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The relationship between adolescents' well-being and academic performance Systematic Review

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Abstract

Over the last decade, interest in student well-being has grown significantly across psychology, education, health and economics. This review highlights the importance of prioritising student well-being within education systems, recognising that both schools and policy makers play a crucial role in promoting it.This systematic review synthesises empirical studies on the association between well-being and academic performance in adolescents. Following PRISMA guidelines, we searched PubMed, PsycINFO, ERIC, Web of Science, Scopus, JSTOR, ScienceDirect, Google Scholar and ResearchGate between June and September 2023, using combinations of terms related to well-being, academic performance and adolescence. Inclusion criteria were: peer-reviewed articles published in English from 2010 onwards; samples with adolescents aged 10–19; quantitative designs; at least one indicator of well-being and one of academic performance; and analyses of the association between these constructs. Seventeen studies met the criteria, involving a total of 276,559 students from diverse cultural and educational contexts. Across studies, higher levels of well-being (e.g., life satisfaction, psychological, social and school well-being, engagement) were generally associated with better academic outcomes (grades, test scores, perceived academic competence). At the same time, some evidence pointed to trade-offs, whereby high academic pressure was linked to lower well-being despite good performance. Socio-emotional factors (e.g., self-efficacy, self-esteem, peer and teacher relationships) and contextual characteristics (e.g., school climate, socioeconomic status) emerged as important mediators and moderators. Overall, the findings suggest a positive association between adolescent well-being and academic performance, while also underscoring the risk of achievement-oriented climates that undermine students' mental health. The review identifies conceptual and methodological gaps, particularly the limited number of longitudinal studies and the scarcity of evidence from Eastern Europe, and highlights the need for educational policies that integrate academic and well-being aims.

Keywords: well-being, academic performance, adolescents

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1. Introduction

In recent years, the promotion of student well-being has become a central concern in educational research and policy. International organisations and national governments increasingly recognise that schools are not only places for cognitive development, but also crucial contexts for social, emotional and psychological growth. At the same time, academic performance remains a primary indicator of educational success for students, families and systems. Understanding how these two aims – well-being and academic achievement – are related in adolescence is therefore of both scientific and practical importance.

Adolescence is a particularly sensitive period, marked by rapid biological, cognitive and social changes, as well as increasing academic demands and transitions between school stages. During this period, many young people experience declines in well-being and increased stress, while expectations regarding performance, examinations and educational trajectories intensify. Existing evidence suggests that higher levels of well-being are associated with better school outcomes, but findings are not always consistent, and the mechanisms underlying this relationship remain insufficiently understood. Meta-analyses and large-scale studies have highlighted positive links between subjective well-being and achievement, yet also point to contextual and individual conditions under which this association may weaken or even reverse.

Moreover, previous reviews have often focused on broad age ranges, mixed school and university samples, or specific indicators of well-being and achievement. Less attention has been paid to adolescence as a distinct developmental stage, to the diversity of well-being constructs used in school-based research, and to potential mediating and moderating factors such as school climate, interpersonal relationships or socioeconomic status. Evidence from eastern european contexts, including romania, remains particularly scarce, despite important changes in education systems and growing concern about students' mental health.

The present systematic review addresses this gap by synthesising empirical research on the relationship between adolescents' well-being and their academic performance. We focus on studies that conceptualise well-being within contemporary positive psychology frameworks and that report quantitative indicators of achievement. Specifically, we aim to describe how well-being and academic performance are operationalised and measured in adolescent samples, to summarise the main patterns of association between these constructs, to identify key mediators, moderators and contextual influences, and to highlight methodological limitations and directions for future research, with particular attention to implications for educational practice and policy.

2. Definition of concepts

2.1 Well-being

Prior to the 2000s, the mental health sector was dominated by the medical model, which defined (mental) health by the absence of symptoms and dysfunction. By focusing on treating illness and reducing negative symptoms, this model neglected the positive aspects of human functioning. In 2000, Seligman and Csikszentmihalyi proposed a radical shift, promoting a more holistic mental health framework in which the promotion of mental health and positive functioning would take centre stage. The World Health Organization redefined mental health in 2005 as "a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community". Thus, mental health was no longer seen only as the absence of illness, but also as a state of well-being and positive functioning (WHO, 2005, p. 5).

This paradigm shift led to the emergence of positive psychology, a science of well-being and positive emotions. The concept of well-being has become central to positive psychology, being defined as a multidimensional construct covering psychological, emotional and social aspects (Seligman, Csikszentmihaly, 2000). The literature has faced challenges in precisely defining well-being due to the complex and subjective nature of the concept. Although efforts have been made to formulate a clear definition, many approaches have focused on identifying and describing the dimensions associated with well-being (Seligman et al., 2009).

Well-being has been approached in two main traditions: hedonic and eudaimonic. The hedonic tradition focuses on happiness and positive affect, while the eudaimonic tradition emphasizes human development and positive psychological functioning (Dodge et al., 2012). The concept has been defined as a sustainable state that combines feeling good and optimal functioning, which includes experiencing positive emotions, personal development, control over life, and positive relationships (Ruggeri et al., 2020).

In the literature, the concept of well-being is approached in a range of dimensions, reflecting the complexity and diversity of human experience. These include:

- Psychological well-being, defined by Ryff and Singer (2006), which includes aspects such as purpose in life, personal growth and positive relationships.
- Social well-being, proposed by Keyes (1998), which refers to positive attitudes towards others and active participation in society.
- Emotional well-being, described by Diener (1984), which highlights the subjective experience of happiness, satisfaction and other positive and negative emotions.
- Subjective well-being, which is the individual's subjective evaluation of life and is associated with the level of perceived happiness and satisfaction (Diener, 1984).
- Material well-being, related to access to material resources and the economic aspects of an individual's well-being (Wilkinson & Pickett, 2009).

- Physical well-being, which is associated with an individual's state of health (Keyes, 2002).
- Spiritual well-being, which emphasises the deep connection to transcendental issues and the satisfaction derived from spiritual and religious experiences (Emmons, 2005).Environmental well-being, which focuses on the individual's relationship with the environment and issues of sustainability and ecological balance (Rapley, 2003).

These multiple and interconnected dimensions of well-being are fundamental to understanding and promoting a balanced and fulfilled life, reflecting the complexity and diversity of humanity.

In this review, we adopt an integrative perspective grounded mainly in eudaimonic conceptions of well-being, complemented by hedonic indicators. Eudaimonic approaches emphasise optimal functioning, purpose and personal growth, whereas hedonic approaches focus on positive affect and life satisfaction. Building on Seligman's model of authentic well-being and the PERMA framework, we consider five broad domains: Positive emotions, Engagement, Relationships, Meaning and Accomplishment. Within this lens, life satisfaction and affect capture hedonic aspects; psychological and social well-being reflect eudaimonic functioning; school engagement and burnout tap into the "Engagement" component; and academic grades and perceived competence are treated as indicators of "Accomplishment". The studies included in this review measure at least one of these domains, allowing us to interpret their findings within a coherent theoretical model.

2.2Academic performance

Within the education system, the school aims to achieve the main objective of learning and performance. Evaluation of the effectiveness of the learning process can be carried out at the level of the whole system and of individual pupils. School performance is the indicator of the level of theoretical and practical preparation of students, expressed by the ratio between the knowledge and skills acquired and the provisions of the school curriculum (Jude, 2002; Cucoș, 2008, cited in Curelaru, 2014). However, although school performance should also reflect other aspects of students' personality, it has been observed that there is a greater concentration on the evaluation of intellectual aspects, to the detriment of other capacities such as professional, moral, or aesthetic ones (Bontaș, 1998, cited in Curelaru, 2014). The ultimate goal of education is the formation of the skills needed to achieve performance. It is important to mention the relationship between school success and failure. School success refers to the achievement of an optimal school performance, expressed by high grades and the development of skills for practical, cultural or artistic activities. It can also be reflected in the higher qualities of the pupils' personality, such as intelligence, aptitude, or initiative. In contrast, failure means low academic achievement or insufficient personality development, including lack of motivation, maladjustment or behavioural deviations.

3. Theoretical models supporting the relationship between emotional well-being and academic performance

From an integrative positive psychology perspective, we conceptualise adolescent well-being as including both hedonic components (frequent positive affect, low negative affect, life satisfaction) and eudaimonic components (a sense of meaning, engagement, positive relationships and personal growth). This view is broadly consistent with Seligman's model of authentic well-being and the PERMA framework (Positive emotions, Engagement, Relationships, Meaning, Accomplishment; Seligman, 2011). In line with this conceptualisation, we included in the review empirical studies that assessed at least one hedonic or eudaimonic indicator of well-being (e.g., subjective well-being, life satisfaction, school engagement, flourishing, or burnout as an indicator of reduced well-being) and at least one indicator of academic motivation or performance (e.g., grades, GPA, standardised test scores, perceived academic competence, achievement goals).

The relationship between emotional well-being and academic performance can be understood through several complementary theoretical models. Barbara Fredrickson's broaden-and-build theory of positive emotions proposes that experiences such as joy, interest and gratitude broaden individuals' thought–action repertoires and, over time, build enduring personal resources (Fredrickson, 2001). In the school context, positive emotions may therefore widen students' attention, enhance cognitive flexibility and support more effective problem solving and learning.

Self-Determination Theory (SDT) further explains how learning environments that satisfy students' basic psychological needs for autonomy, competence and relatedness promote both well-being and high-quality academic motivation (Ryan & Deci, 2000). When students feel that they have some choice in their learning, perceive themselves as capable, and experience warm, supportive relationships with teachers and peers, they are more likely to internalise academic goals, to engage more deeply with schoolwork and to persist in the face of difficulties. These processes, in turn, can enhance academic performance. Positive psychology perspectives, including Seligman's theory of authentic well-being and Csikszentmihalyi's concept of flow, also highlight the role of strengths, engagement and meaning in supporting both well-being and achievement by sustaining focus and enjoyment in learning activities (Csikszentmihalyi, 1990; Seligman, 2011).

Conversely, models such as the accommodation erosion model, the academic incompetence model and the shared risk model emphasise how chronic stress, repeated failure or unsupportive environments can erode both well-being and performance over time (e.g., Deighton et al., 2018; Moilanen et al., 2010). Taken together, these frameworks suggest several potential causal pathways: well-being can facilitate learning through enhanced cognitive and motivational resources; academic success can contribute to well-being by reinforcing self-efficacy and a sense of accomplishment; and, under conditions of excessive pressure or poor support, high achievement may come at the cost of emotional health. These theoretical premises guided both our selection of studies and our interpretation of the empirical findings reviewed in this article.

4.Methodology

4.1 Objectives of the systematic review

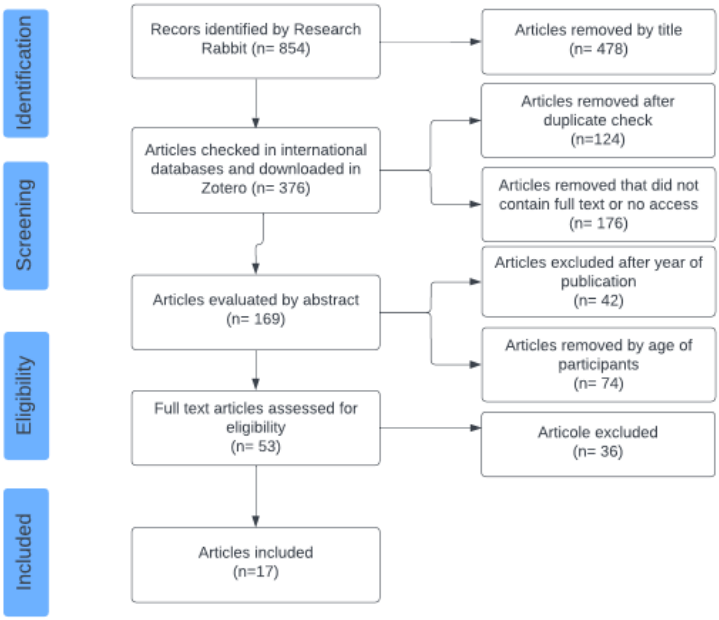
The present review pursues four interrelated objectives. First, it seeks to **identify and synthesise** empirical studies that investigate the association between well-being and academic performance in adolescents. Second, it aims to **describe how well-being and academic performance are conceptualised and measured**, including the main dimensions, instruments and indicators used across studies. Third, it aims to **examine factors that may mediate or moderate** the relationship between well-being and academic performance, such as age, gender, socioeconomic background, school climate and interpersonal relationships, as well as the statistical approaches used to model these associations. Finally, the review seeks to **assess methodological limitations and gaps in the literature**, and to **formulate recommendations for future research and educational practice**.

4.2 Study selection, inclusion criteria and search strategy

The study selection process for this systematic review was conducted between June and September 2023 and was reported in accordance with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. The full study selection process, including the number of records identified, screened, excluded and retained at each stage, is presented in the PRISMA flow diagram (**Figure 1**).

Figure 1

PRISMA flow diagram of the study selection process.



The literature search was conducted in English, in accordance with PRISMA guidelines, and combined key terms related to well-being, academic performance and adolescence. A typical search string took the following form: ("well-being" OR "wellbeing" OR

"subjective well-being" OR "mental health") AND ("academic performance" OR "academic achievement" OR "school performance" OR "academic attainment") AND (adolescen* OR "secondary school" OR "high school" OR "middle school"). Initially, three core articles were identified through the Research Rabbit platform and used as a starting point to generate connection schemes and expand the search to related studies. The search strategy was then applied across several international databases, including PubMed, PsycINFO, ERIC, Web of Science, Scopus, JSTOR, Google Scholar, ScienceDirect and ResearchGate, and was complemented by screening the reference lists of relevant articles. The database search initially yielded 854 records. Using predefined inclusion and exclusion criteria, we retained empirical studies with quantitative designs conducted in school or school-related settings, focusing on adolescents aged 10–19 years enrolled in primary, lower- or upper-secondary education, and investigating the relationship between student well-being and academic performance by reporting at least one indicator of each construct (e.g., subjective, psychological, social, school or emotional well-being, engagement or burnout as reduced well-being; subject grades, grade point average, standardised test scores or perceived academic achievement or competence). Only peer-reviewed journal articles published from 2010 onwards, with full text available and conducted in European or non-European contexts, were considered, with particular interest in studies examining mediators or moderators of the well-being–achievement link. At the title-screening stage, 478 records that were clearly irrelevant to these criteria were excluded, and the remaining 376 articles were downloaded and imported into Zotero. After removing 207 duplicates and records with incomplete texts or without access to the full text, 169 studies remained. We then excluded 42 articles published before 2010 and 74 studies whose samples did not consist of adolescents, resulting in 53 articles that were assessed in full for eligibility. Of these, 36 were excluded because they did not analyse the relationship between well-being and academic performance in school contexts or did not otherwise meet the inclusion criteria (for example, studies conducted exclusively in clinical or community settings, studies focusing only on well-being or only on academic performance, theoretical or review papers, non–peer-reviewed publications, or records without full text). Finally, 17 studies met all criteria and were included in the review; together, they form the empirical basis of the present systematic review. The inclusion and exclusion criteria are summarised in Table 1.

Table 1

Inclusion and exclusion criteria for the systematic review

Domain	Inclusion criteria	Exclusion criteria
Population	Studies including adolescents aged **10–19 years**, enrolled in primary, lower- or upper-secondary education.	Samples consisting exclusively of children **younger than 10 years**, university students, adults, or mixed samples in which data for adolescents are not reported separately.
Setting / Context	Studies conducted in **school or school-related settings** (e.g., classroom, whole-school context).	Studies conducted **solely in clinical or community settings** unrelated to schooling.
Focus of the study	Studies that **investigate the relationship** between student well-being and academic performance.	Studies focusing **only on well-being** without any academic performance indicator, or **only on academic performance** without any well-being indicator
Well-being indicators	At least one quantitative indicator of student well-being, such as subjective, psychological, social, school or emotional well-being, engagement, or burnout as an indicator of reduced well-being.	No indicator of student well-being, or exclusive focus on psychopathology/mental illness without a positive well-being measure.
Academic performance indicators	At least one quantitative indicator of academic performance, such as subject grades, grade point average (GPA), standardised test scores, or perceived academic achievement/competence.	No indicator of academic performance reported.
Study design	Empirical studies with quantitative and mixed-method designs that reported quantitative indicators of both student well-being and academic performance and analysed the association between these constructs.	Theoretical or conceptual papers, literature reviews, commentaries, editorials, or empirical studies that did not provide quantitative indicators for both well-being and academic performance.
Publication characteristics	Peer-reviewed journal articles, written in English, published from 2010 onwards, with full text available.	Non–peer-reviewed sources (e.g., reports, theses, conference abstracts), articles published before 2010, non-English publications, or records for which the full text could not be obtained.

5.Data analysis and synthesis

5.1Overview of included studies

Analysis of studies conducted between 2011 and 2023 reveals a diverse perspective on the relationship between student well-being and academic success. The research covers a wide range of socio-cultural and educational contexts, including European countries such as Germany, Spain, Portugal, Romania, the United Kingdom and Finland, as well as non-European contexts such as Chile, Korea, the Philippines, Australia, the United States, Turkey and China. One large-scale study based on data from 35 OECD member countries provides a cross-cultural view of how schools influence both student well-being and academic performance at system level (Govorova et al., 2020). In total, the 17 studies included in the review involved 276,559 students (31,890 when the OECD study is excluded). Most samples focused on critical periods of educational transition, with participants aged between 9 and 19 years and an average age of approximately 14.7 years. For 15 of the 17 studies, gender distribution was reported; across these samples, girls represented 43.29% of participants, which strengthens the generalisability of the

findings across genders. Regarding research design, five studies adopted a longitudinal design (Kim & Jeong, 2016; Datu & King, 2018; Choi et al., 2019; Kiuru et al., 2020; Kleinkorres et al., 2020), allowing for examination of prospective or reciprocal associations over time, whereas the remaining 12 studies were cross-sectional, providing snapshots of the relationships at specific points in time. Taken together, these designs offer both breadth and some depth in understanding the dynamics between well-being, the school environment and academic performance during adolescence. The main demographic characteristics and study designs of the included studies are summarised in Table 2.

Table 2

Demographic data, types of studies included

Author(s)	Year	Country	N	Age (range; M)	% girls	Design
Berger et al.	2011	Chile	674	9–10 years	51.5	Cross-sectional
Rüppel et al.	2015	Germany	508	10–14 years (M = 12.51)	45.08	Cross-sectional
Kim & Jeong	2016	Korea	3,500	13–14 and 18–19 years	Not reported	Longitudinal
Lv et al.	2016	China	419	Grades 4–6 (M = 10.97)	44.39	Cross-sectional
Cadime et al.	2016	Portugal	489	M = 16.31 years	54.6	Cross-sectional
Datu & King	2018	Philippines	389	M = 13.40 years	20.74	Longitudinal
Sánchez-García et al.	2018	Spain	1,664	14–19 years (M = 16.12)	53.0	Cross-sectional
Steinmayr et al.	2018	Germany	767	14–15 years (M = 14.07)	47.09	Cross-sectional
Choi et al.	2019	Korea	4,705	8, 10 and 12 years	Not reported	Longitudinal
Murray-Harvey	2019	Australia	888	10–15 years (M = 12.85)	49.0	Cross-sectional
Kleinkorres et al.	2020	Germany	2,902–4,180	Grades 5–9 (M ≈ 10.75–12.77)	49.5–49.7	Longitudinal
Kiuru et al.	2020	Finland	848	Grades 6–7 (M = 12.3)	54.0	Longitudinal
Govorova et al.	2020	35 OECD countries	248,620	15 years	50.0	Cross-sectional
Erdem & Kaya	2021	Turkey	6,890	M = 15.82 years	49.6	Cross-sectional
Ling et al.	2022	China	1,353	16–17 years	53.0	Cross-sectional
Țepordei et al.	2023	Romania	650	9–12 years (M = 10.99)	54.3	Cross-sectional
Clarke et al.	2023	UK	607	14–15 years	38.4	Cross-sectional

5.2 Study objectives

Across the period 2011–2023, the reviewed studies pursued a set of converging objectives at both individual and contextual levels. Early contributions focused on the association between students' socio-emotional well-being, self-esteem, social integration and academic performance, as well as on the role of classroom social climate and social network characteristics (Berger et al., 2011; Rüppel et al., 2015). Subsequent studies examined how emotional well-being, conceptualised in terms of positive and negative affect, relates to academic achievement and how parent–school communication may moderate this relationship (Lv et al., 2016; Cadime et al., 2016). Other research

investigated the contribution of school climate, academic self-efficacy, interest and test anxiety to explaining interindividual differences in achievement and subjective well-being (Steinmayr et al., 2018).

More recent work broadened the scope of analysis to include difficulties in emotional and behavioural adjustment, supportive and stressful relationships, school membership and socio-emotional adjustment (Sánchez-García et al., 2018; Murray-Harvey, 2019). Several studies examined reciprocal relationships between different aspects of well-being (physical, cognitive, emotional) and academic performance, bringing into focus possible gender differences and school-type differences in these associations (Kleinkorres et al., 2020; Erdem & Kaya, 2021; Ling et al., 2022; Clarke et al., 2023). Others concentrated on the quality of adolescents' relationships with parents, teachers and school friends and the extent to which these relationships predict school well-being and, in turn, academic achievement (Kiuru et al., 2020; Țepordei et al., 2023). Large-scale studies estimated the magnitude of school effects on student well-being and performance across OECD countries, emphasising the importance of contextual influences (Govorova et al., 2020).

5.3. Dimensions and variables

The range of dimensions and variables examined reflects the conceptual richness of research on the well-being–achievement link. Several studies focused on **socio-emotional and psychological well-being**, self-esteem, school climate, social integration and the social network of the class, as well as academic performance assessed through grade point averages (Berger et al., 2011; Rüppel et al., 2015). Other investigations extended the focus to emotional well-being, parent–school communication and demographic variables, exploring how these factors jointly contribute to academic success (Lv et al., 2016).

Burnout and engagement were also key constructs in some studies, which analysed the interplay between emotional, psychological and social well-being, dedication, vigour, cynicism, exhaustion and academic performance (Cadime et al., 2016). Additional work examined school climate, interest, test anxiety, subjective well-being and achievement, highlighting multiple pathways through which classroom experiences and student dispositions can affect both well-being and outcomes (Steinmayr et al., 2018).

Other studies emphasised supportive and stressful relationships, psychological well-being, social/emotional adjustment and academic performance (Murray-Harvey, 2019), or focused on the reciprocal relationships between emotional, cognitive and physical well-being and achievement, considering also gender and school level (Kleinkorres et al., 2020). Life satisfaction, perceptions of academic performance, number of friends and peer acceptance were examined as indicators of social and academic adjustment, often alongside mindset and interpersonal relationships (Kiuru et al., 2020; Ling et al., 2022; Țepordei et al., 2023; Clarke et al., 2023). Overall, the similarities across studies lie in

their comprehensive approach to the complex relationship between well-being and academic performance, with attention to both individual and social influences.

5.4 Instruments

The studies employed a wide variety of instruments to assess well-being, contextual factors and academic performance. For instance, Berger et al. (2011) used the Socio-Emotional Well-Being Self-Report Scale and the Self-Esteem Test (TAE), together with school climate and social network measures, to examine the impact of emotional well-being and self-esteem on academic performance. Rüppel et al. (2015) used the KIDSCREEN-27 to assess psychological well-being and school climate, alongside grade point averages in German and mathematics and parental reports of socioeconomic status. Lv et al. (2016) relied on midterm and final exam grades in Chinese, mathematics and English, a questionnaire on parental involvement in children's education and an emotions scale assessing positive and negative affect. Cadime et al. (2016) used the Mental Health Continuum–Short Form for Youth, burnout and engagement scales and overall semester averages to examine associations between well-being, burnout, engagement and achievement. Sánchez-García et al. (2018) combined the Strengths and Difficulties Questionnaire, a positive and negative affect scale, a personal well-being index and an ad hoc academic performance questionnaire.

Other studies used school and classroom climate questionnaires, test anxiety inventories, subjective well-being scales, measures of supportive and stressful relationships, symptomology scales, school membership scales, friendship quality scales, teacher–student and parent–child relationship scales, and instruments assessing mindset, goal orientations and life satisfaction (Steinmayr et al., 2018; Murray-Harvey, 2019; Kiuru et al., 2020; Ling et al., 2022; Țepordei et al., 2023; Clarke et al., 2023). Academic performance was typically assessed through grade point averages, grades in core subjects or standardised tests, including PISA scales and national assessments (Govorova et al., 2020; Erdem & Kaya, 2021).

Thus, the research on the relationship between well-being and academic performance benefits from a wide range of instruments, from self-report measures of well-being and school climate to standardised assessments of academic performance. As a common feature, most studies measured academic achievement through grades in core subjects (e.g., mathematics, language, English, science) or PISA scores.

5.5 Statistical analysis

The statistical analyses used in the included studies reflect a variety of techniques aimed at capturing the complexity of the relationships between well-being, contextual factors and academic performance. Several studies used hierarchical linear models, linear regression and hierarchical multiple regression to explore the influence of emotional and psychological well-being, school climate and demographic variables on academic achievement (Berger et al., 2011; Rüppel et al., 2015; Lv et al., 2016; Cadime et al., 2016; Erdem & Kaya, 2021).

Multivariate techniques, such as multivariate analysis of covariance (MANCOVA) and structural equation modelling (SEM), were used to examine complex interdependencies and potential mediating effects (Sánchez-García et al., 2018; Steinmayr et al., 2018; Choi et al., 2019; Murray-Harvey, 2019; Govorova et al., 2020; Ling et al., 2022; Clarke et al., 2023). Longitudinal studies often used cross-lagged models or other longitudinal SEM approaches to assess reciprocal relationships between well-being and academic performance over time (Kim & Jeong, 2016; Datu & King, 2018; Kiuru et al., 2020; Kleinkorres et al., 2020).

In addition, basic techniques such as t-tests and Pearson correlations were employed to assess group differences and bivariate associations (Cadime et al., 2016; Erdem & Kaya, 2021). Overall, the use of diverse analytic strategies indicates a growing effort to move beyond simple correlations and to capture the multifaceted nature of the well-being–achievement link.

The main objectives, dimensions, instruments and statistical analyses of the included studies are summarised in Table 3.

Table 3

Objectives, dimensions, instruments and statistical analyses

Author(s)	Year	Main objective	Key variables	Instruments	Main analyses
Berger et al.	2011	To examine the association between well-being and academic performance, taking into account individual-level and class-level characteristics.	Socio-emotional well-being; self-esteem; school climate; social integration; class social network; academic performance	Socio-Emotional Well-Being Self-Report Scale; TAE Self-Esteem Test; ECLIS School Climate Scale; Social Cognitive Mapping (SCM); SIENA; GPA (previous year)	Hierarchical linear modelling (HLM)
Rüppel et al.	2015	To examine correlations between students' self-reported well-being and academic performance, considering SES.	Psychological well-being; school climate; academic performance; socioeconomic status	KIDSCREEN-27; GPA in German and Mathematics; parent-reported education and income	t-tests; linear regression
Lv et al.	2016	To analyse the relationship between academic achievement and emotional well-being and the moderating effect of parent–school communication.	Academic performance; parent–school communication; emotional well-being; demographic variables	Exam grades in Chinese, Mathematics and English; parental involvement questionnaire; Emotions Scale (positive and negative affect)	Hierarchical multiple regression
Cadime et al.	2016	To examine the relationships between burnout and engagement, well-being and academic performance.	Academic performance; emotional well-being; psychological well-being; social well-being; dedication; vigour; cynicism; exhaustion	Semester GPA; Mental Health Continuum–Short Form for Youth; MBI-SS Burnout Inventory; UWES-S Engagement Scale	t-tests; Pearson correlations; hierarchical linear modelling
Sánchez-García et al.	2018	To examine behavioural and emotional difficulties and their relationships with subjective well-being, affect and academic performance.	Emotional and behavioural difficulties; emotional well-being; positive and negative affect; academic performance	Strengths and Difficulties Questionnaire (SDQ); PANAS-C; Personal Well-Being Index–School (PWI-SC); ad hoc Academic Performance Questionnaire; Oviedo Response Infrequency Scale (INF-OV)	Multivariate analysis of covariance (MANCOVA)
Steinmayr et al.	2018	To test the validity of school climate, academic self-	School climate; academic self-efficacy; interest; test	School and Classroom Climate Questionnaire	Structural equation

		efficacy, interest and test anxiety as predictors of academic achievement and subjective well-being.	anxiety; subjective well-being; academic performance	(LFSK); self-regulation questionnaire (self-efficacy subscale); Test Anxiety Inventory (TAI-G); Subjective Well-Being Scale (HSWBS); GPA	modelling (SEM)
Murray-Harvey	2019	To investigate associations between supportive and stressful relationships, social/emotional adjustment, psychological well-being and academic performance.	Supportive relationships; stressful relationships; psychological well-being; social/emotional adjustment; academic performance	Family, peer and teacher support scales; symptomatology scale (apathy, somatic symptoms, depression, aggression); school membership scale; teacher rating scales	Correlations; partial least squares path analysis (PLS-PATH)
Kleinkorres et al.	2020	To examine reciprocal relationships between physical, cognitive and emotional well-being and academic achievement, and gender and school-type differences.	Academic performance; physical well-being; cognitive well-being; emotional well-being; gender; school track	NEPS tests (reading, mathematics); self-reported health and absenteeism; satisfaction scale; helplessness scale	ANOVA; t-tests; Bonferroni–Holm post hoc tests
Kiuru et al.	2020	To examine reciprocal relationships between adolescents' relationships with parents, friends and teachers, school well-being and academic achievement.	Academic performance; school well-being; quality of relationships with teachers, friends, parents	GPA; Friendship Qualities Scale; Student–Teacher Relationship Scale (STRS); Parent–Child Relationship Scale (CPRS)	Cross-lagged structural equation models
Govorova et al.	2020	To identify components of well-being that predict academic performance and estimate school effects on well-being in OECD countries.	Psychological well-being; physical well-being; school climate; academic performance; socioeconomic status	PISA performance scales; background questionnaire; ESCS index; science grades	Confirmatory factor analysis (CFA); structural equation modelling (SEM)
Erdem & Kaya	2021	To examine correlations between demographic characteristics, SES, well-being and academic achievement.	Academic performance; psychological well-being; subjective well-being; social well-being; age; gender; SES	PISA 2018 test scores and background indicators (well-being, SES, etc.)	Pearson correlations; hierarchical multiple linear regression
Ling et al.	2022	To investigate student well-being and the balance between well-being and academic performance.	Academic well-being; psychological well-being; personal well-being; physical well-being; spiritual well-being; academic performance	Self-Descriptive Questionnaire II; PERMA-based psychological well-being items; Life Resilience Scale; Self-Descriptive Questionnaire III; Vitality Scale; relationship scale; SHALOM-2; grades in Chinese, Mathematics and English	Exploratory and confirmatory factor analyses (EFA, CFA); cross-validation
Țepordei et al.	2023	To examine interactions between peer relationships, life satisfaction and academic performance, considering perceived academic competence as a mediator.	Life satisfaction; perceived academic performance; academic performance; number of friends; peer acceptance; perceived academic competence	BMSLSS; Self-Perception Profile for Children; grades in English and Mathematics; sociometric items; peer hierarchy	Structural path modelling
Clarke et al.	2023	To examine the relationship between mindset, well-being and academic achievement in adolescence.	Mindset; well-being (eudaimonia, life satisfaction); academic performance; interpersonal relationships; goal orientations	"How I feel about myself and school" scale; TIS Implicit Theories of Intelligence Scale; Self-Theory Scale; PALS achievement goal orientations; GPA in Mathematics and English	Structural equation modelling (SEM)

5.6 Main patterns of association between well-being and academic performance

Taken together, the studies provide converging evidence for a predominantly **positive association** between adolescent well-being and academic performance. Higher levels of subjective, psychological and school well-being, as well as greater engagement and life satisfaction, were generally associated with higher grades, better test scores and more positive perceptions of academic competence (Berger et al., 2011; Cadime et al., 2016; Sánchez-García et al., 2018; Steinmayr et al., 2018; Govorova et al., 2020; Erdem & Kaya, 2021; Ling et al., 2022; Țepordei et al., 2023; Clarke et al., 2023). These findings suggest that students who feel satisfied with their lives, experience positive emotions and perceive their school environments as supportive tend to achieve more favourable academic results.

At the same time, several studies highlight **possible trade-offs under conditions of high academic pressure**. In some highly competitive contexts, strong academic performance coexisted with lower levels of emotional or school-related well-being, suggesting that achievement can sometimes be maintained at the cost of elevated stress, reduced life satisfaction or symptoms of burnout (Govorova et al., 2020; Erdem & Kaya, 2021; Ling et al., 2022). Such paradoxical patterns underline the fact that the well-being–achievement link is not uniformly positive and may depend on how academic demands, expectations and support are balanced at school and system levels.

A second consistent theme concerns the role of **psychological and socio-emotional resources**. Self-esteem, self-efficacy, perceived academic competence, emotional adjustment and socio-emotional skills were repeatedly associated with both well-being and academic performance (Cadime et al., 2016; Sánchez-García et al., 2018; Murray-Harvey, 2019; Kiuru et al., 2020; Ling et al., 2022; Țepordei et al., 2023; Clarke et al., 2023). Adolescents who felt confident in their abilities, showed adaptive coping and reported fewer emotional and behavioural difficulties tended to display higher levels of well-being and stronger academic outcomes, whereas emotional and behavioural problems were linked to lower well-being and poorer performance (Sánchez-García et al., 2018; Murray-Harvey, 2019; Erdem & Kaya, 2021).

A third theme involves **relational and contextual influences**. Positive and supportive relationships with parents, teachers and peers, as well as perceptions of a fair, caring and inclusive school climate, were generally associated with higher levels of well-being and better academic achievement (Berger et al., 2011; Murray-Harvey, 2019; Kiuru et al., 2020; Govorova et al., 2020; Țepordei et al., 2023; Clarke et al., 2023). Social support and high-quality teacher–student relationships often acted as protective factors, buffering the negative impact of academic stress on both well-being and performance (Murray-Harvey, 2019; Kiuru et al., 2020; Țepordei et al., 2023), whereas experiences of bullying, social exclusion or conflict were associated with reduced well-being and weaker academic outcomes (Erdem & Kaya, 2021; Țepordei et al., 2023). Differences related to gender, socioeconomic status and school type were also observed, indicating that the strength and direction of the well-being–achievement association can vary across student

groups and educational contexts (Kleinkorres et al., 2020; Erdem & Kaya, 2021; Ling et al., 2022; Clarke et al., 2023).

Overall, the evidence suggests that the relationship between well-being and academic performance in adolescence is shaped by a **broader network of individual, relational and contextual factors**, rather than constituting a simple, linear association.

5.7 Methodological and conceptual limitations of the included studies

The analysis of the 17 studies also brings to light several methodological and conceptual limitations that should be considered when interpreting the findings. Some studies relied solely on teacher-assigned grades as indicators of academic performance, without complementing them with external examinations or standardised tests, which may affect comparability across contexts and the robustness of conclusions. In other cases, the absence of specific groups in the sample or the focus on a single region, school type or country limits the generalisability of the results.

Many studies were based primarily on self-report measures of well-being and related constructs, which, while valuable, are vulnerable to social desirability and response biases. In some cases, potentially important confounding variables were not fully controlled, making it difficult to determine whether the observed associations can be attributed to well-being and contextual factors or to unmeasured influences.

Furthermore, a substantial proportion of the studies used cross-sectional designs, which preclude strong causal inferences and do not allow for examination of temporal ordering or reciprocal influences. Although several longitudinal studies were included, they remain relatively few and often limited to specific age ranges or time spans. Finally, conceptual heterogeneity in the operationalisation of well-being and academic performance complicates direct comparisons and the formulation of cumulative conclusions.

These limitations highlight the need for future research to employ more diverse and representative samples, multi-informant data (students, teachers, parents), rigorous longitudinal and intervention designs, and clearer, theoretically grounded conceptualisations of both well-being and academic performance.

6.Discussions

6.1 Interpretation of results in light of theoretical frameworks

The findings of this review indicate that adolescent well-being and academic performance are closely related, yet in ways that are nuanced and context-dependent. The predominantly positive associations between various dimensions of well-being (subjective, psychological, social and school well-being, engagement, life satisfaction) and academic outcomes are consistent with broaden-and-build theory, which posits that positive emotions broaden individuals' thought–action repertoires and build durable cognitive, social and psychological resources. In school settings, students who experience

more frequent positive emotions may show greater curiosity, persistence and openness to learning, which in turn can enhance their academic performance.

The results also align with Self-Determination Theory, which emphasises the role of basic psychological needs—autonomy, competence and relatedness—in fostering well-being and high-quality motivation. Studies in which students perceived their learning environments as supportive and fair, and their relationships with teachers and peers as positive, tended to report higher levels of well-being and better academic outcomes. This suggests that need-supportive school environments not only contribute to students' well-being but also promote internalised, autonomous forms of motivation that support sustained engagement and achievement.

At the same time, findings from highly competitive educational contexts, where excellent performance coexisted with low well-being, evoke theoretical models that highlight the costs of achievement under chronic stress. From this perspective, academic success driven primarily by external pressures, fear of failure or excessive workload may undermine emotional health over time, even if short-term performance indicators remain high. These patterns point to potential bidirectional and sometimes conflicting pathways: well-being can foster learning and performance through enhanced cognitive and motivational resources, but prolonged academic pressure and negative feedback can erode well-being and eventually weaken academic functioning.

The reviewed studies also underscore the importance of mediating and moderating mechanisms. Psychological resources such as self-efficacy, self-esteem and perceived academic competence appear to mediate the link between global well-being and academic outcomes, shaping how students interpret challenges and mobilise effort. Relational variables and school climate function as moderators, influencing the extent to which academic demands translate into stress or growth. Supportive relationships with parents, teachers and peers, as well as inclusive and participatory school environments, can buffer the negative effects of stress, whereas experiences of bullying, exclusion or perceived unfairness may amplify them. These patterns are compatible with integrative positive psychology frameworks such as PERMA, which conceptualise Positive emotions, Engagement, Relationships, Meaning and Accomplishment as interrelated aspects of optimal functioning.

Overall, the findings suggest that promoting well-being in adolescence is not in opposition to academic excellence; rather, under favourable conditions, the two can be mutually reinforcing. The challenge for educational systems is to design environments in which high expectations are combined with strong relational support, meaningful learning experiences and opportunities for autonomy.

6.2Limitations of the present review

The present systematic review has several limitations that should be noted. First, the number of included studies (N = 17) is relatively modest, which may limit the comprehensiveness and generalisability of the conclusions. Second, the literature search,

although conducted in multiple major databases and complemented by citation tracking, was restricted to articles written in English and published from 2010 onwards; relevant studies published in other languages or earlier may have been missed.

Third, the study selection, data extraction and synthesis were carried out by a single researcher. Although predefined criteria and transparent procedures were used, the absence of independent screening and coding may introduce subjectivity and selection bias. Fourth, given the heterogeneity of study designs, measures of well-being and academic performance, and analytic strategies, a meta-analytic synthesis was not feasible; instead, we relied on narrative synthesis, which is inherently more interpretative.

These limitations suggest that the findings should be interpreted with caution and highlight the need for future systematic reviews that include broader language coverage, larger sets of studies and, where possible, quantitative synthesis.

6.3Future research directions and implications for the Romanian context

The reviewed evidence indicates that student well-being is closely linked to academic success, yet research on this relationship remains limited in some contexts, including Romania. National and international reports suggest that Romanian pupils show relatively high levels of subjective well-being in childhood, followed by notable declines during adolescence, in parallel with persistent challenges such as overloaded curricula, teacher shortages, low salaries in education and absenteeism.

In recent years, international projects (e.g., ENABLE, Schools for Health in Europe, Mindfulness in Schools) and national initiatives have begun to draw attention to the importance of well-being in Romanian schools. Studies conducted by the Ministry of Health and the National Institute of Public Health have emphasised the central role of teachers in creating inclusive, supportive classroom climates. However, systematic, large-scale research specifically targeting the relationship between well-being and academic performance among Romanian adolescents is still scarce.

To address this gap, future research should focus on context-sensitive investigations that consider the specific features of local education systems. In our own work, we intend to initiate studies in the Moldova region, focusing on lower- and upper-secondary school students, with the aim of examining how different dimensions of well-being (e.g., life satisfaction, school engagement, social relationships) relate to academic outcomes. Such research should also explore the roles of peer and teacher relationships, school climate and socio-emotional factors as potential mediators and moderators. By generating robust, context-specific evidence, these studies could provide a stronger basis for designing educational policies and interventions in Romania that jointly support well-being and academic success.

7. Conclusions

The synthesis of 17 studies examining the relationship between adolescent well-being and academic performance reveals a complex, but generally positive, association between these two domains. Higher levels of subjective, psychological and school well-being, as well as stronger engagement and life satisfaction, are typically linked to better academic outcomes. At the same time, findings from highly competitive or high-pressure contexts show that academic success can sometimes be achieved at the expense of emotional health, indicating that the relationship is not uniformly beneficial and depends on the broader educational environment.

The main contribution of this review lies in integrating heterogeneous conceptualisations and measures of well-being and academic performance within a coherent theoretical framework inspired by positive psychology, broaden-and-build theory, Self-Determination Theory and the PERMA model. By highlighting the roles of psychological resources, socio-emotional adjustment, relationships with parents, teachers and peers and school climate as mediators and moderators, the review moves beyond simple correlational descriptions and points to specific pathways through which well-being and academic performance can reinforce one another or come into tension.

For educational policy and practice, the findings suggest that promoting adolescent well-being is not a secondary objective, but a key condition for sustainable academic achievement. Educational strategies that foster positive emotions, engagement, supportive relationships, a sense of meaning and realistic accomplishment are likely to benefit both well-being and learning, especially when combined with fair, inclusive and autonomy-supportive school environments. Future research, particularly in under-studied contexts such as Eastern Europe, should prioritise longitudinal and intervention designs and multi-informant data in order to test causal mechanisms and to inform evidence-based policies that support the holistic development of young people.

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