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From Skills to Support: Teachers' Perceived Social-Emotional Skills and Supportive Practice

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Article

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Abstract

Teachers' social-emotional skills are widely regarded as foundational to effective classroom interaction, yet existing research often leaves unclear how teachers' perceived social-emotional skills relate to supportive practice and how such practice relates to distinct dimensions of classroom functioning. Drawing on the Prosocial Classroom Model, this study differentiates three analytical levels—perceived general social-emotional skills, self-reported social-emotional support (hereafter, supportive practice), and classroom-related correlates—and examines their relationships among 505 in-service teachers in Shanghai, China. Observed-variable path analysis showed that perceived skills were strongly associated with supportive practice ($\beta = .75$), which was in turn associated with teacher–student relationship quality ($\beta = .64$), classroom management self-efficacy ($\beta = .53$), and social and emotional learning implementation ($\beta = .55$). Supportive practice occupied a consistent intermediate statistical position across all three domains, while smaller direct associations remained. A reverse-ordering model also yielded non-zero indirect associations, indicating that the observed covariance was compatible with more than one directional account. These findings refine the Prosocial Classroom Model by distinguishing perceived skills from reported supportive practice and by identifying supportive practice as a theoretically distinct, empirically consequential layer of teachers' social-emotional functioning. The study further highlights the need to examine how institutional and cultural contexts shape the relation between social-emotional skills and classroom practice across educational systems.

Introduction

Teaching is simultaneously instructional, relational, and emotional work. Teachers interpret students' behaviour, regulate their own responses, make rapid interpersonal judgements, and decide whether and how to offer encouragement, respect, autonomy, reassurance, or correction. The quality of these interactions is tied to student engagement and learning, while teachers' emotions and efficacy are linked to their capacity to sustain demanding professional work (Chen 2021; Hamre and Pianta 2005; Hargreaves 2000; Jennings and Greenberg 2009; Sutton and Wheatley 2003). International policy has therefore placed increasing emphasis on social and emotional learning (SEL), including the capacities of the adults who organise classroom life (Collaborative for Academic, Social, and Emotional Learning [CASEL] 2020; Mahoney et al. 2021; OECD 2021, 2023). For teacher education, the key question is not only whether teachers report social-emotional resources, but how those resources become situated professional action in classrooms.

However, this attention has produced a conceptually blurred field. Teachers' social-emotional functioning is variously described as emotional intelligence, competence, personal resources, perceived competence, or teachable skills (Aldrup et al. 2020; Collie 2025; Collie et al. 2025). Classroom emotional support is also sometimes treated as evidence that a teacher possesses those skills. Three analytical problems follow. First, relating broad self-reported competence directly to classroom variables can leave the process of enactment unspecified. Second, treating supportive interaction as competence collapses perceived skills and situated practice. Third, using a broad or aggregated classroom criterion can

obscure differences among relational appraisals, efficacy beliefs, and implementation reports. For teacher education, these distinctions matter because professional learning is concerned not only with what teachers believe they can do, but with how skills are enacted in consequential situations.

The Prosocial Classroom Model provides a useful organising framework. It proposes that teachers' social and emotional competence and wellbeing contribute to supportive teacher–student relationships, effective classroom management, and successful SEL implementation, which together support classroom climate and student outcomes (Jennings and Greenberg 2009). The model has been influential, but it does not by itself solve the measurement problem of distinguishing a teacher's perceived social-emotional skills from the classroom practices through which those skills may be expressed. Profession-specific work illustrates why this distinction is consequential: situational-judgement measures can assess knowledge about regulating emotion and managing relationships without relying on the same self-report format as classroom support (Aldrup et al. 2020), while emerging research on perceived social-emotional competence explicitly treats competence ratings as teachers' beliefs about their effectiveness in social-emotional interactions (Collie 2025; Collie et al. 2025).

The present study therefore separates three analytical levels without assuming that they are completely independent constructs. Perceived general social-emotional skills refer to teachers' self-ratings of self-awareness, self-management, social awareness, relationship skills, and responsible decision-making. Self-reported social-emotional support, referred to hereafter as supportive practice, refers to reported practices of caring for and understanding students, respecting them, encouraging them, trusting them, and responding sensitively. Three classroom-related correlates are retained as distinct constructs: teacher–student relationship quality, classroom management self-efficacy, and SEL implementation. A relational appraisal, an efficacy belief, and an implementation report are related, but they are not interchangeable and should not be presented as a single classroom outcome. The study asks whether their covariance is consistent with a skills-to-enactment account while explicitly testing whether the same cross-sectional data also accommodate a plausible reverse ordering.

The study draws on survey data from 505 teachers in Shanghai and does not treat this sample as a proxy for China as a whole. Shanghai provides a bounded urban setting in which supportive practice may be shaped by relational expectations, professional emotional rules, accountability pressures, and access to professional learning. Research in mainland China has shown that teachers' emotional expression is embedded in professional and cultural norms, including expectations of care, moral responsibility, and rational control of emotion (Yin and Lee 2012), while recent work highlights teachers' negotiation of cultural ideals and institutional accountability (Diao and Cheng 2026). These contextual conditions were not measured in the present survey, so they are treated as boundaries for interpretation rather than post hoc explanations.

The Shanghai sample also provides a context for a broader comparative concern: the movement from teacher learning or personal resources to classroom practice is shaped by context rather than by individual attributes alone. Recent research on teacher professional development highlights the

interaction of teachers' beliefs, self-efficacy, agency, school support, and classroom implementation (Liang et al. 2025). A recent systematic review similarly conceptualises professional learning as situated and practice-based, with personal, community, school, and external conditions jointly enabling or constraining teacher change (Liu et al. 2026). These studies do not address teacher SEL directly, but they sharpen the present question. If social-emotional development is to inform teacher education, researchers need to distinguish what teachers believe they can do from what they report doing in classrooms, and to avoid assuming that a personal resource transfers automatically into practice. Shanghai is therefore treated as a bounded sampling context rather than as the substantive scope of the argument.

This study advances the application of the Prosocial Classroom Model by distinguishing three analytical levels—perceived general social-emotional skills, self-reported supportive practice, and classroom-related correlates—and by examining whether supportive practice occupies a consistent intermediate statistical position across distinct aspects of classroom functioning. It further tests whether this apparent ordering is uniquely identified by the observed covariance. In doing so, the study clarifies both the theoretical value and the inferential limits of treating supportive practice as the enactment of teachers' social-emotional resources.

Conceptualising skills, enactment and classroom-related correlates

Perceived general social-emotional skills

CASEL's framework organises social-emotional skills into self-awareness, self-management, social awareness, relationship skills, and responsible decision-making (CASEL 2020). For teachers, these domains concern recognising one's emotional state, regulating reactions, interpreting students' perspectives, sustaining relationships, and making context-sensitive professional decisions. However, the present questionnaire captures teachers' self-perceptions of these skills rather than an objective demonstration of those skills. This distinction is important. Recent work on perceived social-emotional competence defines the construct as teachers' beliefs that they can be effective in social-emotional interactions at work (Collie 2025; Collie et al. 2025), whereas profession-specific situational-judgement approaches assess knowledge about how to respond to social and emotional challenges (Aldrup et al. 2020). The present study therefore uses the more cautious term perceived general social-emotional skills.

Perceived general social-emotional skills are plausibly related to classroom work. Teachers' emotions are embedded in appraisals of students, goals, and context, and are associated with instructional behaviour, relationships, and classroom management (Chen 2021; Sutton and Wheatley 2003). Self-management may help a teacher remain attentive rather than reactive during conflict; social awareness may support the interpretation of students' cues; relationship skills may facilitate connection; and responsible decision-making may help balance individual needs with collective classroom demands. Even so, perceived social-emotional skills are not equivalent to observed or reported practice. The

distinction is primarily one of analytical level, not complete content independence: perceived skills and practices can share relational and emotional content while answering different questions: what teachers believe they can do and what they report doing in classroom interactions.

Separating perceived social-emotional skills from practice also cautions against locating responsibility solely within individual teachers. Research on teacher resilience has shown that an exclusive focus on personal strengths can obscure workload, leadership, accountability, and other features of the professional ecology (Oldfield and Ainsworth 2022). The same caution applies to adult SEL. Personal resources may support teachers' work, but their enactment is enabled or constrained by organisational conditions. The present study examines a skills-to-enactment association while treating school and cultural conditions as unmeasured boundaries, not irrelevant background.

Treating self-perceived skills as personal resources rather than demonstrated competence also has implications for how transfer is conceptualised. In professional learning research, changes in beliefs or knowledge do not automatically imply changes in classroom practice; enactment depends on opportunities to interpret, rehearse, adapt, and receive feedback in specific institutional settings (Liang et al. 2025; Liu et al. 2026). The same logic applies to teacher SEL. A teacher may report strong self-management or social awareness yet respond differently under time pressure, interpersonal conflict, large classes, or competing accountability demands. Conversely, repeated successful interactions may strengthen teachers' self-perceptions over time. The skills-to-enactment account is therefore best treated as an analytical ordering that separates levels of description, not as a one-way developmental sequence. This distinction allows the present study to examine whether the observed covariance is consistent with supportive practice occupying an intermediate statistical position between perceived skills and classroom-related constructs, while leaving reciprocal and contextual explanations open.

Supportive practice as a form of enactment

Classroom support is multidimensional. Observational frameworks describe emotional support through features such as positive climate, teacher sensitivity, and regard for students' perspectives; related research examines autonomy support, feedback, and practical or academic help (Pianta 2008; Pianta et al. 2012). Emotionally supportive classroom interactions are associated with students' engagement and adjustment, and interaction-focused professional learning can change teachers' knowledge and observed practice (Hamre et al. 2012; Ruzek et al. 2016). Classroom-interaction research likewise shows that interaction quality depends on the form and purpose of feedback, not merely on its positive tone (Gamlem and Munthe 2014; Vattøy and Gamlem 2020). Recent work on teacher professional learning further underscores that movement from learning to practice is situated, iterative, and shaped by the contexts in which teachers enact new understandings (Liu et al. 2026).

The measure used here distinguishes six self-reported practices: caring, understanding, respect, encouragement, trust, and sensitivity. Informed by classroom-interaction research, these dimensions were assembled for the present cultural and research setting. They represent possible enactments of

broader social-emotional skills rather than proof that such skills have been objectively demonstrated. Social awareness, for example, may help a teacher notice frustration; sensitivity concerns the teacher's reported response to that cue. Self-management may inhibit a punitive reaction, while respectful interaction is what students encounter. Relationship skills provide a basis for connection, but encouragement and trust describe how those skills may be enacted.

This skills-to-enactment distinction also explains why support should not be treated as a causal mediator in the present design. Perceived skills and practices may influence one another over time. Successful supportive interaction can strengthen efficacy and refine teachers' social understanding, while difficult interactions can alter emotion, confidence, and judgement. Cross-sectional data cannot resolve this reciprocity (Maxwell et al. 2011). An indirect association can nevertheless indicate whether observed covariance is statistically consistent with a proposed skills-to-enactment ordering, provided that temporal or causal claims are avoided and plausible alternative orderings are examined.

Three classroom-related correlates

The Prosocial Classroom Model links teachers' social and emotional competence to several aspects of classroom life rather than to one undifferentiated outcome (Jennings and Greenberg 2009). The present analysis therefore keeps three teacher-reported classroom-related constructs separate. They are termed correlates rather than outcomes because all were measured concurrently and none provides independent evidence of subsequent classroom effects.

Teacher–student relationship quality concerns teachers' perceptions of closeness, communication, and mutual connection. These relationships are co-constructed with students rather than produced by teachers' self-perceived skills alone. Even so, sensitivity, respect, and encouragement are plausible proximal practices through which teachers express social-emotional skills. Classroom studies show that emotional support can matter for students at risk and may foster motivation through relatedness, autonomy, and competence (Hamre and Pianta 2005; Ruzek et al. 2016).

Classroom management self-efficacy refers to a teacher's belief in their capability to organise the classroom, address disruption, and sustain productive activity. It differs conceptually from observed management quality. Self-efficacy is task- and context-sensitive, develops through interpreted experience, and can influence persistence and professional judgement (Markova 2021; Tschannen-Moran and Woolfolk Hoy 2001). Teachers who report understanding students and responding sensitively may also report greater confidence in anticipating and managing classroom difficulties. Evidence from China indicates that school climate, student relations, and teacher efficacy are intertwined, although direction remains open (Kouhsari et al. 2024).

SEL implementation concerns teachers' reported integration of social-emotional objectives, routines, and responses into teaching. Systemic SEL depends not only on programme materials but also on adult social-emotional competence, school conditions, and coherent implementation (Mahoney et al. 2021;

OECD 2023). A teacher may know SEL concepts without consistently enacting them; conversely, supportive interaction may form part of the relational infrastructure through which explicit SEL activities become credible to students.

Across the three correlates, the proposed ordering is that perceived general social-emotional skills are associated with supportive practice, which is in turn associated with each classroom-related construct. Perceived skills may also retain direct associations because the support scale cannot represent every route through which teachers' social-emotional self-perceptions covary with relationships, efficacy beliefs, or implementation. The theoretical contribution of this formulation lies in treating supportive practice not as evidence that social-emotional competence has already been demonstrated, but as a distinct enactment layer through which perceived social-emotional resources become educationally consequential. Because the design is cross-sectional and same-source, the analysis treats this ordering as a theoretically motivated description of covariance rather than a causal process.

Research questions

RQ1. How are teachers' perceived general social-emotional skills associated with their self-reported social-emotional support?

RQ2. How are perceived general skills and self-reported support associated with teacher–student relationship quality, classroom management self-efficacy, and SEL implementation?

RQ3. Does supportive practice occupy a consistent intermediate statistical position between perceived social-emotional skills and the three classroom-related correlates, and is this ordering uniquely identified by the observed covariance?

Materials and methods

Participants and procedure

The analytic sample comprised 505 in-service school teachers recruited in Shanghai Municipality. Convenience sampling was conducted through an online survey platform from 10 September to 10 December 2024. Participation was voluntary, and electronic informed consent was obtained before the questionnaire. No incentive was offered, and the analytic file contained no direct identifiers. The available de-identified analytic file contained 505 complete records; information on the initial response count, missingness screening, and completion time was not retained. Accordingly, the analyses are based on these 505 complete records.

The sample was predominantly female (*n* = 404, 80.0%). It included 227 primary teachers (45.0%), 210 lower-secondary teachers (41.6%), and 68 teachers (13.5%) who selected another or unspecified school-level category in the available dataset. Participants spanned a broad age range: 86 (17.0%) were 25 or

younger, 201 (39.8%) were aged 26–30, 115 (22.8%) were aged 31–40, 76 (15.0%) were aged 41–50, and 27 (5.3%) were aged 51 or older. This urban Shanghai convenience sample is not representative of teachers in China.

Measures

The questionnaire was assembled for this study to distinguish perceived general social-emotional skills, self-reported social-emotional support, and three classroom-related correlates. The perceived general social-emotional skills items used a five-point difficulty/ease response format (1 = very difficult, 2 = difficult, 3 = neither difficult nor easy, 4 = easy, 5 = very easy). The social-emotional support and classroom-related items used a five-point agreement format (1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree). Before aggregation, the documented scoring protocol reverse-scored three negatively worded items using transformed score = 6 − raw response: support item 9 ('When I criticise students, I give little consideration to their self-esteem'), classroom-management item 14 ('I sometimes find it difficult to deal with an individual student's challenging behaviour, for example, behaviour that disrupts classroom order'), and SEL-implementation item 26 ('When I handle complex situations in class, such as student conflict, behaviour problems, or emotional distress, I sometimes feel uncertain'). Raw item responses, with reverse scoring where applicable, were aggregated according to the documented scoring protocol, and the resulting scale totals were expressed as item-mean scores on the original 1–5 metric. Higher scores indicated higher levels of the named construct. Because the analytic file available for the present study contains composites rather than item-level responses, the scoring cannot be independently reapplied, and this article does not present item-level reliability, factor structure, discriminant validity, or invariance estimates as if they had been re-estimated on the analytic file. The full questionnaire is provided in the Supplementary Information.

Perceived general social-emotional skills. Twenty-seven self-report items covered the five CASEL domains: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making (CASEL 2020). Items asked teachers to judge skills such as recognising emotions, regulating responses, considering others' perspectives, managing relationships, and making responsible choices. Because these are self-ratings rather than performance-based assessments, the composite is described throughout as perceived general social-emotional skills.

Teachers' social-emotional support. The scoring structure comprised 19 items assessing reported classroom practices across caring (three items), understanding (three items), respect (three items), encouragement (three items), trust (three items), and teacher sensitivity (four items). The full scale included 'I can understand the difficulties students face and take the initiative to learn more about and help them' and the reverse-scored item concerning consideration of students' self-esteem when criticising them. The content was informed by classroom-interaction research, including the Classroom Assessment Scoring System and work on teacher–student relationships and support (Hamre and Pianta 2005; Pianta 2008; Pianta et al. 2012). During instrument development, the items were reviewed for relevance and wording in Chinese school contexts. The resulting scale is a study-specific self-report

measure with preliminary content-development evidence, not an established instrument that has already been independently cross-validated.

Classroom-related correlates. Twenty-six items generated three separate composites. Teacher–student relationship quality comprised seven items adapted from the closeness emphasis of teacher–student relationship measures. Classroom management self-efficacy comprised eight items informed by the classroom-management domain of the Teachers' Sense of Efficacy Scale (Tschannen-Moran and Woolfolk Hoy 2001). SEL implementation comprised 11 items informed by CASEL-aligned classroom self-assessment materials. The constructs were analysed separately because they represent a relational appraisal, an efficacy belief, and a report of practice, respectively.

Analytic strategy

The de-identified analytic file contained 505 complete records on 18 composite or dimension variables, all scored on 1–5 metrics. Nineteen records had rounded composite profiles identical to those of another record. Because equality across rounded composites does not establish duplicate participation, these records were retained in the primary analyses and examined separately in sensitivity checks.

Analyses were conducted in R 4.6.1 with lavaan 0.7-2. Descriptive statistics and Pearson correlations were calculated first. The primary observed-variable path model specified perceived general social-emotional skills as a predictor of self-reported social-emotional support and each of the three classroom-related correlates; support also predicted each correlate. Because the correlates were measured concurrently and were theoretically related, their residual covariances were freely estimated. Indirect and total associations were defined separately for each correlate. Percentile confidence intervals were estimated from 5,000 bootstrap draws using the prespecified random seed 20260820. The same coefficients were re-estimated with robust maximum-likelihood (MLR) standard errors as a sensitivity analysis.

The model used composites rather than latent variables and was saturated. Global fit indices are therefore uninformative and are not presented as evidence of model quality. Results are reported as unstandardised coefficients (B), standard errors, 95% confidence intervals, standardised coefficients (β), and explained variance (R^2). Statistical significance was evaluated at .05, with Holm-adjusted inferences inspected across outcome-specific paths. Interpretation gives priority to effect sizes, uncertainty, design limitations, and consistency across the three correlates. The analysis tests statistical indirect associations, not causal mediation. It cannot establish temporal ordering, eliminate reciprocal explanations, or control for unmeasured teacher and school characteristics.

All focal variables were obtained from the same respondents on one occasion, so common-method covariance was treated as a substantive design limitation rather than something that could be removed post hoc. The composite-only file contained neither item-level responses nor a theoretically unrelated marker variable and therefore could not support a common latent method factor, marker-variable

correction, multitrait–multimethod analysis, or a new test of item-level discriminant validity. Pearson and Spearman associations were compared to assess whether the pattern depended on a linear correlation metric. A theoretically plausible reverse-ordering path model was estimated with 5,000 bootstrap draws to assess directional under-identification. In this specification, self-reported social-emotional support predicted perceived general social-emotional skills, perceived general skills predicted each classroom-related correlate, and direct paths from support to each correlate were retained. Neither procedure diagnoses nor removes common-method variance.

Additional robustness checks examined repeated rounded profiles and influential observations. The path equations were re-estimated after retaining one record per repeated profile and with Huber *M*-estimation. Cook's distance and Mahalanobis distance flagged records for provenance review rather than automatic deletion. These analyses assessed numerical stability; they were not used to infer whether any records represented duplicate participation or to select a preferred model.

Results

Descriptive statistics and zero-order associations

Teachers reported relatively high levels on all study variables (Table 1). Distributions were negatively skewed, especially for self-reported social-emotional support, with responses clustering near the upper end of the scale. This ceiling tendency informs the interpretation of effect sizes and generalisability.

Table 1
Descriptive statistics for the primary study variables

Variable	*M*	*SD*	Min	Max	Skew	Excess kurtosis
Perceived general social-emotional skills	4.17	0.63	1.00	5.00	-1.19	3.67
Self-reported social-emotional support	4.18	0.52	1.16	5.00	-1.48	6.26
Teacher–student relationship quality	4.20	0.60	1.00	5.00	-0.92	3.27
Classroom management self-efficacy	4.09	0.57	1.00	5.00	-0.82	3.81
SEL implementation	4.16	0.57	1.00	5.00	-1.11	4.99
Note. *N* = 505. SEL = social and emotional learning.						

All focal variables were positively correlated (Table 2). Perceived general social-emotional skills were correlated with self-reported social-emotional support (r = .75) and with the three classroom-related correlates (r = .65–.68). Correlations between support and the correlates ranged from r = .72 to .77. The three correlates were also highly intercorrelated (r = .77–.84). This pattern indicates strong substantive relatedness but also raises the possibility of construct overlap and common response tendencies.

Table 2
Pearson correlations among the primary study variables

Variable	1	2	3	4	5
1. Perceived general social-emotional skills	—				
2. Self-reported social-emotional support	.75	—			
3. Teacher–student relationship quality	.65	.77	—		
4. Classroom management self-efficacy	.65	.72	.77	—	
5. SEL implementation	.68	.75	.79	.84	—

Note. N = 505. All correlations $p < .001$. SEL = social and emotional learning.

Associational decomposition under the proposed ordering

Perceived general social-emotional skills were positively associated with self-reported social-emotional support, B = 0.623, SE = 0.041, 95% CI [0.541, 0.703], β = .750, $p < .001$, and explained 56.3% of its variance. When perceived general skills and support were entered together, support was positively associated with teacher–student relationship quality (β = .643), classroom management self-efficacy (β = .534), and SEL implementation (β = .547). Smaller positive direct associations between perceived general skills and all three correlates remained (β = .170–.272) (Table 3). As shown in Fig. 1, the proposed model therefore included a strong association between perceived general social-emotional skills and self-reported support, together with indirect associations through support and smaller direct associations with the three classroom-related correlates.

Table 3
Observed-variable path estimates

Correlate / path	*B*	*SE*	95% CI	*β*	*p*
Support ← Perceived general skills	0.623	0.041	[0.541, 0.703]	.750	< .001
Relationship quality ← Perceived general skills	0.162	0.065	[0.036, 0.295]	.170	.013
Relationship quality ← Support	0.739	0.074	[0.592, 0.879]	.643	< .001
Management self-efficacy ← Perceived general skills	0.223	0.069	[0.094, 0.365]	.246	.001
Management self-efficacy ← Support	0.582	0.083	[0.418, 0.732]	.534	< .001
SEL implementation ← Perceived general skills	0.247	0.060	[0.138, 0.371]	.272	< .001
SEL implementation ← Support	0.597	0.080	[0.434, 0.746]	.547	< .001
Indirect: Perceived general skills → Support → Relationship quality	0.460	0.055	[0.360, 0.571]	.482	< .001
Indirect: Perceived general skills → Support → Management self-efficacy	0.363	0.056	[0.255, 0.472]	.400	< .001
Indirect: Perceived general skills → Support → SEL implementation	0.372	0.055	[0.265, 0.481]	.410	< .001
Total: Perceived general skills → Relationship quality	0.622	0.057	[0.506, 0.732]	.652	< .001
Total: Perceived general skills → Management self-efficacy	0.586	0.063	[0.462, 0.707]	.647	< .001
Total: Perceived general skills → SEL implementation	0.619	0.059	[0.502, 0.732]	.682	< .001

Note. *N* = 505. Bootstrap percentile confidence intervals used 5,000 draws. Residual covariances among the three classroom-related correlates were estimated. The model was saturated, so global fit indices are not informative. Indirect estimates are statistical associations and do not establish causal mediation. SEL = social and emotional learning.

The bootstrap confidence intervals for all three indirect associations excluded zero: relationship quality, *B* = 0.460, 95% CI [0.360, 0.571]; management self-efficacy, *B* = 0.363, 95% CI [0.255, 0.472]; and SEL implementation, *B* = 0.372, 95% CI [0.265, 0.481]. The model explained 60.6% of the variance in relationship quality, 54.2% in management self-efficacy, and 59.5% in SEL implementation. MLR sensitivity estimates yielded the same coefficients and very similar standard errors; no inference changed.

Taken together, the results reveal a consistent empirical pattern across three conceptually distinct domains of classroom functioning: supportive practice occupied an intermediate statistical position between perceived social-emotional skills and relationship quality, management self-efficacy, and SEL implementation, while direct associations remained. This consistency suggests that the skills-to-enactment distinction is not confined to a single classroom correlate. At the same time, the viable reverse ordering shows that the observed covariance does not establish a unique directional process.

Identification and sensitivity checks

Pearson and Spearman associations differed by no more than .078, indicating that the broad association pattern did not depend on Pearson correlations alone. This comparison does not address same-source measurement or estimate common-method variance. Holm adjustment across the correlate-specific paths did not change the substantive inferences.

The cross-sectional covariance did not uniquely identify direction. After reversing the ordering of perceived general skills and self-reported support, bootstrap indirect associations also excluded zero for relationship quality, $B = 0.146$, 95% CI [0.034, 0.259]; management self-efficacy, $B = 0.202$, 95% CI [0.086, 0.324]; and SEL implementation, $B = 0.223$, 95% CI [0.125, 0.332]. The reverse specification is not offered as a superior theory. It shows that the same cross-sectional data are compatible with more than one ordering.

Retaining one record per repeated rounded profile yielded $N = 486$ and changed standardised focal paths by no more than .021. Across the four regression equations underlying the path model, 20–29 records exceeded Cook's $D > 4/N$, and the largest Cook's D was .678. Mahalanobis distance flagged 12 records at $\chi^2(5)$, $p < .001$ and 10 under a Bonferroni familywise threshold. No record was deleted automatically. Huber M-estimation preserved the direction of all slopes, with non-intercept coefficients differing from ordinary least squares by no more than 0.075. These checks support numerical stability while leaving the provenance, measurement, and design limitations unchanged.

Discussion

This study refines the application of the Prosocial Classroom Model by separating perceived social-emotional skills, self-reported supportive practice, and classroom-related correlates as three analytically distinct levels. Across teacher–student relationship quality, classroom management self-efficacy, and SEL implementation, supportive practice occupied a consistent intermediate statistical position, suggesting that supportive practice constitutes a meaningful analytical layer between teachers' perceived social-emotional skills and broader classroom functioning. At the same time, the reverse-ordering results demonstrate that such indirect associations do not uniquely identify direction. The contribution is therefore both theoretical and inferential: the study clarifies how teacher social-emotional skills may be conceptualised in relation to practice while specifying the evidential limits of concurrent self-report data.

What the pattern shows and does not show

The findings are compatible with the Prosocial Classroom Model's proposal that teachers' social and emotional competence matters partly through relationships, management, and SEL processes (Jennings and Greenberg 2009). In the proposed ordering, self-reported support occupies an explicit position between perceived general social-emotional skills and three distinct classroom-related constructs. This position is educationally useful because it makes enactment visible. When social-emotional skills are measured only through personal self-appraisal, the interactional work that gives those skills classroom meaning can disappear from view; when supportive interaction is treated as proof of competence, perceived skills and practice collapse into one construct. The practical question for teacher education is therefore one of transfer: how recognising, regulating, interpreting, and deciding become caring, respectful, encouraging, trusting, and sensitive interaction in particular situations. Conceptually, this formulation extends the model's treatment of teacher social-emotional competence by making the enactment layer between perceived resources and classroom-related correlates explicit.

The data also show why this distinction requires stronger measurement. Perceived general skills and support were strongly correlated ($r = .75$), and support correlated strongly with relationship quality, management self-efficacy, and SEL implementation. Some of this covariance is theoretically expected, but some may reflect overlapping content, common wording, common method, or respondents' general self-conceptions. The present data therefore cannot demonstrate that perceived skills and enactment are empirically distinct latent constructs. This is precisely where profession-specific measurement is instructive. Aldrup et al. (2020) used a situational-judgement test to assess teachers' knowledge about emotion regulation and relationship management without relying solely on self-appraisal, while recent perceived-competence research treats teachers' social-emotional competence ratings explicitly as beliefs rather than objective performance (Collie 2025; Collie et al. 2025). These high correlations sharpen rather than resolve the theoretical question: future work should combine profession-specific assessments with observations and student reports to test whether perceived resources, enacted practice, and classroom experience can be separated empirically.

Keeping the three classroom-related constructs separate also constrains interpretation productively. The association with support was strongest for teacher–student relationship quality, which is plausible given their shared relational content, but it was also substantial for management self-efficacy and SEL implementation. Teachers who described more supportive practice also reported greater confidence in managing classrooms and more extensive SEL implementation. These are correlations among a relational appraisal, a professional belief, and a practice report, not independent evidence of classroom quality or student outcomes. Presenting them separately avoids converting conceptual heterogeneity into a single, apparently validated classroom outcome.

These distinctions are especially important when findings are interpreted across education systems. Teacher–student relationship quality, management self-efficacy, and SEL implementation may all be shaped by institutional arrangements, but they represent different kinds of evidence: a relational

appraisal, a belief about professional capability, and a report of implementation. Their associations with supportive practice should therefore not be read as interchangeable indicators of a single classroom effect. For comparative research across educational systems, retaining this differentiation makes it possible to ask whether the same pattern of associations recurs under different professional norms, school structures, and approaches to teacher development. It also avoids a common interpretive shortcut in which a culturally bounded pattern of teacher self-report is treated as evidence of a general cross-contextual model. The value of the present Shanghai case is thus to specify relationships that can be tested comparatively, while keeping the meaning and measurement of each construct open to contextual examination.

Implications for teacher education and professional learning

The findings support organising teacher social-emotional learning around enactment in professional situations rather than around decontextualised personal attributes. A workshop that helps teachers label emotions may be useful, but it remains incomplete unless participants also examine how awareness changes a response to withdrawal, conflict, disruption, or failure. Teacher education can connect each skill domain to recurring classroom decisions: noticing a student cue, pausing before responding, considering alternative explanations, selecting language that combines care with instructional purpose, and examining what follows from the interaction.

Representations of practice can make the move from perceived skills to action visible. Video cases, transcripts, student perspectives, classroom dilemmas, and situational-judgement tasks allow teachers to examine specific interactions rather than discuss support only in general terms. Interaction-focused courses and video coaching have shown that sustained attention to teacher–student interaction can change knowledge, beliefs, and observed practice (Gregory et al. 2017; Hamre et al. 2012). In SEL, the question is not simply whether a teacher was positive, but whether encouragement advanced student agency or learning. More broadly, this practice-based emphasis is consistent with recent research that conceptualises teacher professional learning as situated, iterative, and mediated by the contexts in which teachers participate and enact new practices (Liang et al. 2025; Liu et al. 2026).

Rehearsal and feedback should also be organised around the specific classroom construct at issue rather than a generic promise of better performance. Work on teacher–student relationships might focus on perspective-taking, repair after conflict, and the equitable distribution of attention. For classroom management self-efficacy, teachers can rehearse responses that combine clear boundaries with emotion regulation and respect, then analyse how successful and unsuccessful experiences shape efficacy beliefs. For SEL implementation, planning should connect explicit SEL objectives with subject teaching, routines, and interaction so that SEL is not treated as an occasional add-on.

Evaluation, however, needs evidence beyond teachers' self-ratings. Student reports can assess whether support is received as intended; structured observations can document interaction; artefacts and implementation logs can show how SEL is embedded in teaching; and repeated measures can track

change. This matters especially when professional learning increases teachers' awareness and may temporarily lower self-ratings. Equating higher self-report scores with better practice risks rewarding confidence rather than development.

These implications should not individualise problems that are partly organisational. Opportunities to enact support depend on class size, workload, school leadership, collegial norms, accountability pressures, and access to coherent professional learning, none of which was measured here. Teacher education can strengthen perceived social-emotional skills and provide opportunities for rehearsal, but schools must create conditions in which relationally attentive teaching is possible. This ecological interpretation is consistent with research showing that teacher learning and classroom implementation emerge through interactions among personal resources, professional agency, school support, and wider contextual conditions (Liang et al. 2025; Liu et al. 2026).

Contextual boundaries and comparative implications

The sample contributes evidence from an urban Chinese setting that remains underrepresented in much of the literature on teachers' social-emotional functioning, but its value does not lie in national representativeness. Participants were recruited by convenience in Shanghai, a comparatively well-resourced and reform-oriented municipality. The results should therefore be read as a bounded account of how one group of Shanghai teachers described their perceived social-emotional skills and classroom practices. The findings should not be generalised to rural provinces, less-resourced schools, or the national teaching workforce.

The study context nevertheless matters theoretically because social-emotional practice is culturally and institutionally situated. Research in mainland China describes professional emotional rules that combine care, moral responsibility, and regulation of emotional expression (Yin and Lee 2012), and newer work shows how teachers negotiate cultural ideals alongside accountability demands (Diao and Cheng 2026). Such research makes it unlikely that caring, respect, trust, sensitivity, or effective management have context-free meanings. The present study did not measure these mechanisms, so they should not be used to explain the observed coefficients. Instead, they identify questions for comparative research: whether the distinction between perceived social-emotional skills and supportive practice is measured similarly across contexts, and whether students and teachers attach the same meaning to supportive practice.

The relevance of this bounded case to comparative educational research lies in the questions it generates rather than in claims of regional representativeness. Across educational systems, teachers work within institutional contexts that differ in expectations surrounding emotion, authority, professional autonomy, workload, and school-based learning. The same self-rating of social awareness or self-management may therefore be enacted differently depending on classroom norms and organisational support. Comparative work could test whether the skills-to-enactment relation is stable across educational systems and whether the relative links between supportive practice, relationship quality, management self-efficacy, and SEL implementation change with institutional context. Such research

would move beyond treating broad cultural regions as homogeneous explanations and instead examine specific mechanisms through which professional and organisational contexts condition enactment.

Limitations and future research

First, the cross-sectional design cannot establish temporal ordering. Perceived general skills may support classroom practice, but successful interactions may also strengthen teachers' efficacy, relationships, and self-perceived skills. Stable positive self-evaluation or unmeasured working conditions could influence every variable. Because cross-sectional indirect effects can be biased representations of longitudinal processes, they should not be labelled causal mediation (Maxwell et al. 2011). Examining change and reciprocity would require repeated measurement, ideally at least three waves, combined, where possible, with professional learning interventions or natural-experiment designs.

Second, every focal variable came from the same questionnaire and respondent. Shared method variance, consistency motives, social desirability, and a general positive self-evaluation tendency may have inflated associations (Podsakoff et al. 2003). The strong intercorrelations, negatively skewed distributions, and non-zero reverse-ordering indirect associations make this a substantive concern, but none quantifies or removes common-method bias. Future studies should combine teacher reports with student reports, observations, school records, and implementation evidence and, where theoretically justified, separate predictor and criterion measurement in time.

Third, the measures were assembled for this study, and the available analytic file contains composites rather than item-level responses. Although the support items underwent content development and pilot review, the present analysis cannot independently test item-level reliability, factor structure, discriminant validity, or invariance. Some content may overlap across perceived general skills, support, and relationship quality. A new sample with item-level data should compare theoretically plausible measurement models, examine convergent and discriminant validity, and test whether scores operate similarly across career stage, gender, and school level. Multi-method designs should also distinguish perceived competence from performance-based or situational knowledge and from observed enactment.

Fourth, participants constituted a convenience sample from Shanghai, and school identifiers were unavailable. The analysis could neither account for teachers nested within schools nor examine school climate, leadership, workload, class composition, or access to professional learning. These omissions limit generalisation and interpretation of standard errors. Distinguishing teacher-level perceived social-emotional skills from organisational conditions requires multilevel, probability-informed, and comparative designs.

Finally, the three classroom-related constructs remained self-reported and conceptually heterogeneous. Teacher–student relationship quality is relational, management self-efficacy is a belief, and SEL implementation is a report of practice. Analysing them separately avoids presenting a single, supposedly validated latent outcome, but it does not convert them into independent evidence of classroom quality.

Future research should specify construct-specific criteria and include student learning, engagement, wellbeing, and observed interaction only when those variables are directly measured.

Conclusion

This study advances research on teacher social-emotional functioning by distinguishing perceived skills, supportive practice, and classroom-related correlates as three analytically separable levels. Across three distinct domains of classroom functioning, supportive practice occupied a consistent intermediate statistical position, suggesting that it constitutes a meaningful analytical layer between perceived social-emotional skills and classroom-related functioning. The reverse-ordering findings, however, show that these associations do not establish a unique directional process.

The study therefore refines the Prosocial Classroom Model in two respects: conceptually, by making the distinction between perceived social-emotional skills and supportive practice explicit; and inferentially, by showing that strong indirect associations in concurrent self-report data should not be treated as evidence of causal mediation. For teacher education, this distinction shifts attention from whether teachers report social-emotional skills to how those skills are expressed in supportive classroom practice. More broadly, these findings point to a comparative research agenda examining how institutional and cultural contexts shape skills-to-enactment relations across educational systems.

Declarations

Author Contribution

X.Z. conceived and designed the study, collected and analysed the data, and drafted the manuscript. S.C. supervised the study, contributed to the interpretation of the findings, and critically revised the manuscript. Both authors reviewed and approved the final version of the manuscript.

Data Availability

The de-identified research data supporting the findings of this study are publicly available in Figshare at https://doi.org/10.6084/m9.figshare.32261169.

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Figures

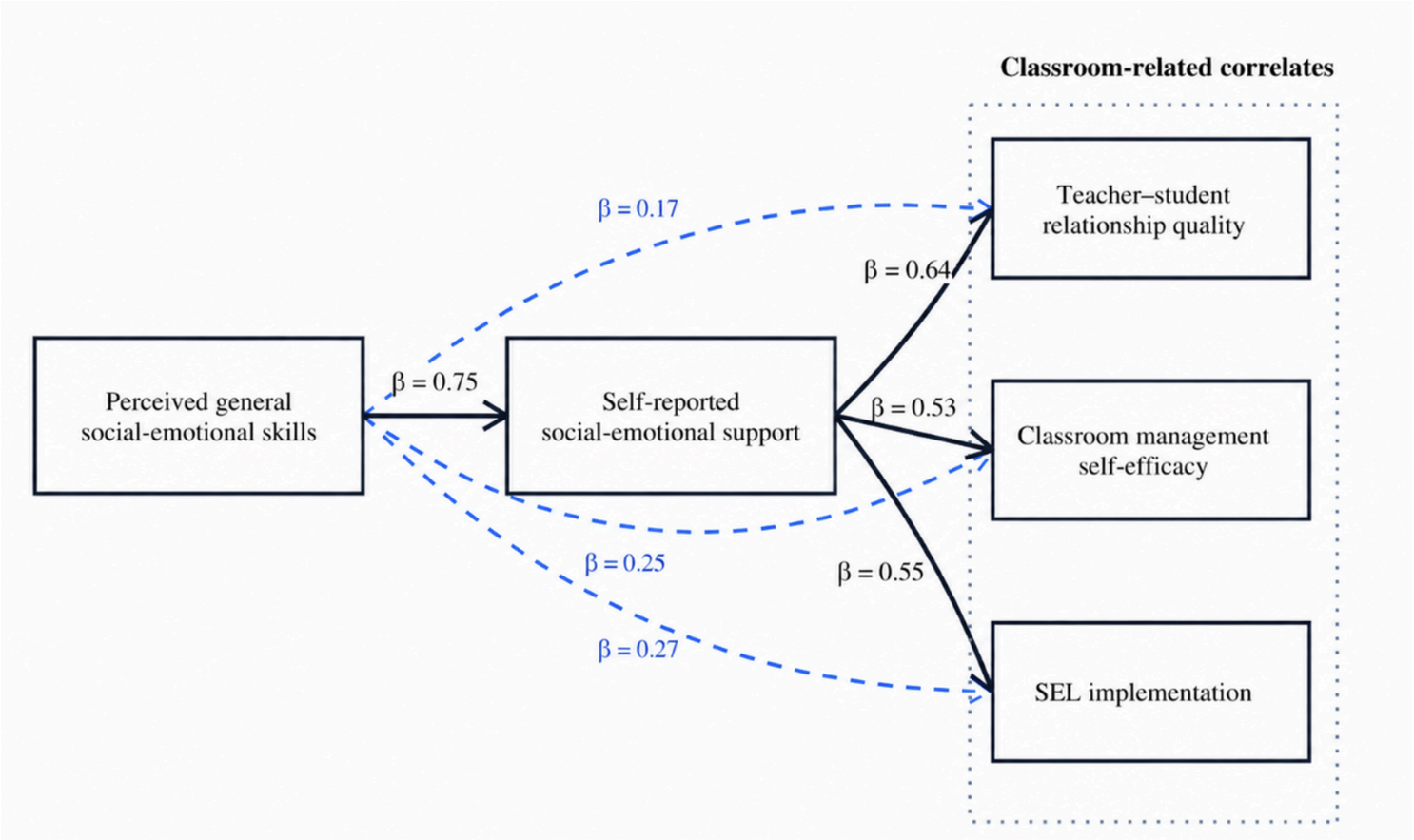


Figure 1

Observed-variable path model. Solid paths form the proposed statistical indirect association; dashed paths are direct associations. Standardised estimates are shown. The dotted enclosure groups the three classroom-related correlates for presentation only and does not represent a latent or composite variable.

Supplementary Files

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- Appendix.docx