

A recent systematic review of tailoring teacher autonomy through personality insights



Intan Rafidah Yasin^a | Ahmad Zabidi Abdul Razak^a ✉ | Zuraidah Abdullah^a

^aFaculty of Education, University of Malaya, 50603 Kuala Lumpur, Malaysia.

Abstract Providing teachers autonomy that aligns with their personalities can foster a greater sense of ownership and commitment to their work, increasing student engagement and academic achievement. The relationship between teacher personality and professional autonomy in education is crucial for pedagogical effectiveness, job satisfaction, and student outcomes. Nonetheless, a gap persists in the current literature, underscoring a lack of thorough understanding of how personality influences educators' autonomy experiences. This systematic review tackles the need for a comprehensive understanding of various aspects of teacher autonomy and teacher personality insights. The primary objective of this systematic review is to explore and assess the literature on teacher autonomy through personality insights. Note that the flow of the study is based on the PRISMA framework. By analyzing a comprehensive selection using advanced searching approaches on Scopus and Web of Science (WoS) databases ($n = 30$), the final primary data was examined using mixed methods from the recent articles in the year of 2023. Expert scholars decided to develop four themes, which are [1] Autonomy Support and Academic Performance, [2] Teacher Well-being and Turnover, [3] Motivation and Teaching Style, and [4] Cross-cultural Perspectives on Autonomy. Therefore, future studies ought to investigate how different personalities affect teacher satisfaction, classroom dynamics, and student learning results to improve professional development and provide useful insights for educational policymakers and practitioners.

Keywords: teacher, personality, autonomy, education

1. Introduction

In the dynamic landscape of modern education, teachers are now required to go beyond traditional knowledge delivery. Their role encompasses adapting teaching methods, addressing diverse student needs, and fostering inclusive learning environments. A key element in this evolution is the concept of teacher autonomy, which grants educators the authority to independently decide on instructional approaches, classroom management, and assessment strategies. Therefore, recognizing the factors influencing teacher autonomy is vital for cultivating effective teaching practices and improving educational outcomes (Bogler, 2005; Elo & Nygren-Landgärds, 2021; Liu et al., 2023). Among these factors, personality plays a crucial role in shaping individuals' preferences, attitudes, and decision-making processes (Kasim, 2021). Moreover, the interplay between teachers' personalities and their work environments is an increasingly researched area, providing valuable insights into tailoring teacher autonomy to meet the specific needs of educators. Teacher autonomy, is defined broadly as professional independence and discretion over key instructional decisions in the classroom (Elstad & Christophersen, 2017; Palma, 2022; Yilmaz, 2021), has become a priority in education reform across many global contexts. In addition, considerable research has linked strong teacher autonomy to improved motivation, job satisfaction, teaching effectiveness, and student outcomes (Hornstra et al., 2015). However, fostering teacher autonomy has proven challenging, with many schools and systems relying on a one-size-fits-all approach that fails to align support with diverse needs (Fadaee et al., 2021).

The focal point of this study is to delve into the intricate relationship between teacher autonomy and teacher personality. Prior research has unequivocally demonstrated that endowing teachers with autonomy profoundly influences various facets of education, including classroom instruction, student engagement, and learning outcomes. For instance, an investigation into Indonesia's curriculum reform revealed a positive correlation between teacher autonomy in shaping curricula and pedagogy and enhanced student engagement, ultimately resulting in improved learning outcomes (Nihayah et al., 2023).

Another noteworthy study underscored the pivotal role of autonomy in fostering both personal and professional development among teachers. This autonomy translated into heightened teaching efficacy and manifested a propensity among educators to embrace intrinsic instructional goals (Rarasati & Pramana, 2023). Additionally, exploring the impact of teacher personality on effectiveness and burnout is imperative for further investigations grounded in established personality theories (Kim et al., 2019). In the realm of English language teaching, an insightful study scrutinized the interplay between teaching methodologies, personality traits, and cultivating a learner-centered approach. This research posited that aligning teaching methodology with the teacher's personality is pivotal for creating a conducive language learning atmosphere (Shammari,



2022). Furthermore, an investigation of early years education (EYE) teachers revealed the significant influence of personality on the intention to stay, emphasizing the intersection of compensation, personality, and self-actualization (Fransinatra & Asyik, 2023).

Teacher personality shapes manifest attitudes toward autonomy, willingness to exercise discretion, and responses to freedom in the classroom (Yüce et al., 2022). Traits interact with professional settings and leadership approaches to either promote or constrain possibilities for self-directed teaching. For instance, conscientious teachers thrive when provided with structured support for independent decision-making, while extroverts appreciate collaborative autonomy formations (Jankauskiene et al., 2022). Without considering these dispositional insights, universal policies for fostering autonomy may suffocate or overwhelm, diminishing motivation and satisfaction (Kengatharan, 2020). Alternatively, reviewing teacher personality literature helps contextualize autonomy as a multifaceted construct that requires differentiated policies across schools, teacher career stages, and dispositions (Yang & Rao, 2023). Therefore, this systematic review aims to investigate and assess the available literature on adapting teacher autonomy through personality insights. This research hopes to provide a thorough review of the present state of knowledge on this subject by synthesizing empirical evidence from various studies and offering evidence-based recommendations for policymakers, educational leaders, and practitioners by synthesizing empirical evidence from a wide range of studies. In summary, the collective body of literature strongly posits the interconnectedness of teacher autonomy and personality, positing them as pivotal determinants influencing classroom dynamics, student engagement, and teacher effectiveness. Moreover, comprehending this intricate relationship is paramount for tailoring teacher autonomy to individual personalities and fostering a more effective and engaging learning environment.

It is acknowledged that teacher personalities significantly influence autonomy needs, attitudes, and experiences. Nevertheless, there is a lack of comprehensive systematic reviews consolidating relevant empirical research. Thus, this analysis adopts the PRISMA method to compile key studies conducted in the recent year of 2023 to explore the intricate interplay between teacher personality and outcomes related to autonomy. The findings of this comprehensive review are expected to improve the understanding of the intricate interplay between personality and teacher autonomy. It also influences the creation of individualized professional development programs. Consequently, it can provide evidence-based solutions and policy suggestions to help educators pursue successful pedagogical practices and student achievement. In summary, this systematic review aims to add to the body of knowledge by offering a complete synthesis of empirical data on the relationship between personality and teacher autonomy. By researching and evaluating the literature, we hope to shed light on creative ways to modify educational environments and build a suitable ecology in which instructors can thrive and effectively engage in transformative teaching techniques.

2. Materials and Methods

2.1. Identification

The systematic review procedure involved three fundamental stages for selecting a substantial number of relevant publications for this study. In the initial stage, keywords were selected, and synonymous terms were identified using thesaurus, dictionaries, encyclopaedias, and existing research. After crafting the search strings for the Scopus and Web of Science (WoS) databases (refer to Table 1), all relevant keywords were identified. In the first phase of the systematic review process, a total of 2,941 publications were successfully retrieved from both databases for the current study.

Table 1 The search string.

Source	Search String
Scopus	TITLE-ABS-KEY (autonomy* AND (personal* OR traits OR attitude) AND (teacher OR educator OR lecturer) AND school) AND (LIMIT-TO (PUBYEAR, 2023)) AND (LIMIT-TO (SUBJAREA, "SOC")) AND (LIMIT-TO (DOCTYPE, "ar")) AND (LIMIT-TO (PUBSTAGE, "final")) AND (LIMIT-TO (LANGUAGE, "English")) AND (LIMIT-TO (SRCTYPE, "j"))
WoS	autonomy* AND (personal* OR traits OR attitude) AND (teacher OR educator OR lecturer) AND school (Topic) and 2023 (Publication Years) and Article (Document Types) and English (Languages) and Social Sciences (Research Domains)

2.2. Screening

The screening phase involves evaluating potentially relevant research to identify content that addresses the predefined research question. Common screening criteria relate to selecting research on tailoring teacher autonomy through teacher personality. At this stage, duplicate papers were eliminated from the compiled list. The initial screening excluded 2,847 publications, while the next phase examined 94 papers based on various exclusion and inclusion criteria outlined in the study (see Table 2). The primary inclusion criterion was research articles that offered practical insights. Hence, other publications,



such as conferences, books, and reviews, were excluded. Additionally, only English language papers focused on social sciences within the 2023 timeframe were considered to align with the analysis objective. In total, 16 publications were excluded because they were duplicates.

Table 2 The selection criteria used for the search.

Criterion	Inclusion	Exclusion
Language	English	Non-English
Timeline	2023	< 2023
Literature type	Journal (Article)	Conference, Book, Review
Publication Stage	Final	In Press
Subject area	Social Science	Besides Social science

2.3. Eligibility

In the eligibility assessment phase, 73 articles were compiled and thoroughly evaluated based on their titles and core content to verify alignment with the inclusion criteria and relevance to the research objectives. Subsequently, 48 articles were excluded for reasons such as being out of scope, having unrelated titles, having abstracts misaligned with the study goals, or lacking full-text access to empirical evidence. The upcoming review will focus on the remaining 30 articles.

2.4. Data abstraction and analysis

This study employed integrative analysis as one of its assessment strategies, aiming to scrutinize and synthesize various research designs, particularly those utilizing quantitative methods. The primary objective of this proficient study was to pinpoint relevant topics and subtopics. The initial step in theme development was the data collection stage. Figure 1 illustrates how the authors systematically analyzed a compilation of 30 publications for statements or content pertinent to the study's topics. The authors then assessed noteworthy studies related to the customization of autonomy through insights into personality. Note that the methodology employed across all studies and their research findings were examined. Subsequently, the authors collaborated with other coauthors to formulate themes based on the evidence within the study's context. Throughout the data analysis process, a log was maintained to document analyses, perspectives, puzzles, or any other thoughts pertinent to data interpretation. Finally, the authors compared the results to identify inconsistencies in the theme design process. Notably, in cases of disagreements between concepts, the authors engaged in discussions to reconcile differences. The generated themes were refined to ensure consistency. To validate the robustness of the findings, the analysis selection phase involved two experts: one specializing in professional development (Ahmad Zabidi Abdul Razak—an expert in leadership management) and the other in teacher professionalism (Zuraidah Abdullah—an expert in the learning community). This expert review phase aimed to establish the validity of the identified issues by ensuring the clarity, significance, and appropriateness of each subtheme, ensuring domain validity.

3. Results

In the constantly evolving landscape of education, teacher autonomy is prominent. However, adopting instructional freedom frequently overlooks critical personality characteristics influencing outcomes. This comprehensive review sheds light on the complicated relationships between dispositions, environments, and future autonomy-supportive practices. Interestingly, personality insights can improve autonomy by revealing how individual qualities and behaviors affect self-governance abilities. Our search technique produced 30 publications that examined four major themes: autonomy support and academic performance (8 studies), teacher well-being and turnover (4 studies), motivation and teaching styles (5 studies), and cross-cultural perspectives on autonomy (13 research). Table 3 summarizes the research article based on themes. By highlighting these dynamics, we advocate flexible routes that combine top-tier rules with sensitivity to locally entrenched realities to unleash the enormous yet fragile potential of autonomous support across the system. In addition, this global analysis requires placing teacher personalities within participative, empowering reform efforts that value their creative essence.

3.1. Theme 1: Autonomy support and academic performance

The discussion surrounding autonomy support and its impact on academic performance has been extensively explored in recent research. Several key studies have shed light on various aspects of this relationship and have provided valuable insights into the role of autonomy support in fostering academic success. One such study examined the influence of noncognitive variables, including conscientiousness and openness, as well as implicit attitudes, such as development mindset, on academic achievement among middle school pupils. This study proposed a model in which these variables acted as distal predictors, while self-determined motivation served as a proximal mediator. Notably, the findings of this study highlighted the significant influence of motivation on various factors, including conscientiousness, openness, growth mindset, parental

autonomy support, and teacher autonomy support (Mammadov & Tozoglu, 2023). Another study focusing on middle and high school students in physical education investigated the impact of prior agentic engagement on autonomy-supportive teaching and agentic engagement. The results revealed that prior agentic engagement led to increased autonomy-supportive teaching and greater student agency and initiative. Additionally, it was suggested that teachers explicitly communicate their welcome input and initiatives to students early in the school year, as autonomy-supportive teachers inspire and empower students (Jang et al., 2023).

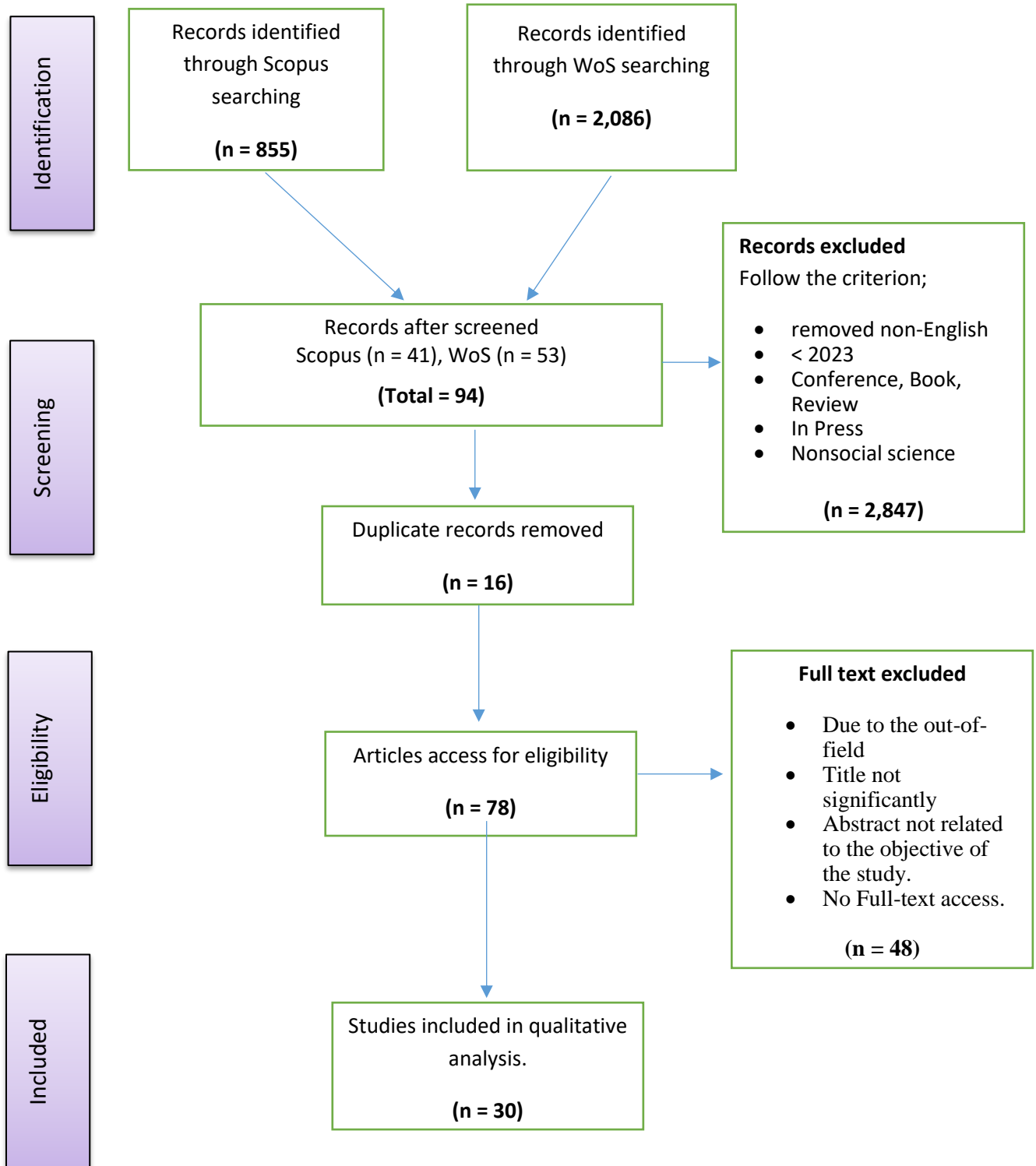


Figure 1 Flow diagram of the proposed search study.

Source: Moher et al., (2009)

Drawing on the principles of self-determination theory (SDT), a study examined the effects of instructors' need-based experiences on their personal adjustment and motivational teaching style. The results of this study demonstrated that teacher needs satisfaction was associated with adaptive work adjustment and a motivating teaching style, while teacher needs frustration was linked to maladjustment and a demotivating teaching style. Consequently, the study emphasized the importance of addressing students' pressure in intervention research and regular classroom practices (Vermote et al., 2023). At the same time, inclusive education heavily relies on teachers' preparedness to cater to diverse needs. Hence, differentiated instruction, which closely monitors students' progress and adjusts teaching methods, is a crucial aspect of this approach. Therefore, to ensure high-quality, differentiated instruction, understanding teachers' intentions is vital. A comparative analysis of the theory of planned behavior (TPB) and SDT was conducted to gain insights into teachers' intentions. While both models predicted teachers' intentions, the TPB model accounted for 48% of the variance. Furthermore, autonomy has emerged as a relevant factor in comprehending teachers' intentions (Kupers et al., 2023). Moreover, a study examined the relationship between perceived autonomy support from German language arts teachers and changes in student well-being. The findings indicated that satisfaction with school, enjoyment of school, and self-rated health exhibited a decreasing trend over time, while social integration remained stable. As a result, perceived teacher autonomy support decreased between grades 5 and 9, and alterations in autonomy support positively influenced satisfaction with school, enjoyment of school, and self-rated health, albeit not social integration (Kleinkorres et al., 2023).

A comparative study of Polish and Portuguese teachers' perceptions of oracy was conducted, focusing on classroom practices and attitudes. The findings revealed that both sets of teachers valued oracy and dedicated time to its development. However, Portuguese teachers emphasized discussions and debates, allowing students more autonomy. However, both groups of teachers acknowledged the importance of oracy in human development, including reasoning and literacy learning (Łockiewicz et al., 2023). Additionally, a study examined the relationship between dispositions toward information and communication technology (ICT) and intercultural competence among adolescent students. The study revealed that perceived autonomy, competence, and relatedness in ICT usage positively influence intercultural knowledge, skills, and attitudes. Furthermore, social media played a partial mediating role in this relationship. These findings underscore the significance of meeting students' ICT-related needs and highlight the role of social media in cultivating global competence (Zhang & Zhou, 2023). Finally, a study revealed that charismatic school leaders significantly impacted teachers' preparedness for change, with perspective-taking serving as a mediator. This relationship was particularly evident during the "New Horizon" organizational reform implemented in 95 Israeli state elementary schools (Da'as, 2023).

In conclusion, autonomy support and academic performance significantly influence various facets of education. The findings emphasized the importance of fostering autonomy-supportive environments, improving teacher practices, and addressing student needs to enhance academic achievement and well-being.

3.2. Theme 2: Teacher well-being and turnover

In delving into the intricate dynamics of teacher well-being and turnover, this study focused on the impact of various job resources and demands on these critical aspects of the teaching profession. Using a sample of 426 Australian schoolteachers, the study examined the associations and interactions among three job resources (autonomy-supportive leadership, relatedness with colleagues and students) and three job demands (autonomy-thwarting leadership, time pressure, disruptive student behavior) (R. J. Collie, 2023). Through meticulous analysis using structural equation modeling, it revealed the nuanced connections between these factors and their influence on teacher well-being, specifically subjective vitality, behavioral engagement, and professional growth. Moving beyond the Australian context, a study sought to better understand the challenges to well-being faced by multiple marginalized and underrepresented (MMU) teachers [29]. Thus, by exploring the intersection of multiple social identities and teacher identities, this study delved into the eudaimonic aspect of well-being, focusing on the needs for relatedness, autonomy, and competence. The contrasting experiences of the two teachers illustrated the complex nature of teacher well-being. The concealment of sexual identity emerged as a protective factor for female teachers. However, it poses a risk to other teachers' well-being, shedding light on the intricate interplay of social identities within school systems (Hong et al., 2023).

By shifting the focus to emotional resilience and its role in teacher well-being and turnover intentions, another study investigated various work-related and personal resources (Bagdžiūnienė et al., 2023). Through an online self-administered questionnaire, the study revealed positive relationships between perceived workplace characteristics, performance feedback, autonomy, social support, professional growth opportunities, and self-efficacy. Remarkably, emotional resilience emerged as a direct positive predictor of teacher well-being, mediating between work-related resources and self-efficacy. Emotional resilience did not directly impact teachers' intentions to quit. Therefore, job resources and self-efficacy play a crucial role in influencing this intention (Bagdžiūnienė et al., 2023). In the context of the unprecedented challenges posed by the early stages of the pandemic, a study in the Philippines aimed to understand the moderating role of principal autonomy support in the relationship between stress and teacher well-being. With data collected from 1,150 K-12 teachers, hierarchical multiple regression was employed to assess the impact of principal autonomy support. This study underscores the vital role of school leadership, particularly autonomy support, in mitigating the negative effects of stress on teacher health. Accordingly, this result

highlighted the global relevance of autonomy support for well-being, transcending Western perspectives and resonating particularly in Eastern low- and middle-income contexts (Mendoza & Dizon, 2023). In summary, these studies provide a comprehensive exploration of teacher well-being and turnover, revealing the intricate web of factors influencing these crucial aspects of the teaching profession. From job resources and demands in Australia to the complex interplay of social identities, emotional resilience, and pandemic-induced stress, these findings contribute significantly to our understanding of teacher well-being and the factors shaping the intentions to stay or leave the profession.

3.3. Theme 3: Motivation and teaching styles

In examining the theme of motivation and teaching styles, a comprehensive understanding of teachers' perspectives on student motivation was pursued in this systematic review. The findings underscore the recognition among teachers of the paramount importance of intrinsic motivation for learning as a key strategy in promoting student autonomy. Teachers were cognizant of their responsibility and acknowledged the creative nature of motivating students, contingent upon their personal qualities, skills, and attitudes toward the teaching profession. In addition, this awareness suggests a need for teachers to enhance their systematic knowledge of student motivations and engage in greater reflection on their own beliefs, fostering flexibility with system requirements and instilling confidence in their resources and creativity during teaching (Lalić-Vučetić & Ševkušić, 2023).

Shifting the focus to the dynamic interaction between teachers and students, a 5-week diary study delved into the relationship between teachers' autonomy support, the provision of structure, and students' agentic and behavioral engagement. Multilevel analyses revealed that students' perceptions of week-to-week autonomy support and the initial level of autonomous motivation positively predicted agentic engagement, as reported by both teachers and students. Furthermore, perceived structure positively influenced both week-to-week agentic and behavioral engagement, as reported by students (Michou et al., 2023). The study also considered two students' personal characteristics: proactive personality and situational autonomy versus controlled motivation. Moreover, by expanding the exploration of multicultural education, a study investigated how teachers' attitudes in this context mediate the relationship between inclusive practices and demotivating teaching styles. Notably, teachers' efficacy in inclusive practices positively predicts motivating teaching styles, while multicultural attitudes are associated with demotivating styles (Buzzai et al., 2023). With respect to the university setting, another study probed the relationship between university teachers' mindsets and the creation of a learner-centered learning environment in entrepreneurship education. The results suggested that teachers who perceived entrepreneurial abilities as fixed traits tended to adopt fewer learner-centered teaching principles, neglecting intentional support for students' entrepreneurial attitudes. This study thus contributes to revealing the intricate relationship between teachers' mindsets and the implementation of effective entrepreneurial learning strategies (Toding et al., 2023).

In a broader context, this article explored the use of digital technologies in New Zealand schools with a focus on multiliteracies pedagogy (MLP). This study investigated how teachers employ these technologies and texts, emphasizing the implicit nature of MLPs in terms of personal beliefs, students' needs, and the school curriculum. Advocating for conscious and purposeful teaching of MLPs, the article underscored the importance of synesthesia and the semiotic functions of texts (Yap & Gurney, 2023). In summary, the studies discussed in this theme collectively contribute valuable insights into the multifaceted dynamics of teacher autonomy, motivation, and teaching styles, highlighting the need for continuous reflection, awareness, and adaptability in educational practices.

3.4. Theme 4: Cross-cultural perspectives on autonomy

Cross-cultural perspectives on autonomy in teaching illuminate the intricate dynamics shaping educational landscapes worldwide. In Croatia, a study involving 211 biology and 168 teachers from various fields emphasized the critical role of teachers' attitudes in education quality, highlighting the challenges posed by botany as the least popular subject (Kletečki et al., 2023). In Iran, negative attitudes toward classroom observation in private language schools are revealed, exposing factors such as performance anxiety, job insecurity, and lack of autonomy that significantly impact teachers' perspectives (Gholaminejad, 2023). Meanwhile, Israel's exploration of 170 preservice teacher mentors revealed the driving forces behind mentorship, emphasizing pro-social and cognitive-effective perspectives that contribute to stable and sustainable teacher training processes (Simon & Nissim, 2023).

The cross-cultural journey continues in England, where upper primary school students in arts-rich schools share their views on progress in arts subjects. This study highlighted the pivotal role of teacher pacing, scaffolding, and feedback in shaping students' understanding of progress (Thomson et al., n.d.). Moreover, South Korea's examination of learning attitudes in middle school students, within the framework of the SDT, identified distinct profiles and underscored the influence of autonomy-supportive parenting in fostering engagement (Park et al., 2023). Consequently, the global lens revealed socioeconomic disparities in teacher support, as teachers exhibit lower involvement for low-income students, with differentiated support based on biased attitudes (Bloem et al., 2023). Further exploration of China's senior high school ideological and political teachers revealed the impact of professional training on teaching innovation. The study stressed the mediating role of satisfying

basic psychological needs, emphasizing recommendations for personalized training programs and increased autonomy in school management (Cui & Yin, 2023). Transitioning to Finland, the progressive school education reform underscored the importance of teacher autonomy amid modern trends and globalization, focusing on aspects such as independence, consistency, and a personality-centered approach (Kosenchuk et al., 2023). In addition, a global perspective on blended learning across 32 countries revealed the impact of ICT-related factors on students' reading performance, emphasizing the importance of effective pedagogies and sustainable design (Peng et al., 2023).

In the United Kingdom, an online SDT-based teacher professional development intervention was analyzed, revealing significant increases in teachers' self-efficacy and personal responsibility. The findings suggested a need for approaches prioritizing students' psychological needs and encouraged further research to expand the evidence base (Arbel et al., 2023). In Israel, an in-depth exploration of pro-social characteristics among aggressive youth identified distinct day-level and adolescent-level profiles, emphasizing the role of pro-social autonomy in reducing aggression. Meanwhile, Singapore's investigation into the personal factors influencing teachers' adoption of autonomy-supportive instructional behaviors highlighted the importance of raising awareness about inner forces hindering autonomy expression (Arbel et al., 2023). Finally, the impact of autonomy-supportive teaching on students' social functioning has been explored globally, with the findings emphasizing the overlooked effects of the classroom climate and the significance of creating a supportive educational environment (Cheon et al., 2023). In summary, this cross-cultural thematic exploration reveals a diverse array of perspectives, contributing to a nuanced understanding of autonomy in teaching across different educational contexts. From subject-specific challenges to the impact of cultural and socioeconomic factors, these studies provide valuable insights for tailoring teacher autonomy on a global scale.

4. Discussion

Research on autonomy support and academic performance suggests that it has a significant positive influence (Ma, 2021). Several key studies have illuminated the relationship between autonomy support and academic success. One study focused on middle school pupils and explored the impact of noncognitive variables such as conscientiousness, openness, and implicit attitudes such as having a growth mindset on academic achievement. The findings emphasized the substantial influence of motivation on factors such as conscientiousness, openness, and parental and teacher autonomy support (Mammadov & Tozoglu, 2023). Another study in physical education with middle and high school students revealed that prior agentic engagement positively influenced autonomy-supportive teaching, fostering greater student agency and initiative (Jang et al., 2023). Drawing on SDT, investigating instructors' need-based experiences revealed insights into their personal adjustment and motivational teaching style (Vermote et al., 2023). Moreover, a comparative analysis of the TPB and SDT provided additional perspectives on teachers' intentions (Vermote et al., 2023). Furthermore, studies have explored the decline in perceived autonomy support from language arts teachers, its impact on changes in students' well-being (Kleinkorres et al., 2023), and the relationship between dispositions toward ICT and intercultural competence among adolescents (Zhang & Zhou, 2023). Collectively, these findings underscore the significance of autonomy support in education, emphasizing the need to foster supportive environments, improve teaching practices, and address student needs to enhance academic achievement and well-being.

The second theme of this study delves into the impact of job resources and demands on the well-being and turnover. Specifically, it investigates the relationships between autonomy-supportive leadership, relatedness with colleagues and students, autonomy-thwarting leadership, time pressure, and disruptive student behavior. Additionally, this research seeks to understand the challenges to well-being faced by multiple marginalized and underrepresented teachers, focusing on relatedness, autonomy, and competence (Hong et al., 2023). Notably, emotional resilience is also a crucial aspect explored in this study. It has been discovered that perceived workplace characteristics are positively related to self-efficacy, indicating that a supportive work environment can enhance teachers' emotional resilience (Bagdžiūnienė et al., 2023). Furthermore, the study emphasizes the global relevance of principal autonomy support in alleviating stress on teacher health, particularly in Eastern low- and middle-income contexts (Mendoza & Dizon, 2023). Overall, these findings greatly contribute to our understanding of teachers' well-being and the factors influencing their decisions to remain in or leave the profession. Thus, by examining the associations between job resources, demands, and well-being, this research sheds light on the critical aspects that shape teachers' intentions (R. J. J. Collie, 2023).

Furthermore, the third theme explores teachers' perspectives on student motivation and their understanding of intrinsic motivation as a key strategy for promoting student autonomy. Teachers recognize the creative nature of motivating students and the need for teachers to enhance their knowledge of student motivations and engage in reflection (Lalić-Vučetić & Ševkušić, 2023). A 5-week diary study revealed that students' perceptions of autonomy support and initial level of motivation positively predicted agentic engagement, while perceived structure positively influenced both (Michou et al., 2023). The study also considered proactive personality and situational autonomy versus controlled motivation. Additionally, teachers' efficacy in inclusive practices in multicultural education positively predicted motivating teaching styles, while multicultural attitudes were associated with demotivating styles (Buzzai et al., 2023). At the same time, in entrepreneurship education, teachers who

Table 3 The research article's findings.

No	Authors	Year	Source Title	Title	Theme	Database Sopus	Database WoS
1	Mammadov S.; Tozoglu D.	2023	Psychology in the Schools	Autonomy support, personality, and mindset in predicting academic performance among early adolescents: The mediating role of self-determined motivation	Theme1	/	
2	Łockiewicz M.; Sousa O.; Fuertes M.; Piechowska M.; Costa-Pereira T.	2023	Calidoscopio	Comparative analysis of the approach to first language oracy of Polish and Portuguese early education teachers;	Theme1	/	
3	Vermote B.; Vansteenkiste M.; Aelterman N.; van der Kaap-Deeder J.; Beyers W.	2023	Journal of Experimental Education	Teachers' Psychological Needs Link Social Pressure with Personal Adjustment and Motivating Teaching Style	Theme1	/	
4	Zhang X.; Zhou M.	2023	Education and Information Technologies	Adolescents' perceived ICT autonomy, relatedness, and competence: Examining relationships to intercultural competence in the Great China Region	Theme1	/	
5	Da'as, Rima'a	2023	Journal Of Research on Leadership Education	Understanding How Charismatic School Leaders Affect a Teacher's Readiness for Change: The Role of Perspective-Taking	Theme1		/
6	Kupers, Elisa; de Boer, Anke; Bakker, Alianne; de Jong, Frank; Minnaert, Alexander	2023	European Journal of Special Needs Education	Explaining teachers' behavioral intentions toward differentiated instruction for inclusion: using the theory of planned behavior and the self-determination theory	Theme1		/
7	Jang, Hye-Ryen; Basarkod, Geetanjali; Reeve, Johnmarshall; Marsh, Herbert W.; Cheon, Sung Hyeon; Guo, Jiesi	2023	Journal of Educational Psychology	Longitudinal Reciprocal Effects of Agentic Engagement and Autonomy Support: Between- and Within-Person Perspectives	Theme1		/
8	Kleinkorres, Ruben; Stang-Rabrig, Justine; McElvany, Nele	2023	Journal Of Research on Adolescence	The longitudinal development of students' well-being in adolescence: The role of perceived teacher autonomy support	Theme1		/
9	Hong, Ji; Francis, Dionne Cross; Haskins, Casey; Chong, Kelly; Habib, Kathryn; Pinheiro,	2023	Teachers And Teaching	Well-being under threat: Multiply marginalized and underrepresented teachers' intersecting identities	Theme 2		/

10	Weverton Ataide; Noon, Sarah; Dickinson, Jessica Bagdziuniene, Dalia; Kazlauskiene, Ausra; Nasvytiene, Dalia; Sakadolskis, Emilija	2023	Frontiers in Psychology	Resources of emotional resilience and its mediating role in teachers' well-being and intention to leave	Theme 2	/
11	Collie, Rebecca J. J.	2023	British Journal of Educational Psychology	Teacher well-being and turnover intentions: Investigating the roles of job resources and job demands	Theme 2	/
12	Mendoza, Norman B.; Dizon, John Ian Wilzon T.	2023	Social Psychology of Education	Principal autonomy-support buffers the effect of stress on teachers' positive well-being: a cross-sectional study during the pandemic	Theme 2	/
13	Lalić-Vučetić N.; Ševkušić S.	2023	Croatian Journal of Education	Motivating Students to Learn is a Creative Act: A Qualitative Study on Teachers' Beliefs	Theme 3	/
14	Buzzai C.; Passanisi A.; Aznar M.A.; Pace U.	2023	European Journal of Special Needs Education	The antecedents of teaching styles in multicultural classroom: teachers' self-efficacy for inclusive practices and attitudes toward multicultural education	Theme 3	/
15	Michou A.; Altan S.; Mouratidis A.; Reeve J.; Malmberg L.-E.	2023	Journal of Experimental Education	Week-to-week interplay between teachers' motivating style and students' engagement	Theme 3	/
16	Toding, Martin; Madamurk, Kaja; Venesaar, Urve; Malleus, Elina	2023	International Journal of Management Education	Teachers' mindset and attitudes toward learners and learning environment to support students? Entrepreneurial attitudes in universities	Theme 3	/
17	Yap, Jia Rong; Gurney, Laura	2023	Literacy	Exploring practices of multiliteracies pedagogy through digital technologies: a narrative inquiry	Theme 3	/
18	Kletečki N.; Hruševar D.; Mitić B.; Šorgo A.	2023	Education Sciences	Plants Are Not Boring, School Botany Is	Theme 4	/
19	Gholaminejad R.	2023	International Journal of Leadership in Education	When the evil pops in: exploring the unheard voices of teachers working in private language schools in Iran concerning supervisory observation	Theme 4	/
20	Simon E.; Nissim Y.	2023	Education Sciences	The Role and Motivation of Pre-Service Teacher (PST) Mentors from Pro-Social to Cognitive-Effective Perspectives	Theme 4	/
21	Thomson, Pat; Maloy, Liam; Hall, Christine	2023	Education 3-13	The way I know is by looking back': English primary school children's views of making progress in arts subjects	Theme 4	/
22	Park, Junsang; Lee, Heejae; Kim, Joonsuk; Zhou, Anne	2023	Child & Youth Care Forum	Trajectories of Learning Attitude Profiles in Korean Middle School Students: Examining Developmental Patterns and the Influence of	Theme 4	/



23	Bloem, Jonne; Flunger, Barbara; Stroet, Kim; Hornstra, Lisette	2023	Social Psychology of Education	Differences in need-supportive teaching toward students from different socioeconomic backgrounds and the role of teachers' attitudes	Theme 4	/
24	Cui, Can; Yin, Yanjun	2023	Frontiers in Psychology	How professional training impacts teaching innovation among ideological and political teachers: the mediating and moderating role of basic psychological needs satisfaction	Theme 4	/
25	Kosenchuk, Yuliia; Androshchuk, Iryna; Bakhmat, Nataliia; Kosenchuk, Olha	2023	Amazonia Investiga	Current trends in school reform in the Republic of FINLAND	Theme 4	/
26	Peng, Yi; Wang, Yanyu; Hu, Jie	2023	Computers & Education	Examining ICT attitudes, use and support in blended learning settings for students' reading performance: Approaches of artificial intelligence and multilevel model	Theme 4	/
27	Prickett, Hayley; Hayes, Ben	2023	Educational Psychology in Practice	A systemic approach to supporting motivation and behavior in secondary classrooms during COVID: a professional development intervention using self-determination theory	Theme 4	/
28	Arbel, Reout; Xia, Mengya; Ben-Yehuda, Mor; Shnaider, Sandra; Benari, Bar; Benita, Moti	2023	Research on Child and Adolescent Psychopathology	'Prosociality' in Daily School Life and Early Adolescents' Peer Aggression: A Multilevel Latent Profile Analysis Approach	Theme 4	/
29	Liu, Woon Chia; Kong, Leng Chee; Wang, Chee Keng John; Kee, Ying Hwa; Ng, Betsy; Lam, Karen; Reeve, Johnmarshall	2023	Frontiers in Psychology	A qualitative study into the personal factors influencing secondary school teachers' motivating styles	Theme 4	/
30	Cheon, Sung Hyeon; Reeve, Johnmarshall; Marsh, Herbert W.	2023	Journal of Sport & Exercise Psychology	Autonomy-Supportive Teaching Enhances Pro-social and Reduces Antisocial Behavior via Classroom Climate and Psychological Needs: A Multilevel Randomized Control Intervention	Theme 4	/

perceive entrepreneurial abilities as fixed traits tend to adopt less learner-centered teaching principles, neglecting intentional support for students' entrepreneurial attitudes (Toding et al., 2023). This article explores the use of digital technologies in New Zealand schools, focusing on MLPs. This finding emphasizes the importance of the synesthesia and semiotic functions of texts in teaching MLPs (Yap & Gurney, 2023). Accordingly, these studies provide valuable insights into the dynamics of teacher autonomy, motivation, and teaching styles, emphasizing the need for continuous reflection, awareness, and adaptability in educational practices.

International explorations reveal complex interplay between autonomy and localized educational dynamics. Investigations spanning Croatia to the United Kingdom spotlight how teacher attitudes, anxieties, job precarity, and restricted agency filter students' progress conceptions, motivation, and well-being (Gholaminejad, 2023). Specifically, South Korean analyses revealed that autonomy-supportive parenting styles inform middle schoolers about learning outlooks (Park et al., 2023). Moreover, professional development in China mediated senior teachers' drive for innovation (Cui & Yin, 2023). Finnish progressive reforms similarly underscored faculty freedom amidst digitalization trends (Kosenchuk et al., 2023). Concurrently, online interventions in the UK boosted educators' self-efficacy and accountability when addressing psychological needs (Prickett & Hayes, 2023). In addition to schooling, Israeli profiles of aggressive youth revealed that pro-social autonomous motivations mitigate misbehavior (Arbel et al., 2023). At the individual level, Singapore studies have emphasized tackling teachers' inner beliefs and barriers to embedding autonomy-supportive instruction (Liu et al., 2023). Finally, global evidence has affirmed classroom climates where faculty facilitate student autonomy and belonging and cultivate collective prosperity (Cheon et al., 2023). Consequently, cross-national patterns attest that tailoring teacher autonomy to local contexts and human concerns is key to unlocking education's emancipatory potential.

5. Final Considerations

This comprehensive study indicates complex interactions between teacher personality traits and localized scenarios, emphasizing the importance of taking thoughtful steps when adopting autonomy-supportive instruction. Autonomy support certainly benefits young people. Nevertheless, top-down strategies that require universal adoption frequently backfire by ignoring inner belief barriers and intrinsic motives created by instructors' personalities. Hence, sustainable transformation demands accepting teachers' dispositions while adapting professional development to leverage strengths and alleviate fears. Furthermore, focusing on human interactions and psychological needs is critical in the face of digitalization trends that overstructured instruction at the expense of its creative core. As a result, these findings demonstrate that localized, participatory codesign of autonomy-support policies with practitioners has the greatest promise for realizing the emancipatory potential of educators as well as learners.

Ethical considerations

Not applicable.

Conflict of interest

The authors declare no conflicts of interest.

Funding

This research did not receive any financial support.

References

- Arbel, R., Xia, M., Ben-Yehuda, M., Shnaider, S., Benari, B., & Benita, M. (2023). 'Prosociality' in Daily School Life and Early Adolescents' Peer Aggression: A Multilevel Latent Profile Analysis Approach. *Research on Child and Adolescent Psychopathology*. <https://doi.org/10.1007/s10802-023-01079-4>
- Bagdžiūnienė, D., Kazlauskienė, A., Nasvytienė, D., & Sakadolskis, E. (2023). Resources of emotional resilience and its mediating role in teachers' well-being and intention to leave. *Frontiers in Psychology*, *14*, 1305979. <https://doi.org/10.3389/fpsyg.2023.1305979>
- Bloem, J., Flunger, B., Stroet, K., & Hornstra, L. (2023). Differences in need-supportive teaching toward students from different socioeconomic backgrounds and the role of teachers' attitudes. *Social Psychology of Education*. <https://doi.org/10.1007/s11218-023-09831-w>
- Bogler, R. (2005). The Power of Empowerment: Mediating the Relationship between Teachers' Participation in Decision Making and Their Professional Commitment. *Journal of School Leadership*, *15*(1), 76–98. <https://doi.org/10.1177/105268460501500104>
- Buzzai, C., Passanisi, A., Aznar, M. A., & Pace, U. (2023). The antecedents of teaching styles in multicultural classroom: teachers' self-efficacy for inclusive practices and attitudes towards multicultural education. *European Journal of Special Needs Education*, *38*(3), 378–393. <https://doi.org/10.1080/08856257.2022.2107679>
- Cheon, S. H., Reeve, J., & Marsh, H. W. (2023). Autonomy-Supportive Teaching Enhances Prosocial and Reduces Antisocial Behavior via Classroom Climate and Psychological Needs: A Multilevel Randomized Control Intervention. *Journal of sport & exercise psychology*, *45*(1), 26–40. <https://doi.org/10.1123/jsep.2021-0337>
- Collie, R. J. (2023). Teacher well-being and turnover intentions: Investigating the roles of job resources and job demands. *British Journal of Educational Psychology*, *93*(3), 712–726. <https://doi.org/10.1111/bjep.12587>



- Collie, R. J. J. (2023). Teacher well-being and turnover intentions: Investigating the roles of job resources and job demands. *British journal of educational psychology*, 93(3), 712–726. <https://doi.org/10.1111/bjep.12587>
- Cui, C., & Yin, Y. (2023). How professional training impacts teaching innovation among ideological and political teachers: the mediating and moderating role of basic psychological needs satisfaction. *Frontiers in Psychology*, 14(November), 1–10. <https://doi.org/10.3389/fpsyg.2023.1246951>
- Da'as, R. (2023). Understanding How Charismatic School Leaders Affect a Teacher's Readiness for Change: The Role of Perspective Taking. *JOURNAL OF RESEARCH ON LEADERSHIP EDUCATION*. <https://doi.org/10.1177/19427751231153036>
- Elo, J., & Nygren-Landgärds, C. (2021). Teachers' perceptions of autonomy in the tensions between a subject focus and a cross-curricular school profile: A case study of a Finnish upper secondary school. *Journal of Educational Change*, 22(3), 423–445. <https://doi.org/10.1007/s10833-020-09412-0>
- Elstad, E., & Christophersen, K. A. (2017). Perceptions of digital competency among student teachers: Contributing to the development of student teachers' instructional self-efficacy in technology-rich classrooms. *Education Sciences*. <https://doi.org/10.3390/educsci7010027>
- Fadaee, E., Marzban, A., & Najafi Karimi, S. (2021). The relationship between autonomy, second language teaching styles, and personality traits: A case study of Iranian EFL teachers. *Cogent Education*, 8(1). <https://doi.org/10.1080/2331186X.2021.1881203>
- Fransinatra, Z., & Asyik, N. F. (2023). Impact of Compensation, Personality, Self-Actualization on Intention To Stay of Indragiri Hulu Eye Teacher. *International Conference of Business and Social Sciences*, 3(1), 2247–231. <https://doi.org/10.24034/icobuss.v3i1.362>
- Gholaminejad, R. (2023). When the evil pops in: exploring the unheard voices of teachers working in private language schools in Iran concerning supervisory observation. *International Journal of Leadership in Education*, 26(1), 100–123. <https://doi.org/10.1080/13603124.2020.1740795>
- Hong, J., Francis, D. C., Haskins, C., Chong, K., Habib, K., Pinheiro, W. A., Noon, S., & Dickinson, J. (2023). Wellbeing under threat: Multiply marginalized and underrepresented teachers' intersecting identities. *Teachers and teaching*. <https://doi.org/10.1080/13540602.2023.2263739>
- Hornstra, L., Mansfield, C., van der Veen, I., Peetsma, T., & Volman, M. (2015). Motivational teacher strategies: the role of beliefs and contextual factors. *Learning Environments Research*, 18(3), 363–392. <https://doi.org/10.1007/s10984-015-9189-y>
- Jang, H.-R., Basarkod, G., Reeve, J., Marsh, H. W., Cheon, S. H., & Guo, J. (2023). Longitudinal reciprocal effects of agentic engagement and autonomy support: Between- and within-person perspectives. *Journal of Educational Psychology*, No Pagination Specified-No Pagination Specified. <https://doi.org/10.1037/edu0000815>
- Jankauskiene, R., Urmanavicius, D., & Baceviciene, M. (2022). Associations between Perceived Teacher Autonomy Support, Self-Determined Motivation, Physical Activity Habits and Non-Participation in Physical Education in a Sample of Lithuanian Adolescents. *Behavioral Sciences*. <https://doi.org/10.3390/bs12090314>
- Kasim, N. M. (2021). The influence of entrepreneurial leadership and sustainability leadership on high-performing school leaders: mediated by empowerment. *Leadership, Education, Personality: An Interdisciplinary Journal*, 3(2), 101–115. <https://doi.org/10.1365/s42681-022-00031-2>
- Kengatharan, N. (2020). The effects of teacher autonomy, student behavior and student engagement on teacher job satisfaction. *Educational Sciences: Theory and Practice*. <https://doi.org/10.12738/jestp.2020.4.001>
- Kim, L. E., Jörg, V., & Klassen, R. M. (2019). A Meta-Analysis of the Effects of Teacher Personality on Teacher Effectiveness and Burnout. *Educational Psychology Review*, 31(1), 163–195. <https://doi.org/10.1007/s10648-018-9458-2>
- Kleinkorres, R., Stang-Rabrig, J., & McElvany, N. (2023). The longitudinal development of students' well-being in adolescence: The role of perceived teacher autonomy support. *Journal of Research on Adolescence*, 33(2), 496–513. <https://doi.org/10.1111/jora.12821>
- Kletečki, N., Hruševsar, D., Mitić, B., & Šorgo, A. (2023). Plants Are Not Boring, School Botany Is. *Education Sciences*, 13(5). <https://doi.org/10.3390/educsci13050489>
- Kosenchuk, Y., Androschuk, I., Bakhmat, N., & Kosenchuk, O. (2023). Current trends in school reform in the Republic of FINLAND. *AMAZONIA INVESTIGA*, 12(61), 61–68. <https://doi.org/10.34069/AI/2023.61.01.7>
- Kupers, E., de Boer, A., Bakker, A., de Jong, F., & Minnaert, A. (2023). Explaining teachers' behavioural intentions towards differentiated instruction for inclusion: using the theory of planned behavior and the self-determination theory. *European Journal of Special Needs Education*, 00(00), 1–10. <https://doi.org/10.1080/08856257.2023.2263717>
- Lalić-Vučetić, N., & Ševkušić, S. (2023). Motivating Students to Learn is a Creative Act: A Qualitative Study on Teachers' Beliefs | Uvjerjenja učitelja o motivaciji učenika za učenje: kvalitativna studija. *Croatian Journal of Education*, 25(2), 453–490. <https://doi.org/10.15516/cje.v25i2.4701>
- Liu, W. C., Kong, L. C., Wang, C. K. J., Kee, Y. H., Ng, B., Lam, K., & Reeve, J. (2023). A qualitative study into the personal factors influencing secondary school teachers' motivating styles. *FRONTIERS IN PSYCHOLOGY*, 14. <https://doi.org/10.3389/fpsyg.2023.1127090>
- Łockiewicz, M., Sousa, O., Fuertes, M., Piechowska, M., & Costa-Pereira, T. (2023). Comparative analysis of the approach to first language oracy of Polish and Portuguese early education teachers | Análise comparativa da abordagem da oracia da língua materna de professores da educação básica polacos e portugueses. *Calidoscopio*, 21(3), 499–517. <https://doi.org/10.4013/cld.2023.213.05>
- Ma, Q. (2021). The Role of Teacher Autonomy Support on Students' Academic Engagement and Resilience. *Frontiers in Psychology*, 12(November), 1–7. <https://doi.org/10.3389/fpsyg.2021.778581>
- Mammadov, S., & Tozoglou, D. (2023). Autonomy support, personality, and mindset in predicting academic performance among early adolescents: The mediating role of self-determined motivation. *Psychology in the Schools*, 60(10), 3754–3769. <https://doi.org/10.1002/pits.22966>
- Mendoza, N. B., & Dizon, J. I. W. T. (2023). Principal autonomy-support buffers the effect of stress on teachers' positive well-being: a cross-sectional study during the pandemic. *Social Psychology of Education*. <https://doi.org/10.1007/s11218-023-09834-7>
- Michou, A., Altan, S., Mouratidis, A., Reeve, J., & Malmberg, L.-E. (2023). Week-to-week interplay between teachers' motivating style and students' engagement. *Journal of Experimental Education*, 91(1), 166–185. <https://doi.org/10.1080/00220973.2021.1897774>
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Grp, P. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement (Reprinted from Annals of Internal Medicine). *Physical Therapy*, 89(9), 873–880. <https://doi.org/10.1371/journal.pmed.1000097>
- Nihayah, R. W., Dina, W. F., Wijayanti, D., & Asyah, A. N. (2023). How does granting teacher autonomy influence classroom instruction? Lessons from indonesia's curriculum reform implementation. *Jurnal Penelitian Kebijakan Pendidikan*. <https://api.semanticscholar.org/CorpusID:265373615>
- Palma, M. (2022). On professional independence. *Statistical Journal of the IAOS*. <https://doi.org/10.3233/SJI-210918>
- Park, J., Lee, H., Kim, J., & Zhou, A. Q. (2023). Trajectories of Learning Attitude Profiles in Korean Middle School Students: Examining Developmental Patterns

- and the Influence of Parenting. *Child and Youth Care Forum*. <https://doi.org/10.1007/s10566-023-09763-8>
- Peng, Y., Wang, Y., & Hu, J. (2023). Examining ICT attitudes, use and support in blended learning settings for students' reading performance: Approaches of artificial intelligence and multilevel model. *Computers and Education*, 203. <https://doi.org/10.1016/j.compedu.2023.104846>
- Prickett, H., & Hayes, B. (2023). A systemic approach to supporting motivation and behaviour in secondary classrooms during COVID: a professional development intervention using self-determination theory. *Educational Psychology in Practice*. <https://doi.org/10.1080/02667363.2023.2221023>
- Rarasati, N., & Pramana, R. P. (2023). *Giving Schools and Teachers Autonomy in Teacher Professional Development Under a Medium-Capability Education System*. <https://api.semanticscholar.org/CorpusID:261028780>
- Shammari, M. H. Al. (2022). The Role of Teaching Methodology and Teacher Personality in English Language Teaching. *International Journal of English Linguistics*. <https://api.semanticscholar.org/CorpusID:247513862>
- Simon, E., & Nissim, Y. (2023). The Role and Motivation of Pre-Service Teacher (PST) Mentors from Pro-Social to Cognitive-Effective Perspectives. *Education Sciences*, 13(9). <https://doi.org/10.3390/educsci13090930>
- Thomson, P., Maloy, L., & Hall, C. (n.d.). 'The way I know is by looking back': English primary school children's views of making progress in arts subjects. *Education 3-13*, 1–13. <https://doi.org/10.1080/03004279.2023.2253075>
- Toding, M., Mädamürk, K., Venesaar, U., & Malleus, E. (2023). Teachers' mindset and attitudes towards learners and learning environment to support students' entrepreneurial attitudes in universities. *International Journal of Management Education*, 21(1). <https://doi.org/10.1016/j.ijme.2023.100769>
- Vermote, B., Vansteenkiste, M., Aelterman, N., van der Kaap-Deeder, J., & Beyers, W. (2023). Teachers' Psychological Needs Link Social Pressure with Personal Adjustment and Motivating Teaching Style. *Journal of Experimental Education*, 91(4), 696–717. <https://doi.org/10.1080/00220973.2022.2039584>
- Yang, Y., & Rao, N. (2023). The status, pathways and discourses of professionalism for early childhood education teachers in Chinese policies. *International Journal of Educational Development*. <https://doi.org/10.1016/j.ijedudev.2023.102760>
- Yap, J. R., & Gurney, L. (2023). Exploring practices of multiliteracies pedagogy through digital technologies: a narrative inquiry. *Literacy*, 57(3), 292–304. <https://doi.org/10.1111/lit.12335>
- Yilmaz, F. (2021). Evaluation of Working Conditions and Professional Independence Perceptions of Occupational Health and Safety Professionals. *Advances in Science and Technology Research Journal*. <https://doi.org/10.12913/22998624/142215>
- Yüce, G., Ekici, F., Akkuş, H., & Atasoy, B. (2022). Investigation of the Effects of Pre-Service Teachers' Socio-Economic Statuses and Personality Traits on Their Motivations. *Participatory Educational Research*. <https://doi.org/10.17275/per.22.141.9.6>
- Zhang, X., & Zhou, M. (2023). Adolescents' perceived ICT autonomy, relatedness, and competence: Examining relationships to intercultural competence in Great China Region. *Education and Information Technologies*, 28(6), 6801–6824. <https://doi.org/10.1007/s10639-022-11463-0>

