central and matriculation students than state-board students; CBSE above ICSE	Risk of bias (−1); large, consistent effect, $d = 0.83$ (+1)	Low
Anxiety, stress, depression	4 (at least 546)	No consistent board difference; high stress in all boards	Risk of bias (−1); inconsistency (−1)	Very low
Well-being and happiness	3 (578)	One study favours CBSE; two find no difference	Risk of bias (−1); inconsistency (−1)	Very low
Self-esteem and locus of control	2 (520)	Conflicting: SSC higher in one; trivial difference in the other	Risk of bias (−1); inconsistency (−1)	Very low

Domain	Studies (participants)	Summary of findings	Reasons for rating	Certainty
Emotional maturity and adjustment	1 (not reported)	Board difference reported, direction unclear	Imprecision (−1); incomplete reporting (−1)	Very low
Achievement motivation	1 (226)	No difference among State, CBSE and ICSE	Imprecision (−1)	Very low

Appendix F. Studies excluded at full text or not retrieved

Study	Boards / sample	Reason
Haritay et al. (2025), Frontiers in Public Health	4 CBSE schools, Belagavi, N = 1,426	Single board; no comparison
Iyengar et al. (2021), National Journal of Community Medicine	15 CBSE schools, N = 581	Single board; no comparison
BHU Varanasi academic stress study	CBSE class 11, Varanasi, N = 575	Single board; no comparison
Mishra et al., Journal of Clinical and Diagnostic Research	State board, Hindi medium	Single board; gender comparison only
Elavarasi & Rajendran (2021), IJIP	TN State Board and CBSE, Chennai, N = 111	Board not analysed as a variable
Vaishnav & Dhoble (2016), Voice of Research	CBSE and State, N = 1,026	Board comparison not reported
Shahjahanpur study (IJFMR)	U.P. Board and CBSE/ICSE	Board comparison not reported
Lahore study (2023), COMSATS repository	Cambridge vs secondary background, N = 250	University students, not school students
IBA Sukkur study, SJEST	Cambridge vs HSSC, N = 166	University students, not school students
Bhat (2020)	JKBOSE vs CBSE	Full text not retrieved
Rana (2016), Imperial Journal of Interdisciplinary Research	HBSE, CBSE, ICSE, Hisar	Full text not retrieved