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#### Review article

# Vocational-technical teachers' mindfulness: Does it matter for teachers' well-being and motivation?

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#### ABSTRACT

Teaching in vocational-technical schools can pose many challenges, which can lead to stressful situations as all aspects of instruction and teaching in this domain involve a high level of anxiety and exhaustion. So, the significant issue in this territory is teachers' motivation which plays a crucial role in enhancing the various types of performance, including organizational performance and it is positively related to job performance and accordingly their well-being. Therefore, teachers' motivation and well-being should be taken into consideration in the vocationaltechnical academic environment and an increasing number of programs have been in quest of fostering these constructs. To this end, there is growing interest in the function of mindfulness which is very efficient in decreasing teachers' stress while increasing their motivation and wellbeing. Indeed, as a mental characteristic of vocational-technical educators, mindfulness functions as a technique one can employ. This paper tries to examine the possible contribution of vocational-technical teachers' mindfulness to their efficiency with a focus on well-being and motivation. Accordingly, teachers' well-being and motivation have been the subject of studies that seek to shed light on the potential contributors to teachers' careers; yet, few, if any, studies have been carried out on the contribution of mindfulness to motivation and well-being among the teachers working in the vocational-technical setting. As a result, these insights can have implications for the stakeholders involved in the vocational-technical context, including teachers and teacher trainers.

# 1. Introduction

Undoubtedly, educators play essential roles as the main stakeholders in teaching as they have the most noteworthy role in instructional situations [1]. Successful teaching and teacher achievement in the context of vocational-technical schools mirror the effectiveness of vocational-technical teachers. Indeed, the quality of teaching is a key to the accomplishment of the goals of educational programs [2]. A high level of stress is seen among teachers, which is, in part, due to some characteristics of teaching in this domain that decrease their motivation. Indeed, these features cause stressful situation for them in educational contexts. For example, stress is a result of the following features, among others: school demands, the competition among the learners, and lack of support and independence [3]. In the same vein, Hoffman and Woehr [4] elaborate on several factors related to a teaching job, in particular, in the context of vocational-technical. Some of these factors are the long duration of teaching and workshop, a high level of administrative work and monitoring role, the students' demanding expectations and pressure, having to work as a substitute teacher in case of their colleagues' absence, inordinate organization, etc. Instructors who work in vocational-technical school experience stress if they fail to

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deal with their workload.

Moreover, teachers' perceptions of stress may result in destructive circumstances in the classroom, which can lead to poor academic performance on the part of students [5] or boredom [6]. This also may have a negative effect on teacher well-being that involves more than the mere existence of no obstacles and no stressful factors at work; it also has to do with healthy and functional teachers. More specifically, well-being entails teachers being capable of establishing a constructive and dynamic balance between their resources and proficient challenges [7]. Indeed, well-being yields positive outcomes in educational contexts (e.g. creating a friendly relationship among teachers and learners, and enhancing the instructive efficacy of teachers). It also improves the level of job satisfaction and raises the learners' achievement [8,9].

Furthermore, Okorie [2] asserts that vocational-technical education aims to equip individuals with the necessary tools they would need to work as a skilled working force. They need these skills in various domains of activities, including agriculture, trade, business, and industrial jobs. Such a kind of education is often offered at the upper secondary level. Vocational-technical education consists of several modules, including general education, and hands-on courses for the acquisition of skills associated with a specific job. In these programs, there is a focus on practical training for purpose of preparing people for prospective employment or admission to advanced technical education programs. To be successful in this domain, teachers should be motivated enough. Educator motivation is an essential notion that has been increasingly used in the literature in the last ten years [10]. This notion is very important and should be considered as it influences students' motivation and function. A motivated educator most likely reaches his or her goals; at the same time, he/she enjoys life. A good regular of motivation emanates from the internal state (innate) without being forced by external or intrapersonal enforcement [11]. If teachers seek to be motivated, they need to be prepared for experiencing any types of pressures, obstacles, challenges, and problems, which can be a barrier to their development [12]. According to the related literature, there are a variety of strategies one can use to identify teachers' motivation. Many studies have been conducted to uncover the way in which teacher motivation can be enhanced towards the development of effective learning, as well as the achievement of educational outcomes [13].

Vocational-technical teachers need to be encouraged to boost their teaching by improving their mindfulness [14]. As an effective technique, mindfulness allows individuals to self-regulate their stress and negative feelings. This is because, in positive psychology, mindfulness is deemed as mediation or a kind of therapy that is used in many areas, including educational contexts [15]. Well-being contributes to the quality of learning, while mindfulness programs impact well-being positively [16]. Teachers with a high level of mindfulness enter good interactions with students; from this perspective, one cannot separate well-being from learning [17].

Well-being influences individuals' thoughts, learning, and relations with others; moreover, mindfulness enhances well-being by enhancing the attention level. Therefore, mindfulness, which is deemed a skill, reinforces learners' concentration [18]. The construct of mindfulness dates back to Eastern traditions and is concerned with people's ability to do away with their pre-existing ideas and perspectives, allowing them to gain knowledge and recognize things with no pre-judgment [17]. Research shows that the actions driven by mindfulness improve teachers' well-being and may increase their capability of dealing with various challenges, including the high level of stress and emotionally demanding teaching [19].

Accordingly, mindfulness has been the focus of increasing studies within the context of academic psychology and teacher training. It has proved to be very promising in reducing stress and enhancing well-being [12,20]. Indeed, mindfulness cannot be considered an inflexible construct; rather, it is a dynamic variable that one can construct or reconstruct through mediation and training. In the same vein, Roeser [21] characterizes mindfulness as being aware of people and ongoing events without passing any judgment. These events are closely related to tranquility and happiness. Mindfulness encompasses the desire and ability to focus one's attention on the status quo consciously with no judgment. This yields a public curiosity that makes the person cognizant of the transitional state of emotions and perspectives [22].

Growing evidence indicates that mindfulness influences mental and physical well-being positively (e.g., better personal health and a reduction in anxiety and stress) [23]. Mindfulness also influences people's job performances positively (e.g., stress level, level of productivity, and relationships among people). Mindfulness enables instructors to reduce their level of stress, resulting in work satisfaction and it also makes their performance effective in the classroom by establishing good relationships with learners [24]. The majority of mindfulness programs and workshops in the education context are attended by students [25] while a smaller number of the same programs are attended by teachers to enhance their well-being. It is not clear yet how mindfulness reduces teachers' motivation.

The accomplishment of the goals of mindfulness programs has been demonstrated by some new studies. For example, they found that school educators who had participated in the mindfulness programs improved their well-being and reduced their anguish and worry [26]. A review of related literature reveals that although a few number of research have been conducted on the association between educators' well-being, motivation, and mindfulness, very few if any studies have been carried out concerning vocational-technical teachers. Considering the essential role played by mindfulness in educational environments, as well as the scarcity of studies conducted on its role in different contexts, the current review seeks to probe the role of mindfulness in enhancing teachers' motivation and well-being in the context of vocational-technical education.

# 2. Review of the literature

# 2.1. Mindfulness

Taylor et al. [27] posit that mindfulness constitutes the core of the Buddha's teachings. The approach entails attending to the current moment, characterized by being all-encompassing and affectionate and admitting without evaluation or reaction. Mindfulness involves a thorough awareness of the status quo so that a mindful person is cognizant of one's physical, mental, and collective

behaviors and experiences, as well as perceptions, senses, feelings, self-image, and plans. The individual implicates no bias and judgment in his/her recognition of these factors [28]. Mindfulness refers to awareness, attention, and the ability to recall. Indeed, mindfulness involves continuous awareness, which has to do with non-obsession or constantly being aware with no bias [29].

As a complex and multi-layered construct, mindfulness is viewed as being comprised of several factors. For example, it is concerned with individual and job characteristics. Educators make a connection between these characteristics and their experiences in life [30]. Mindfulness brings to a person a perceived sense of empowerment and self-esteem so people who enjoy a high level of mindfulness are predicted to outperform other people in terms of adjusting their behaviors and emotions. This, in turn, leads to an increase in their self-effectiveness [31]. Mindfulness which has been regarded as an important concept in psychological studies can be very advantageous (e.g., the improvement of working memory, enhanced health, and a decrease in anxiety, among others) [32].

Some techniques can be used to enhance mindfulness. For example, meditation and other mindfulness-based coaching contribute to mindfulness. As emphasized by Buddhist traditions, mindfulness-related activities play an important role in reducing emotive distress. This is made possible by becoming cognizant of the present moment and creating internal consciousness [32]. Indeed, mindfulness has been described as a trait and a condition that one can acquire by practicing. Mindfulness is composed of two mechanisms: the individual's ability to self-adjust his/her focus of attention and being cognizant of the surrounding environment and experiences with no bias or pre-judgment [33].

The focus adjustment paves the way for being cognizant of one's emotions, as well as intellectual, and physical experiences. Unbiased consciousness, which is characterized by eagerness, open-mindedness, and embracing encounters results in the improvement of managerial skills due to a decrease in responsiveness. Mindfulness helps educators to take a constructive and principled approach in the face of challenges. This, in turn, leads to educational success [34]. Furthermore, mindfulness enables teachers to teach in a sophisticated manner [35]. Indeed, teachers and educators can bring life-long skills and benefits to learners by practicing mindfulness and adopting it as a habit [20]. Research shows that mindfulness exercises can play a positive role in psychological healthcare settings. Empirical studies reveal that those people who exercise ritual meditation for several weeks experience fewer emotive disorders, as well as more mindfulness compared to other students [24].

By being mindful, educators help enhance the formation of effective associations with students. This influences their mental health and improves their progress, which leads to greater achievement [36]. Mindfulness-related exercises help the learners by enabling them to resolve disturbances and keep their focus on the present situation. Within the class, mindfulness helps educators to become cognizant of their potent pedagogical competencies, knowing what is occurring in their surrounding environment. Furthermore, mindfulness exercises serve as useful instruments educators can use to enhance their self-awareness (e.g., awareness of the body), their mind (a focus on competence), and their sense of anxiety [37].

# 2.2. Well-being

Positive psychologists seek to enhance mental functioning and personal attainment [38]. Indeed, well-being is a component of PP which is described as a good and enduring quality that allows people and societies to make progress and grow [39,40]. It also refers to the importance of figuring out and grasping the elements associated with personal health, mental well-being, and happiness. As pointed out by Ryan and Deci [41], well-being can be examined from two perspectives: hedonic and eudemonic. The former has to do with satisfaction and life leisure, describing well-being as attaining a joyful state and evading anguish. The hedonic method is mainly aimed at bringing satisfaction and realizing what is usually called "subjective well-being" [42]. The eudemonic aspect is concerned with self-actualization and involves the features of personal life and the fulfillment of capabilities. This attitude supports the conditions required for psychological well-being, using these skills in a way that can make life better [43].

According to Seligman [38], well-being is comprised of multiple elements and several measurable components. These are accounted for by PREMA, which deals with the following five topics: constructive emotions, associations, engagement, meaningfulness, and achievement. Constructive emotions i.e., positive feelings, include accomplishment, hopefulness, and well-being, which are viewed as elements of the hedonic dimension. It is considered an indicator of achievement as it can enable individuals to flourish and it can be taught and boosted [44]. Engagement is a form of flow or in-depth involvement aimed mainly at motivating the students to accomplish a goal or task [45]. According to Goal setting, observation, and attainment reinforce the individual's well-being throughout life [46].

Positive relations have to do with being perceived and accepted by society so that the individual relishes his/her social interactions. Social help brings about positive outcomes, such as psychological and physical well-being and general well-being [47,48]. As a concept, meaning is derived from one's perception of life as a purposeful resource. This, in turn, is concerned with persistence and efforts made by an individual to find life meaningful. Such perceptions yield positive and constructive feelings in different age ranges [49]. Attainment has to do with goal setting, devolvement, and having the ability to achieve, leading to enduring efforts toward well-being [44]. In the same vein, Acton and Glasgow [50] maintain that educator well-being is concerned with experiencing individual expert fulfillment, happiness, resolution, and joy, embedded in a cooperative atmosphere with co-workers and learners.

# 2.3. Motivation

Motivation has to do with why individuals make specific decisions, engage in an activity, and persist in following up on their goals; indeed, motivation mediates the powerful factors and personal participation in SL/FL learning [51]. Individuals are inspired by their motivation, driving people to behave or to carry out a thing. It is also a type of strong passion characterized by the individual's perseverance to obtain better results, regardless of their life path, which is closely related to the occurrence of goal-oriented behaviors

[52]. It is argued that motivation constitutes an essential element in education. Martinez et al. [53], for instance, refer to a mutual link between motivation and strategy practice, with motivation leading to the use of strategy and vice versa. The research carried out on motivation focuses on three categories: internal motivation to know, internal motivation to reach goals, and internal motivation to provoke [41]. Consequently, following the self-determination hypothesis, innately motivated people have at their disposal an intrinsic source of power and inherent knowledge. They feel delighted by accomplishing an assignment and taking part in tasks, leading to the provocation of feelings. These people are eager to study new matters [54]. In contrast, extrinsic motivation has to do with the worth attributed by an individual to the contribution of an exercise to achieving some distinct outcome [41]. It is related to a group of patterns that are used as a tool to reach a goal; that is, it is not deemed as an end itself. As with innate motivation, external motivation is composed of three types as follows: 1-extrinsic control, which is self-regulated by allocating external awards, 2-punishments, and 3-constraints which are concerned with the internalization of the importance of and reasons behind particular action; which deals with figuring out the education-related worth [55]. Highly motivated educators are driven to perform better in situations where the learners can accomplish the ultimate objectives [56].

# 2.4. Related studies

Certain studies [18,57-60] indicate that the majority of educators encounter difficulties with staying motivated and maintaining their well-being. However, incorporating mindfulness training may serve as a viable intervention, helping educators become more self-aware. The debate was centered on the notion that offering mindfulness instruction to educators could enhance their ability to manage work-related pressure, leading to a more productive learning setting. The argument is that mindfulness can aid educators in addressing motivational challenges within classrooms, and teachers who practice mindfulness are likely to display greater enthusiasm and willingness to teach. Based on the investigation carried out by Abenavoli et al. [57], it is suggested that promoting mindfulness among teachers could prove to be a successful approach to averting burnout and nurturing physical and mental well-being. In fact, the findings of the research showed that the mindfulness of educators had robust and consistent adverse connections with three commonly examined facets of burnout: emotional fatigue, depersonalization, and diminished personal achievement. According to Hwang, Bartlett, Greben and Hand [18], mindfulness training is valuable for enhancing the well-being and performance of teachers. A positive state of mind helps teachers to establish a positive relationship with their students, leading to improved academic performance. Lomas et al. [61] conducted an investigation and resulted that mindfulness has a highly positive impact on the overall well-being of teachers. The results showed significant improvements in mindfulness, compassion, emotional regulation, job satisfaction, and job performance. Braun et al. [58] carried out a research analysis on the power of mindfulness among educators with regard to student interactions, educator career well-being, and subjective well-being, the findings are in the same line with the previous study conducted on fifty-eight educators in a middle school. Their findings demonstrated that educators who possess a greater mindfulness level exhibited reduced levels of job stress, fatigue, depression, and anxiety symptoms while also displaying higher levels of positive interactions with students during their most challenging classes, as reported by observers.

# 3. Conclusions, implications, and future directions

This review lends support to the conclusion that the emotional and psychological states of teachers are very important in the context of education. This is because teachers are viewed as the main practitioners, whose performance is influenced by multiple factors, including internal and external ones. Therefore, the degree of accomplishment, the level of motivation, and students' learning all are impacted by the teachers' psychological states. Observations show that teaching as a demanding career induces stress and anxiety on the part of teachers. Several factors induce the stress related to teaching in vocational-technical institutes (e.g., long working hours, inordinate office, and control activities). This level of workload can make teaching very stressful [62]. This makes teachers aggressive and less motivated, influencing their performance and pushing them to give up teaching. Therefore, to keep in check such negative influences, and also develop their well-being and motivation, teachers need to be psychologically prepared and trained that employing mindfulness is effective. The implementation of the mindful intervention in teachers not only aids in their self-regulation but also enhances their emotional stability, resilience, motivation, and empathy.

The Ministry of Education and policymakers should try to enhance the effectiveness of vocational-technical teachers' performance. To this end, there should emphasize the deciding role of teachers in the success of the organization; teachers' values related to work should be matched with values stated by the school and inspiring assignments should be given to enhance their progress. Without a doubt, educators need to improve vocational-technical teachers' motivation and well-being by using different mindfulness techniques (e.g., presentations, webinars, lectures, conferences, and workshops). In the same vein, mindfulness influences motivation, as well as well-being (both mental health and behaviors) [41]. There is a consensus that being aware of the surrounding environment and events enable people to become cognizant of their real selves. This, in turn, allows them to know their needs and senses, which helps the individuals to adapt their behaviors to their true selves, mind, and sensations. This connection makes it clear to the individual the reasons behind what they do and what they fail to do.

The effectiveness of mindfulness interventions can be attributed to several factors and it seems that mindfulness plays a constructive role in increasing teacher effectiveness as it enhances teacher well-being despite the probable positive bias [63]. Indeed, as stated by Hwang, Bartlett, Greben and Hand [18], mindfulness-based interventions enhance the well-being of teachers who take part in in-service programs. This is made possible by the role mindfulness plays in decreasing negative results and consequences (e.g., one's self-perceived stress, burnout, anguish, and anxiety). A meta-analysis performed by Klingbeil and Renshaw [64] showed that mindfulness interventions have a slightly positive effect on teaching strategies/classroom climate. The same conclusion was reached by

Wong and Cheuk [63] who attributed reduced stress, a decrease in anguish, less anxiety, decreased depression and burnout, and an increase in well-being and overall contentment to teachers' participation in workshops on mindfulness. As far as practical implications are concerned, it can be stated that teachers' mindfulness can improve their attitudes toward working conditions, particularly, concerning vocational-technical contexts. This can reduce stress and enhance motivation, which, in turn, leads to a positive classroom environment [18]. Mindfulness enables teachers to pay more attention to the surrounding environment, allowing them to react proactively in the face of negative events in the classroom. Moreover, mindfulness is closely correlated with increased mental and physical health and decreased anguish, anxiety, and stress [27]. Indeed, mindfulness has been catching the attention of researchers because a connection has been found between it and many indicators of well-being. Seemingly, mindful teachers can experience better self-regulation than others, serving as a buffering effect against the stressors associated with the atmosphere of a classroom. Being mindful improves self-controlling processes, which, in turn, fosters well-being and fends off psychological distress [64].

In the case of educational settings, this review can have important implications for teachers and other stakeholders. Mindfulness provides teachers, supervisors, and staff with an opportunity to deal with the stress associated with their careers. This increases mental well-being and motivation and reduces healthcare costs [65]. Some studies e.g., [18, 66, 67] indicate that mindfulness enhances teacher well-being. Therefore, mindfulness components can be effectively included in various training programs, including professional development and teacher training courses. Following the related literature, mindfulness should be viewed as a flexible variable [68]. Accordingly, the current study concludes that the enhanced skills of mindfulness can foster teachers' well-being, leading to an increase in the quality of teaching. To this end, teacher educators need to incorporate mindfulness in the programs and workshops aimed at enhancing professional development because mindfulness in the context of educational contexts can yield many positive outcomes for teachers and learners engaged in the vocational-technical domain.

The insights of the present study have implications for the teachers who are working in vocational-technical schools. This review shows a close association between vocational-technical teachers' mindfulness and their motivation, as well as their well-being, the vocational-technical teachers are advised to boost their mindfulness since by cultivating mindfulness, vocational education may benefit from an improved emphasis on the creative and hands-on aspects of jobs, aligning with current recommendations. Moreover, the findings of this study can be used by teacher trainers to facilitate the professional development of teachers in vocational-technical schools. Educators with a high level of mindfulness pay more attention to the different needs of learners, such as educational, social, and affective ones. They also take into account the general classroom dynamics. Such educators tend to engage in the constant monitoring of learners' participation and progress. This enables them to adapt their teaching approach to facilitate their students' learning. Moreover, being aware of their internal states and feelings, mindful educators tend to self-regulate their responses to learners' misdemeanors. This drives teachers to avoid resorting to punitive measures and to perform constructive practices. Also, a high level of self-awareness and self-compassion helps educators to identify the situations where they must use some techniques to alleviate learners' stress. This helps students to retrieve their depleted cognitive and emotional resources [69,70].

The knowledge of educators' well-being and motivation can bring about benefits to learners, in that motivation and well-being are closely related to the effectiveness of teaching, flexible instruction, students' motivation, and success. The growth of vocational-technical education plays a crucial role in the progress a country makes in various areas, including social and economic development. The high quality of vocational-technical education requires the employment of qualified teachers. These teachers need to take part in specific training programs [71]. Therefore, as pointed out by Ye, Lee and He [72], higher vocational-technical teacher education needs to train qualified teachers for vocational-technical teaching. As studies show, mindfulness turns out to be one of the main contributors to educators' well-being; therefore, an examination of such elements can shed light on the status of educators' well-being in their working place. These insights, in turn, can help educators to lay the groundwork for setting up programs aimed at increasing the educators' psychological well-being and creating a framework for accelerating their expert progress. Given that mindfulness reduces tension, it serves as a proactive method educator can use to enhance function and well-being [73,74]. It is argued that mindful educators can perceive, adapt, and regulate their cognitive and affective experiences, resulting in a decrease in tension, anguish, and anxiety.

Vocational-technical education should be performed by teachers with a high level of mindfulness because teachers in vocational and technical secondary schools experience increased levels of stress as a result of shared circumstances, including longer hours dedicated to teaching and workshop practice, an abundance of administrative and managerial responsibilities, and other comparable factors. Consequently, teacher trainers need to prioritize teachers' preparation, which involves cultivating their mindfulness as a way to decrease their stress. There is a need for regular training for teachers to be mindful [75]. Additionally, the incorporation of a mindfulness component in in-service training programs and through professional development can bring about numerous positive results, containing a development in psychological health, a growth in their enthusiasm and motivation, a higher degree of well-being, and a decline in anxiety. This can reduce the likelihood of sadness and anguish among teachers. Moreover, material designers can draw on these findings by paying attention to the educators' mindfulness, paving the way for an educational environment where there are fewer stressful factors and less defensiveness. This, sequentially, increases motivation and well-being. Therefore, the class atmosphere would not be negative anymore, and both teachers and students enjoy a calm atmosphere given the improvement in their engagement and motivation.

Holding programs and workshops aimed at improving mindfulness can yield several benefits for EFL teachers. For example, mindfulness increases motivation, encouraging teachers to be more goal-directed in their teaching. Mindfulness is shown to reduce stress and concern, decreasing anxiety specific to education. Indeed, mindfulness has proved to enhance teachers' performance and hence learners' outcomes. Indeed, highly mindful individuals are highly motivated, as well [76]. Furthermore, it is worth noting that the teachers' well-being and motivation as two important variables in this review have been investigated about mindfulness. Therefore, it is recommended that researchers do research on these two latest concepts concerning other variables, including

self-efficacy, hopefulness, happiness, and interpersonal communication patterns. As a result, prospective investigations need to study the mediating role of learner variables, such as age, social class, experience, and the field of study, among others, on the degree and the development of such constructs. These missing insights show that such a line of research is in its infancy stage. The prospective studies need to examine the possible correlation between mindfulness, motivation, and well-being using an experimental format or a longitudinal design. These studies also need to shed light on the possible interactions among the contributing variables over time. The relationship among mindfulness, motivation, and well-being requires studies in future research through an experimental or longitudinal design to scrutinize how the various contributing variables improve and interrelate over time. Similarly, mindfulness-intervention-based investigations, especially among teachers should be conducted in the future to predict how it could influence vocational-technical teachers as compared to others.

#### Author contribution statement

All authors listed have significantly contributed to the development and the writing of this article.

# Data availability statement

No data was used for the research described in the article.

#### Additional information

No additional information is available for this paper.

# Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

# References

- [1] R. Pishghadam, A. Derakhshan, H. Jajarmi, S. Tabatabaee Farani, S. Shayesteh, Examining the role of teachers' stroking behaviors in EFL learners' active/passive motivation and teacher success, Front. Psychol. 12 (2021) 1–17.
- [2] J.U. Okorie, Vocational Industrial Education, Enugu: League of Researchers Publishers, 2001.
- [3] R.J. Collie, J.D. Shapka, N.E. Perry, School climate and social-emotional learning: predicting teacher stress, job satisfaction, and teaching efficacy, J. Educ. Psychol. 104 (3) (2012) 1189–1204, https://doi.org/10.1037/a0029356.
- [4] B.J. Hoffman, D.J. Woehr, A quantitative review of the relationship between person- organization fit and behavioral outcomes, J. Vocat. Behav. 68 (3) (2006) 389–399, https://doi.org/10.1016/j.jvb.2005.08.003.
- [5] K.A. Schonert-Reichl, Advancements in the landscape of social and emotional learning and emerging topics on the horizon, Educ. Psychol. 54 (3) (2019) 222–232.
- [6] Y. Wang, Probing into the boredom of online instruction among Chinese English language teachers during the Covid-19 pandemic, Curr. Psychol. (2023), https://doi.org/10.1007/s12144-022-04223-3.
- [7] P. Benevene, S. De Stasio, C. Fiorilli, Well-being of school teachers in their work environment, Front. Psychol. 11 (3) (2020) 1–4, https://doi.org/10.3389/fpsye.2020.01239.
- [8] J. Kidger, R. Brockman, K. Tilling, R. Campbell, T. Ford, R. Araya, D. Gunnell, Teachers' wellbeing and depressive symptoms, and associated risk factors: a large cross sectional study in English secondary schools, J. Affect. Disord. 192 (3) (2016) 76–82, https://doi.org/10.1016/j.jad.2015.11.054.
- [9] J. Fathi, A. Derakhshan, Teacher self-efficacy and emotional regulation as predictors of teaching stress: an investigation of Iranian English language teachers, Teaching English Language 13 (2) (2019) 117–143.
- [10] Z. Dörnyei, E. Ushioda, Teaching and Researching Motivation, Pearson Education Limited, Harlow, 2011.
- [11] S. Neves de Jesus, W. Lens, An integrated model for the study of teacher motivation, Appl. Psychol. 54 (1) (2005) 119-134.
- [12] O. Ergas, L.L. Hadar, N. Albelda, N. Levit-Binnun, Contemplative neuroscience as a gateway to mindfulness: findings from an educationally framed teacher learning program, Mindfulness 9 (6) (2018) 1723–1735, https://doi.org/10.1007/s12671-018-0913-4.
- [13] M. Brown, S. Ralph, I. Brember, Change-linked work-related stress in British teachers, Res. Educ. 67 (3) (2002) 1–12, https://doi.org/10.7227/RIE.67.1.
- [14] A. Hakim, Contribution of competence teacher on the performance of learning, Int. J. Eng. Sci. 4 (2) (2015) 1-12.
- [15] M.T. Hue, N.S. Lau, Promoting well-being and preventing burnout in teacher education: a pilot study of a mindfulness-based program for pre-service teachers in Hong Kong, Teach. Dev. 19 (3) (2015) 381–401.
- [16] J. Gu, C. Strauss, R. Bond, K. Cavanagh, How do mindfulness-based cognitive therapy and mindfulness-based stress reduction improve mental health and wellbeing? A systematic review and meta-analysis of mediation studies, Clin. Psychol. Rev. 37 (3) (2015) 1–12, https://doi.org/10.1016/j.cpr.2015.01.006.
- [17] J. Kabat-Zinn, Mindfulness-based interventions in context: past, present, and future. Clinical Psychology, Science and Practice 10 (2) (2003) 144–156, https://doi.org/10.1093/clipsy.bpg016.
- [18] Y. Hwang, B. Bartlett, M. Greben, K. Hand, A systematic review of mindfulness interventions for in-service teachers: a tool to enhance teacher wellbeing and performance, Teach. Teach. Educ. 64 (2) (2017) 26–42.
- [19] A. Derakhshan, J.M. Dewaele, M. Azari Noughabi, Modeling the contribution of resilience, well-being, and L2 grit to foreign language teaching enjoyment among Iranian English language teachers, System 109 (2022), 102890, https://doi.org/10.1016/j.system.2022.102890.
- [20] S. Altan, J.F. Lane, E. Dottin, Using habits of mind, intelligent behaviors, and educational theories to create a conceptual framework for developing effective teaching dispositions. J. Teach. Educ. 70 (2) (2019) 169–183.
- [21] R.W. Roeser, Processes of teaching, learning, and transfer in mindfulness-based interventions (MBIs) for teachers: a contemplative educational perspective, in: K. Schonert-Reichl, R. Roeser (Eds.), Handbook of Mindfulness in Education. Mindfulness in Behavioral Health, Springer, NY: New York, 2016, https://doi.org/10.1007/978-1-4939-3506-2-10.
- [22] A. Nawaz Khan, N.A. Khan, M.A. Soomro, Influence of ethical leadership in managing human resources in construction companies, J. Construct. Eng. Manag. 146 (11) (2020) 1–12, https://doi.org/10.1061/CO.1943-7862.0001919.
- [23] E.R. Tomlinson, O. Yousaf, A.D. Vittersø, L. Jones, Dispositional mindfulness and psychological health: a systematic review, Mindfulness 9 (1) (2018) 23–43.

[24] J. Carmody, R.A. Baer, Relationships between mindfulness practice and levels of mindfulness, medical and psychological symptoms and well-being in a mindfulness based stress reduction program, J. Behav. Med. 31 (1) (2008) 23–33, https://doi.org/10.1007/s10865-007-9130-7.

- [25] T. Mendelson, M.T. Greenberg, J.K. Dariotis, L.F. Gould, B.L. Rhoades, P.J. Leaf, Feasibility and preliminary outcomes of a school-based mindfulness intervention for urban youth, J. Abnorm. Child Psychol. 38 (3) (2010) 985–994, https://doi.org/10.1007/s10802-010-9418-x.
- [26] E. Gold, A. Smith, I. Hopper, D. Herne, G. Tansey, C. Hulland, Mindfulness-based stress reduction (MBSR) for primary school teachers, J. Child Fam. Stud. 19 (2) (2010) 184–189, https://doi.org/10.1007/s10826-009-9344-0.
- [27] C. Taylor, J. Harrison, K. Haimovitz, E. Oberle, K. Thomson, K. Schonert-Reich, R.W. Rooser, Examining ways that a mindfulness-based intervention reduces stress in public school teachers: a mixed-methods study, Mindfulness 7 (3) (2016) 115–129.
- [28] D.M. Davis, J.A. Hayes, What are the benefits of mindfulness? A practice review of psychotherapy-related research, Psychotherapy 48 (2) (2011) 198–208, https://doi.org/10.1037/a0022062.
- [29] T.N. Hanh, The Heart of the Buddha's Teaching, Broadway Books, New York, NY, 1999.
- [30] R. Yuan, I. Lee, H. Xu, H. Zhang, The alchemy of teacher mindfulness: voices from veteran language teachers in China, Prof. Dev. Educ. 46 (2) (2020) 1–17.
- [31] Z. Hosseinzadeh, M. Sayadi, N. Orazani, The mediating role of mindfulness in the relationship between self-efficacy and early maladaptive schemas among university students, Curr. Psychol. 40 (2) (2019) 1–11, https://doi.org/10.1007/s12144-019-00487-4.
- [32] K.W. Brown, R.M. Ryan, J.D. Creswell, Mindfulness: theoretical foundations and evidence for its salutary effects, Psychol. Ing. 18 (3) (2007) 211–237.
- [33] S.R. Bishop, M. Lau, S. Shapiro, L. Carlson, N. Anderson, J. Carmody, Z. Segal, S. Abbey, M. Speca, D. Velting, G. Devins, Mindfulness: a proposed operational definition. Clinical Psychology, Science and Practice 11 (3) (2004) 230–241, https://doi.org/10.1093/clipsy.bph077.
- [34] P.A. Jennings, M.T. Greenberg, The prosocial classroom: teacher social and emotional competence in relation to student and classroom outcomes, Rev. Educ. Res. 79 (2) (2009) 491–525.
- [35] D.L. Schussler, P.A. Jennings, J.E. Sharp, J.L. Frank, Improving teacher awareness and well-being through CARE: a qualitative analysis of the underlying mechanisms, Mindfulness 7 (2) (2016) 130–142, https://doi.org/10.1007/s12671-015-0422-7.
- [36] J.E. Sharp, P.A. Jennings, Strengthening teacher presence through mindfulness: what educators say about the cultivating awareness and resilience in education (CARE) program, Mindfulness 7 (1) (2016) 209–218, https://doi.org/10.1007/s12671-015-0474-8.
- [37] R. Bernay, Mindfulness and the beginning teacher, Australian Journal of Teacher Education 39 (7) (2014) 58-69, https://doi.org/10.3316/informit.480460980498552.
- [38] M. Seligman, PERMA and the building blocks of well-being, J. Posit. Psychol. 13 (4) (2018) 333-335.
- [39] M.E.P. Seligman, M. Csikszentmihalyi, Flow and the foundations of positive psychology, in: M.E.P. Seligman, M. Csikszentmihalyi (Eds.), Positive Psychology: an Introduction, Springer, Dordrecht, 2014, pp. 279–298, https://doi.org/10.1037//0003-066X.55.1.5.
- [40] Y.L. Wang, A. Derakhshan, L.J. Zhang, Researching and practicing positive psychology in second/foreign language learning and teaching: the past, current status and future directions, Front. Psychol. (2021).
- [41] R.M. Ryan, E.L. Deci, Intrinsic and extrinsic motivation from a self-determination theory perspective: definitions, theory, practices, and future directions, Contemp. Educ. Psychol. 61 (2) (2020) 1–11. https://doi.org/10.1016/j.cedpsych.2020.101860.
- [42] C. Kim-Prieto, E. Diener, M. Tamir, C. Scollon, M. Diener, Integrating the diverse definitions of happiness: a time-sequential framework of subjective well-being, J. Happiness Stud. 6 (3) (2005) 261–300, https://doi.org/10.1007/s10902-005-7226-8.
- [43] S. Mercer, T. Gregersen, Teacher Well-Being, Oxford University Press, Oxford, 2020.
- [44] B.L. Fredrickson, The role of positive emotions in positive psychology: the broaden-and-build theory of positive emotions, Am. Psychol. 56 (3) (2001) 218–226, https://doi.org/10.1037/0003-066X.56.3.218.
- [45] A. Derakhshan, V. Greenier, J. Fathi, Exploring the interplay between a loving pedagogy, creativity, and work engagement among EFL/ESL teachers: a multinational study, Curr. Psychol. (2022) 1–20, https://doi.org/10.1007/s12144-022-03371-w.
- [46] J. Heckhausen, C. Wrosch, R. Schulz, A motivational theory of life-span development, Psychol. Rev. 117 (1) (2010) 32-60.
- [47] V. Greenier, A. Derakhshan, J. Fathi, Emotion regulation and psychological well-being in teacher work engagement: a case of British and Iranian English language teachers, System 97 (2) (2021), 102446, https://doi.org/10.1016/j.system.2020.102446.
- [48] Y. Wang, A. Derakhshan, M. Azari Noughabi, The interplay of EFL teachers' immunity, work engagement, and psychological well-being: evidence from four Asian countries, J. Multiling. Multicult. Dev. (2022).
- [49] J. Yang, The predictive role of Chinese EFL teachers' individual self-efficacy and collective efficacy in their work engagement, Front. Psychol. 12 (2021), 752041.
- [50] R. Acton, P. Glasgow, Teacher well-being in neoliberal contexts: a review of the literature, Australian Journal of Teacher Education 40 (2) (2015) 40-63.
- [51] E. Ushioda, Motivation and good language learners, in: C. Griffiths (Ed.), Lessons from Good Language Learners, Cambridge University Press, Cambridge, UK: Cambridge, 2008, pp. 19–34.
- [52] K. Singh, Study of achievement motivation in relation to academic achievement of students, Int. J. Educ. Plann. Adm. 1 (2) (2011) 161–171.
- [53] N. Martinez, L.D.P. Sinedino, R.S. Bisinotto, R. Daetz, C.A. Risco, K.N. Galvão, J.E.P. Santos, Effects of oral calcium supplementation on productive and reproductive performance in Holstein cows, J. Dairy Sci. 99 (10) (2016) 8417–8430, https://doi.org/10.3168/jds.2015-10529.
- [54] E.L. Deci, R.M. Ryan, Optimizing students' motivation in the era of testing and pressure: a self-determination theory perspective, in: W.C. Liu, J.C.K. Wang, R. M. Ryan (Eds.), Building Autonomous Learners: Perspectives from Research and Practice Using Self-Determination Theory, Springer, Singapore, 2016, pp. 9–29.
- [55] M. Komarraju, S.J. Karau, R.R. Schmeck, Role of the Big Five personality traits in predicting college students' academic motivation and achievement, Learn. Indiv Differ 19 (3) (2009) 47–52, https://doi.org/10.1016/j.lindif.2008.07.001.
- [56] I. Salifu, J.S. Agbenyega, Teacher motivation and identity formation: issues affecting professional practice, MIER Journal of Educational Studies, Trends and Practices 3 (1) (2016) 58–74.
- [57] R.M. Abenavoli, P.A. Jennings, M.T. Greenberg, A.R. Harris, D.A. Katz, The protective effects of mindfulness against burnout among educators, Psychology of Education Review 37 (2) (2013) 57–69.
- [58] S.S. Braun, R.W. Roeser, A.J. Mashburn, E. Skinner, Middle school teachers' mindfulness, occupational health and well-being, and the quality of teacher-student interactions, Mindfulness 10 (3) (2019) 245–255, https://doi.org/10.1007/s12671-018-0968-2.
- [59] P.A. Jennings, Mindfulness for Teachers: Simple Skills for Peace and Productivity in the Classroom, W.W. Norton & Company, New York, 2015.
- [60] P.A. Jennings, A.A. DeMauro, Individual-level interventions: mindfulness-based approaches to reducing stress and improving performance among teachers, in: T.M. McIntyre, S.E. McIntyre, D.J. Francis (Eds.), Educator Stress: an Occupational Health Perspective, Springer International Publishing, Cham, Switzerland, 2017, pp. 319–346.
- [61] T. Lomas, J.C. Medina, I. Ivtzan, S. Rupprecht, F.J. Eiroa-Orosa, The impact of mindfulness on the well-being and performance of educators: a systematic review of the empirical literature, Teach. Teach. Educ. 61 (3) (2017) 132–141, https://doi.org/10.1016/j.tate.2016.10.008.
- [62] R.W. Roeser, E. Skinner, J. Beers, P.A. Jennings, Mindfulness training and teachers' professional development: an emerging area of research and practice, Child Development Perspectives 6 (3) (2012) 167–173.
- [63] K.S. Wong, W.H. Cheuk, Job- related stress and social support in kindergarten principals: the case of Macau, Int. J. Educ. Manag. 19 (3) (2005) 183–196, https://doi.org/10.1108/09513540510590977.
- [64] D.A. Klingbeil, T.L. Renshaw, Mindfulness-based interventions for teachers: a meta-analysis of the emerging evidence base, Sch. Psychol. Q. 33 (4) (2018) 501–511, https://doi.org/10.1037/spq0000291.
- [65] S.S. Jimenez, B.L. Niles, C.L. Park, A mindfulness model of affect regulation and depressive symptoms: positive emotions, mood regulation expectancies, and self-acceptance as regulatory P.A. Jennings 147 mechanisms, Pers. Indiv. Differ. 49 (2) (2010) 645–650.
- [66] X. Cao, A.N. Khan, G.H. Zaigham, N.A. Khan, The stimulators of social media fatigue among students: role of moral disengagement, J. Educ. Comput. Res. 57 (5) (2019) 1–25.

[67] R.W. Emerson, C. Adams, T. Nishino, H.C. Hazlett, J.J. Wolff, L. Zwaigenbaum, J. Piven, Functional neuroimaging of high-risk 6-month-old infants predicts a diagnosis of autism at 24 months of age, Sci. Transl. Med. 9 (393) (2017) 28–82, https://doi.org/10.1126/scitranslmed.aag2882.

- [68] A.E. Iancu, A. Rusu, C. Măroiu, R. Păcurar, L.P. Maricuțoiu, The effectiveness of interventions aimed at reducing teacher burnout: a meta-analysis, Educ. Psychol. Rev. 30 (2) (2018) 373–396, https://doi.org/10.1007/s10648-017-9420-8.
- [69] J.N. Kirby, C.L. Tellegen, S.R. Steindl, A meta-analysis of compassion-based interventions: current state of knowledge and future directions, Behav. Ther. 48 (6) (2017) 778–792.
- [70] P.A. Jennings, R. Roeser, L. Lantieri, Supporting educational goals through cultivating mindfulness: approaches for teachers and students, in: A. Higgins-D'Alessandro, M. Corrigan, P.M. Brown (Eds.), The Handbook of Prosocial Education, Rowman & Littlefield, New York, NY, 2012, pp. 371–397.
- [71] R.W. Roeser, E. Skinner, J. Beers, P.A. Jennings, Mindfulness training and teachers' professional development: an emerging area of research and practice, Child Development Perspectives 6 (3) (2012) 167–173, https://doi.org/10.1111/j.1750-8606.2012.00238.x.
- [72] J.H. Ye, Y.S. Lee, Z. He, The relationship among expectancy belief, course satisfaction, learning effectiveness, and continuance intention in online courses of vocational-technical teachers college students, Front. Psychol. 13 (2022), 904319, https://doi.org/10.3389/fpsyg.2022.904319.
- [73] L. Bermejo-Toro, M. Prieto-Ursúa, V. Hernández, Towards a model of teacher well-being: personal and job resources involved in teacher burnout and engagement, Educ. Psychol. 36 (3) (2016) 481–501.
- [74] J. Fan, Y. Wang, English as a foreign language teachers' professional success in the Chinese context: the effects of well-being and emotion regulation, Front. Psychol. (2022), https://doi.org/10.3389/fpsyg.2022.952503.
- [75] A.L. Duckworth, P.D. Quinn, M.E. Seligman, Positive predictors of teacher effectiveness, J. Posit. Psychol. 4 (6) (2009) 540-547.
- [76] A. Ruffault, M. Bernier, N. Juge, J.F. Fournier, Mindfulness may moderate the relationship between intrinsic motivation and physical activity: a cross-sectional study, Mindfulness 7 (2) (2016) 445–452.