

IV Encontro Internacional de Formação na Docência 4th International Conference on Teacher Education

Livro de Atas Proceedings



Bragança | 3 e 4 de maio | 2019

Livro de Atas

IV Encontro Internacional de Formação na Docência (INCTE)

Proceedings

4th International Conference on Teacher Education (INCTE)

Título:	IV Encontro Internacion	al de Formação na Docência (INCTE): Livro de atas
Edição:	Instituto Politécnico de	Bragança
Editores:	Manuel Vara Pires	Instituto Politécnico de Bragança
	Cristina Mesquita	Instituto Politécnico de Bragança
	Rui Pedro Lopes	Instituto Politécnico de Bragança
	Elisabete Mendes Silva	Instituto Politécnico de Bragança
	Graça Santos	Instituto Politécnico de Bragança
	Raquel Patrício	Instituto Politécnico de Bragança
	Luís Castanheira	Instituto Politécnico de Bragança
Ano:	2019	
ISBN:	978-972-745-259-0	
Handle:	http://hdl.handle.ne	t/10198/15084

INCTE 2019 – IV Encontro Internacional de Formação na Docência	
Nota de abertura	1
Por e para uma educação para a autonomia Manuel Vara Pires, Cristina Mesquita, Rui Pedro Lopes, Elisabete Mendes Silva, Graça Santos, Raquel Patrício, Luís Castanheira	3
Conferências Plenárias	7
Educar para a autonomia: dos equívocos aos desafios	9
The cornerstones of Finnish education system	11
Mesa Redonda	17
O perfil do professor à luz do perfil do aluno Carlos Teixeira (moderador) Joana Brocardo, Jorge Ramos do Ó, Susana Gómez Redondo (intervenientes)	19
O perfil dos alunos a saida da escolaridade obrigatoria e a formacao inicial de professores Joana Brocardo	23
En busca de docentes y discentes autonomos (y algunas paradojas socio-didacticas) Susana Gómez Redondo	31
Currículo e Formação de Educadores e Professores	43
A construção do portfólio no 1.º ciclo do ensino básico Andreia Filipa Teixeira, Ilda Freire-Ribeiro	45
Aprendizagem no ensino não-superior português: proposta de um modelo de investigação Pedro Ribeiro Mucharreira, Marina Godinho Antunes, Belmiro Cabrito, Luísa Cerdeira	55
Educação para o empreendedorismo em duas regiões transfronteiriças de Portugal e Espanha <i>Vitor Gonçalves, Francisco J. García Tartera</i>	63
Entre instruir, formar e educar: entendimentos plurais do mandato da profissão docente $Luís\ Gouveia$	71
Formação contínua de professores e utilização das tecnologias de informação e comunicação Marco Cruzeiro, António Andrade, Joaquim Machado	81
Lecionar expressão e educação musical no 1.º ciclo do ensino básico	91
Modelos de integração curricular das tecnologias digitais em contextos de aprendizagem Manuel Meirinhos, Sani de Carvalho Rutz da Silva, Renata da Silva Dessbesel	102

O gestor escolar e a coesão social na escola Marisa Batista	113
Pedagogia e política como vocações do professor: dilemas atuais da formação docente Henrique Ramalho	125
Pensar o currículo na educação pré-escolar: processos de (trans)formação colaborativos Isabel Tomázio Correia, Maria Manuela Matos, Sofia Figueira	138
Produções e usos de materiais curriculares da probabilidade no início da escolarização Michaelle R. M. de Santana, Rute Elizabete de S. R. Borba	148
Propuesta para evaluar la competencia digital de estudiantes de educación obligatoria Sonia Casillas Martín, Marcos Cabezas González, Ana García Valcárcel-Muñoz Repiso	160
Proyecto Teaming Day: un proyecto para compartir Sonia Rodríguez Cano, Vanesa Delgado Benito, Vanesa Ausín Villaverde, Laura Sebastián Vega	171
Significados da avaliação na perspectiva de professores de cursos de formação docente Guilherme Henrique Rezende Bittencourt, Adorinda Gonçalves, Gisélia Maria Campos Ribeiro	180
Tarefas matemáticas com vista à avaliação e à comunicação para a aprendizagem Cristina Martins, António Guerreiro	189
Trabalho de projeto e flexibilidade curricular: contributos para a formação de professores Carlos Alberto Ferreira	199
Didática e Formação de Educadores e Professores	207
A prática de yoga com um grupo de 3 e 4 anos Sofia Neto Serra, Maria Helena Horta, Luís Sérgio Vieira	209
As tecnologias com potencial transformador em contexto educativo: realidade ou utopia? Sandra Oliveira, Maria do Céu Ribeiro	222
Assessment alternatives of teachers' well-being and school climate on students' achievements Mária Hercz, Zewude Girum Tareke	231
Avaliação das aprendizagens: conceções de alunos do ensino básico sobre seus significados Guilherme Henrique Rezende Bittencourt, Luís Castanheira, Patrícia Perdigão, Rosana Pinto, Luís Cipriano, Ana Raimundo	244
Bebeteca: uma biblioteca para a primeira infância Mônica Correia Baptista, Cynthia Terra, Camila Petrovitch, Laís Penna	256
Constrangimentos na prática letiva de professores de ciências sem formação pedagógico-didática Giuseppe Bachini, Delmina Maria Pires, Vitor Hugo Borba Manzke	266
Desenvolvimento da linguagem da criança no jardim de infância Carla Sofia Araújo	275
El DUA como facilitador de la participación del alumnado con discapacidad visual Raquel Pérez Gutiérrez, Raquel Casado-Muñoz	287

El sentido del humor como herramienta metodológica docente: revisión bibliográfica Elvira Mercado Val, Cristina di Giusto Valle, Laura Rubio Rubio, Tamara de la Torre Cruz, María Isabel Luis Rico	296
Estudo comparativo na prática supervisionada no $1.^{\rm o}$ CEB: jogos analógicos/jogos digitais Henrique Gil, Diana Paraíso	306
Expressões integradas: percursos formativos em contexto de educação pré-escolar Paulo Eira, Maria Cristina Aguiar, Mariana Veloso, Mara Maravilha	317
Importância da didática no mestrado em ensino do inglês no 1.º ciclo Luciana Cabral Pereira, Elisabete Mendes Silva	324
Materiais didáticos na educação pré-escolar: tarefas para trabalhar a matemática <i>Filipa Almeida, Ana Paula Aires</i>	336
Methods applied in the changing process of the studies of pre-school education Sigita Saulėnienė, Nijolė Meškelienė, Jolanta Bareikienė	348
Perceções de professores sobre avaliação: um estudo na formação contínua de professores Graça Santos, Cristina Martins	360
Podem as aulas de ciências promover a criatividade? desafios da prática profissional Joana Rocha, Xana Sá-Pinto, Cecília Costa, J. Bernardino Lopes	371
Projetos interdisciplinares como prática pedagógica: expressão e educação musical e físico-motora Maria Cristina Aguiar, Paulo Eira	382
Resolver problemas envolvendo razões e proporções por futuros professores dos primeiros anos . José António Fernandes, Paula Maria Barros, Gabriela Gonçalves	394
Ser professor/a iniciante: reflexões sobre sua identidade e especificidades Janaina Nogueira Maia Carvalho	406
Social and emotional learning preventing children's behavioural problems	415
Students, teachers and parents' views about learning: learning support and strategies	426
Práticas Educativas e Supervisão Pedagógica	439
A ClassDojo no ensino e na aprendizagem da matemática no 2.º CEB Sara Moreira, Ana Paula Aires	441
A importância do trabalho de grupo em contexto escolar: conceções dos alunos Sara Andresa Cássio Araújo, Adorinda Gonçalves	453
A multinational investigation of quality in preschools Gianina-Ana Massari, Zeynep Alat, Şakire Karabay, Florentina-Manuela Miron, Cristina Mesquita, Catarina Vasques, Maria José Rodrigues, Tija Zīriņa, Agrita Taurina	464
A multinational investigation of quality of day care centers Gianina-Ana Massari, Zeynep Alat, Şakire Karabay, Florentina-Manuela Miron, Cristina Mesquita, Catarina Vasques, Maria José Rodrigues, Tija Zīriņa, Agrita Taurina	472

A utilização do QR Code em contexto educativo: uma investigação no 1.º CEB Joana Godinho, Henrique Gil	482
Aprendizagem cooperativa como meio promotor de competências sociais e de sucesso escolar Ana Ferreira, Carlos Manuel Ribeiro da Silva	493
Atenção e concentração: da sala de aulas ao espaço verde Lídia Machado dos Santos, Maria de Jesus G. Cepeda, Bruno Martins	504
Autonomia, autoria, aprendizagem e flexibilidade curricular: da teoria à prática Nilsa Quelhas, Daniela Gonçalves	514
Children's museum: an innovative approach for development and learning space	520
Ciência com letras: uma experiência interdisciplinar na formação de professores/educadores Margarida Quinta e Costa, Isilda Monteiro, A. Almeida, Ana Carvalheira, Sara Medeiros, Catarina Silva	530
Conhecimento estatístico dos alunos no 2.º ciclo do ensino básico Catarina Ferraz, António Guerreiro	540
Construindo representações do mundo: análise de uma experiência pedagógica com crianças Pedro Pires, Angelina Sanches, Carlos Teixeira	552
Construção colaborativa de argumentos: estudo de caso no ensino profissional Rui Oliveira, J. Bernardino Lopes, Cecília Costa	564
Construção do "eu", professor(a): contributos do projeto curricular integrado no desenvolvimento profissional <i>Cátia Sofia Martins Lemos, Carlos Manuel Ribeiro da Silva</i>	576
De artefactos a ferramentas: caso duma aula de matemática de 12.º ano Carlos Monteiro, J. Bernardino Lopes, Cecília Costa	588
El camino de Santiago, un apoyo pedagógico para la educación Rosa Vázquez Rodríguez	600
Ensinar bem, aprender melhor: representações sobre o sucesso educativo Ana Sofia Ribeiro, Daniela Gonçalves	606
Experiences of applying cooperative methods in engineering teacher training <i>Ibolya Tomory</i>	614
Familiarizing teachers with basic concepts of epidemiology and prophylaxis of communicable diseases	626
Formação contínua em supervisão: perceções de supervisores do ISEC-USTP Marisa Costa, Maria José Rodrigues, Cristina Martins	639
Gestión de espacios educativos en el aula como respuesta a la diversidad Ana Vizoso Machín, Raquel Pérez Gutiérrez	650
Good practices for preparing children for lifelong learning: results of qualitative study Nikolett Takács	658

Instrumentos para o desenvolvimento profissional dos professores através das práticas de ensino Ana Cristina Silva, Cecília Costa, J. Bernardino Lopes	671
Kiitos@21st century preschools: um estudo de caso Amélia de Jesus Marchão, Susana Porto, Teresa Coelho	682
Learning about practice in practice	692
Liderazgo inclusivo: impacto del equipo docente en el sistema de atención temprana Katia Álvarez Díaz, Inmaculada González-Falcón	702
Multisensorial stimulating elements in the formation of representations about the surrounding environment	713
Elena Lungu, Luiza-Elena Apetrei	110
Processo supervisivo na formação inicial de professores: aplicação de um modelo reflexivo Rosa Martins, Estrela Paulo	719
Promoting learner autonomy: a pedagogical experience within an Erasmus+ partnership Isabel Barbosa, Lúcia Dourado, Ana Redondo, Elizabeth Thomas, Siôn Phillip	729
Promovendo o interesse pela física: prática desenvolvida em Minas Gerais Maria Luiza Guimarães Dias dos Santos, Gisélia Maria Campos Ribeiro	741
Práticas educativas interdisciplinares e intergeracionais no ensino básico Pedro Cabral Mendes, Cristina Rebelo Leandro	749
Práticas pedagógicas de acessibilidade curricular: perspetivas de professoras do norte de Portugal Genigleide Santos da Hora, Theresinha Guimarães Miranda, Ana Paula Loução Martins	756
Self-monitoring and self-evaluation in educator profession Anita Mandarić Vukušić, Andreja Bubić	767
Supervisão pedagógica na formação inicial de educadores: modelo de formação em alternância . Isabel Tomázio Correia, Maria Manuela Matos, Sofia Figueira	779
Supervisão pedagógica no ensino secundário moçambicano: análise da praxis e finalidades Dário Santos, Lubacha Zilhão, Rogério Almoço, Cristina Martins, Maria José Rodrigues	790
Supervisão pedagógica numa instituição de ensino superior moçambicana: averiguando perceções Maria José Rodrigues, Cristina Martins, Dário Santos, Lubacha Zilhão, Rogério Almoço	797
The role of professional autobiography in student teacher's identity formation	809
Valorizar a formação de professores em equipas multidisciplinares Dárida Maria Fernandes, Inês Pinho	821
Formação Docente e Educação para o Desenvolvimento	835
A construção sociocultural do (in)sucesso escolar: uma abordagem sociológica no 1.º CEB Andreia Moreira, Henrique Ramalho	837

A dimensão colaborativa da educação para o desenvolvimento: uma proposta de reflexão Albertina Raposo, Hugo Marques, Céu André, La Salete Coelho, Susana Colaço, Sandra Fernandes, Teresa Gonçalves, Margarida Silveira, Marta Uva	849
Aprender com o cinema: uma proposta de formação para educadores e professores	856
Cidadania e desenvolvimento como impulsionadores de uma cultura de autonomia e responsabilidade Celisa Noronha, Sandra Pereira, Andrea Nadais, Luísa Orvalho	865
Educação ambiental e literatura para a infância: costurando percursos de literacias Dulce Melão, Ana Isabel Silva	877
Formação de professores de matemática na perspectiva da educação inclusiva Karla Amâncio Pinto Field's, Paulo Sergio de Oliveira Conceição, Ana Maria Libório de Oliveira, Carla Lima Santos, Bruno Marx de Aquino Braga, Tiago Felipe de Oliveira Alves, Regina da Silva Pina Pina	888
Implementación del enfoque AICLE (CLIL): propuesta para una asignatura de ingeniería M. Esther Baños-García, Concetta Maria Sigona, Fernando Lezcano-Barbero	899
Integrando la educación para el desarrollo en la formación universitaria Ana Lampón Gude, María José Caride Delgado	908
Intervenções sociais em contexto educativo: i(ntervenção)m(udança)pulso(lução) para o desenvolvimento duma cidadania global	918
Nutrición y competencia científica en libros de texto de España y Portugal Juan Carlos Rivadulla-López, Susana García Barros, María Jesús Fuentes Silveira, Cristina Martínez Losada	927
Orientación vocacional exprés: cómo construir una decisión de futuro en Bolivia Mara García Rodríguez	939
Os média e a ENED: a cobertura jornalística da ação da ONU Luís Miguel Cardoso, Teresa Mendes, Isabel Silva Ferreira	949
Transferência de conhecimento universidade-escolas para a melhora do ensino Francisco J. Pozuelos Estrada, Francisco P. Rodríguez Miranda, Gabriel H. Travé González, Francisco Javier García Prieto	956
Website de uma instituição educativa: uma proposta de tradução e localização Antónia Elisabete Romanowski, Vitor Gonçalves	964
Práticas Pedagógicas no Ensino Superior	973
A (auto) reflexão no processo metodológico da investigação científica em dissertaçõe s $\ldots\ldots\ldots$ $Regina \ Alves$	975
Aprendizagem contextualizada: cenários no ensino superior Flora Silva, João E. Ribeiro, Paula Maria Barros	982
Aprendizagem interdisciplinar no ensino superior: 1.ª semana de design de jogos digitais Bárbara Barroso, Inês Barbedo, João Paulo Sousa	992

х

As tendências no ensino da matemática num curso de licenciatura em matemática
Descobrir as emoções para potenciar as aptidões: uma aplicação no ensino superior
Devíamos fazer mais tarefas como esta!: uma experiência em álgebra linear
Difusión de experiencias educativas a través de un programa de radio local
Dimensão investigativa nos relatórios finais de estágio: cruzando resultados
Integração das línguas nacionais na formação de professores moçambicanos: práticas, experiências, desafios
Literatura en ámbito escolar fuera de las aulas: propuestas didácticas en ELE
Los educadores ante las tecnologías de la información y la comunicación
NitroPortugal: projeto de arte e tecnologia ao serviço do ambiente
No chains! – a case study in teaching English C2 in higher education
Organizações escolares aprendentes e desempenho organizacional das instituições de ensino superior portuguesas
Promoção de conhecimentos do modelo conceptual TPACK na formação inicial de professores . 1114 Nuno Martins, Fernando Martins, Cecília Costa, Ricardo Silva
Proyecto de peer-tutoring internacional: competencias percibidas por los alumnos-tutores 1127 Víctor González López, David Revesado Caballares, Eva García Redondo
Práticas curatoriais no ensino superior como estratégia pedagógica de ensino e inovação1139 Maria Manuela Lopes, Gilberto Reis, Sérgio Eliseu
Support and guidance of professional tutors: the perspective of teachers in training
Teatro musical e performance como estratégias potenciadoras de capacitação, transformação e mudança

Una experiencia pedagógica escolar en la formación inicial de profesorado de infancia1168 María Luisa García Rodríguez
Índice de Autores
Índice de Palavras-chave

Assessment alternatives of teachers' well-being and school climate on students' achievements

Mária Hercz¹, Zewude Girum Tareke² hercz.maria@caesar.elte.hu, girumdaniel@gmail.com

¹ Department of Education, The Eötvös Loránd University PPSE, Budapest, Hungary ² University of Szeged, Doctoral School of Education, Szeged, Hungary

Abstract

Well-being is learnable, well-being and academic achievement are not mutually exclusive, rather, they are mutually reinforcing students' success. The main goals of this paper are twofold: first, to focus on and analyse how the school conceptual framework, methods and instruments affect students' achievements, and second, to analyse the impact of the teachers' well-being conceptual framework on students' achievements. Recently scholars have paid attention to the overall climate of a school and its associated factors, like physical, structural, personal, as well as the staff specificities and the ethos and cultural elements that, in an interactive way, are included in a specific dynamic process. That gives a specific identity to the organization, which in turn, impacts some of these various educational factors in general and student academic performance. School climate is a broad term which encompasses teacher-student relations; disciplinary climate; student-related and teacher-related factors affecting school climate; teacher morale. In addition, the school climate encompasses the quality of teacher-student relations; the climate in a classroom, discipline management, quality of the relationship between students and their teachers, values promoted and shared between teachers and student, and among students themselves. Therefore, school climate is one of the most important factors for an effective school and a student's academic success or failure and is highly correlated with teachers' and students' well-being. Well-being is a metaconstruct that encompasses all aspects of healthy and successful living, including psychological, emotional, spiritual economic, physical, and other domains. Therefore, in this paper we would incorporate the meaning of school climate, conceptual framework used by scholars, data collection instruments and their role on student's achievement on the one hand, and teachers' well-being, theoretical models, instruments and their relationship with students' achievement, on the other hand.

Keywords: school climate, teacher well-being, academic performance, students' achievement.

Resumo

O bem-estar pode ser aprendido, o bem-estar e o desempenho académico não são mutuamente exclusivos, pois, pelo contrário, reforçam o sucesso dos alunos. Os principais objetivos deste artigo são: primeiro, debruçar-se sobre e analisar como a estrutura conceptual, os métodos e os instrumentos escolares afetam o sucesso dos alunos e, segundo, analisar o

impacto do quadro conceptual do bem-estar dos professores nas realizações dos alunos. Recentemente, os estudiosos têm dedicado atenção ao ambiente global de uma escola e aos seus fatores, sejam físicos, estruturais, pessoais, assim como às especificidades da equipa e a aspetos culturais e sociais que, de forma interativa, são incluídos num processo dinâmico específico. Tal atribui uma identidade singular à organização, que, por sua vez, afeta alguns desses vários fatores educacionais em geral e o desempenho académico dos alunos. O ambiente escolar é um termo amplo que abrange as relações professor-aluno; o ambiente disciplinar; fatores relacionados com o aluno e o professor que influenciam o ambiente escolar; o estado moral do professor. Além disso, o ambiente escolar engloba a qualidade das relações professor-aluno; o clima na sala de aula, a gestão da disciplina, a qualidade da relação entre os alunos e os seus professores, os valores promovidos e partilhados entre professores e alunos e entre os próprios alunos. Portanto, o ambiente escolar é um dos fatores mais importantes para uma escola eficaz e para o sucesso ou fracasso académico de um aluno, além de estar altamente correlacionado com o bem-estar dos professores e dos alunos. O bem-estar é um meta-construto que engloba todos os aspetos da vida saudável e bemsucedida, incluindo os domínios psicológico, emocional, espiritual, económico, físico e outros. Portanto, neste trabalho incluiremos, por um lado, o significado de ambiente escolar, o enquadramento conceptual utilizado pelos estudiosos, os instrumentos de recolha de dados e o seu papel na realização do aluno, e, por outro, o bem-estar dos professores, modelos teóricos, instrumentos e a sua relação com os alunos.

Palavras-chave: o ambiente da escola, o bem-estar dos professores, desempenho académico, resultados dos alunos.

1 Introduction

The construct and meaning of school climate can be traced back 100 years ago by Perry in 1908. The scientific study of school climate was not undertaken until the 1950s with the birth of organizational climate research (Zullig, Koopman, Patton, & Ubbes, 2010). By the late 1970s, researchers were attempting to associate school climate with student outcomes in schools. In the early and mid-1990s, studies focused on individual classes or teachers (Griffith, 1995; Stockard & Mayberry, 1992, in Zullig et al., 2010). However, recently the overall climate of a school is generated by physical, structural, personal factors as well as the staff specificities, and the ethos and cultural elements that, in an interactive way, are included in a specific dynamic process and organizational identity which has impact on to the educational system and student academic performance (Blaya, 2006).

School climate is a broad term which encompasses teacher-student relations, disciplinary climate, student-related factors, teacher-related factors and teacher morale. The school climate encompasses not only norms and values but also the quality of teacher-student relations, classroom atmosphere, discipline management, quality of the relationship between students and their teachers, values promoted and shared between teachers and student and among students themselves (Blaya, 2006). A growing body of empirical research indicates that positive school climate is associated with and/or predictive of academic achievement, school success, effective violence prevention, students' healthy development, and teacher retention (Cohen, 2017). Therefore, school climate is one of the

most important factors for an effective school and a student's academic success or failure and highly correlated with teachers well-being and student well-being (Van Horn, 2003).

Well-being is a meta-construct that encompasses all aspects of healthy and successful living, including psychological, emotional, spiritual, economic, physical, and other domains (Blaya, 2006). Well-being can be learned and students academic performance do not preclude each other; rather, they mutually reinforce students' success (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011).

Teacher well-being is another preliminary issue in the education life and work-related wellbeing incorporated and conceptualized unified concepts of: (1) Affective well-being; (2) Professional well-being; (3) Social well-being; (4) Cognitive well-being, and (5) Psychosomatic well-being (Marcionetti, Castelli, & Crescentini, 2017; Van Horn et al., 2004).

Collie et al. (2015) provided a conceptually and practically sound taxonomy of Teacher well-being, which can be applied to the understanding of teacher real life is called work type of domain-specific well-being or work-related well-being incorporating three major constructs : workload level (relating to work stress), organizational-level stress: relating to school/university-level issues, and student-related well-being: relating to student behavior (Collie et al., 2015).

For the purposes of this paper scholarly scientific work and their findings shall be addressed on: how the school conceptual framework, methods, instruments affect students' achievements, and the impact of the teachers' well-being conceptual framework on students' achievements.

2 Meaning and conceptual constructs of school climate

What defines and composes school climate has been a challenge, and the discrepancies in the literature are well documented, ranging in definition from affective to contextual domain both objectively and subjectively (Zullig et al., 2010). There is not one universally agreed-upon definition, construct and measurement of school climate. Some writers have focused on the subjective nature of school climate, and others have suggested that it is an "objective" facet of school life (Cohen, McCabe, Michelli, & Pickeral, 2009). However, school climate is more than individual experience. It is a group phenomenon that is larger than any one person's experience. Specifically, Cohen et al. (2009) suggested school life refers to the level of safety a school provides, the kind of relationships that exist within, and the larger physical environment in addition to the shared vision and participation in that vision by all. Notably, this definition includes both social and physical aspects of school climate is a multidimensional construct encompassing interpersonal, organizational, and instructional dimensions (Loukas, Suzuki, & Horton, 2006).

Regarding the conceptual framework of school climate, educators and researchers have acknowledged that complex sets of elements make up school climate Cohen, McCabe, Michelli, & Pickeral, 2009). For instance, historically identified common school climate

domains measuring such construct are: order, safety, and discipline; academic outcomes; social relationships; school facilities and school connectedness (Zullig et al., 2010). Van Houtte (2005) and Maier (2010) evidenced that there are three conceptual frameworks that have comprised organizational climate theory: multiple measurement-organizational attribute; a perceptual measurements-organizational attribute; and the personal attributes. Maier (2010) also suggested two levels of conceptualizing school climate framework: a school-level property with each stakeholder within the school experiencing the school's climate through their experience with the school; individual-level property (an individual-level property, each individual could experience and be influenced by the atmosphere in a different manner).

Thapa et al. (2013) illustrated five essential domains of school climate: (1) Safety (e.g., rules and norms, physical safety, social-emotional safety), (2) Relationships (e.g., respect for diversity, school connectedness/engagement, social support, leadership, and students' race/ethnicity and their perceptions of school climate), (3) Teaching and Learning (e.g., social, emotional, ethical, and civic learning; service learning; support for academic learning; support for professional relationships; teachers' and students' perceptions of school climate), (4) Institutional Environment (e.g., physical surrounding, resources, supplies), and (5) the School Improvement.

3 The meaning and construct of teacher well-being

Well-being is perhaps the most widely used construct among behavioural scientists, psychologists, and mental health professionals. Two broad psychological traditions have historically been employed to explore well-being. On the one hand, the hedonic view equates well-being with happiness and is often operationalised as the balance between positive and negative affect and a longer and healthier life (Diener & Chan, 2011; Ryan & Deci, 2001). The eudemonic perspective (autonomy, environmental mastery, personal growth, purpose in life, self-acceptance and positive relation with others), on the other hand, assesses how well people are living in relation to their true selves (Ryff & Singer, 2008).

Regarding the conceptual framework in the literature, well-being is best characterized as a profile of indicators across multiple domains, rather than as a single factor (Adler, 2017). There are both theoretical and practical reasons for approaching well-being as a multidimensional construct across valued life domains (Huppert & So, 2013). On the theoretical side, well-being is an abstract construct that includes both feeling good (hedonic well-being) and functioning well-eudemonic well-being (Huppert, 2014). However, in the practical side it should be addressed specific task domain (Collie, 2014). For instance Collie et al. (2015) proposed work type of domain-specific well-being or work-related well-being incorporating three major constructs : workload level, relating to work stress, organizational-level stress, relating to school/university-level issues, and student-related well-being, relating to student behavior.

Seligman (2011) delineates five domains of life that people pursue as ends in themselves: positive emotion, engagement or flow, positive relationships, meaning or purpose, and

achievement, or PERMA. At the schools' context, Saaranen (2015) has developed the teachers well-being including the four (4) dimensions: the pupil/student, health care services, cooperation between school and homes and the occupational well-being of school staff (Saaranen, 2015). The Organization for Economic Cooperation and Development (OECD) has created the Your Better Life Index, comprised of 11 domains considered essential to quality of life (housing, income, jobs, community, education, environment, governance, health, life satisfaction, safety, work-life balance). The index allows countries and individuals to identify the domains that are most important to them (Kerényi, 2011).

The results of the study of Aelterman et al., (2007) put forward four major constructs of teacher well-being which compose organizational framework (highly useful to understand the effects of interpersonal teacher-student stressors on teacher well-being); teacherstudent-interactions perceptions (influenced by many interacting factors that are present both inside and outside the school environment); the need for relatedness (the value of teacher-student relationships for teachers is that teachers have a basic need for relatedness with their students and internalize interpersonal experiences; mental representational models (contain sets of beliefs and feelings regarding the self, the student, and the selfstudent relationship on different levels of generalization and the emotional responses in daily interactions with students (Spilt, Koomen, & Thijs, 2011). However, Van Horn et al.'s (2004) conceptualization of work-related well-being incorporates unified concepts of: (1) affective well-being: job satisfaction, organizational commitment, emotional exhaustion/fatigue; (2) professional well-being: aspiration and competence at work, autonomy; (3) social well-being: depersonalization towards colleagues, quality of social functioning at work; (4) cognitive well-being: the capacity to take up new information at work, ability to concentrate at work; and (5) psychosomatic well-being: health complaints such as headaches, stomach aches and symptoms of possible cardiovascular issues (Locarno, 2017).

4 Psychometric properties/tools of school climate

Researchers and practitioners seek to use measures to understand a range of interdependent areas or "constructs" related to school climate, including student safety, school connectedness, and school environment. Measures include behavioral data such as attendance or disciplinary infractions, perceptions or feelings reported by students, teachers, school staff, and families, and standardized observational tools used for classroom-level climate measures (Winter, 2017). Some influential, reliable and valid assessment scales after reviewing literature are presented as follows:

Halpin and Croft in 1962 created Organizational climate surveys/Organizational Climate Description Questionnaire (OCDQ) which was the first measurement of organizational climate to be applied to educational institutions. It assessed teachers' and administrators' perceptions of school climate on teacher subscales (i.e. Collegial Behavior, Committed Behavior, and Disengaged Behavior) and administrator subscales (i.e. Supportive Behavior, Directive Behavior, and Restrictive Behavior); subsequent school identification into one of six categories resulted (i.e., open, closed, paternal, familiar, controlled, and autonomous). Finlayson in 1973 expanded the OCDQ and included the students being asked about their

perceptions of other students as well as teachers (Maier, 2010). The OCDQ-RM is a valid and reliable assessment tool of 50-item, Likert questionnaire that measures six dimensions of openness with Alpha coefficients which are: Supportive (.96), Directive (.88), Restrictive (.89), Collegial (.90), Committed (.93), and Disengaged (.87) (Maier, 2010). Another assessment tool of school climate healthy is Organizational Health Inventory (OHI-RM). This is a 45-item, Likert questionnaire, that assesses six dimensions of a school's health along with their Alpha coefficients: Academic Emphasis (.94), Teacher Affiliation (.94), Principal Influence (.92), Collegial Leadership (.94), Resource Support (.96), and Institutional Integrity can be utilized.

The National Association of Secondary School Principals (NASSP) developed the Comprehensive Assessment of School Environments (CASE) School Climate Surveys (1986), which included ten scales: (1) teacher-student relationships, (2) security and maintenance, (3) administration, (4) student academic orientation, (5) student behavioral scales, (6) guidance, (7) student-peer relationships, (8) parent and community-school relationships, (9) instructional management, and (10) student activities. Additionally, each stakeholder group (i.e. student, teacher, parent, school administrator, school staff, and community members) should be asked to participate in a school climate study (NASSP) (Maier, 2010). Besides these, School climate assessed by the Schools and Staffing Survey (SASS) was created in 1985 by the National Center for Educational Statistics (NCES) with four components: the Teacher Demand and Shortage Survey, the School Principal Survey, the School Survey, and the School Teacher Survey (Maier, 2010). Moreover, Trickett &Moos, 1974 developed the Classroom Environment Scale (CES) instrument used to measure school climate, is nine scales, each made up of ten items presented in a true/false response format to assess the structure of junior high and high school classrooms (Angelika, Richard, & John, 2004). The nine scales are grouped into three dimensions: Involvement, Affiliation and Teacher Support scales; the personal growth/goal orientation dimension contains the Task Orientation and Competition scales; and the system maintenance and change dimension contains the Order and Organization, Rule Clarity, Teacher Control and Innovation scales. Reliability data for the scales range from 0.67 to 0.86 (Angelika et al., 2004).

Finally, qualitative methods, specifically visual ethnography, provide a more contextualized, evidentiary description of what is being studied in addition to the numerical results (Maier, 2010).

5 Assessment tools of school teacher well-being

Assessment tools of school teacher well-being can be addressed by different instruments/tools. Assessment on Subjective Well-Being has relied almost exclusively on self-report assessment to address overall satisfaction of an individuals' and Self-report measures of the scale appear to possess adequate psychometric properties (Edward Diener, 2009). The Teacher Well-Being Scale (TWBS) is a 16-item instrument developed by Collie et al. (2015) that measures three factors of well-being: workload well-being; organizational well-being; and student interaction well-being.

The positive psychology model, Seligman's PERMA model of flourishing are five sub constructs and three items per subscale that make up well-being are: (P)ositive emotions: general tendency to feel contentment and joy; $\alpha = 0.90$); (E)ngagement (being absorbed or interested in an activity, state of flow; $\alpha = .58$), (R)elationships: feeling loved, supported, and valued by others; $\alpha = 0.86$); (M)eaning: sense of direction and purpose in life; $\alpha = 0.91$), and (A)ccomplishment: feelings of mastery, achievement; $\alpha = 0.79$ (Goodman et al., 2018; Seligman, 2018). Marcionetti, Castelli and Crescentini (2017) also recommended both qualitative and quantitative instruments.

6 Impact of school climate on students' achievement

Nowadays there has been increased interest on the topic of school climate and its impact on students' academic performance and social-emotional development (Bear, Yang, & Pasipanodya, 2015). For example, positive school climate is associated with improved outcomes for students, both academic and a healthy school climate is also associated with higher attendance, better psychological health (Winter, 2017). School climate plays a unique and important role in shaping students' academic well-being as well as general wellbeing and health (Rathmann et al., 2018).

Research on indicators of school climate (teacher control, demands, autonomy, interaction, goal setting and orientation, teaching quality) and academic well-being (satisfaction with school, helplessness in major school subjects) were reported from students and results showed that academic well-being is strongly related to self-rated health (Rathmann et al., 2018).

Meta-analysis studies done by Thapa et al., 2013, on the evidence of the relationship between school climate and academic outcomes will be discussed in detail and presented as follows.

Safety: Feeling safe socially, emotionally, intellectually, and physically is a fundamental need. However, there is a great deal of research that has shown that many students do not feel physically and emotionally safe in schools, largely as a result of breakdowns in the interpersonal and contextual variables that define a school's climate (Thapa et al., 2013). School climate has a profound impact on students' mental and physical health and it has been shown to affect middle school students' self-esteem (Kuperminc, Leadbeater, & Blatt, 2001). Zullig et al. (2010) illustrates a sustained positive school climate promotes student social, mental and emotional development, and behavioral and learning outcomes, while guaranteeing both physical and social safety.

Rules and Norms: Research underscores the importance of school rules and perceived fairness in regard to dealing with students' behaviour. There is evidence that schools in which rules are effectively enforced or schools with better discipline management have lower rates of student victimization and student delinquency (Gottfredson, Gottfredson, Payne, & Gottfredson, 2005). Research shows how rules are enforced; meaning the extent to which they are consistently and fairly enforced is another factor that shapes how safe people feel in school (Thapa et al., 2013) and if students perceive a better structured school,

fair discipline practices, and more positive student-teacher relationships, the probability and frequency of subsequent behavioral problems is lower (Gregory & Cornell, 2009).

Relationships: The patterns of norms, goals, values, and interactions that shape relationships in schools provide an essential area of school climate and one of the most important aspects of relationships in schools is how connected people feel to one another (Thapa et al., 2013).

Students' Race and Ethnicity and Their Perceptions of School Climate: Thapa et al. (2013) has shown that race itself is a significant factor in explaining the variation in perceptions of school climate and positive school climate has been considered important for racial minority and poor students.

Teaching and Learning: School leaders and teachers should strive to clearly define the sets of norms, goals, and values that shape the learning and teaching environment (Thapa et al., 2013). Research supports the notion that a positive school climate promotes students' abilities to learn and it promotes also cooperative learning, group cohesion, respect, and mutual trust and directly related to academic achievement (Thapa et al., 2013).

Social, Emotional, Civic, and Ethical Education: Educators like parents are always teaching social, emotional, civic, and ethical as well as intellectual lessons, intentionally or not (Higgins-D'Alessandro, 2011). Also character education programs lead to higher achievement scores for elementary school students (Benninga, Berkowitz, Kuehn, & Smith, 2003) and socio-moral emotional learning programs have resulted in impressive gains in test scores and in increasing the academic emphasis of elementary and middle school students (Thapa et al., 2013).

Service Learning: Implementing learning activities beyond the classroom is an effective way to incorporate civic education into a school, and these activities in turn promote student learning. Encouraging active and collaborative learning through authentic projects is most effective in an environment with a civic mission that encourages trusting relationships between all members of the school community (Bandura, 2001; Morgan, Streb, & Morgan, 2017; Thapa et al., 2013)

Teachers' and Students' Views of School Climate: A study by Mitchell, Bradshaw and Leef (2010) conducted regarding student and teacher perceptions of overall school climate and academic emphasis. It was found that teachers were more sensitive to classroom-level factors, such as poor classroom management and proportion of students with disruptive behaviors, whereas students' perceptions were more sensitive to school-level factors, such as student mobility, student-teacher relationships, and principal turnover.

Institutional Environment: This section includes studies on the institutional environment, which can be broadly categorized in two aspects: (a) school connectedness/engagement and (b) physical layout and surroundings of school as well as resources and supplies. There is a growing body of research that suggests that school connectedness is a powerful predictor of and/or is associated with adolescent health and academic outcomes (Dorn, Dahl, Woodward, & Biro, 2017; MacNeil, Prater, & Busch, 2009).

The School Improvement Process: School climate is an important factor in the successful implementation of school reform programs (Gregory et al., 2007; Guo & Higgins-D'Alessandro, 2011). In their most recent summary of work, (Bryk, Sebring, Allensworth, Luppescu, & Easton, n.d.) have stated the major ways that support or undermine school improvement efforts: (a) professional capacity); (b) order, safety, and; (c) parent-school-community ties; and (d) instructional guidance which are essential to effective school climate improvement (Bryk et al., n.d.). Study carried out by (Greenway, 2017) based on the definition of the National School Climate Council, focuses on three key areas of school climate on students' academic performance: interpersonal relationships, teaching and learning practices, and organizational structures.

Improving interpersonal relationships: The school leaders to focus when working to improve school climate and creating conducive teacher's work environment, peer relationships, and feeling of inclusion and respect are important aspects too (Greenway, 2017). Research found that the teachers' work environment, and teachers' relationship with each other and school administrators are best indicators of school climate change (Guo, 2012).

Teaching and Learning Practices: Curriculum alignment and planning is essential to create a positive climate in a school (Guo, 2012). Effective teachers alter, adjust, and change their instruction depending on who is in the classroom and the extent to which those students are achieving (Gräbel, 2017).

Organizational Structures Research: Research indicates that instructional leaders do have an impact on student achievement, though indirectly (Greenway, 2017; Hallinger, 2005). Effective, forward-thinking leaders understand that creating a vision is at the heart of what they do (Greenway, 2017).

7 The role of teacher well-being on students' achievement

The factors influencing teachers' well-being can be divided into three categories: factors related to the person, to the profession and the workplace, and to society (Aelterman et al., 2007). Schools are uniquely conducive to these opportunities and expand their focus beyond academic learning to also include the promotion of character and well-being (Adler, 2017). Three studies conducted experimental studies and the result indicated that students in the intervention schools reported significantly higher well-being and they performed significantly better on standardized national exams at the end of a 15-month intervention and better results for both well-being and academic performance (Adler, 2017).

Other study indicated the wellbeing of a student at school is linked to three factors: factors related to the person (sensory, motor, cognitive, and relational skills), factors related to occupation (self-care, productivity at school, leisure), and factors related to a relational and physical context. The interaction of these three factors determines whether it is possible for the students to participate, actively and satisfactorily, in the different school activities, and to therefore be included in the classroom and in the school (Marcionetti, Castelli, & Crescentini, 2017).

8 Conclusions

From scholarly scientific work review we have concluded that the idea of school is very vast and to measure school climate is still a complex issue. School is not strictly based on a physical environment but also it's a setting or a place of education that includes the teachers, students, administrative stuff and that all of these interact with one another that affect the learning process in general, teachers' well-being and students' academic performance in particular. The direct positive link between school climate and students' academic performance can be utilized by individuals and practitioners using various models and instruments in assessing whether school climate foster students' academic goals. Another general conclusion drawn from the findings is that as researchers' paid attention to teachers' well-being on students' achievement and its relationship with student achievement. An interesting thing from the findings to note is the inference that the more teachers' well-being has an impact on their work and students' achievement.

In addition, the overall review of current trends in student achievement was reviewed based on some core domains. Finally, this review of the scholarly works informs us what defines and composes the school climate and teachers' well-being; how to measure the two big constructs and what role they play on students' academic performance.

Competing interests

The authors declare that they have no financial or personal relationship(s) that may have inappropriately influenced them in writing this article.

9 References

- Adler, A. (2017). Teaching well-being increases academic performance: Evidence from Bhutan, Mexico, and Peru. University of Pennsylvania.
- Angelika, A., Richard, H., & John, H. (2004). Classroom climate and motivated behaviour in secondary schools. *Learning Environments Research*, 7(3), 211–225. Available on http://dx.doi.org/10.1007/s10984-004-3292-9
- Bandura, A. (2001). Social cognitive theory: an agentic perspective. *Annual Review of Psychology*, 52, 1.
- Bear, G. G., Yang, C., & Pasipanodya, E. (2015). Assessing school climate: Validation of a brief measure of the perceptions of parents. *Journal of Psychoeducational Assessment*, 33(2), 115–129. Available on https://doi.org/10.1177/0734282914545748
- Benninga, J. S., Berkowitz, M. W., Kuehn, P., & Smith, K. (2003). The Relationship of Character Education and Academic Achievement in Elementary Schools. *Journal of Research in Character Education*, 1(1), 19–32. https://doi.org/10.1111/j.1095-8649.2005.00927.x
- Blaya, C. (2006). *Europe, the latest trends school climate*. Available on www.ijus.org./files/C-Blaya-School-climate-and-students-well-being-in-Europe-the-latest-trends.pdf

- Bryk, A. S., Sebring, P. B., Allensworth, E., Luppescu, S., & Easton, J. Q. (n.d.). Organizing schools for improvement lessons from Chicago. *The University of Chicago Press Chicago and London*.
- Cohen, J., McCabe, E. M., Michelli, N. M., & Pickeral, T. (2009). (2009). School Climate: Research, Policy, Teacher Education and Practice Article. 35.
- Cohen, J. N. M. M. (2017). School climate: Research, policy, teacher education and practice. *Teachers College, Columbia University*, 111(1), 180–213.
- Collie, R. J. (2014). Understanding teacher well-being and motivation: Measurement, theory, and change over time. Columbia: The University of British Columbia.
- Collie, R. J., Shapka, J. D., Perry, N. E., & Martin, A. J. (2015). Teacher well-being: Exploring its components and a practice-oriented scale. *Journal of Psychoeducational Assessment*, 33(8), 744–756. Available on https://doi.org/10.1177/0734282915587990
- Diener, E. (2009). Assessing well-being: The collected works of Ed Diener. Available on https://doi.org/10.1007/978-90-481-2354-4
- Diener, E., & Chan, M. Y. (2011). Happy people live longer: Subjective well-being contributes to health and longevity. *Applied Psychology: Health and Well-Being*, 3(1), 1–43. https://doi.org/10.1111/j.1758-0854.2010.01045.x
- Dorn, L. D., Dahl, R. E., Woodward, H. R., & Biro, F. (2017). Defining the boundaries of early adolescence: A user's guide to assessing pubertal status and pubertal timing in research with adolescents. *Applied Developmental Science*, 8691(December), 37–41. Available on https://doi.org/10.1207/s1532480xads1001
- Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., & Taylor, R. D. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, 82(1), 405–432. https://doi.org/10.1111/j.1467-8624.2010.01564.x
- Gottfredson, G. D., Gottfredson, D. C., Payne, A. A., & Gottfredson, N. C. (2005). School climate predictors of school disorder: Results from a national study of delinquency prevention in schools. *Journal of Research in Crime and Delinquency*, 42(4), 412–444. https://doi.org/10.1177/0022427804271931
- Gräbel, B. F. (2017). *The relationship between wellbeing and academic achievement A systematic review*. University of Twente. Available on https://essay.utwente.nl/73514/1/Gr%C3 %A4bel_MA%20Positive%20Psychology%20And%20Technology_Faculty%20of%20Beh avioral%2C%20Managment%20%26%20Social%20Science.pdf
- Greenway, G. H. (2017). Relationship between school climate and student achievement. *Doctoral Dissertation, Georgia Southern University.*, 1–99. Available on https://digitalcommons.georgiasouthern.edu/etd
- Gregory, A., & Cornell, D. (2009). "Tolerating" adolescent needs: Moving beyond zero tolerance policies in high school. *Theory into Practice*, 48(2), 106–113. Available on https://doi.org/10.1080/00405840902776327
- Gregory, A., Henry, D. B., Schoeny, M. E., Eron, L., Guerra, N., Henry, D., ... VanAcker, R. (2007). School climate and implementation of a preventive intervention. *American Journal* of Community Psychology, 40, 250–260. https://doi.org/10.1007/s10464-007-9142-z
- Guo, P. (2012). School culture: A validation study and exploration of its relationship with teachers' work environment. New York: Fordham University.

- Hallinger, P. (2005). Relationship between certain medications and cirrhosis. *Leadership and Policy in Schools*, 4(3), 221–239. https://doi.org/10.1080/15700760500244793
- Higgins-D'Alessandro, A. (2011). Dancing up a spiral staircase: Learning how best practices and policies intertwine lifelong moral development with education. *Journal of Moral Education*, 40(3), 397–405. https://doi.org/10.1080/03057240.2011.596343
- Huppert, F. A. (2014). The state of wellbeing science: Concepts, measures, interventions, and policies. In Wellbeing: A complete reference guide, volume VI, interventions and policies to enhance wellbeing. https://doi.org/10.1002/9781118539415.wbwell01
- Huppert, F. A., & So, T. T. C. (2013). Flourishing across Europe: Application of a new conceptual framework for defining well-being. Soc Indic Res, 110, 837–861. Available on https://doi.org/10.1007/s11205-011-9966-7
- Kerényi, Á. (2011). The better life index of the organisation for economic co-operation and development. *Studies*, 518–538.
- Kuperminc, G. P., Leadbeater, B. J., & Blatt, S. J. (2001). School social climate and individual differences in vulnerability to psychopathology among middle school students. *Journal of School Psychology*, 39(2), 141–159. https://doi.org/10.1016/S0022-4405(01)00059-0
- Loukas, A., Suzuki, R., & Horton, K. D. (2006). Examining school connectedness as a mediator of school climate effects. *Journal of Research on Adolescence*, 16(3), 491–502. https://doi.org/10.1111/j.1532-7795.2006.00504.x
- MacNeil, A. J., Prater, D. L., & Busch, S. (2009). The effects of school culture and climate on student achievement. *International Journal of Leadership in Education*, 12(1), 73–84. https://doi.org/10.1080/13603120701576241
- Maier, S. (2010). Assessing School Climate_ Sequential Transformative Design (Dissertation in partial fulfillment of the requirements for the degree of Doctor of Philosophy). Fort Collins, Colorado: Colorado State University. Available on http://citeseerx.ist.psu.edu/viewdoc/ download?doi=10.1.1.1027.3926&rep=rep1&type=pdf
- Marcionetti, J., Castelli, L., & Crescentini, A., (Eds). (2017). *Well-being in education systems*. Conference Abstract Book. Locarno. Firenze: Hogrefe Editore.
- Morgan, W., Streb, M., & Morgan, W. (2017). Building citizenship: How student voice in servicelearning develops civic values. URL: http://www.jstor.org/stable/42955709 Building Citizenship: How Student Voice in Service-Learning Develops Civic Values. 82(1), 154– 169.
- Rathmann, K., Herke, M., Heilmann, K., Kinnunen, J. M., Rimpelä, A., Hurrelmann, K., & Richter, M. (2018). Perceived school climate, academic well-being and school-aged children's selfrated health: a mediator analysis. *European Journal of Public Health*, 28(6), 1012–1018. https://doi.org/10.1093/eurpub/cky089
- Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annu. Rev. Psychol*, 52, 141–166.
- Ryff, C. D., & Singer, B. H. (2008). Know thyself and become what you are: A eudaimonic approach to psychological well-being. *Journal of Happiness Studies*, 9, 13–39. https://doi.org/10.1007/s10902-006-9019-0
- Saaranen, T. (2015). *Occupational well-being of school staff*. Reports and Studies in Health Sciences. Kuopio: University of Eastern Finland
- Seligman, M. pd. (2018). PERMA and the building blocks of well-being. *Journal of Positive Psychology*, *13*(4), 333–335. https://doi.org/10.1080/17439760.2018.1437466

- Spilt, J. L., Koomen, H. M. Y., & Thijs, J. T. (2011). Teacher wellbeing: The importance of teacher-student relationships. *Educational Psychology Review*, 23(4), 457–477. https://doi.org/10.1007/s10648-011-9170-y
- Thapa, A., Cohen, J., Guffey, S., & Higgins-D'Alessandro, A. (2013). A Review of School Climate Research. *Review of Educational Research*, 83(3), 357–385. Available on https://doi.org/10.3102/0034654313483907
- Van Horn, M. L. (2003). Assessing the unit of measurement for school climate through psychometric and outcome analyses of the school climate survey. *Educational and Psychological Measurement*, 63(6), 1002–1019. Available on https://doi.org/10.1177/ 0013164403251317
- Van Houtte, M. (2005). Climate or culture? A plea for conceptual clarity in school effectiveness research. School Effectiveness and School Improvement, 16(1), 71–89. Available on https://doi.org/10.1080/09243450500113977
- Winter. (2017). Understanding school climate and measurement: A research brief. 4, Massachusetts: Massachusetts Institute for College and Caree Readiness.
- Zullig, K. J., Koopman, T. M., Patton, J. M., & Ubbes, V. A. (2010). School climate: Historical review, instrument development, and school assessment. *Journal of Psychoeducational* Assessment, 28(2), 139–152. https://doi.org/10.1177/0734282909344205