



Motivational climate through the eyes of teachers: a scoping review based on achievement goal theory

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Received: 16 March 2025 / Accepted: 17 January 2026
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Abstract

Within the framework of achievement goal theory (AGT), the motivational climate is understood as a subjective meaning-making process, highlighting that students and teachers may perceive this climate differently. Previous research has focused on students' perspectives, potentially limiting a comprehensive understanding of motivational processes. This scoping review of 44 empirical studies maps the existing literature on motivational climate from teachers' perspectives, grounded in AGT, and provides an organized overview of study characteristics, methodological approaches, and research topics. Quantitative research was overrepresented; only three studies employing mixed-method designs. Based on the available instruments that focus on the motivational climate from teachers' perspectives, three main types of scales were identified: those measuring holistic school climate for students, holistic school climate for teachers, and teachers' instructional practices. Organizing the available instruments suggests a stronger alignment between research objectives and measurement tools in the future; and identifying different combinations of scale types utilized by researchers may offer new opportunities for gaining a more precise understanding of the motivational climate. The categorization of research topics reveals that incorporating teachers' perspectives into characterizations of the motivational climate can significantly deepen our understanding of motivational processes, underscoring the value of including teachers' perspectives for diverse research objectives. This study provides implications for future research concerning research design, instrument development, and the exploration of research topics.

Keywords Motivation · Teachers · Achievement goal theory · Goal structure · Motivational climate · Scoping review

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1 Introduction

Achievement goal theory (AGT) is a predominant theoretical framework in research on students' motivation to learn (Urda & Kaplan, 2020; Wigfield et al., 2021). Within the AGT framework, examining the motivational climate of the classroom and school—the characteristics of the learning environment that either support or hinder students' motivation—represents a primary focus of research (Elliot & Hulleman, 2017; Patrick & Kaplan, 2022). AGT is a social-cognitive motivational approach highly dependent on subjective meaning-making about the learning environment (Kaplan & Patrick, 2016). Empirical studies confirm that students in the same class or school may perceive the motivational climate differently (e.g., Bardach et al., 2019; Miller & Murdock, 2007). In addition, students' and teachers' perspectives about the motivational climate may also differ (e.g., Bardach et al., 2018, 2019). These findings highlight that motivational climate is not a unitary construct but is shaped by subjective interpretations that may vary within and across roles in the educational context.

Although AGT emphasizes the socially constructed nature of motivational climate, research in this area has predominantly relied on student report. Recently, however, an increasing number of studies have examined motivational climate from the teacher's perspective using the AGT framework (e.g., Bardach et al., 2018, 2019; Daniels et al., 2017; Skaalvik & Skaalvik, 2017, 2023). Yet, there has been little discussion regarding what unique insights teacher's perspective offers, how it complements students' perspectives, and what purposes it serves in motivation research. Consequently, one aim of this scoping review was to map the main research topics addressed in studies adopting a teacher perspective. Since investigating motivational climate from the teacher's perspective may require distinct methodological approaches (e.g., Daumiller et al., 2023; Robinson, 2023), this review also examines the methodological trends and challenges identified in this literature. Because most studies in this area rely on quantitative designs using self-report questionnaires, the methodological analysis in this review primarily focuses on the measurement instruments employed. Finally, to map the research landscape comprehensively, we analyzed study characteristics.

Although there is no universally accepted definition of a scoping review, it is generally characterized as providing a comprehensive overview of a research field when it remains unclear what specific questions can be meaningfully addressed through a more focused systematic review (Armstrong et al., 2011; Khalil & Tricco, 2022; Peterson et al., 2017). Scoping reviews are particularly valuable when the goal is to map the existing body of literature, identify knowledge gaps, and understand the methodological patterns that characterize existing research (Munn et al., 2018; Tricco et al., 2018). Therefore, given the diversity of studies exploring teachers' perspectives on the motivational climate, a scoping review was conceptualized as closely aligned with the goals of the current study. Scoping reviews also help organize and arrange information in a coherent manner while synthesizing research trends broadly and providing a conceptual foundation for future systematic analyses (Khalil & Tricco, 2022; Peterson et al., 2017). Accordingly, this scoping review will systematically map research on motivational climate from teachers' perspectives within the AGT framework, focusing on study characteristics, methodologies, and research topics.

2 Achievement goal theory

2.1 Goal orientations

Within AGT, individual differences in motivation are explained by goal orientations and beliefs about competence (Anderman & Patrick, 2012). Two main types of goal orientations have been proposed to account for motivational differences in achievement settings. Mastery goals reflect the intention to develop new skills and gain understanding, whereas performance goals involve the desire to demonstrate one's competence relative to others. Mastery goals are typically evaluated against internal standards, while performance goals are judged through interpersonal comparisons (for reviews, see Senko, 2016; Urdan & Kaplan, 2020).

Goal theorists further distinguish between approach and avoidance forms of goals. Approach goals are driven by the pursuit of positive outcomes, whereas avoidance goals are motivated by the prevention of negative outcomes. Initially, this distinction applied only to performance goals, but it was later extended to mastery goals, resulting in the 2×2 framework of achievement goals (Elliot, 2005; Elliot & McGregor, 2001). Accordingly, four goal types are applied in AGT research: mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance goals.

The differentiation between performance-approach goals (i.e., striving to outperform others and demonstrate competence) and performance-avoidance goals (i.e., striving to avoid being outperformed or appearing incompetent) has helped clarify distinct processes and outcomes related to learning (Elliot & Hulleman, 2017; Senko, 2016; Urdan & Kaplan, 2020). The approach-avoidance distinction was subsequently extended to mastery goals, differentiating between striving for learning and improvement (i.e., mastery approach) and striving to prevent declines in competence (i.e., mastery avoidance). This differentiation has likely gained limited acceptance in achievement goal research because mastery-avoidance goals are relatively uncommon among students (Ciani & Sheldon, 2010) and likely more relevant for adults who experience or anticipate skill decline (Daumiller et al., 2022). Empirical support for mastery-avoidance goals remains scarce in younger populations (Daumiller, 2024).

The four goal types—and their possible combinations—are associated with distinct cognitive, motivational, behavioral, and social outcomes. In general, mastery-approach goals predict adaptive consequences, whereas performance-avoidance goals predict maladaptive consequences. Findings concerning mastery-avoidance and performance-approach goals, however, remain inconsistent (Anderman & Patrick, 2012; Bernardo & Ismail, 2010; Hughes et al., 2011; Payne et al., 2007; Senko & Dawson, 2017; Urdan & Kaplan, 2020). Research examining multiple-goal patterns suggests that mastery orientation consistently supports positive outcomes, whereas simultaneously pursuing both mastery and performance goals may be beneficial only under specific conditions (Niemi-virta et al., 2019; Won & Wolters, 2024; Wormington & Linnenbrink-Garcia, 2017).

2.2 Motivational climate from students' perspectives

According to AGT, goals are shaped by the learning environment (Kaplan & Patrick, 2016). The motivational features of the environment (i.e., the motivational climate) are described in a holistic manner in terms of goal structures, generally highlighting the influence of teachers' instructional practices on students' perceptions of their goals (Ames, 1992). Goal structures and instructional practices can be examined from students' and teachers' perspectives; however prior research has typically examined from the perspective of students. Consequently, in defining these constructs, we rely on previous studies adopting the student perspective. These constructs will serve as the foundational framework for exploring motivational climate from the perspective of teachers.

2.2.1 Goal structures

Goal structures encompass aspects of the learning context at the school or classroom levels. Goal structures are defined broadly as messages about the nature of learning and the criteria for success and failure (Ames, 1992; Kaplan & Maehr, 2007; Urdan, 2010). The literature defines two types of goal structures, mastery and performance goal structures (Ames, 1992). Mastery goal structures focus on students' desire to understand the learning material, improve, and pursue goals to develop their competence. Performance goal structure focus on students comparing their performance to others and pursuing goals to demonstrate competence. Goal structures may have a direct influence on learning, motivation, engagement, and achievement (Kaplan & Maehr, 2007; Meece et al., 2006; Urdan, 2010). A mastery goal structure is generally associated with more adaptive motivational outcomes, whereas a performance goal structure is more often linked to maladaptive patterns of motivation (for reviews, see Anderman & Patrick, 2012; Baudoin & Galand, 2017; Patrick & Kaplan, 2022; Urdan & Kaplan, 2020).

Existing literature highlights that positive motivational climates maximize mastery goal-related structures and minimize performance goal-related structures (e.g., Anderman & Patrick, 2012; Maehr & Midgley, 1996). In addition, goal structures also are associated with students' social goals, relationships, and well-being at school (e.g., Bardach et al., 2019; Baudoin & Galand, 2022; Madjar et al., 2019; Polychroni et al., 2012). The perception of goal structures can also be shaped by teacher practices (e.g., Gertsakis et al., 2020; Maehr & Midgley, 1996; O'Keefe et al., 2013); however, their effect seems to be modest (Urdan & Kaplan, 2020).

The Patterns of Adaptive Learning Survey (PALS; Midgley et al., 1996, 2000) is the most frequently used instrument to assess goal structures. Within the framework of AGT, PALS serves as a starting point for measuring motivational climate from the perspective of students and teachers. Therefore, we provide a brief overview of the relevant scales of the questionnaire.

The PALS includes two scales for measuring the motivational climate from students' perspectives: the Perception of Teacher's Goals scale and the Perception of Classroom Goal Structures scale. Both scales capture students' subjective perceptions and experiences of the messages within the learning environment that influence

their achievement goals. The key distinction between the two scales lies in the source of these messages. The Perception of Teacher's Goals scale explicitly attributes the source of the messages to the teacher (e.g., "My teacher thinks mistakes are okay as long as we are learning"), whereas the Perception of Classroom Goal Structures scale does not specify the source (e.g., "In our class, it's OK to make mistakes as long as you are learning"). Both scales are composed of three subscales, adhering to the trichotomous model of achievement goals.

When the latest version of PALS was developed (Midgley et al., 2000), the approach–avoidance distinction had not been established for mastery goals; therefore, it was not incorporated into the mastery goal structure. However, these two dimensions were included in relation to the performance goal structure. The performance–approach goal structure reflects a learning environment emphasizing engagement in academic work to demonstrate competence—primarily normative competence—whereas the performance–avoidance goal structure reflects an environment emphasizing engagement in academic work to avoid demonstrating incompetence—primarily normative incompetence (Midgley et al., 2000; Murayama & Elliot, 2009). Because some studies found no significant classroom-level variation for the performance–avoidance goal structure (e.g., Kaplan et al., 2002a, 2002b; Murayama & Elliot, 2009), the distinction between approach and avoidance orientations was often considered less meaningful for goal structures. Consequently, research focusing on performance goal structures has used only the PALS performance–approach scale or applied a modified version that combines items representing both dimensions (e.g., Fejes, 2023; Patrick et al., 2011; Urdan, 2004b). In recent years, however, the inclusion of approach–avoidance dimensions within performance goal structures has become increasingly common (e.g., Gertsakis et al., 2020; Lehikoinen et al., 2025; Olivier et al., 2024; Schwinger & Stiensmeier-Pelster, 2011).

Only a few studies have examined the application of the approach–avoidance distinction to mastery goal structures (e.g., Bardach et al., 2020; Peng et al., 2018). In this context, the mastery–approach goal structure is generally treated as equivalent to the broader mastery goal structure, whereas the mastery–avoidance goal structure is conceptualized as a contextual emphasis on avoiding skill loss or forgetting previously learned material (Bardach et al., 2020).

2.2.2 Instructional practices

Various instructional practices are believed to support different goal structures. Since the development of measurement tools incorporating the teacher's perspective often relies on instruments designed to assess instructional practices from the students' perspective, it is important to briefly review these teaching practices. The TARGET framework is often discussed in the context of promoting a mastery goal structure and reducing the emphasis on performance goal structures (Ames, 1992; Epstein, 1989). The framework outlines teaching principles and strategies that can shape students' perceptions. The TARGET framework includes six categories: Task, Authority, Recognition, Grouping, Evaluation, and Time. Although these six categories are theoretically distinct constructs, there is substantial overlap among them, and they interact with each other in the classroom. Thus, they may be considered a coherent set

of instructional practices that collectively support a mastery goal structure (Patrick & Kaplan, 2022).

The role of the classroom's social dimension in students' motivation has received increasing attention in recent years (for a review, see Wentzel, 2022). Research indicates that students' task-related interactions, student–student relationships, mutual respect, and peer climate are linked to students' perceptions of a mastery goal structure (Fejes, 2023; Patrick & Kaplan, 2022). As a result, a seventh dimension—the social dimension—extends the TARGET framework (i.e., TARGETS; e.g., Kaplan & Maehr, 2007; Patrick, 2004). In sum, prior research identifies several instructional practices that shape students' perceptions of classroom goal structures. Instructional practices influence students' motivation primarily through their perceptions of the goal structure (Ames, 1992; Lehtikoinen et al., 2025; Porter et al., 2022). Studies that incorporate teacher-reported or observed mastery-oriented instructional practices consistently show associations with higher student perceptions of a mastery goal structure (e.g., Butler, 2012; Urdan et al., 1998).

2.3 Use of achievement goal theory in teachers

Recently, AGT has been extended to the domain of teaching. The central premise of this expansion is that schools constitute achievement contexts for students and teachers (Butler, 2007). Research highlights that AGT provides a useful framework for investigating teaching, particularly in understanding teachers' motivation and goals for teaching (for review, see Han & Gao, 2023). Although earlier research also examined the motivational climate from teachers' perspectives, these studies primarily aimed to enrich and validate the student-focused perspective (e.g., Kaplan et al., 2002a, 2002b; Xiang et al., 2003).

As research on teachers' goals has expanded, investigations of the motivational climate from teachers' perspectives have also gained momentum. One identifiable line of research explores the relationship between teachers' goals and their instructional practices, typically drawing on the TARGETS dimensions (e.g., Bardach et al., 2018, 2019; Daumiller et al., 2023; Mahavong & Fejes, 2026). Another emerging line of research conceptualizes school goal structures as indicators of the motivational climate in the workplace and examines how these structures relate to teachers' motivational and emotional characteristics (e.g., Dickhäuser et al., 2021; Skaalvik & Skaalvik, 2017; Wang et al., 2017).

Taken together, these lines of research suggest that teachers' perspective regarding the motivational climate is increasingly recognized as theoretically meaningful within the AGT framework. However, despite this growing body of work, no integrative overview currently exists that maps how teachers' perspectives have been conceptualized, operationalized, and examined in AGT-based research.

3 The present study

Achievement goal theory is based on a socio-cognitive approach to learning motivation which describes the perception of the learning environment as the result of subjective meaning-making (Kaplan & Patrick, 2016). It seems logical to assume that if the aim is to explore the possible effects of the motivational climate on student outcomes, it is crucial to examine students' perspectives when describing characteristics of the climate (Robinson, 2023). This is likely the reason that the majority of AGT studies have focused predominantly on students' perspectives.

Social desirability bias among teachers may further explain why teachers' perspectives have not been widely examined in research on the motivational climate. This may especially be the case for studies that rely on self-report instruments, and is therefore a common explanation for the mismatch between students' and teachers' perspectives on goal structures (e.g. Ryan et al., 1998; Urdan et al., 1998). While teacher self-reported frequency of using instructional practices has demonstrated reasonable reliability (Desimone et al., 2009; Mullens & Gayler, 1999; Porter et al., 1993; Schmidt et al., 1997), self-reported quality of implementation of an instructional practice has been shown to be less reliable (Herman et al., 2000; Kunter & Baumert, 2006; McCaffrey et al., 2001; Spillane & Zeuli, 1999). Teacher-reported questionnaires on motivational climate in AGT research typically do not focus on the frequency of specific instructional strategies (Midgley et al., 2000; Wolters et al., 2011), which may partly explain why teacher self-report measures are less frequently used in this field.

Wolters et al. (2011) proposed that teachers are a potentially rich source of information related to goal structures for at least three reasons. First, teachers are key decision-makers who have a significant impact on students' perceptions and experiences in the classroom. Second, teachers have background knowledge concerning the underlying aims and intentions of instructional practices which may not be obvious for observers or students. Third, teachers are in regular contact with students, thus they have insight into how students interpret or respond to particular instructional practices.

The application of teachers' perspectives in examining the motivational climate within the AGT paradigm has not gained widespread interest until recently. For example, it has typically not received attention in reviews summarizing the developmental directions of AGT (e.g., Daumiller, 2024; Elliot & Hulleman, 2017; Senko, 2016; Urdan & Kaplan, 2020). To the best of our knowledge, we are unaware of any reviews of teachers' perspectives about the motivational climate using AGT.

The primary aim of this scoping review was to comprehensively review how teachers' perspectives regarding motivational climate can be applied using the AGT framework. We reviewed empirical literature across three domains: study characteristics, methodology, and research topics. These domains offer a multidimensional perspective regarding how teachers' perspectives are examined, identify gaps in the existing literature, and lay the groundwork for more focused systematic syntheses in the future.

Students' perspectives have traditionally received greater emphasis due to their direct association with motivational and learning outcomes. Analyzing the topics of

studies adopting a teacher perspective, however, offers valuable insights into how this perspective complements that of students and in what other contexts it may be valuable. In other words, examining research topics helps to clarify the purposes for which data collection from the teacher's perspective may be particularly suitable when studying the motivational climate.

The methodological focus of studies is also important, given that research within the AGT framework has predominantly relied on data collected from students, with limited discussion of the distinct methodological challenges and opportunities involved in investigating teachers. Moreover, because there is no widely accepted definition or operationalization of the motivational climate in AGT-based research (Patrick & Kaplan, 2022; Robinson, 2023; Urdan, 2010), reviewing the instruments used in prior studies can help identify the constructs under investigation. Clarifying these constructs facilitates both the interpretation and the organization of research topics, thereby justifying the combined examination of instruments and research topics.

Finally, reviewing study characteristics provides critical contextual information about the field, aligning with the central objective of scoping reviews to comprehensively map existing research. Following established methodological guidelines for conducting scoping reviews (Peterson et al., 2017; Tricco et al., 2018), our research questions were formulated broadly to allow for a comprehensive synthesis of prior studies. Specifically, the review examines:

1. What are the characteristics of AGT-based studies that examine teachers' perspectives?
2. What methodologies have been employed in studies that relied on AGT and focused on teachers' perspectives regarding the motivational climate?
3. What specific research topics have been investigated in studies that relied on AGT and examined teachers' perspectives regarding the motivational climate?

4 Methods

This scoping review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR; Tricco et al., 2018). Following the established protocol, the review involved defining eligibility criteria, identifying relevant information sources and formulating the search strategy, performing the literature search, selecting studies, and conducting data extraction and analysis.

4.1 Criteria for eligibility

Inclusion and exclusion criteria for eligible studies was established before the search was conducted. Eligibility criteria included: (1) empirical research, (2) published in peer-reviewed journals, (3) full article published in English, (4) participants included in-service teachers, pre-service teachers, or educators at the university level, (5) data

were collected related to the motivational characteristics of the learning environment, and (6) the studies utilized the AGT framework.

The inclusion criteria defined the motivational characteristics of the learning environment as including classroom and school motivational climate and teachers' self-reported motivational strategies. Reporting on envisioned future practices related to the motivational climate, such as those articulated by pre-service teachers, was identified as a distinct and noteworthy context. Additionally, the motivational climate may vary according to the students' age group. However, because this scoping review does not aim to summarize specific findings, studies were not excluded on the basis of participants' age groups; therefore, research involving K–12 students, higher education students, and preservice teachers was all included. Furthermore, no restrictions were placed on publication periods, ensuring a comprehensive inclusion of relevant research. Review articles (i.e., narrative reviews, systematic reviews, meta-analyses) were excluded because these study designs do not align with the criteria for primary empirical research. Studies with English titles and abstracts but published in other languages were also excluded.

4.2 Search strategies and information sources

A systematic search was conducted on January 31, 2024 using three electronic databases: (i.e., Scopus, EBSCOhost Academic Complete, and Education Resource Information Center). The search string combined three key elements: teacher (e.g., teacher, educator), AGT (e.g., achievement goal, goal theory) and learning environment (e.g., goal structures, TARGET framework). The inclusion of these three domains supported the identification of studies that examined the motivational climate from teachers' perspectives within an AGT framework.

Prior to finalizing the search strategy, we identified five relevant studies to test the adequacy of the selected keywords. This pilot testing was used to verify whether these pre-identified studies could be retrieved using the existing search terms and to identify additional relevant publications that could inform the refinement of the keyword list. The pilot test confirmed that all five studies could be retrieved from each database. Results also revealed that the term TARGET needed to be combined with other descriptors to exclude irrelevant studies, and the pilot testing further helped us identify commonly used expressions incorporating the acronym, such as TARGET framework.

Pilot searches using individual and combined terms were then conducted before deciding on a final list of keywords (see Table 1). Search terms were applied to titles, abstracts, and author-specified keywords, including different combinations. Equivalent search strategies were adapted for Scopus, ERIC, and EBSCOhost, using database-specific field codes (e.g., TITLE-ABS-KEY in Scopus; TI, AB, and KW in EBSCOhost). The complete search strings for the three databases are provided in Appendix 1.

Table 1 Keywords identified for search

Teacher	Achievement goal theory	Factors relating to motivational climate
Teacher	Goal theory	Goal
Educator	Achievement goal	structures
Instructor	Goal orientation	Climate
	Mastery goal	Environment
	Performance goal	Context
	Mastery-approach	Classroom
	Mastery-avoidance	Practice
	Performance-approach	Instruction
	Performance-avoidance	TARGET
	Ability goal	framework
	Task goal	TARGET
	Ego goal	structure
	Task-oriented goal	TARGET
	Ego-oriented goal	model
	Task orientation	TARGET
	Ego orientation	dimension
	Task-based goal	
	Self-based goal	
	Other-based goal	

4.3 Study selection

The search yielded 3785 references (see Fig. 1). After removing 994 duplicates, 2791 articles were screened individually for pre-selection using the specified inclusion and exclusion criteria. Manual screening resulted in the exclusion of 2634 articles, leaving 188 for full-text review. We successfully retrieved all full texts; no studies were excluded due to access limitations. The 188 full-text articles were independently coded by the first and second authors. When eligibility could not be determined based on the abstract, a full-text review was conducted, which was necessary for 149 articles. Coders compared their decisions and reached a consensus. As coding decisions were finalized through consensus, intercoder reliability was not calculated. Ultimately, 44 studies met the inclusion criteria, while 144 were excluded. The excluded studies failed to meet at least one of the inclusion criteria, most frequently because the teacher perspective was not examined.

4.4 Data extraction and analysis

Data were extracted from articles meeting inclusion criteria using the following coding scheme: (1) author(s), (2) year of publication, (3) research goals and questions, (4) sample, (5) instrument, (6) methods, (7) participant status (i.e., preservice or in-service teachers), (8) school subject or university course taught by participants, (9) school level, and (10) country.

For the analysis of the studies, first, the study characteristics were summarized focusing on publication trend, location (country), sample, subject/course, school level, and methods (see Fig. 3). Second, the instruments of the selected studies were

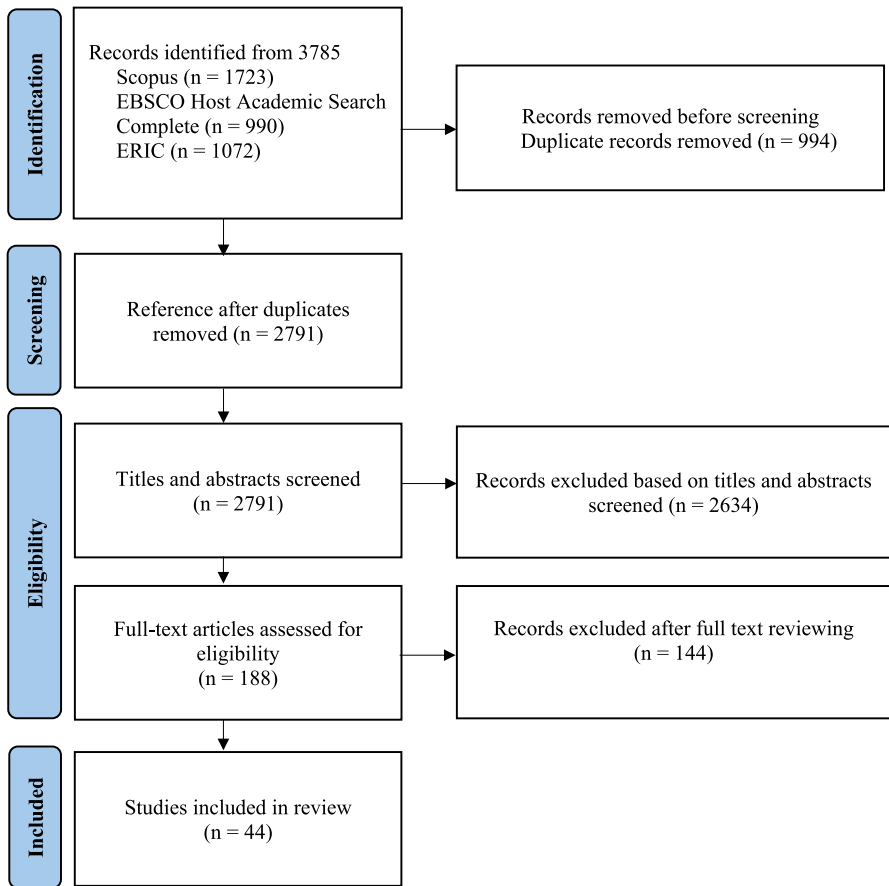


Fig. 1 PRISMA flow diagram of study selection process

categorized and compiled. Third, descriptive analyses mapped the research topics based on the research goals and questions of the selected works.

To enhance the clarity of the research topics represented in the included studies, we applied a two-level inductive categorization. The first level was developed based on the stated research goals of each study, while the second level was structured around the key constructs of the motivational climate examined. The first two authors independently reviewed all studies, proposed categories, and reached consensus on the final thematic structure. For the second level, the categorization was based on the review of measurement instruments conducted in relation to the second research question, resulting in three overarching groups: instructional practice, school climate for teachers, and school climate for students. Within the second-level categories, the term *instructional practice* was used as a broad concept encompassing studies employing the Approaches to Instruction Scale (Midgley et al., 2000) and its refined versions, as well as research using scales associated with the TARGETS dimensions. We differentiated between studies focusing on Approaches to Instruction and those

drawing on the TARGETS framework to provide a more detailed account of the literature reviewed.

5 Results

5.1 Study characteristics

5.1.1 Publication trends

Over the span of different five-year periods, the number of articles published varies (see Fig. 2). From 1995 to 1999, there were $n=3$ articles published (7.14%). The number slightly increased to $n=4$ articles between 2000 and 2004 (9.52%). Between 2005 and 2009, $n=3$ articles were published (7.14%). However, an increase was observed from 2010 to 2014, with $n=9$ articles published (21.43%). The trend continues between 2015 and 2019, peaking at $n=15$ articles (35.71%). Finally, from 2020 to 2024, there were $n=10$ articles published (23.81%). It is important to note that these data do not cover the entire year of 2024.

5.1.2 Location

Most of the studies were conducted in the USA ($n=15$, 41.67%). Other contributors include Norway ($n=5$, 13.89%), Canada ($n=4$, 11.11%), Israel ($n=3$, 8.33%), and France ($n=2$, 5.56%). Additionally, there were single studies conducted in Ger-

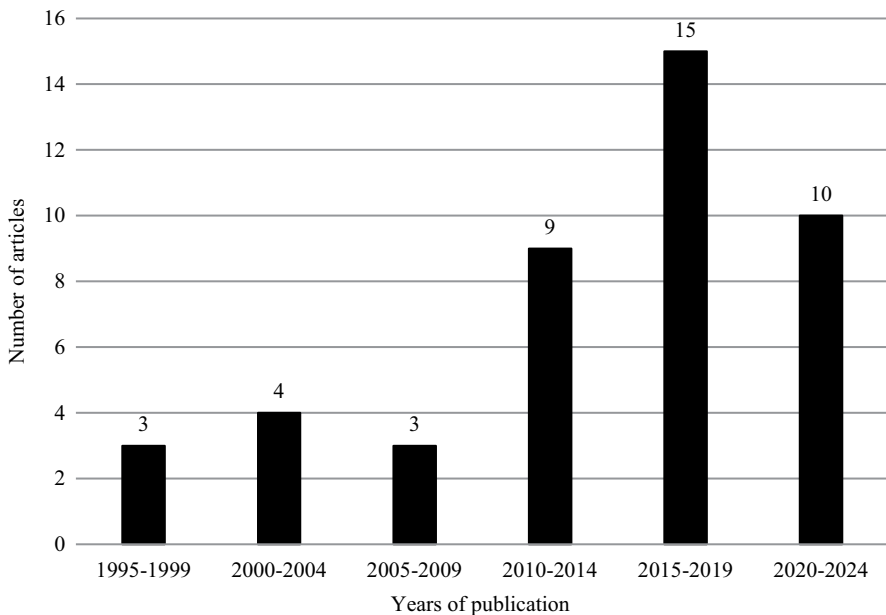


Fig. 2 The publication trend by a 5-year interval during 1995–2024

many, Singapore, Australia, Austria, Greece, Iran, India, Romania, Russia, Spain, and Turkey. Furthermore, there were studies in which samples were examined from two countries, namely Australia and Israel (Retelsdorf et al., 2010), and Germany and Israel (Watt et al., 2021) (Fig. 3).

5.1.3 Samples

Teachers included in these studies taught across various school levels ranging from kindergarten to higher education. Among the 44 studies analyzed, $n=11$ (25%) included teachers from primary and secondary schools, while $n=9$ (20.45%) included teachers from secondary schools. Eight studies included primary to high school levels (18.18%), and $n=8$ studies included primary only (18.18%). Additionally, $n=3$ studies included students in kindergarten to high school (6.82%), and $n=3$ studies included high school students (6.82%). One study focused on university-level educators (2.27%), and one study encompassed middle and high school levels (2.27%).

Most of the reviewed studies (69.70%) did not analyze data separately for teachers based on the subjects or courses taught. There were $n=7$ studies (16.28%) focused on perspectives of teachers from different subject areas at the same time. Six studies involved teachers who taught the same subject area, including mathematics (6.82%), science (4.55%), and physical education (2.27%). In most of the reviewed studies, the sample consisted of practicing teachers (93.18%), with one study (Daniels & Poth, 2017) including pre-service teachers (2.27%), and two studies (Daniels, 2015; Daniels et al., 2017) involving both practicing and pre-service teachers (4.55%).

5.2 Methodology

5.2.1 Overview

The majority of studies (93.18%) employed a quantitative approach in which data collection tools were questionnaires. Three studies (6.82%) employed mixed methods: Daniels (2015) combined questionnaires with focus groups; Hinnant-Crawford (2019) used questionnaires and semi-structured interviews; and Xiang et al. (2003) triangulated videotaped observations, semi-structured interviews, and questionnaires. Four studies employed a longitudinal design to collect information about the motivational climate based on teachers' perspectives (Daniels, 2015; Hughes et al., 2011; Wang et al., 2017; Wolter et al., 2011). Wolters et al. (2011) collected data from teachers in fall and spring within the same school year. Wang et al. (2017) adopted a similar time frame, with data collection occurring in spring and fall. Hughes et al. (2011) included teachers who reported on the motivational climate in their classrooms when their students were in grades 2 and 5. In Daniels' (2015) longitudinal study, the first data collection point took place during the final weeks of the Bachelor of Education program for preservice teachers, with the second one occurring two years later when participants were in-service teachers.

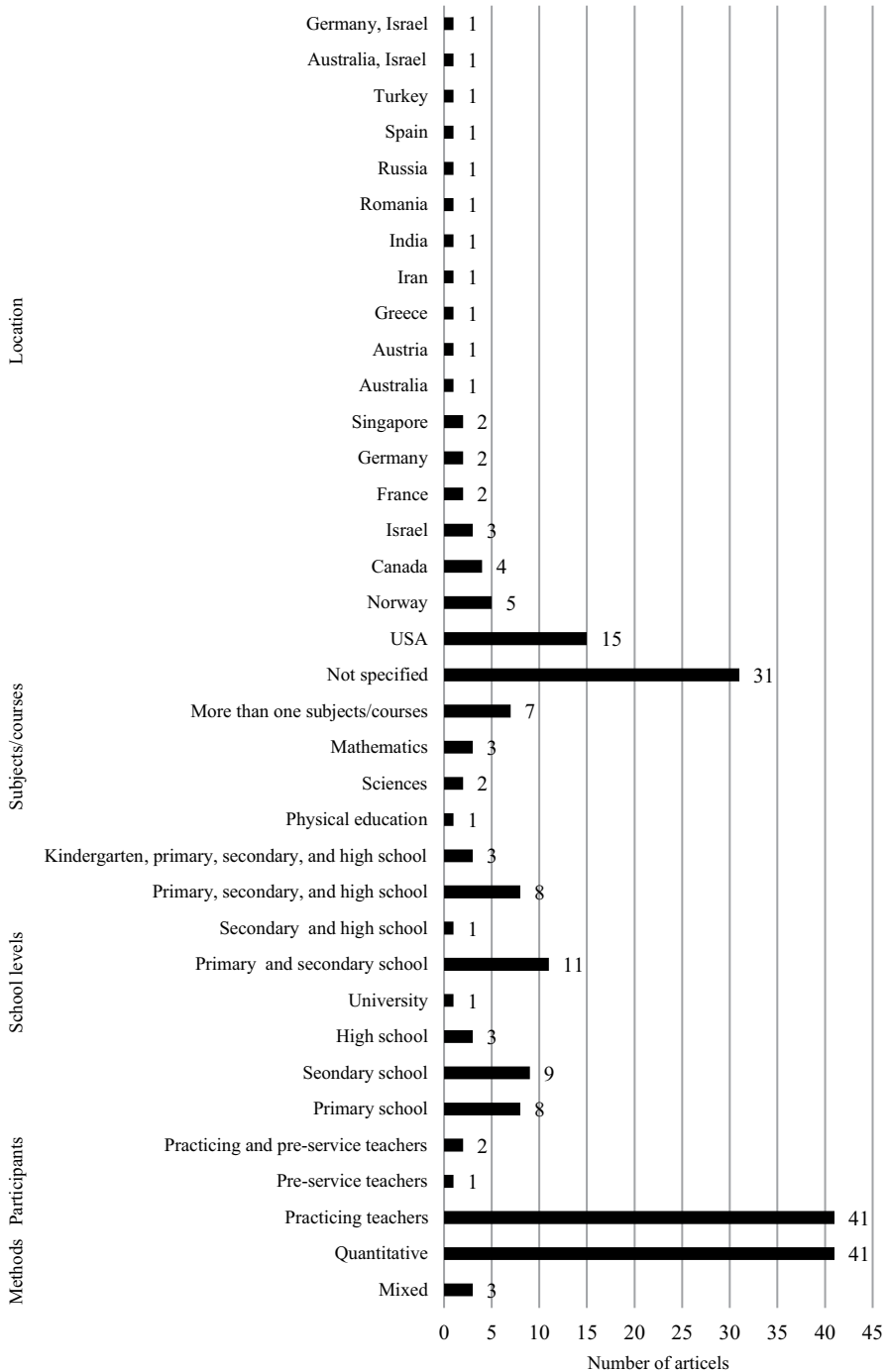


Fig. 3 Main characteristics of included studies

5.2.2 Instruments

We review and organize the instruments used within the framework of AGT to explore the motivational climate from teachers' perspectives (Appendix 2). All studies included in the scoping review used teacher self-report surveys. We categorized instruments according to their respective focus.

Three scale types were identified: (1) holistic school climate for students, (2) holistic school climate for teachers, and (3) teachers' instructional practice. The term *holistic school climate for students* encompasses the overall atmosphere of a school, including the messages conveyed to students regarding its goals and values. *Holistic school climate for teachers* refers to the emphasized goals and values within teachers' school environment (e.g., leadership, colleagues). *Instructional practices* are those specific teacher practices which contribute to the perception of goal structures at the classroom level.

Seventy-five percent of the studies examining the learning environment from teachers' perspectives measured instructional practices (n=33). The next most frequent scales used were holistic school climate scales for teachers (n=9) followed by holistic school climate scales for students reported by teachers (n=7). In five studies, more than one scale focus was utilized. Deemer (2004) and Midgley et al. (1995), for example, used scales to measure instructional practices and perceptions of school climate for teachers, while Barnes et al. (2018), Ciani et al. (2008) and Wedder-Weiss and Fortus (2018) combined scales with focus on instructional practices and perceptions of school climate for students.

Most studies were based on mastery and performance components, and the differentiation between the approach–avoidance dimensions did not appear to play a substantial role in the reviewed instruments. Only in two of the 44 studies included scales based on the trichotomous model of goal structures (Dickhäuser et al., 2021; Gorozidis et al., 2021). In both cases, performance approach and performance avoidance scales were applied in the scales focusing on school climate for teachers.

5.2.3 Instructional practices

The Approaches to Instruction scale from PALS (Midgley et al., 1996, 2000), including its modified versions, was the most frequently used measure of instructional practices. The PALS comprises two versions (Midgley et al., 1996, 2000) featuring distinct items, despite sharing the same name. This can potentially lead to confusion, as some studies reference the later version while providing examples from earlier scales. Furthermore, the PALS includes scales for both teachers and students regarding goal structures. The teacher scale is known as Perceptions of the School Goal Structure for Students, while the student scale is Perception of Classroom Goal Structures. As noted by Ciani et al. (2008), the consistent use of these scale names is lacking, a point also highlighted in this review. The nomenclature of the PALS scales (Approaches to Instruction and Perceptions of the School Goal Structure for Students) designed for teachers is also frequently confused.

The Approaches to Instruction scale has been translated, adapted, and validated in numerous languages, including Russian (Gerasimova & Chirkina, 2022), Turk-

ish (Kiran et al., 2019), and French (Darnon et al., 2023). In several studies, the Approaches to Instruction scale was slightly modified, including the deletion of items or the addition of new items (see Appendix 2 for details). Daniels and Poth (2017) created a new scale based on the structure of the Approaches to Instruction scale which is related to teachers' assessment practice.

The original six TARGET dimensions were utilized in the scale developed by Bardach et al., (2018, 2019). In the study conducted by Vedder-Weiss and Fortus (2018), in addition to the original six dimensions, the social dimension was also included. Goerge and Richardson (2019) employed the autonomy support scale, which can be viewed as one of the dimensions within the TARGETS framework.

Daumiller et al. (2023) addressed several dimensions of TARGETS through ten teaching practices: interestingness, cognitive stimulation, individualization, public negative feedback, autonomy support, structuring, collaboration, heterogeneous grouping, homogeneous grouping, and competition. One novel aspect of their work is that multiple scales were associated with each dimension (e.g., autonomy: autonomy support, structuring), providing a more detailed insight into teacher practices related to goal structures. An additional innovation in the Daumiller study was the utilization of a standardized lesson diary approach. Teachers completed a diary immediately after each lesson over the course of five subsequent lessons to enhance the ecological validity and accuracy of teacher-reported instructional practices.

The social factors of the environment were also included in some instruments. Gorozidis et al. (2021) supplemented their questionnaire on teachers' perceptions of their task-initiated achievement goals with the social approval scale. Furthermore, Butler (2012), and Butler and Shibaz (2014) used two additional subscales (i.e., low demand and social support), the latter of which is related to the social dimension of the classroom environment.

5.2.4 Holistic school climate for teachers

In the majority of studies, authors administered the PALS scales (Midgley et al., 2000) or their adapted versions (see Appendix 2). Because the PALS did not include a scale measuring school climate for teachers as employees, several new scales have emerged in this area (e.g., Gorozidis et al., 2021; Skaalvik & Skaalvik, 2011). Dickhäuser et al. (2021) also developed a new scale based on the Perception of Classroom Goal Structures scale from PALS (Midgley et al., 2000), which was originally designed for students.

5.2.5 Holistic school climate for students

Measuring school climate for students from the perspective of teachers emerged infrequently in the studies included. The Perception of the School Goal Structures for Students scale from PALS (Midgley et al., 2000) was the most frequently used scale in this group (Barnes et al., 2018; Ciani et al., 2008; Diaconu-Gherasim et al., 2023; Vedder-Weiss & Fortus, 2018). However, some modified versions of it were also applied (Cho & Shim, 2013; Luo et al., 2019).

5.3 Research topics

Table 2 presents the two-tiered categorization of the research topics from the 44 studies that met the pre-established inclusion criteria. Several studies could simultaneously be assigned to multiple first level categories. One reason for this was that the research objectives specified by a given study aligned with multiple thematic areas (e.g., Bardach et al., 2019; Daumiller et al., 2023; Vedder-Weiss & Fortus, 2018). Additionally, there were studies in which explicit research goals were not associated with a thematic area, yet results were still relevant to a thematic area (see * in Table 2). Based on research objectives, we identified seven primary categories: (1) individual factors and instructional practice, (2) contextual factors and instructional practice, (3) stability of instructional practice, (4) school as a workplace, (5) relations between teachers' perceptions of the learning environment and students' characteristics, (6) relations between teachers' and students' perceptions of the learning environment, and (7) development and validation of questionnaires.

6 Discussion and research implications

This scoping review of 44 empirical studies, conducted following the PRISMA extension for scoping reviews (Tricco et al., 2018), maps the existing literature on motivational climate from teachers' perspectives within the AGT framework. This study examines the characteristics of AGT research on motivational climate, the methodology used to assess teachers' perspectives, and the specific research topics explored in this field. These insights can inform future studies by clarifying underexplored research directions, strengthening the systematic integration of teachers' perspectives into motivational climate research, and supporting the development and validation of instruments that more effectively capture these perspectives.

6.1 Characteristics of the studies included

6.1.1 Publication trends

We identified $n=44$ studies that met the predefined criteria. Studies applying the AGT framework more frequently include students' perspectives regarding the motivational climate. Our findings converge with prior research, including a meta-analysis by Roland's (2012), which identified 49 studies that, more than a decade ago, examined goal structures from the perspective of middle and secondary school students. Similarly, Bardach et al. (2020) identified 68 empirical studies in their meta-analysis, focusing on the relationship between student goals and goal structures. It is important to note that both meta-analyses focused on a narrow set of studies aligned with their specific research objectives.

The first study examining motivational climate from the perspective of teachers based on AGT was published three decades ago (see Midgley et al., 1995). The increase in publishing trends between 2010 and 2014 may be related in part to Butler's (2007) work, which extended goal theory to examine teachers' motivation for

Table 2 Research topics in AGT studies of motivational climate from teachers' perspectives

First level	Second level	Details (reference)
Individual factors and instructional practice	Teachers' motivation/emotion and instructional practice	Goals and approaches to instruction (Butler, 2012; Daniels, 2015; Kalyar et al., 2018; Mascret et al., 2015; Retelsdorf et al., 2010; Shim et al., 2013; Wang et al., 2017); goals and social support (Butler, 2012; Butler & Shibaz, 2014); goals and low demands (Butler, 2012); goals and autonomy support (George & Richardson, 2019); goal profiles and approaches to instruction (Watt et al., 2021); self-efficacy and approaches to instruction (Ciani et al., 2008; Daniels et al., 2017; Deemer, 2004; Kalyar et al., 2018; Wolters & Daughtery, 2007); interest and approaches to instruction (Kalyar et al., 2018; Retelsdorf et al., 2010*); burnout and approaches to instruction (Daniels et al., 2017; Retelsdorf et al., 2010*); satisfaction with life and approaches to instruction (Daniels et al., 2017*); engagement and approaches to instruction (Daniels et al., 2017*); enjoyment, anxiety, anger and approaches to instruction (Wang et al., 2017); goals and some scales related to TARGETS (Daumiller et al., 2023)
	Teacher beliefs and approaches to instruction	Theory of intelligence (Deemer, 2004; Midgley et al., 1995; Shim et al., 2013); control ideology (Gordon et al., 2007); conceptions of assessment (Daniels & Poth, 2017); belief in school meritocracy (Darnon et al., 2023)
	Background variables and approaches to instruction	Year of teaching experience (Daniels et al., 2017; Daumiller et al., 2023; Kaylar et al., 2018; Luo et al., 2019; Retelsdorf et al., 2010; Wolters & Daughtery, 2007; Wolters et al., 2011); gender (Cho & Shim, 2013; Daniels & Poth, 2017; Daniels et al., 2017; Daumiller et al., 2023; Kaylar et al., 2018; Luo et al., 2019; Retelsdorf et al., 2010); age (Kaylar et al., 2018; Skaalvik & Skaalvik, 2017); subject area (Wolters et al., 2011)
	Other	Teachers' learning behavior (Gordon et al., 2007); profiles of personal responsibilities (Daniels et al., 2017); competitive and cooperative practice (Darnon et al., 2023)
Contextual factors and instructional practice	School goal structure for students and approaches to instruction	Ciani et al. (2008); Barnes et al. (2018)
	School goal structure for teachers and approaches to instruction	Deemer (2004); Midgley et al. (1995)
	Differences in instructional practice according to grade and school-level	Between grades in elementary level (Hughes et al., 2011; Xiang et al., 2003); between school levels (Daniels, 2015; Midgley et al., 1995; Retelsdorf et al., 2010; Vedder-Weiss & Fortus, 2018; Wolters & Daughtery, 2007; Wolters et al., 2011)
	Other	Educational policy and approaches to instruction (Hinnant-Crawford, 2019)
Stability of instructional practice	Approaches to instruction	Across transition from pre-service to practicing teacher status (Daniels, 2015); across academic year (Woltesr et al., 2011), across grades 2–5 (Hughes et al., 2011)
	TARGETS dimensions	Across five subsequent lessons (Daumiller et al., 2023*); across 3–4 months (Bardach et al., 2019)

Table 2 (continued)

First level	Second level	Details (reference)
School as a workplace	School goal structure for teachers and teachers' motivational/emotional characteristics	Goals (Dickhauser et al., 2021; Gorozidis et al., 2021; Skaalvik & Skaalvik, 2013); intrinsic motivation, amotivation (Gorozidis et al., 2021) teacher burnout (Jensen, 2022); self-efficacy (Midgley et al., 1995; Skaalvik & Skaalvik, 2023); engagement (Skaalvik & Skaalvik, 2013, 2023); time pressure (Skaalvik & Skaalvik, 2017); emotional exhaustion, motivation for leaving the teaching profession (Skaalvik & Skaalvik, 2011, 2017); job satisfaction, (Gorozidis et al., 2021; Skaalvik & Skaalvik, 2011, 2013, 2017)
	School goal structure for teachers and social aspects of the school	Teachers' sense of community (Ciani et al., 2008); perceived collective efficacy (Ciani et al., 2008; Skaalvik & Skaalvik, 2023); autonomy-supportive leadership, positive feedback culture, collaborative climate (Dickhauser et al., 2021*); bullying among students (Jensen, 2022); value consonance (Skaalvik & Skaalvik, 2011, 2023); belonging (Skaalvik & Skaalvik, 2011); positive social relations, shared educational values (Skaalvik & Skaalvik, 2023)
	School goal structure for students and teachers' motivational/emotional characteristics	Self-efficacy (Cho & Shim, 2013; Ciani et al., 2008; Deemer, 2004); goals (Cho & Shim, 2013; Luo et al., 2019; Vedder-Weiss & Fortus, 2018); enjoyment, anger, anxiety (Luo et al., 2019)
Relations between teachers' perceptions on the learning environment and students' characteristics	Teachers' instructional practices and students' motivational characteristics	Students' engagement (Hughes et al., 2011; Kiran et al., 2019), goals (Ee et al., 2003; Kaylar et al., 2018; Kiran et al., 2019; Vedder-Weiss & Fortus, 2018), self-efficacy (Kiran et al., 2019; Ryan et al., 1998), subject interest (Kaylar et al., 2018)
	Teachers' TARGETS practices and students' motivational characteristics	Students' engagement, goals (Vedder-Weiss & Fortus, 2018), self-concept (Bardach et al., 2019)
	Teachers' instructional practices and students' non-motivational characteristics	Students' avoidance of help seeking (Ryan et al., 1998); disruptive behaviour (Kaplan et al., 2002a, 2002b); knowledge of self-regulated learning strategies, usage of self-regulated learning strategies (Ee et al., 2003); self-handicapping (Urdan et al., 1998)
	School goal structure and students' motivational and non-motivational characteristics	Students' goals (Vedder-Weiss & Fortus, 2018), positive friendship quality, negative friendship quality, depressive symptoms, life satisfaction (Diaconu-Gherasim et al., 2023)
Relations between teachers' and students' perceptions on the learning environment	Different instruments for teachers and students	Approaches to instruction perceived by teachers and classroom goal structure perceived by students (Deemer, 2004; Kaplan et al., 2002a, 2002b; Ryan et al., 1998; Urdan et al., 1998); school goal structure perceived by teachers and classroom goal structure perceived by students (Deemer, 2004); approaches to instruction perceived by teachers and students' perception of teacher goals (Butler, 2012)
	Same instruments for teachers and students	Task (Bardach et al., 2018, 2019), autonomy (Bardach et al., 2018, 2019), recognition, evaluation (Bardach et al., 2019), grouping (Bardach et al., 2018, 2019), time (Bardach et al., 2019), recognition/evaluation (Bardach et al., 2018)

Table 2 (continued)

First level	Second level	Details (reference)
Development and validation of questionnaires	Measuring instructional practice based on TARGETS dimensions	New instrument for TARGETS (Bardach et al., 2019; Vedder-Weiss & Fortus, 2018); existing scales related to TARGETS with standardized lesson diary approach (Daumiller et al., 2023)
	Other	School goal structure questionnaire (Wolters et al., 2011); Approaches to instruction scale was used for validation purpose in case of the 3 × 2 Achievement Goal Questionnaire for Teachers (Mascret et al., 2015); Approaches to assessment scale based on Approaches to instruction scale (Daniels & Poth, 2017); School climate questionnaire (Quijada et al., 2020); Teachers' perceptions of their task-initiated achievement goals questionnaire (Goroizidis et al., 2021); Russian adaptation of Approaches to instruction scale (Gerasimova & Chirkina, 2022)

*=Not mentioned as an explicit research goal; however, valuable information is presented regarding the given research topic

teaching. Since then, there has been an increase in studies that examine perspective of teachers, although growth has stalled over the past four years (the final year of this four-year period is not fully addressed in the present study).

6.1.2 Samples

In terms of sample composition, teachers predominantly hail from WEIRD (i.e., Western, Educated, Industrialized, Rich, Democratic) nations (Henrich et al., 2010), with a notable emphasis on the US, where approximately one-third of the studies were conducted. This concentration raises questions about the generalizability of the findings, as cultural norms and values may shape both teachers' and students' perceptions of motivational climate. Prior studies have identified cultural differences in students' goals (Litalien et al., 2017; Urdan & Mestas, 2006); however, the exploration of such differences remains largely uncharted territory in AGT research (Urdan & Kaplan, 2020). This limitation is particularly salient when examining teachers' perceptions of the motivational climate, which may be embedded in culturally specific pedagogical beliefs and institutional expectations (Khajavy et al., 2018 ; Mahavong & Fejes, 2026).

The studies included in this scoping review often overlooked the influence of contextual factors related to sample characteristics, despite their potential impact on the findings. Most studies did not specify the school subjects taught by the participants, although this may impact on the perception of the climate. According to Wolters et al. (2011), perceived classroom goal structures varied among teachers of language, arts/social science, and math/science subjects. Numerous studies support differences in goal structures across school levels (Daniels, 2015; Midgley et al., 1995; Retelsdorf et al., 2010; Vedder-Weiss & Fortus, 2018; Wolters & Daughtery, 2007; Wolters et al., 2011). However, most studies aggregated teachers from different school levels. Notably, comparisons between preservice and in-service teacher have garnered significant attention among sample characteristics (Daniels, 2015; Daniels et al., 2017). Future research would benefit from systematically reporting and analyzing these

sample characteristics to better understand how individual and contextual factors shape teachers' perceptions of the motivational climate.

6.2 Methodological considerations

6.2.1 Need for qualitative and mixed-method approaches

Forty one studies employed quantitative methods; none employed solely qualitative methodology; and three employed mixed methods. The quantitative studies relied primarily on questionnaire-based approaches to examine teachers' perspectives on the motivational climate. This predominant reliance on self-report questionnaires raises concerns regarding ecological validity. The methodological imbalance also constrains the depth of understanding of the contextual and interactional processes underlying teachers' perceptions of the motivational climate. Addressing this gap requires greater methodological diversity, particularly through the integration of qualitative and mixed-method designs that can capture the situated and dynamic nature of motivational processes.

Qualitative and mixed-method studies focused on motivational climate can also help deepen our understanding of how teachers form perceptions of the motivational climate in educational settings. These studies can help identify new factors influencing these perceptions, as numerous examples from research conducted among students have already demonstrated (e.g., Fejes, 2023; Lee & Bong, 2016; Patrick & Ryan, 2008). Hageauer et al. (2024), in their review on the potential of employing mixed methods in motivation and emotion research, emphasized the importance of qualitative approaches for gaining a deeper understanding of how individuals interpret situations or contexts—an aspect particularly relevant when investigating teachers' perspectives on the motivational climate.

As noted earlier, in AGT research, the perception of the learning environment is understood as the outcome of a subjective meaning-making process (Kaplan & Patrick, 2016). Teachers' reflections on the motivational climate—particularly their reflections on their own instructional practices—may provide valuable insights into this meaning-making process and help identify points at which teachers' and researchers' interpretations or assumptions might diverge. Such divergences may reveal which teacher beliefs could benefit from targeted support or intervention, as well as which motivational strategies recommended in the literature may have limited ecological validity. Based on previous research, several qualitative methods appear particularly promising for this purpose, including interviews (e.g., Girardet & Berger, 2017), video-stimulated recall interviews (e.g., Tai & Choi, 2025), focus groups (e.g., Daniels, 2015), and open-ended surveys (e.g., Holzer et al., 2022; Radil et al., 2023).

Studies conducted with students to identify the factors that shape their perceptions of goal structures may likewise serve as an important starting point for designing research with teachers. Fejes (2023) distinguished two major groups of studies conducted among students that aimed to uncover the teacher practices underlying students' perceptions of goal structures as broad indicators of the classroom motivational climate. One approach involves the use of questionnaires assessing both goal structures and other classroom characteristics. In some studies, open-ended questions

are added to the Likert-type items: students first rate classroom goal structures using Likert-type scales and are then asked to describe—in their own words—what the teacher did or said that led them to select that particular rating for each item (Fejes, 2023; Patrick & Ryan, 2008). In another study, Koskey et al. (2010) used Likert-type scale items as a starting point for cognitive interviews to further explore students' perceptions of classroom mastery goal structures. These approaches appear promising for use with teachers as well and could serve as a basis for further refining existing scales and developing new instruments.

Based on empirical work conducted with students, another approach to examining factors that influence perceptions of goal structures is combining questionnaires with observational methods. Classrooms, for example, could be categorized according to goal structures using questionnaires. This approach could be followed by conducting classroom observations or analyzing teacher communication to shed light on the reasons behind differences in the classroom motivational climate. The *Observing Patterns of Adaptive Learning* system (Patrick et al., 1997) is an observation measure that includes the TARGET categories along with three additional dimensions (i.e., social interactions, help-seeking, and general teacher messages). This observation measure could be applied in combination with data collected from teachers and may serve as a valuable starting point for prompting teacher reflections on the motivational climate they create.

To sum up, multiple considerations support the use of qualitative and mixed-method approaches and increasing the prevalence of such designs represents an important direction for future research on the motivational climate from teachers' perspectives.

6.2.2 Combining scales with different focuses

Concerning the motivational aspects of the learning environment, this study identified three main areas of focus in the scales: (1) teachers' instructional practices, (2) holistic school climate for teachers, and (3) holistic school climate for students. While existing research has explored the combination of instructional practices with goal structures for either teachers or students, there remains a gap in the literature regarding the simultaneous measurement of the school climate for both teachers and students based on the perspective of teachers. Previous studies have suggested a relationship between approaches to instruction and personal mastery, mastery-approach, and relational goals (e.g., Butler, 2012; Daniels, 2015; Kalyar et al., 2018; Mascaret et al., 2015; Retelsdorf et al., 2010; Shim et al., 2013; Wang et al., 2017), as well as between performance approaches to instruction and work-avoidance goals (Butler, 2012; Retelsdorf et al., 2010; Wang et al., 2017).

However, findings from Daniels et al.'s (2015) longitudinal study tracking pre-service teachers transitioning into professional practice revealed contrasting changes between instructional practice and personal goals. While personal mastery-approach goals increased, mastery practices decreased. Additionally, personal performance-approach and -avoidance goals decreased, while performance practices increased. According to their interpretation, practicing teachers may perceive the school environment as less competitive for themselves, yet may experience heightened pressure

to ensure the academic success of their students. This suggests that teachers interpret educational contexts both with regard to their own motivation and practice, as well as to those of their students. Consequently, future research should delve more deeply into this observed discrepancy by applying different scale types (teachers' instructional practices, school climate for teachers, and school climate for students) together.

Several motivational paradigms emphasize that teachers' various motivational strategies collectively create a motivational climate at the school level, which is more than just the sum of individual strategies (Robinson, 2023). Within the AGT framework, there is also consensus that the theoretically separate TARGETS dimensions are overlapping and interacting with each other in the classroom; hence, the TARGETS framework is considered a coherent group of teacher strategies representing the mastery goal structure together (e.g., Ames, 1992; Patrick & Kaplan, 2022). Scales that take a holistic approach to the motivational climate, rather than focusing on individual teacher strategies, align with this perspective. However, it is evident that research cannot overlook individual teacher motivational strategies, as understanding which teacher behaviors and communication practices shape the holistically described positive motivational climate is of central importance for supporting effective teaching practices. To explore this, several studies among students have combined a holistic approach to motivational climate scales with data collection focused on teacher practices (for more details, see Fejes, 2023). The advantages of this approach can also be leveraged among teachers by jointly applying scales with different foci.

Taken together, these findings suggest that combining scales with different foci can provide a more nuanced and theoretically coherent picture of the motivational climate from teachers' perspectives than relying on a single type of measure.

6.2.3 Expanding and refining TARGETS dimensions

To advance understanding of teaching practices that support mastery-oriented goal structures, several recent studies have developed new measurement tools for use with teachers, drawing on the TARGETS framework as their conceptual starting point (Bardach et al., 2018, 2019; Daumiller et al., 2023; Vedder-Weiss & Fortus, 2018). Daumiller et al. (2023), for example, provide the only set of instruments in which multiple subscales correspond to several TARGETS dimensions. While the framework offers a robust structure for categorizing instructional strategies, its application to the nuanced and dynamic aspects of teachers' everyday practices may require further refinement to adequately capture this complexity. While earlier studies typically assessed the *grouping* dimension with a single scale (Bardach et al., 2018, 2019; Vedder-Weiss & Fortus, 2018), Daumiller et al. (2023) introduced separate subscales for collaboration, heterogeneous grouping, and homogeneous grouping. The first two subscales were conceptualized as practices that support mastery-oriented goal structures, whereas homogeneous grouping was considered indicative of practices aligned with performance-oriented goal structures.

The extension of the TARGET framework with a social dimension (the "S" in TARGETS) underscores the growing recognition of the central role of classroom social characteristics in shaping the motivational climate. Research with students

has examined a wide range of social processes, including perceived academic and emotional support from teachers, peer interactions, task-related collaboration, mutual respect, and broader peer climate (for reviews, see Fejes, 2023; Patrick & Kaplan, 2022). In contrast, teacher-report instruments tend to focus more narrowly on students' task-related interactions (Daumiller et al., 2023; Vedder-Weiss & Fortus, 2018). Additional measures capture specific social aspects, such as social support (Butler, 2012) or competition (Daumiller et al., 2023). These differences suggest that teachers' perceptions of student interactions represent a largely untapped source of information that could enrich our understanding of classroom motivational climates.

Building on this potential, scales originally developed for students could serve as foundations for new instruments designed to capture teachers' perspectives. Moreover, several existing tools—although not explicitly grounded in AGT—are well suited for assessing motivational climate from the teacher's standpoint and include subscales related to constructs validated in AGT research with students (e.g., Bear et al., 2014). Integrating such tools, or adapting their components, may offer valuable opportunities for expanding and refining the measurement of TARGETS dimensions in future work. Taken together, the existing teacher-focused instruments capture only a limited portion of the TARGETS framework, highlighting the need for future instrument development to broaden the representation of TARGETS dimensions so that they more fully reflect teachers' perceptions of the motivational climate. Adapting or extending scales originally developed for students, alongside drawing on insights from the qualitative and mixed-methods studies with teachers discussed earlier, may offer a promising path forward. Such efforts could help refine the framework, strengthen conceptual alignment between teacher- and student-focused research, and ultimately yield a more comprehensive understanding of how motivational climates are constructed in classrooms.

Overall, these findings indicate that further expansion and refinement of TARGETS-based instruments is necessary to more fully capture teachers' perceptions of the motivational climate.

6.2.4 Exploring instructional practices regarding the performance goal structure

There is broad consensus in the literature that strengthening structures related to mastery goals and eliminating those connected to performance goals creates a positive motivational classroom climate (e.g., Anderman & Patrick, 2012; Maehr & Midgley, 1996). However, there is limited information available regarding instructional practices supporting performance goal structures (Anderman & Patrick, 2012; Fejes, 2023). Based on our review, this finding applies not only to studies relying on students' perspectives but also to those relying on teachers' perspectives. Daumiller et al. (2023) was the only study to include scales associated with performance-oriented practices, such as public negative feedback, homogeneous grouping, and competition. Further insights into the components of motivational climate based on teachers' perspectives may provide valuable additional information.

It is evident that scales used to assess the motivational climate among teachers primarily cover environmental factors that were deemed important in studies conducted among students. However, the reverse situation is also possible, whereby the com-

ponents of motivational factors uncovered among teachers could serve as a starting point for studies conducted among students. Although it is important to consider the distorting effect of social desirability regarding less favorable comparative structures in terms of motivation, Butler's work (2012) drew attention to the fact that while students viewed social comparison (a central component of the performance goal structure) negatively, teachers perceived it positively.

Overall, the limited attention to performance-oriented instructional practices highlights a substantial gap in AGT-based research on motivational climate from teachers' perspectives.

6.2.5 Integrating the approach-avoidance components

As outlined in the theoretical background section, recent studies using students' perspectives have introduced the distinction between the approach and the avoidance components in the motivational climate (Bardach et al., 2020; Gertsakis et al., 2020; Peng et al., 2018; Schwinger & Stiensmeier-Pelster, 2011). However these studies are rare exceptions. This may be explained by previous studies (e.g., Kaplan et al., 2002a, 2002b; Murayama & Elliot, 2009), which found no significant differences among classrooms with respect to the approach-avoidance dimensions. The delineation of approach-avoidance goal structures was addressed in only one of the reviewed studies based on teachers' perspectives: Dickhäuser et al. (2021) differentiated between performance approach and performance avoidance goal structures in their scale focusing on the school climate for teachers. However, they did not provide results related to the significance of this approach-avoidance distinction. Nonetheless, this direction seems promising. Incorporating this distinction into goal structures based on teachers' perspectives would offer a more nuanced understanding of motivational factors in the learning environment. In sum, incorporating the approach-avoidance distinction into teacher-based assessments of motivational climate represents a promising yet largely unexplored direction for future research.

6.2.6 Handling social desirability bias

When examining the motivational climate from teachers' perspectives, concerns about the potential influence of social desirability bias are well justified, as such bias may reduce the reliability of teacher-reported data. Consequently, an important question for future work is how social desirability bias can be mitigated in research examining teachers' perceptions of the motivational climate. Although there is extensive literature on strategies for reducing social desirability bias (e.g., Durmaz et al., 2020; Jo, 2000; Krumpal, 2013), synthesizing this body of work lies beyond the scope of the present review. Nonetheless, it is important to highlight several approaches that are closely aligned with the methodological insights emerging from this study.

The application of qualitative and mixed-method approaches is valuable not only for identifying additional factors that shape perceptions of the motivational climate or for deepening our understanding of teachers' meaning-making processes regarding classroom and school environments, but may also help mitigate social desirability bias. Interviews or focus groups, for example, offer opportunities for teachers to

articulate their reasoning and professional dilemmas, enabling them to express perspectives that may be less socially desirable yet more nuanced (Bergen & Labonté, 2020; Creswell & Plano Clark, 2018). Moreover, combining classroom observations or analyses of teacher communication with teacher-reported perceptions of the motivational climate provides opportunities for triangulation, allowing distorted self-reports to be detected and corrected (Durmaz et al., 2020).

It is also important to note that the motivational climate of a school is shaped collectively by its teachers. The scales categorized in this review under “*School climate for students*” reflect this assumption, meaning that individual teacher responsibility is less emphasized. Social desirability bias may therefore be less pronounced when using these more indirect measures, consistent with research suggesting that indirect questioning that focuses on others’ behavior can reduce socially desirable responding (Bergen & Labonté, 2020). Clarifying the differences between direct and indirect questioning with respect to social desirability bias in future studies could represent an important methodological advancement in research incorporating teachers’ perspectives on the motivational climate.

As discussed earlier, studies examining instructional practices indicate that self-report measures yield more reliable data when they ask respondents to report the frequency of specific behaviors (Desimone et al., 2009; Mullens & Gayler, 1999; Porter et al., 1993; Schmidt et al., 1997). In contrast, teacher-report questionnaires on motivational climate using the AGT framework generally do not employ frequency-based items (Midgley et al., 2000; Wolters et al., 2011). Thus, in future research, adapting teacher self-report questionnaires to focus on the frequency of specific instructional practices may represent a meaningful step toward reducing social desirability bias in teacher-reported data.

Together, these considerations suggest that addressing social desirability bias is a central methodological challenge in teacher-based research on motivational climate and should be explicitly considered in future study designs.

6.3 Research topics

6.3.1 The applicability of teachers’ perspectives of the motivational climate

We identified several research topics that support the usefulness of examining teachers’ perspectives in the context of the motivational climate. Among the identified research topics, some focus on exploring how teachers’ instructional practices are related to their individual characteristics and contextual factors, as well as how these practices change over time. Research on the relationship between teachers’ instructional practices and their individual characteristics (e.g., motivational beliefs, emotions) offers valuable insights for teacher education and professional development programs. In addition, examining contextual factors and temporal changes in instructional practices provides essential information about how organizational environments can be leveraged to promote a motivational climate that benefits students.

Several studies confirm that teachers’ motivational and emotional characteristics are related to their instructional practices (e.g., Daumiller et al., 2023; George & Richardson, 2019). Therefore, understanding the relationship between the overall

motivational climate conveyed by the school and teachers' emotional and motivational characteristics can provide valuable information for supporting an optimal motivational climate for students. Just as students' perspective is emphasized when examining student motivation, it is evident that the teachers' perspective is central when considering teacher motivation. Research categorized under the theme of "school as a workplace" represents this belief.

There is a continuous interaction between teachers' instructional practices and students' motivational characteristics. This interaction is bidirectional: on the one hand, teachers' instructional practices influence students, while on the other, the characteristics of students or student groups impact the practices followed by teachers (Robinson, 2023). Another research direction identified in this work would aim to explore these interactions further.

Several of the reviewed studies compare student and teacher perspectives. Understanding the similarities or differences between these perspectives can have direct implications for teacher education and professional development programs. An example of this is Butler's (2012) research, which found that teachers' and students' perspectives on the relationship between social support and a performance goal structure in the classroom were not aligned. Teachers tended to view social comparison-based strategies as part of a beneficial motivational climate, but students did not share this perspective. This implies that teachers may need to reconsider their views on social comparison in their teaching practices.

6.3.2 Potential future research directions

A longstanding and frequently cited challenge in translating the results of AGT into classroom practice is that the broader social environment often conveys conflicting messages, which can hinder the creation of a motivationally advantageous climate. Classrooms exist within larger systems that include the school, home, community, and society at large. Even if a teacher emphasizes mastery goals in the classroom, students are still likely to encounter messages promoting social comparison and competition in other aspects of their environment and the wider cultural context (e.g., Urdan & Kaplan, 2020; Urdan, 2004a). Addressing this issue has not been prominent in research on teachers' motivational practices, with only one study in our scoping review examining the link between educational policy as perceived by teachers and their instructional practices (Hinnant-Crawford, 2019). Thus, further research is needed to explore how teachers perceive and integrate the messages and expectations of the broader social environment into their classroom practices.

Earlier, when discussing the samples of the empirical studies reviewed, we highlighted the strong predominance of WEIRD samples and noted that this sampling bias limits the generalizability of existing findings. Beyond this descriptive observation, examining broader research landscape similarly reveals that questions concerning cultural variation in the perception of the motivational climate have largely remained unaddressed, even though variation can reasonably be assumed to exist. First, numerous studies have demonstrated the relationship between students' achievement goals and their preferred motivational climate (e.g., Pulkka & Niemivirta, 2015; Tapola & Niemivirta, 2008). Given that cultural differences in students' achievement goals

have been documented (e.g., Bernardo & Ismail, 2010; King et al., 2017), it is reasonable to assume that preferences for motivational climate features may also vary across cultures. Teachers, in turn, tend to respond to these preferred climates through their instructional behaviors and practices (Robinson, 2023).

Second, research based on students' perceptions indicates that the social dimension of the classroom plays a central role in shaping the motivational climate (e.g., Butler & Shibaz, 2014; Turner et al., 2013), and significant cultural differences in teacher–student relationships have been identified. For instance, students and teachers from collectivistic cultures generally report higher levels of closeness and lower levels of conflict compared to those from Western contexts (e.g., Chen et al., 2019; Jia et al., 2009; Yang et al., 2013). Such characteristics may be related to differences in how students and teachers perceive the motivational climate.

Third, a recent study (Mahavong & Fejes, 2026) found that Lao teachers place a different emphasis on social goals in their instructional practices compared to teacher samples from WEIRD countries. Although the study was not explicitly cross-cultural in design, results nonetheless suggest cultural influences. Differences between collectivistic and individualistic societies have frequently been identified with regard to social goals (e.g., Cheng & Lam, 2013; King et al., 2017; McInerney et al., 1998; Urdan & Mahr, 1995), suggesting that a more detailed examination of this area should be among the first steps for future research.

A complementary perspective on future research emerges from Lauermaann's (2017) analysis, which provides a broader conceptual framework for organizing research directions. Lauermaann distinguishes among three research directions based on a review of research on teachers' motivation. One involves considering teachers as employees, with a focus on their work motivation and the organizational processes influencing it. The second involves teacher training, where teachers appear in a learner role. The third involves teachers as supporters of student learning, with the focus on teachers' practical activities. Studies included in the current scoping review had evidence of two of these three research directions—teacher as an employee and teacher as a supporter of student learning. In the current study, research related to the first direction falls under the theme of “school as a workplace”, while studies related to the second direction are categorized into the themes of “individual factors and instructional practice” and “contextual factors and instructional practice”. It is important to note that within the AGT paradigm, research also addresses teachers as learners (e.g., Kunst et al., 2018). However, according to the findings of this study, teachers' perspectives on the motivational climate related to their training or professional development have neither been examined nor utilized in this research direction. Addressing this research gap in future studies may contribute to enhancing the effectiveness of teacher education, professional development, and interventions regarding how teachers support their students' motivation to learn.

7 Practical implications

This review offers several practical implications for supporting teachers' motivation, well-being, and instructional practices. Findings indicate there are a diverse set of instruments available to examine the motivational climate (e.g., Dickhauser et al., 2021; Skaalvik & Skaalvik, 2023) and data gathered through these tools can inform initiatives to strengthen classroom climate. This work can inform efforts to enhance teacher motivation and well-being (Daniels et al., 2017; Deemer, 2004; Wang et al., 2017) and promote instructional practices that support student motivation (Ciani et al., 2008; Daniels & Poth, 2017).

Several of the identified scales enable simultaneous assessment of teachers' and students' perceptions of the motivational climate. Given studies identify discrepancies between student and teacher perspectives (e.g., Bardach et al., 2018, 2019; Butler, 2012), incorporating both viewpoints into the assessment and intervention of motivational climate can be especially beneficial. These discrepant perspectives can help refine the motivational strategies teachers employ and enhance alignment between intended and perceived goal structures.

Furthermore, instruments grounded in the TARGETS framework may support reflective practices among pre-service and in-service teachers (e.g., Bardach et al., 2019; Daumiller et al., 2023; Vedder-Weiss & Fortus, 2018), enabling them to better understand how their instructional practices relate to mastery-oriented and performance-oriented components of the motivational climate. These tools may thus serve as a valuable starting point for designing and implementing mastery-oriented teaching practices.

Finally, previous work suggests that teachers' instructional practices may be influenced by broader societal expectations and pressures (Hinnant-Crawford, 2019; Urdan, 2004a). Schools may therefore play an important role in helping teachers interpret and navigate these external influences. By doing so, schools can support the consistent enactment of mastery-oriented practices in everyday teaching and contribute to a school-wide motivational climate that aligns with the principles of AGT.

8 Limitations

This review was confined to peer-reviewed empirical articles, generally considered the gold standard in terms of rigor. Consequently, additional sources such as dissertations or book chapters were excluded, potentially limiting the generalizability of the research findings. Because the scoping review was restricted to articles published in English, cultural variation represented in this study may be constrained. Although we carefully developed and consistently applied a predefined search protocol, this does not guarantee the inclusion of all relevant publications. Moreover, the selection of three databases (i.e., Scopus, ERIC, and EBSCO) may have further restricted the scope of the review, as studies indexed elsewhere may have been missed. In addition, the inclusion criteria were intentionally broad to provide a comprehensive overview of the research field. However, this approach may have resulted in considerable variation in the aims and goals of the studies included, which could make it more difficult

to draw general trends or conclusions. Future systematic reviews with a narrower focus could address this limitation by formulating more specific research questions or applying stricter inclusion criteria. Furthermore, while this scoping review provides a comprehensive overview of the field, it does not include a formal quality appraisal of the individual studies, which is beyond the purpose of scoping reviews but may affect the interpretability of the evidence base. Finally, while the data extraction and analysis followed a systematic approach, intercoder reliability was not formally calculated; however, the coding process was discussed among the authors to ensure consistency and shared understanding.

9 Conclusions

In the current scoping review, we collected and categorized research topics and instruments related to the examination of motivational climate from a teacher's perspective based on AGT. Additionally, we reviewed key characteristics of the relevant studies. Our work highlights that adopting the teacher's perspective in understanding the formation of motivational climate can significantly contribute to a deeper comprehension of motivational processes within the classroom and school. We identified research topics that hold potential for further advancing knowledge in this field. Furthermore, we provided several recommendations on how future research could more accurately investigate the motivational climate from the teacher's perspective.

Appendix 1: Complete search strategies used in scopus, EBSCOhost, and ERIC databases

Scopus

TITLE-ABS-KEY (teacher OR educator OR instructor) AND TITLE-ABS-KEY ("goal theory" OR "achievement goal*" OR "goal orientation*" OR "mastery goal*" OR "performance goal*" OR "mastery-approach" OR "mastery-avoidance" OR "performance-approach" OR "performance-avoidance" OR "learning goal*" OR "ability goal*" OR "task goal*" OR "ego goal*" OR "task-oriented goal*" OR "ego-oriented goal*" OR "task orientation*" OR "ego orientation*" OR "task-based goal*" OR "self-based goal*" OR "other-based goal*") AND TITLE-ABS-KEY ("goal structure*" OR climate* OR environment* OR context* OR classroom* OR practice* OR instruction* OR "TARGET framework" OR "TARGET structure" OR "TARGET model" OR "TARGET dimension") AND (LIMIT-TO (SRCTYPE, "j")) AND (LIMIT-TO (DOCTYPE, "ar")) AND (LIMIT-TO (LANGUAGE, "English"))

EBSCOhost

(TI (teacher OR educator OR instructor) OR AB (teacher OR educator OR instructor) OR KW (teacher OR educator OR instructor)) AND (TI (“goal theory” OR “achievement goal*” OR “goal orientation*” OR “mastery goal*” OR “performance goal*” OR “mastery-approach” OR “mastery-avoidance” OR “performance-approach” OR “performance-avoidance” OR “learning goal*” OR “ability goal*” OR “task goal*” OR “ego goal*” OR “task-oriented goal*” OR “ego-oriented goal*” OR “task orientation*” OR “ego orientation*” OR “ego orientation*” OR “task-based goal*” OR “self-based goal*” OR “other-based goal*”) OR AB (“goal theory” OR “achievement goal*” OR “goal orientation*” OR “mastery goal*” OR “performance goal*” OR “mastery-approach” OR “mastery-avoidance” OR “performance-approach” OR “performance-avoidance” OR “learning goal*” OR “ability goal*” OR “task goal*” OR “ego goal*” OR “ego goal*” OR “task-oriented goal*” OR “ego-oriented goal*” OR “task orientation*” OR “ego orientation*” OR “ego orientation*” OR “task-based goal*” OR “self-based goal*” OR “other-based goal*”) OR KW (“goal theory” OR “achievement goal*” OR “goal orientation*” OR “mastery goal*” OR “performance goal*” OR “mastery-approach” OR “mastery-avoidance” OR “performance-approach” OR “performance-avoidance” OR “learning goal*” OR “ability goal*” OR “task goal*” OR “ego goal*” OR “ego goal*” OR “task-oriented goal*” OR “ego-oriented goal*” OR “task orientation*” OR “ego orientation*” OR “ego orientation*” OR “task-based goal*” OR “self-based goal*” OR “other-based goal*”)) AND (TI (“goal structure*” OR climate* OR environment* OR context* OR classroom* OR practice* OR instruction* OR “TARGET framework” OR “TARGET structure” OR “TARGET model” OR “TARGET dimension”) OR AB (“goal structure*” OR climate* OR environment* OR context* OR classroom* OR practice* OR instruction* OR “TARGET framework” OR “TARGET structure” OR “TARGET model” OR “TARGET dimension”) OR KW (“goal structure*” OR climate* OR environment* OR context* OR classroom* OR practice* OR instruction* OR “TARGET framework” OR “TARGET structure” OR “TARGET model” OR “TARGET dimension”))

ERIC

(teacher OR educator OR instructor) AND (“goal theory” OR “achievement goal*” OR “goal orientation*” OR “mastery goal*” OR “performance goal*” OR “mastery-approach” OR “mastery-avoidance” OR “performance-approach” OR “performance-avoidance” OR “learning goal*” OR “ability goal*” OR “task goal*” OR “ego goal*” OR “task-oriented goal*” OR “ego-oriented goal*” OR “task orientation*” OR “ego orientation*” OR “ego orientation*” OR “task-based goal*” OR “self-based goal*” OR “other-based goal*”) AND (“goal structure*” OR climate* OR environment* OR context* OR classroom* OR practice* OR instruction* OR “TARGET framework” OR “TARGET structure” OR “TARGET model” OR “TARGET dimension”)

Appendix 2: Scales of motivational climate from teachers’ perspectives based on AGT

Scale (References)	Subscales	Sample items	Notes	Focus
Instructional Practices (Midgley et al., 1995)	Task practices	I encourage my student to take risks academically		Instructional practice
	Performance practices	I point out the students who do well academically as a model for other students		
Instructional Practices (Urdan et al., 1998)	Task goal-oriented practices	I make a special effort to give my students work that has meaning in their everyday lives		Instructional practice
	Ability goal-oriented practices	I point out those children who do well academically, as a model for other students		

Scale (References)	Subscales	Sample items	Notes	Focus
Approaches to Instruction (Deemer, 2004; Gordon et al., 2007; Ryan et al., 1998)	Mastery-focused approaches Performance-focused approaches	I frequently tell my students I want them to enjoy learning I give special privileges to students who do the best academically	Approaches to Instruction Scale from PALS (Midgley et al., 1996)	Instructional practice
Approaches to Instruction (Barnes et al., 2018; Ciani et al., 2008; Daniels, 2015; Daniels & Poth, 2017; Daniels et al., 2017; Darnon et al., 2023; Gerasimova & Chirkina, 2022; Hughes et al., 2011; Kalyar et al., 2018; Kaplan et al., 2002a, 2002b; Kiran et al., 2019; Mascret et al., 2015; Wang et al., 2017; Watt et al., 2021)	Mastery approaches Performance approaches	I make a special effort to recognize students' individual progress, even if they are below grade level I give special privileges to students who do the best work	The original scale is from PALS (Midgley et al., 2000). In two studies, only the mastery approach subscale (Kalyar et al., 2018; Kaplan et al., 2002a, 2002b), in one study only performance approach subscale was used (Hughes et al., 2011). Darnon et al. (2023) used the French version with less items (4 mastery, 4 performance). Gerasimova and Chirkina (2022) used the Russian version with less items (3 mastery, 4 performance)	Instructional practice
Approaches to Instruction (Shim et al., 2013)	Mastery-oriented classroom instruction Performance-oriented classroom instruction	I emphasize the value of learning to students I give special privileges to students who do the best work	Approaches to Instruction Scale from PALS (Midgley et al., 2000) was used with four new and one deleted item in mastery scale because of the low reliability	Instructional practice

Scale (References)	Subscales	Sample items	Notes	Focus
Instructional Practices (Butler, 2012; Butler & Shibaz, 2014; Retelsdorf et al., 2010)	Mastery approaches	I tell my classes that the individual development of my students is most important to me	The Approaches to Instruction Scale from PALS (Midgley et al., 2000) was employed, along with two new items added to the mastery approaches scale by Retelsdorf et al. (2010), subsequently adopted by Butler (2012) and Butler and Shibaz (2014). Two additional scales were utilized, based on teachers' relational and work-avoidance goals for teaching. The Social Support Scale is derived from the work of Kunter et al. (2008). In the study conducted by Butler and Shibaz (2014), the Low Demands subscale was not utilized	Instructional practice
	Performance approaches	I give special privileges to students who do the best work		
	Social support	I take care of my students if they have problems		
	Low demands	It's enough for me if students study just enough to pass the year		
Extended Version of Approaches to Instruction (Hinnant-Crawford, 2019)	Mastery approaches	(Sample item is not offered.)	Approaches to Instruction Scale from PALS (Midgley et al., 2000) was combined with the reworded items of goal structure for students from PALS. Modified items are about teachers' instructional practice in their own classroom	Instructional practice
	Performance approaches	(Sample item is not offered.)		
Goal Structures (Wolters et al., 2011)	Mastery goal structure	Giving a range of assignments matched to ability	Modified version of Approaches to Instruction Scale from PALS (Midgley et al., 2000)	Instructional practice
	Performance goal structure	Encourage competition		

Scale (References)	Subscales	Sample items	Notes	Focus
Goal Structures (Wolters & Daugherty, 2007)	Mastery goal structure	Giving a range of assignments matched to skill level	Modified version of Approaches to Instruction Scale form PALS (Midgley et al., 2000). Based on results one item was deleted from both scales	Instructional practice
	Performance goal structure	Encourage students to compete		
Instructional Practices (Xiang et al., 2003)	Mastery focused	I present students challenging tasks		Instructional practice
	Performance focused	I use competitive game contents to enhance student motivation		
Classroom Orientations (Ee et al., 2003)	Task orientation	I encourage my pupils to continue trying their best even when they encounter difficulty with given tasks in exams		Instructional practice
	Ego orientation	I encourage my pupils to compete with one another to see who can do the best		
Approaches to Assessment (Daniels & Poth, 2017)	Mastery approach to assessment	Give student opportunities to correct their homework before being assessed for marks	Modelling the structure of Approaches to Instruction Scale of PALS (Midgley et al., 2000) related to assessment practice	Instructional practice
	Performance approach to assessment	Tell students where they stand in relation to other students in the class		
Mastery Goal Structures (TARGET)—Teacher version (Bardach et al., 2018, 2019)	Task	I encourage my students to set learning goals for themselves	From the newly developed subscales (Bardach et al., 2019) four were used by Bardach et al. (2018): Task, Autonomy, Recognition/Evaluation, Grouping	Instructional practice
	Autonomy	I give my students the opportunity to talk it out when they have problems with each other		
	Recognition	I give my students feedback concerning their learning progress		
	Grouping	I let students work on tasks together with their classmates if they want		
	Evaluation	I make it clear that making mistakes is part of learning		
	Time	I let students work on tasks at their own pace		

Scale (References)	Subscales	Sample items	Notes	Focus
TARGETS (Vedder-Weiss & Fortus, 2018)	Task	I allow my students to choose the type of products they need to produce (e.g., written answers, drawings, and tables)		Instructional practice
	Authority/autonomy	I allow my students to choose the topic of their assignments		
	Grouping	The seating arrangement in my class while doing class work is in groups		
	Evaluation	I conclude a unit by using a class or homework assignment		
	Time	I will accept tardy work if a student had special difficulty in doing it		
	Social	I allow students to leave their seats during class to get help from a friend or to assist a friend within class work		
Standardized Lesson Diary about Specific Teaching Practices (Daumiller et al., 2023)	Interestingness	I used examples from everyday life to show the students what German/Mathematics can be used for	Some new items were created as well as existing items were adapted to the diary approach (teachers reported on the practices after lessons). Scales cover content (interestingness, cognitive stimulation, individualization), evaluation (public negative feedback), autonomy support (autonomy support, structuring), and social (collaboration, heterogeneous grouping, homogeneous grouping, competition) dimensions of teaching	Instructional practice
	Cognitive stimulation	I had my students explain their thought processes in detail		
	Individualization	I varied the tasks to suit students of different abilities		
	Public negative feedback	I told students in front of the whole class when they did badly		
	Autonomy support	I encouraged the students to work independently		
	Structuring	I emphasized the relationships between the topics covered		
	Collaboration	I encouraged students to work together		
	Heterogeneous grouping	The students worked together with bad and good students in each group		
	Homogeneous grouping	The better students worked with each other and the worse students worked with each other		
Competition	I encouraged my students to compete with each other			

Scale (References)	Subscales	Sample items	Notes	Focus
Teacher as Social Context Questionnaire (George & Richardson, 2019)	Autonomy support	I let this student make a lot of decisions regarding schoolwork	Source of the scale: Skinner & Belmont (1993)	Instructional practice
Perception of the School Culture (Midgley et al., 1995)	Task goal stressed	This school makes teachers want to work hard		School climate for teachers
	Performance goal stressed	Power and influence count a lot around this school		
Perceptions of School Culture (Deemer, 2004)	Mastery school culture	In this school, teachers have many opportunities to learn new things	Perceptions of School Culture Scale form PALS (Midgley et al., 1996)	School climate for teachers
	Performance school culture	In this school, some teachers have greater access to resources than others		
Teacher Perception of the School Goal Structures (Jensen, 2022; Skaalvik & Skaalvik, 2011, 2013, 2017, 2023)	Learning goal structure	Developing a safe and inspiring learning environment is heavily emphasized at this school	Jensen (2022) employed only the performance goal structure subscale	School climate for teachers
	Performance goal structure	The leadership at this school is concerned that our students should do better on achievement tests than students at other schools		
School Goal Structures (Dickhäuser et al., 2021)	Learning approach goal structure	At our school, how much one improves is really important for teachers	Modified version of Perception of Classroom Goal Structures Scale from PALS (Midgley et al., 2000), developed for students	School climate for teachers
	Performance approach goal structure	At our school, it is important to come off well compared to other teachers		
	Performance avoidance goal structure	At our school, it is important not to appear incompetent as a teacher		
Teachers' Perceptions of Their Task-Initiated Achievement Goals Questionnaire (Gorozidis et al., 2021)	Mastery	My work subject in this school, it makes me want to develop my knowledge in subjects that I was not so good		School climate for teachers
	Performance approach	My work subject in this school, it makes me think that I have to prove I am the best teacher		
	Performance avoidance	My work subject in this school, it frequently makes me worry if someone says that I am not a good teacher		
	Social approval	My work subject in this school, it frequently makes me worry if someone says that I am not a good teacher		

Scale (References)	Subscales	Sample items	Notes	Focus
Perceptions of School Goal Structures for students (Barnes et al., 2018; Ciani et al., 2008; Diaconu-Gherasim et al., 2023; Vedder-Weiss & Fortus, 2018)	Mastery goal structure for students	In this school, the importance of trying hard is really stressed to students	Perceptions of the School Goal Structure for Students from PALS (Midgley et al., 2000). Only the mastery subscale was used by Vedder-Weiss and Fortus (2018)	School climate for students
	Performance goal structure for students	In this school, students who get good grades are pointed out as an example to others		
Perceived School Goal Structures (Cho & Shim, 2013)	School mastery goal structure	In this school the importance of trying hard is really stressed to students	Modified version of Perceptions of the School Goal Structure for Students from PALS (Midgley et al., 2000). One item from the mastery subscale and two items from the performance subscale be removed because of low factor loadings	School climate for students
	School performance goal structure	In this school students who get good grades are pointed out as an example to others		
Perceived School Goal Structures (Luo et al., 2019)	School learning goal structure	In this school, students are told that making mistakes is OK as long as they are learning and improving	Modified version of Perceptions of the School Goal Structure for Students from PALS (Midgley et al., 2000)	School climate for students
	School performance goal structure	In this school, students hear a lot about the importance of getting high test scores		
Goal Structures (Quijada et al., 2020)	Learning-goal structure	My school emphasizes that students really understand, not just memorize		School climate for students
	Performance-goal structure	In this school, students who get the highest marks are often publicly congratulated to encourage other students		

Except for the instruments about school climate for teachers, in most instruments, ‘in my class’, ‘in this class’, or ‘in my classroom’ are used before the items to guide teachers’ focus. These openings are not presented in this table.

Author contributions József Balázs Fejes had the idea for the article, József Balázs Fejes and Anongsack Mahavong performed the literature search and data analysis, and József Balázs Fejes and Anongsack Mahavong drafted the work and David and Elisa Shernoff critically revised the work.

Funding Open access funding provided by University of Szeged. Project no. 138400 has been implemented with the support provided by the Ministry of Innovation and Technology of Hungary from the National Research, Development, and Innovation Fund, financed under the FK_21 “OTKA” funding scheme. This research was supported by the Research Programme for Public Education Development, Hungarian Academy of Sciences, and the Digital Society Competence Centre of the Humanities and Social Sciences Cluster of the Centre of Excellence for Interdisciplinary Research, Development and Innovation of the University of Szeged. Jozsef Balazs Fejes is a member of the New Tools and Techniques for

Assessing Students Research Group. Anongsack Mahavong is a recipient of the Hungarian government's Stipendium Hungaricum Scholarship in collaboration with the Lao Government.

Declarations

Competing interests The authors have no competing interests to declare that are relevant to the content of this article.

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Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

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