

How to measure relational competence in teachers: a systematic review of instruments

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1 Teacher-student relationships

Human relationships are fundamental to development and learning, shaping cognitive, emotional, and social development across the lifespan (e.g., Vygotsky, 1978). In education, these relationships are especially important, with teacher-student relationships being key for fostering student success. Research consistently underscores the importance of these relationships in creating supportive environments that enhance both learning outcomes and personal growth for students and teachers (Blankemeyer et al., 2002; Crosnoe et al., 2004; Jennings & Greenberg, 2009).

Strong, supportive teacher-student relationships are consistently associated with increased academic motivation, higher engagement, and long-term success for students (Collie et al., 2016; Hamre & Pianta, 2001). Students who perceive teachers as caring show higher levels of school engagement, well-being, and self-esteem, highlighting the importance of supportive relationships in promoting a sense of belonging and satisfaction (Jia et al., 2009; Jiang et al., 2013). For students facing early behavioral challenges or weak attachment bonds, positive teacher-student relationships can provide corrective emotional experiences, fostering resilience and reducing disengagement (Pianta & Stuhlman, 2004; Yan et al., 2016).

The benefits of strong teacher-student relationships are clear for students, but they are just as important for teachers. Teachers who build positive connections with their students report higher motivation, greater emotional

engagement, reduced burnout, and improved well-being (Gastaldi et al., 2014; Klassen et al., 2012). This highlights how positive relationships can support both teachers and students in promoting a productive and supportive learning environment.

Understanding teacher-student relationships and the skills that support them is crucial for creating positive educational environments. Several models offer valuable perspectives on these relationships. Pianta (1999) introduced a dyadic model, which sees teacher-student interactions as a system shaped by repeated experiences. This model highlights key relational processes, such as interpreting student signals, providing emotional warmth, setting boundaries, and modeling appropriate behaviors. Another model was proposed by Wubbels (1993), which focuses on relational dimensions, such as —the level of closeness and cooperation between teacher and student—and influence, the teacher’s degree of direction in interaction. Positive relationships are associated with high levels of both dimensions. Their approaches focus on understanding the quality of interactions and relationships, rather than viewing relational competence as a structured set of skills or behaviors.

In contrast, Juul and Jensen (2010; 2017) took a humanistic, bottom-up, and therapy-based approach. Based on their extensive applied counseling and supervision work in educational settings they have abstracted the key ingredient of student-teacher relationship – teacher’s relational competence. They define it as teacher’s ability to see each student as a unique individual and adapt their behavior while maintaining authenticity and leadership. Key elements of their approach include recognizing the student, leading the educational process, maintaining authenticity, and taking responsibility for the relational dynamic. Although originally developed outside academic research, their framework has gained recognition and has been incorporated as a core part of interventions in the recent European educational policy experimentation projects, such as the HAND in HAND (Kozina, 2020; 2024).

Although various frameworks offer valuable insights into teacher-student relationships, they address relational competence from different perspectives, leaving gaps in how it is measured. This highlights the need for a systematic review to identify and evaluate existing instruments used to measure relational competence in teachers. Such a review serves both practical and research purposes: it supports teacher professional development

to enhance relational competence and ensures effective evaluation methods within teacher training programs.

This study aims to identify existing instruments, which tap teachers' relational competence or related concepts (e.g. skills), analyze their dimensions, and assess their psychometric properties. The review addresses key questions: How is relational competence measured – what instruments exist to measure it? What dimensions are assessed? Are the instruments valid and reliable?

2 Methods

2.1 *Conducting systematic literature reviews*

This study followed a structured approach to systematically review the literature, starting with a thorough and targeted search of academic databases. The methodology was guided by the systematic review framework outlined by Müller et al. (2019) to ensure a rigorous and thorough process. Key steps are described below.

2.2 *Paper selection*

Databases search. The Web of Science databases were used to perform a comprehensive and interdisciplinary search. Web of Science was selected due to its broad indexing of peer-reviewed, high-impact journals across disciplines and its robust infrastructure for citation tracking and bibliometric analysis (Cai et al, 2023).

Search terms. The complete list of keywords used for the search, including terms related to measurement, competence, instruments, and target group, is provided in Table 8. Terms unrelated to the educational context, such as those specific to medical fields or disorders, were excluded.

Further inclusion criteria for the review. The criteria for including studies in the review, such as document type and language requirements, are outlined in Table 9.

The article review was conducted in August 2021. The first search of the database identified 174 articles. Two researchers with expertise in psychology and education reviewed the titles and identified exclusion terms, reducing the pool to 149 articles. These were further screened by reviewing their titles and abstracts, resulting in a final selection of 25 articles. A detailed review of the remaining 25 articles identified 16 papers that included

structured or semi-structured instruments relevant to our research. Most of the excluded articles focused on teachers rating children’s social skills, were related to medical or psychological disorders, or were not relevant to the educational context. Any disagreements between the researchers during the selection process were discussed and resolved collaboratively.

Table 8: List of search terms for the systematic literature review

Field	Operator	Keywords
Measurement	AND	(“assessment” OR “measure*” OR “psychometric” OR “instrument”)
Competence	AND	(“relational competence” OR “relation* skill” OR “social skill*” OR “interperson* relationship*”)
Instruments	AND	(“survey” OR “questionnaire” OR “observation” OR “scale*” OR “self report*” OR “interview” OR “vignette”)
Target Group	NOT	(“teacher” OR “educator” OR “instructor”)
Disorders; Irrelevant fields; Other acting groups		(“parent*” OR “therapy” OR “nurse” OR “autis*” OR “asperger” OR “medic*” OR “clinic*”)

Table 9: Inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
Peer-reviewed articles and book chapters	Conference papers and other publications
Publications in English	Non-English publications
Teachers	Students, Migrants and Refugees
Instruments measuring relational competence	Disorders and irrelevant fields

2.3 Data analysis

2.3.1 Categorization and coding of assessment tools

We classified the 16 instruments based on the source of assessment, i.e. reports provided by teachers or students. For teachers, self-reports were employed, whereas students reported either about relevant aspects of a teacher or about their relationship with a teacher. Thus, each instrument was

further categorized by the method used to collect data (e.g., self-reports, or natural observations). Additionally, we listed the dimensions assessed by each instrument.

2.3.2 Categorization of dimensions

Only dimensions reflecting aspects of relational competence (or related concepts) were included in the analysis. The selection was based on how each dimension was described in the original source. We grouped the dimensions into broader categories (e.g., emotional connection) through inductive thematic analysis. This process involved identifying common patterns and recurring ideas across instruments. Grouping was guided by the researchers' interpretation of each dimension's core meaning. Our aim was to present the dimensions in a clear and meaningful structure, not to apply a fixed theoretical model. When a dimension could belong to more than one category (e.g., *social support*, *responsibility*), we considered its specific context and emphasis within the original instrument to determine the best fit.

2.3.3 Reliability and validity

We reported the psychometric properties of the instruments, specifically their reliability and validity, as described in the source articles. When this information was missing or incomplete, we conducted additional searches to gather relevant data from related studies or literature.

3 Results

The results present the identified instruments for assessing relational competence, including their target groups, dimensions, and focus on either relationships or teacher competence. A detailed overview, including psychometric properties and dimensions, is in Table 3.

3.1 Categorization of assessment tools and methods

Of the 16 instruments, most (15) used self-report measures, while one relied on observation. Among the 15 self-report tools, 8 instruments assessed teacher-student relationships from the students' perspective: 5 instruments focused on the quality of the relationship itself (e.g., how students feel in the relationship), and 3 instruments evaluated teachers' behaviors (e.g., specific

actions or interactions). The remaining 7 instruments focused on the teachers' self-assessment. One instrument used observational methods to measure relational dynamics directly.

3.2 Allocation to general categories

The identified dimensions from Table 3 were grouped into five general categories, reflecting key aspects of relational competence assessed by the instruments.

Emotional connection is the first category that focuses on the authentic emotional bond between teachers and students. It shows how teachers create a supportive learning environment by offering emotional attunement, showing empathy, and fostering emotional security so students feel safe and supported. A teacher's authenticity in these interactions is crucial for building strong, meaningful connections with students. Examples of dimensions: Emotional quality, Perceived relatedness – Teacher emotional security, Empathy towards students, Concern for students, and Psychological proximity (see Table 3 for corresponding instruments). In total, this category includes 5 dimensions from 3 instruments.

The Interpersonal relationship and support category emphasizes the teacher's role in building and maintaining consistent, meaningful relationships with students. It shows the teacher's ability to build a positive, supportive environment through regular, genuine contact and consistent relational support. The ability to maintain involvement with students demonstrates the teacher's commitment to fostering healthy and productive relationships. Category includes following dimensions: Teacher-student relationship, Quality of contact with students, Interpersonal relationship, Social support from teacher, Involvement, and Interpersonal support – Teacher support (see Table 3 for corresponding instruments). In total, this category includes 6 dimensions from 6 instruments.

Classroom management, leadership, and interaction styles category focuses on how teachers balance authority with relational sensitivity. Teachers are responsible for leading their classrooms in ways that promote positive behavior, manage conflicts, and build trusting relationships. Effective classroom management combines structured leadership with relational empathy to maintain positive teacher-student dynamics. Examples of dimensions: Support for bullying prevention skills, DC leadership, Teacher behaviors (Teacher positives/negatives), Compliance, Non-compliance, Pro-social behavior, Conflict resolution, Conflict, Social flexibility,

Responsibility, and CD Helping/friendly are included in this category (see Table 3 for corresponding instruments). In total, this category includes 11 dimensions from 7 instruments.

Fourth category Respect for individuality highlights the teacher's ability to recognize and adapt to each student's unique needs and perspectives. This category focuses on the teacher's capacity to provide individualized attention, understanding, and empathy while remaining authentic and relationally responsible. Dimensions included are Respect for students, Individuality, CS Understanding, Social cues identification (see Table 3 for corresponding instruments). In total, this category includes 4 dimensions from 4 instruments.

Social and interpersonal influence category, emphasizes the teacher's role in helping students navigate social dynamics and interpersonal challenges. This category emphasizes the teacher's responsibility to create a healthy social environment and support students in handling complex situations, such as bullying. Teachers play a critical role in promoting socially responsible behaviors and guiding students toward positive interpersonal development. Category includes following dimensions: Coaching of bullying participants, Social cues identification, Social support, and Interpersonal influence (see Table 10 for corresponding instruments). In total, this category includes 4 dimensions from 4 instruments.

In addition, to these categories we would like to highlight that the dimension of responsibility, which refers to teacher's ability and will to take full responsibility for the quality of the relationship, is only included in one instrument (TRCS).

Table 10: Overview of instruments assessing relational competence and skills: methods, dimensions, and psychometric properties

Instrument	Self-report/ others	Teachers/ students	Dimensions	Psychometric properties		
				N of items (N of relevant items)	Reliability	Validity
1.The Social-Emotional Learning Checklist—Bullying Report (SELC-BR) (Hirschstein et al., 2001)	Self-report	Teachers	Support for bullying prevention skills, Support for social-emotional skills, Coaching of bullying participants	n/a	n/a	n/a
2.Meta-inventory for Evaluating Teacher Effectiveness (Patrick & Smart, 1998)	Self-report	Students	Respect for students, Organizational and presentation skills, ability to challenge students	24 (8)	Internal reliability Respect for students .86	Construct validity Content validity
3.Relatedness Questionnaire (Lynch & Cicchetti, 1997; Lynch, 1992)	Self-report	Students	Emotional quality, Psychological proximity seeking	17	Internal reliability Emotional quality .67 to .83, Psychological proximity seeking .83 to .93 (Lynch, 1992).	n/a
4.Student–Teacher Relationship Scale (STRS) (Pianta, 2001a)	Self-report	Teachers	Closeness, Conflict and Dependency	28	Test-retest Closeness .88 Conflict .92 Dependency .76, Total .89 Internal reliability Closeness .86 Conflict .92 Dependency .64, Total .89	Construct validity, Convergent validity, Discriminant validity
5.Student–Teacher Relationship Scale Short-Form (STRS-SF) (Pianta, 2001b)	Self-report	Teachers	Closeness and Conflict	15	Internal reliability Closeness .72 Conflict .82 (Tsigilis & Gregoriadis, 2008)	Construct validity
6. COVID-19 Interpersonal Aspects in School (Herman et al., 2021)	Self-report	Teachers	Empathy Towards Students, Concern for Students, Quality of Contact with Students, Quality of Contact between Colleagues Perceived Stress due to Contact Restrictions, Satisfaction with Digital Interactions, Positive Outcomes from the Pandemic Experience	7 (4)	n/a	n/a

Psychometric properties						
Instrument	Self-report/ others	Teachers/ students	Dimensions	N of items (N of relevant items)	Reliability	Validity
7. Questionnaire of Teacher Interaction (QTI) (Wubbels & Levi, 1991)	Self-report	Students	DC (Dominance-Cooperation) Leadership CD (Cooperation-Dominance) Helping/friendly CS (Cooperation-Submission) Understanding SC (Submission-Cooperation) Student responsibility/freedom SO (Submission-Oppositions) Uncertain OS (Opposition-Submission) Dissatisfied OD (Opposition-Dominance) Admonishing DO (Dominance-Opposition) Strict	48 (18)	Internal reliability DC Leadership .80, CD Helping/friendly .88, CS Understanding .88	Construct validity
8. Teacher interaction skills scale (TISS) (Tan et al., 2019)	Self-report	Teachers	Social cues identification, Social support, Social flexibility, Conflict resolution, Interpersonal influence, Social insight, Social initiation, Social proximity	54 (35)	Internal reliability Coefficient H: Social cues identification: 0.89 Social support: 0.84 Social flexibility: 0.81 Conflict resolution: 0.84 Interpersonal influence: 0.88 Coefficient Alpha: Social cues identification: 0.82 Social support: 0.84 Social flexibility: 0.79 Conflict resolution: 0.88 Interpersonal influence: 0.90	Criterion validity Construct validity
9. Child and Adolescent Social Support Scale. (CASSS) (Malecki et al., 1999)	Self-report	Students	Social support from different sources: Teacher, Parent, Classmate, Close Friend	40 (10)	Internal reliability Level 1 Teacher .88 Level 2 Teacher .92	Criterion validity
10. The Teacher-Student Relationship Questionnaire (TSRQ) (Caballero et al., 2010)	Self-report	Students	Teacher-student relationship, Teacher expectations, Culturally relevant pedagogy	60 (20)	Internal reliability Teacher-student relationship .92	Content validity

Psychometric properties						
Instrument	Self-report/ others	Teachers/ students	Dimensions	N of items (N of relevant items)	Reliability	Validity
11. The Scale of Perceived Instructor Support (SPIS) (Young-Jones et al., 2021)	Self-report	Students	Interpersonal relationship, Engagement, Autonomy, Expectations	24 (6)	Internal reliability Interpersonal Relationship -.87	Structural validity
12a. The student self-report for elementary school (RAPS-SE) (IRRE, 1998)	Self-report	Students	Beliefs about self (perceived competence, perceived autonomy, Perceived relatedness – teacher emotional security), Interpersonal support – teacher support, Engagement	88 (15)	Internal reliability Perceived relatedness – Teacher emotional security) .87, Interpersonal support – Teacher support .80	Criterion validity
12b. The student self-report for middle school (RAPS-SM) (IRRE, 1998)	Self-report	Students	Beliefs about self (perceived competence, perceived autonomy, Perceived relatedness – teacher emotional security), Interpersonal support – teacher support, Engagement	88 (21)	Internal reliability Perceived relatedness – teacher emotional security) .89, Interpersonal support – Teacher support .88	Criterion validity
13. Teacher as Social Context questionnaire (TASC) (Wellborn et al., 1998)	Self-report	Teachers	Involvement, Structure, Autonomy support	41 (14)	Internal reliability Involvement .78 (Iglesias et al., 2020)	Construct validity Criterion validity (Iglesias et al., 2020)
14. The Teacher and Classmate Support scale (TCMS) (Torsheim et al., 2000)	Self-report	Students	Teacher support, Classmate support	8 (4)	n/a	n/a
15. Teacher–Pupil Observational Tool (T-POT) (Martin et al., 2010)	Observation	Observers	8 categories altogether, 2 for teacher behaviours: teacher positives, teacher negatives 6 categories for child behaviour: negative to teacher, compliance, non-compliance, pro-social behaviour, off-task, child deviance	n/a	Inter-rater reliability .78	Criterion validity Internal validity
16. Teacher Relational Competence Scale (TRCS) (Vidmar & Kerman, 2016)	Self-report	Teachers	Individuality, Responsibility	11	Internal reliability 0.70 Individuality 0.76 Responsibility	Construct validity

Notes. Dimensions in bold tap teacher relational competence or relationship skills
 N of relevant items = For each instrument, we recorded the total number of items and identified the subset specifically addressing relational competence.
 n/a means that this specific data for an instrument was not available or not found

3.3 *Reliability and validity*

The types of validity listed in the Table 10 are based on what was reported in the original studies and include typical indicators such as factor analyses, criterion-related correlations, and expert evaluations, where applicable. Of the 16 instruments, 13 demonstrated adequate reliability, including 3 where missing information was supplemented with data from additional sources. For 3 instruments, reliability data was not reported. In terms of validity, 12 instruments had evidence of validity, while 4 lacked validity data.

4 Discussion

This study reviewed instruments for assessing some aspects of relational competence or relationship skills in teachers, focusing on their dimensions, psychometric properties and focus. The aim of the study was to identify available tools, categorize them, analyze the dimensions and focus they assess and evaluate their validity and reliability.

The review identified 16 instruments, with most relying on self-reports. Of the self-report tools, some focused on the teacher-student relationship (e.g. students' perceptions of the relationship quality) or perception of teacher, while others assessed teacher-specific behaviors. This shows the prevalence of self-reports and the limited use of observational methods to assess relational competence.

Our systematic review was guided by the term and concept of relational competence and relevant instruments. The findings show that in the instrument title or dimensions, this is explicitly reflected in only one instrument (TRCS), while other instruments use different terminology (e.g., „teacher interaction“ (Wubbels, 1993); „student-teacher relationship“ (Pianta, 2001a)). This indicates a slightly different perspective on understanding and measuring relational competence.

Out of the analyzed self-report instruments (thus, observations excluded), all were multidimensional. Among these, five instruments focused exclusively on relationship skills. The remaining instruments included relationship-related dimensions alongside other constructs, (e.g. organizational skills, leadership behaviors, or general social support). This shows that instruments differ in their focus, with some concentrating solely on teacher-student relationship and others addressing it alongside additional skills or concepts.

Further analysis of the dimensions into broader overarching categories revealed five dimension clusters across the instruments: Emotional connection, Interpersonal relationship and support, Classroom management, Leadership and interaction styles, Respect for individuality and Social and interpersonal influence. The Classroom management, leadership, and interaction styles category was the most frequently addressed, reflecting a strong emphasis on practical aspects of teacher-student dynamics and classroom interactions, particularly in balancing authority with relational sensitivity.

In contrast, Respect for individuality and Social and interpersonal influence were the least represented categories, suggesting that while these areas are important for understanding relational competence, they receive less attention in existing tools.

The tools varied in focus. Some assessed teacher skills and behaviors, while others evaluated the relationship of teachers and students. A few combined these elements.

Additionally, tools such as the Student-Teacher Relationship Scale (STRS) and the Questionnaire on Teacher Interaction (QTI) are widely referenced in the literature and therefore widely used. However, both focus primarily on the relationships rather than on relational competence. By emphasizing relationship aspects, these instruments risk overlooking other important dimensions of relational competence.

4.1 Limitations and perspectives

This review provides valuable insights into the assessment of relational competence; however, several limitations must be acknowledged. The heavy reliance on self-report questionnaires raises concerns about social desirability bias. Lozano-Peña et al. (2021) recommend incorporating mixed methods, including alternative approaches such as observations and qualitative evaluations. Applying these approaches to relational competence is an important area for further research and development.

Another limitation of this review is its scope, as it relied solely on the Web of Science database. While this database provides extensive coverage, it excludes other potentially relevant sources, particularly those more specialized in education and social sciences, such as ERIC or PsycINFO. Additionally, the review was completed in August 2021, and thus does not include instruments or publications released thereafter. Future reviews may

benefit from incorporating a broader range of databases and more recent literature to ensure a more comprehensive overview of available instruments.

Artificial intelligence (AI) is increasingly being explored as a complementary approach to improve how we evaluate relational competence. For example, an AI system was developed that processes classroom video and audio, automatically identifying teacher and student speech, transcribing it, and classifying interaction types. This method matched human coders with about 88% accuracy, reducing subjectivity and workload (Wang et al., 2025). In a separate two-year study, multimodal sensors and AI were used to capture teachers' behaviors and display them on a dashboard, enabling objective and scalable reflection, without relying on subjective performance ratings (Niculescu et al., 2025). These developments suggest that AI can probably support more objective and scalable ways of capturing relational aspects of teacher behavior, which may contribute to future assessments of relational competence

4.2 Conclusions

This review highlights the importance of relational competence and relationship skills in education and the need for diverse, validated tools to assess it comprehensively. The study provides the catalogue of 16 relevant instruments. Most instruments reported adequate reliability and validity, some lacked comprehensive psychometric evaluations. The TRCS was the only instrument using the term relational competence and highlighting the teachers' responsibility for the quality of the student-teacher relationships. Moreover, the review revealed that all the analyzed instruments were multidimensional. The review provides teachers with an overview of tools they can use to reflect on and improve their relational competence. By using these instruments, teachers can better understand their strengths and challenges in building student relationships, leading to improved classroom climate, student engagement, and their own well-being.

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