Professional development training can help teachers to build resistance against teaching associated stress

Dariyash D. Shakimova, Kehinde C. Lawrence & Zhanat K. Aubakirova

Published online: 02 May 2024.

Submit your article to this journal ↗

Article views: 2543

View related articles ↗

View Crossmark data ↗

Citing articles: 2 View citing articles ↗

EDUCATIONAL PSYCHOLOGY & COUNSELLING | REVIEW ARTICLE

    OPEN ACCESS   Check for updates

Professional development training can help teachers to build resistance against teaching associated stress

Dariyash D. Shakimova[a]*, Kehinde C. Lawrence[b] (iD) and Zhanat K. Aubakirova[a] (iD)

[a]Department of Psychology, Faculty of Social Sciences, L.N. Gumilyov Eurasian National University, Astana, Kazakhstan; [b]Faculty of Education, Walter Sisulu University, Butterworth, South Africa

ABSTRACT

This study examined the possibility of integrating resilience strategies into the TPD-R curriculum to help teachers develop resistance to stress and enable them to thrive under the pressures of teaching. Drawing on theoretical and empirical insights, the social ecological theory of resilience provided the theoretical framework for this research. The study employed a quantitative research design and utilised a quasi-experimental approach for data collection. A purposive sampling technique was used to select 50 female participants from 2 pedagogical excellence centres located in Astana, Kazakhstan. These participants were randomly assigned to either the TPD-R group (25) or to the control group (25). The Teacher Stress Scale (TSS) ($\alpha = .81$) and the Resilience for Adults Scale ($\alpha = .89$) were employed for data collection to assess job stress and resilience. The data were analysed using the analysis of covariance and independent t-tests. The TPD-R training intervention significantly improved the resilience ability of female teachers, as indicated by their pre-test and post-test mean scores of 36.25 (36.25%) and 27.13 (27.13%) respectively. The participants exposed to TPD-R (mean = 43.52; SD = 13.86) demonstrated greater improvement compared to those in the control group (mean = 27.97; SD = 2.31). Furthermore, the study found a significant interaction effect between the treatment and years of service. In conclusion, TPD-R training effectively helps reduce teacher job-related stress and promotes resilience, especially among female teachers. However, the resistance against job stress may be dependent on years of experience.

Introduction

In the ever-evolving educational space, professional development training plays a pivotal role in empowering teachers with the knowledge and skills required to enhance their instructional practices and improve the quality of education. However, the effectiveness of such programmes depends not only on their content and structure but also on teachers' ability to navigate the stress associated with the teaching profession. Importantly, professional development training programmes have long been recognised as catalysts for improving teaching quality and student outcomes. While these programmes typically focus on delivering relevant content and fostering pedagogical skills, they also help in developing student competencies such as critical thinking, effective communication and collaboration, deep mastery of challenging content, complex problem solving, and self-direction. However, they often neglect to address the stress and challenges that teachers encounter in relation to their emotional and psychological state. Although some researchers have argued that high-quality professional development programmes have the potential to buffer against the stress associated with the teaching profession (Sandilos et al., 2018), this claim may perhaps be because professional development programmes

provide teachers with the additional support and skills needed for the profession (Jennings & Greenberg, 2009) and thereby reduce the associated teaching stress.

Stress has a negative impact on the teaching profession as it often reduces the quality of teaching and learning. Teacher stress remains one of the major factors causing a high turnover rate among teachers and it continues to take a toll on the overall quality of life for many educators (Alhija, 2015). According to Kyriacou (2001), the teaching profession is recognised as demanding and stressful and it is often accompanied by unpleasant negative emotional experiences including anxiety, frustration, depression, and nervousness in the process of carrying out their professional duties. While teaching stressors may vary, several studies have identified the sources of teacher stress: These include unmotivated students during teaching and learning activities, maintenance of classroom discipline, heavy workloads, sudden curriculum changes, frequent assessments and evaluations by the Ministry/Department of Education or supervising organisations, challenging school managers or administrators, low wages, and poor working conditions (Kyriacou, 2001; Segun-Martins & Dennis, 2017; Zhai et al., 2011; Zinsser et al., 2013). Despite teaching-related stress, many teachers, especially women, have continued to thrive in the profession. Consequently, understanding and improving teachers' resistance to stress within the teaching profession becomes imperative for creating meaningful and impactful learning experiences for educators.

Building a teacher's capacity for resilience through professional development training is essential for both stress management and teacher retention (Sandilos et al., 2018). Over the years, the concept of resilience has drawn scholarly interest and garnered much recognition in literature, yet the possibilities for this idea are endless. Although it may be difficult to define resilience, it is typically thought of as the capacity of a person to overcome hardship or a struggle in life. Pooley and Cohen (2010 p34) offer a new definition of resilience, stating that it is "the capacity to exhibit resourcefulness by using available internal and external resources in response to various contextual and developmental challenges". Resilience is defined in terms of a challenging or stressful environment as successful coping, adaption, and learning (Baggio et al., 2015; Hazel, 2018; Pooley & Cohen, 2010). A resilient person will make use of all of the resources at their disposal to achieve positive developmental outcomes, function successfully, and recover from substantial stressful experiences (Masten & Obradovic, 2008; Ungar, 2016). Building resilience in female teachers can thus perhaps become an alternative approach to the issue of teacher attrition since resilience helps to sustain professionalism, serves as a personal resource to be harnessed when navigating through challenges, and consequently enables a person to thrive rather than simply survive in their work (Beltman et al., 2011). In this study, reliance is the capacity of teachers to access and utilise the protective resources towards achieving a better life and continuing to thrive productively, even in the most trying circumstances (Malindi, 2014).

Prioritising quality teaching in schools has been a key focus of the Kazakhstan government's educational reforms since 2011, and these reforms are aimed at positioning the country among the top 30 developed economies by 2050 (Tastanbekova, 2018). This includes enhancing the teaching profession, increasing the number of qualified teaching personnel, and introducing new educational content and teaching methods. One significant reform has been the transition to trilingual instruction in the Kazakh, Russian, and English languages (Qanay et al., 2019; Tastanbekova, 2018). This transition places additional demands on teachers, who are now expected to teach in three different languages. Unfortunately, the majority of schoolteachers are females who often have to navigate through traditional gender roles and societal expectations, and this can impact their work-life balance. Balancing the demands of their teaching responsibilities with personal obligations can be stressful and requires resilience. Moreover, despite advancements in gender equality, female teachers may still face instances of discrimination or unequal treatment based on their gender. There is also a prevailing perception that certain subjects, such as math or science, are better suited for male teachers; this can create a hostile work environment and constitutes a stressor for the female teachers (Akhmetova, 2002).

Among other commendable efforts by the government in its educational system reform agenda is the establishment of a national and 17 regional centres for professional development training across the country for all serving teachers in 2012, called 'Orleu' (which means 'climbing the mountain' in Kazakh) (OECD, 2014). The professional development training is designed to last for a period of three months, during which time the participants are exposed to seven training modules. These modules include new educational technologies, critical thinking, criteria-based assessment of students' learning achievements, management in

school education, competency-based learning in the context of transitioning to a 12-year education system, using ICT and e-learning in teaching, modern educational technologies for gifted children, and the psychological and pedagogical specifics of teaching different age groups of students. Besides the enormous benefits that the programme offers in terms of the quality of teaching, it is also believed that it can serve as a strategy to enhance resilience in teachers. However, this aspect has remained a gray area in research, and this present study aimed to shed light on the matter. This study explored the potential of the teacher professional development training for building resistance against teaching stress.

What was already known

It was established that a high-quality Teacher Professional Development (TPD) training programme has the potential to reduce the effects of teacher job stress and to provide teachers with the additional support and skills required to navigate through the teaching profession (Jennings & Greenberg, 2009; Sandilos et al., 2018). However, the structure and quality of the TPD programmes can vary widely, and the inconsistent quality and variability of the TPD is evident across a significant body of research (Sheridan et al., 2009). Notably, only a limited number of studies have explored TPD programmes aimed at enhancing resilience, and the few studies available only suggest a link between professional development engagement, career satisfaction, and resilience. For instance, Patterson et al. (2004) found that resilient teachers placed a high premium on professional development and served as mentors for others. Castro et al. (2010) described engagement in professional growth as a manifestation of resilient behaviour. Leroux and Théorêt (2014) established a relationship between teacher reflection and resilience. Tait (2008) discovered that resilient teachers experienced a high level of career satisfaction during their first year of teaching, despite reporting high levels of stress. Lastly, Sorensen and McKim (2014) found a relationship between job satisfaction and professional commitment among agriscience teachers.

Resilience is a developed and nurtured construct (Beltman et al., 2018; Mansfeld et al., 2016; Yonezawa et al., 2011), and several studies have suggested many possible interventions to nurture resilience among teachers. For instance, Benard (2003); Clarà (2017); Mansfeld et al. (2016; and Silva et al. (2018) suggested professional development training. Specifically, Day and Gu (2014) found that when teachers' resilience was fostered it could aid their commitment and professional enthusiasm. Likewise, Mansfield et al. (2016) noted that fostering teachers' resilience enabled them to respond to the profession's daily challenges, witness career growth and thrive throughout their teaching and learning processes. However, despite the several personal and contextual resources that were identified as important in teachers' resilience, specific strategies that could be used to develop teacher resilience were still missing. A few studies have acknowledged the enriched content of the teacher's professional development as important in teachers' resilience development (Castro et al., 2010; Sandilos et al., 2018).

In a quantitative study by Ainsworth and Oldfield (2019), it was discovered that contextual factors promoted teachers' ability to thrive within the profession, just as individual factors did. The study therefore suggested that any intervention designed to develop teacher resilience should focus on a professional environment as well as teachers' personal resources. Another study by Nishimura (2014) emphasised the effectiveness of teacher professional development, with a focus on teachers of learners with disabilities. The study concluded that teacher professional development increased positive teacher attitudes towards students with disabilities. More recently, Fernandes et al. (2019) examined the efficacy of professional learning programmes in fostering teacher resilience and well-being among 59 Portuguese in-service teachers. The outcome of the research revealed that professional development training effectively improved teachers' resilience and well-being. Despite the possibility that teachers' professional development training could be effective in building teachers' resilience, no study has employed professional development training as a resilience building strategy among female teachers thus far. This study hypothesised that it could be used as an effective strategy in this regard.

Theoretical lens

The social ecology of resilience theory propounded by Ungar (2011) was considered as the theoretical lens with which to accurately position this study, and gain insight into the process of building resilience.

Ungar advanced Bronfenbrenner's (1977, as cited in Ungar, 2011) social ecological theory, which establishes connections between an individual's development and their environment. This theory places emphasis on five basic systems that impact an individual's development and resilience potential; namely the microsystem, mesosystem, exosystem, macrosystem, and the chronosystem. Ungar's theoretical perspective associated with fostering resilience highlights the importance of individual qualities and their activated capacity in social and physical ecologies to cope with adversities. This, in turn, facilitates protective processes against risk and promotes positive outcomes. Fostering resilience is more likely when the focus is on how individuals harness both internal (personal strength) and external (social and physical ecologies) assets, particularly when they encounter significant amounts of stress or, in this case, teaching profession adversities. The ecological interpretation of the resilience construct consists of four basic principles: namely, decentrality, atypicality, complexity, and cultural relativity.

Decentrality, according to Ungar (2011), emphasises the importance of the social ecologies needed to initiate, reciprocate, and/or advocate support for individuals who may be facing adversities, rather than focusing on the personal characteristics of the individual. In this way, even though individual personal qualities count, the individual is not central to the resilience processes (Van Rensburg et al., 2019). Atypicality is the second principle that explains the diverse pathways of resilience (Ungar, 2011). This principle describes the different pathways that individuals could adopt to navigate through adversities; there is no such thing as a "one-size-fits-all" approach, as this is unlikely to lead to positive adjustment. The third principle is complexity or dynamics. This principle believes that resilience involves a multidimensional process that may vary over time and across contexts. For instance, meeting new friends or transitioning from one city or school to another could alter the social ecologies of an individual. Therefore, resilience is not static in nature. The last principle is cultural relativity. According to Ungar (2011), culture, such as beliefs, customs, language, and values, informs resilience processes, and shapes individuals' understanding of the meaningfulness of resources (Panter-Brick, 2015). The underlying processes of resilience facilitate positive developmental outcomes that might differ from one culture to another (Theron et al., 2013; Van Rensburg et al., 2019).

In essence, it has been affirmed that various contextual pressures often exert adverse psychological effects on teachers and lead to a syndrome of emotional turmoil or inadequate protective resources (Chen et al., 2022; Kyriacou, 2001; Prilleltensky et al., 2016) that result in stress. The corollary is therefore that, in order for teachers to combat stress, it is essential that they acquire additional protective abilities to restore their emotional balance, and the protective abilities must surpass the impact of the contextual risk factors.

The chosen theory's strength lies in attributing the process of fostering resilience to social and physical ecologies rather than to individual personal qualities alone. Thus, the availability and accessibility of supports are crucial for a female teacher to thrive amidst various professional stressors. In many societies, prejudice against female teachers in certain roles persists, and some schools still believe that subjects like math or science should only be taught by male teachers. These conditions can create a hostile work environment and add stress to female teachers (Akhmetova, 2002). By adopting teacher professional development training as an intervention, it can serve as an external resource that can be used to foster resilience among female teachers.

Aim

The main concern of this study was to examine the effectiveness of teacher professional training (TPD) in building resistance against teaching stress among female teachers.

Research questions

The study was guided by the following research questions to achieve the objective stated above:

1. Did TPD have a significant effect on building resistance against teaching stress?
2. Was the interaction effect of treatment/intervention and the years of service (YoS) significant in building resistance against teaching stress?

Method

Design and participants

The study employed a quantitative research design utilising a quasi-experimental approach for data collection. This approach involved comparing two distinct groups: an intervention group and a control group. The research focused on two pedagogical excellence centres situated in Astana, Kazakhstan, which were purposefully selected. A total of 50 teachers were recruited from these centres using the Teacher Stress Scale (TSS) developed by Chen et al. (2022). The intervention group comprised of 25 female participants whose ages ranged from 25 to 41 years. Approximately 82.2% of them were married and living with their spouses, and 81.9% held bachelor's degrees. All participants in this group had more than five years of teaching experience. Similarly, the control group consisted of 25 participants within the same age range of 25 to 41 years. About 73.6% of them were in intact marriages, and 86.8% held bachelor's degrees. All control group participants also possessed over five years of teaching experience. In summary, the study included a total of 50 female teachers who participated actively in the research.

Procedure

Approval for the study was secured from the Ministry of Science and Education in Astana, Kazakhstan. Authorisation to conduct the research within their centre was granted by the coordinators of the centres. The principal investigator, who was also a doctoral student in the Department of Psychology, served as one of the facilitators/trainers at one of the intervention centres. The research spanned six sessions of Resilience Abilities Training for the individuals who participated in the study. Light refreshments were provided to maintain the participants' engagement and interest during the training period. It is worth noting that both groups (intervention and control) received the same pre-test and post-test assessments.

Participation criteria

Participation was voluntary and the following criteria were met:

- Participants were female registered teachers who scored above 31 in the Teacher Stress Scale (indication of a high level of stress).
- The teachers signed the consent form.
- Participants were teachers who had enrolled for professional development training in the pedagogical excellence centres selected.

Instrument

Resistance against stress was assessed using the Resilience Scale for Adults (RSA) developed by Friborg et al. (2003). This scale was designed to measure the protective resources against life stress and promote resilience abilities in adults. It comprised of 33 standardised self-report items divided into 2 sections. The first section collected the socio-demographic characteristics of the respondents, while the second section assessed their resilience abilities across five dimensions, including personal competencies, personal structure, social competencies, family cohesion, and social supports. The reliability coefficient value of the scale was .89 using the Cronbach's alpha method. Additionally, the newly developed tool called the Teacher Stress Scale (TSS), described by Chen et al. (2022), was employed as a screening instrument. The TSS consisted of nine items, each rated on a five-point Likert scale ranging from one (Strongly Disagree) to five (Strongly Agree). A total score above 31 on the TSS indicated a high level of stress among the respondents. Specifically, scores from 1 to 15 suggested low stress, scores from 16 to 30 indicated moderate stress, and scores from 31 to 45 signified high stress. The validation of the scale reported a good reliability coefficient using Cronbach's alpha (0.81).

Intervention group: EIT

The aim of the training was to help teachers cope with the negative effects of job stress, promote resilience abilities, and provide teachers with the additional support and skills required to navigate their teaching profession by adopting resilience strategies as part of the TPD curriculum (TPD-R). The training sessions utilised a group therapy approach, and each session lasted for 45 minutes.

Session 1: Orientation, familiarisation, and pre-test scores data collection.

Session 2: Explanation of job stress, the associated risk factors and the consequences for teachers' retention and job satisfaction.

Session 3: Discussion of resilience as a strategy.

Session 4: Training on the development of personal competencies, personal structure, and social competencies as protective abilities against job stress.

Session 5: Training on family cohesion and social supports as protective resources.

Session 6: The previous sessions were revised, post-test data was collected and the session was concluded.

Control group

The individuals in this group did not receive any interventions; instead, they were observed over a six-week period while engaging in their regular TPD activities. The data for the pre-test was collected before the observation period, and post-test data was gathered at the conclusion of the sessions.

Analysis of the data

The collected data underwent analysis using both an independent t-test (t-test) and an analysis of variance (ANCOVA) with a significance level set at 0.05. These analyses were conducted to assess the impact of the training on the dependent variable, which was resilience ability. Fisher's LSD post-hoc analysis was also employed to determine the differences in the mean scores between the participants in the intervention and control groups.

Ethical statements

Ethical guidelines were followed meticulously, reflecting the research's commitment to ethical standards. In accordance with international research ethics, the authors provided the participants with the assurance of data confidentiality. Participants were also made aware of the voluntary nature of their involvement, and they were allowed to withdraw at any time. Furthermore, the authors emphasised that the information gathered would be used strictly for research purposes.

Results

The first research question aimed to investigate whether TPD training contributed to the development of resistance against teaching-related stress. The findings presented in Table 1 indicate a significant main effect of the intervention on the enhancement of resistance to stress. The independent t-test that compared the pre-test and post-test samples (as shown in Table 1), reveals that the mean resilience score was 36.25 (36.25%) before the intervention, but after the intervention it decreased to 27.13 (27.13%). This suggests a substantial improvement in the ability to withstand stress within the intervention group.

Table 1. Summary t-test of the paired sample pre-test and post-test resilience scores on building resistance against teacher job stress of the participants exposed to TPD.

Test	N	Mean	Std. Deviation	t	Sig. (2-tailed)
Pre-test	25	27.13	2.86	13.7	0.000
Post-test	25	36.25	8.36		

P value is significant at a level of 0.05.

Table 2. Summary of the mean and standard deviation in the resilience scores of teachers exposed to TPD and those in the control group at post-test.

Treatment Group	N	Mean	Std. Deviation	Sig
Experimental	25	43.52	13.86	0.000
Control	25	27.97	2.31	

P value is significant at a level of 0.05.

Table 3. Summary of the ANCOVA of the Post-test score on building resistance against teacher job stress of the participants.

Source	Type III Sum of Squares	df	Mean Square	F	Sig	Partial Eta Squared
Corrected Model	2567.340a	12	213.945	14.516	0.000	.875
Intercept	.327	1	.327	.028	0.000	.002
Pretest	915.004	1	915.004	71.286	0.000	.810
Treatment	491.655	1	491.655	14.687	0.000	.506
Year of service	27.652	1	27.652	.847	.049	.016
Treatment * YoS	149.613	1	149.613	4.005	.051	.069
Error	468.288	37	12.656			
Total	51426.000	50				
Corrected Total	3734.222	49				

R Squared = .873 (Adjusted R Squared = .810); P value is significant at a level of 0.05.

Consequently, it can be inferred that TPD training effectively reduces job-related stress and promotes resilience among female teachers when it incorporates resilience-building components into its curriculum.

The results in Table 2 display the mean and standard deviation of the resilience scores among the female teachers who underwent TPD training and those in the control group. The participants in the TPD programme (mean = 43.52; SD = 13.86) performed significantly better than those in the control group (mean = 27.97; SD = 2.31) who did not receive training that included protective resources. This implies that the participants in the TPD programme, which included protective resources, derived more substantive benefits compared to their counterparts who underwent traditional TPD training. This conclusion is supported by the notably lower mean score observed among the participants in the control group.

Research question two hypothesised a significant interaction effect between the treatment/intervention and years of service on the resilience levels of female teachers. As depicted in Table 3, the interaction effect of the intervention and years of service showed some significance in relation to teachers' resistance against job-related stress (F1, 59 = 14.516, p < 0.05, η2 = 0.069). This suggests that, in the absence of the intervention, years of service exerts an influence on teachers' ability to resist and cope with the stress associated with teaching. This implies that teachers who have accumulated enough experience in the profession have the potential to thrive and develop effective stress-coping mechanisms, enabling them to overcome the challenges of teaching.

Discussion

This study examined the possibility of integrating resilience strategies into the TPD curriculum to help teachers develop resistance to stress to enable them to thrive under the pressures of teaching. Two research questions were formulated and answered to achieve this goal. The first question aimed to determine the effectiveness of TPD training in building resistance to teaching-related stress. The findings revealed that TPD training effectively reduced job-related stress and promoted resilience among female teachers when the training incorporated resilience-building components into its curriculum. It is important to say here that resilience is not an innate ability; rather it is a contextual quality that can be developed and it is also dynamic (Flores, 2018; Papatraianou & Le Cornu, 2014).

This outcome is congruent with the previous studies by Ainsworth and Oldfield (2019); and Nishimura (2014), who found that TPD with the inclusion of contextual factors and resilience-building strategies effectively promotes teachers' ability to thrive within the profession, just as individual factors do. Their studies further suggest that any intervention designed to develop teachers' resilience should focus on the professional environment as well as the teachers' personal resources. Drawing on theoretical insight, the social ecological theory advanced by Ungar (2011) affirms that teachers' stress is caused

ethologically by various contextual pressures (Chen et al., 2022; Prilleltensky et al., 2016). Hence, contextual protective abilities promoted using the TPD space help to combat stress and restore an emotional balance, as they surpass the impact of the contextual risk factors associated with teaching stress. Similarly, the present outcome also aligns with Fernandes et al. (2019) study, which examined the effectiveness of a professional learning programme in enhancing the resilience and well-being of Portuguese in-service teachers. The research revealed that professional development training effectively improves teachers' resilience and well-being. This study underscores the importance of incorporating resilience components into teacher professional development programmes to manage job-related stress effectively, similar to other stress management interventions such as cognitive-behavioural therapy, trauma-focused cognitive therapy, family therapy, psychoeducation, and supportive therapy (Lawrence & Falaye, 2020).

The second research question posited a significant interaction effect between the intervention and years of service on the resilience levels of female teachers. The results of the study indeed established a significant interaction effect between the intervention and years of service concerning teachers' resistance to job-related stress. This suggests that the years of service wield a significant influence over teachers' capacity to withstand and cope with the stress associated with teaching. In other words, accumulated teaching experience equips teachers with the potential to thrive and develop effective stress-coping mechanisms, and this enables them to overcome the challenges of teaching.

While there is currently limited research exploring the influence of years of service on teacher job stress, the findings of this present study align with the positions of Flores (2018); Johnson et al. (2015) and Mansfield et al. (2014), all of whom suggest that a teacher's ability to exhibit resilience in adverse circumstances is influenced by their years of experience, among other factors. Also, Brunetti (2006) discovered that teachers with more than 12 years of work experience are more likely to develop resistance, resilience, and the ability to overcome professional challenges in teaching compared to those with fewer years of experience. This may be attributed to experienced teachers' capacity to utilise a variety of strategies, including problem-solving, seeking assistance, managing challenging relationships, and seeking rejuvenation or renewal to build additional stress-protective resources and support, in contrast to novice teachers (Castro et al., 2010). The findings of this present study confirm that years of service significantly impact teachers' ability to develop resistance and cope with the stress associated with teaching.

Conclusion

In conclusion, the issue of teachers' stress continues to attract research attention, given the inevitable presence of stress in the teaching profession. Additionally, the conventional teacher professional development (TPD) training that is intended to alleviate teacher stress actually often exacerbates the demands and challenges experienced by teachers. While some teachers thrive in these conditions, others may struggle. In this study, we examined the possibility of integrating resilience strategies into the TPD curriculum to help teachers develop resistance to stress to enable them to thrive under the pressures of teaching, and the social ecological theory of resilience provided the theoretical lens for the study. The findings established that TPD training that incorporates resilience-building components into its curriculum (TPD-R) effectively reduces job-related stress and promotes resilience among female teachers. Furthermore, this study found that there is a significant interaction effect between the intervention and years of service in terms of teachers' resistance to job-related stress. Hence, TPD-R training can effectively help reduce teacher job-related stress and promote resilience, especially among female teachers. Although years of service was found to be influential in teachers' ability to develop resistance and cope with job stress, when resilience strategies are incorporated into the TPD curriculum, they can help enhance the teachers' resistance to stress more quickly and enduringly.

Implication for teacher's development

This study established that TPD training that incorporates resilience strategies can effectively help reduce teacher job-related stress and promote resilience, especially among female teachers. This has implications for teachers, educational managers or administrators, school leaders, and all educational

stakeholders in general. It suggests that teacher professional development training programmes should integrate resilience into their curricula and structures to equip teachers with the protective contextual resources needed to thrive and cope with stress. Rather than focusing solely on empowerment with the knowledge and skills required to enhance their instructional practices and improve the quality of education during TPD training, teachers should recognise the TPD as vital for their professional and personal development. It equips them with the skills necessary to cope and thrive in adverse circumstances.

Female teachers who experience social prejudice in the workplace should consider professional development training programmes that incorporate resilience strategies into their curriculum as a platform to improve their lives and build resistance against any stress associated with social and environmental prejudice. Lastly, these findings contribute to the limited existing literature as they shed additional light on the impact that years of service has on a teacher's ability to build resistance against stress.

Limitation

This study mainly considered the effect of TPD training on the development of resistance against teaching-related stress among female teachers who were included in study. However, male teachers were not recruited even though they also may be experiencing job-related stress. Also, the nature of the study only permitted two TPD centres with only 25 teachers in each TPD centre, limiting the generalisation of the study. Therefore, it is suggested that the replication of this study elsewhere is welcomed. This may validate and establish further the findings of this research. This study was limited to resilience strategy alone, whereas the combination of two interventions could possibly be better, and a comparison could be drawn such as emotional intelligence training.

Disclosure statement

No potential conflict of interest was reported by the author(s).

About the authors

Dariyash D. Shakimova a second tear Ph.D. student at the Department of Psychology, L.N.Gumilyov Eurasian National University (Astana, Kazakhstan. Her professional research interests include teachers' well-being, teaching job-related stress and pedagogical resilience. She is a senior manager of the "Teacher Assessment and Certification" department of the "Center for Pedagogical Measurements" NIS, Astana, Kazakhstan.

Kehinde C. Lawrence a Senior Lecturer in the Department of Psychology at L.N. Gumilyov Eurasian National University, Astana, Kazakhstan, and a Research Fellow at Walter Sisulu University, Butterworth, South Africa. He earned his Ph.D. in Counselling and Developmental Psychology from the Department of Guidance and Counselling, University of Ibadan, Nigeria. As a seasoned researcher, he has authored over 40 publications in reputable peer-reviewed journals, with the majority indexed in Scopus and Web of Science. His research interests span adolescents' and youths' education, career development, psychosocial and mental well-being, moral development, and counselling. Dr. Lawrence is experienced in both qualitative and quantitative research approaches, including mixed methods. He possesses the ability to use structural equation modelling with statistical packages such as AMOS and LISREL. Dr. Lawrence is a member of the British Psychology Society.

Zhanat K. Aubakirova a Candidate of Psychology, Associate Professor at the Department of Psychology, L.N.Gumilyov Eurasian National University (Astana, Kazakhstan). She is a supervisor of many doctoral and master students. She teaches health psychology courses at Bachelor, Master and PhD-levels

ORCID

Kehinde C. Lawrence http://orcid.org/0000-0002-4740-4630
Zhanat K. Aubakirova http://orcid.org/0000-0002-4868-7118

References

Ainsworth, S., & Oldfield, J. (2019). Quantifying teacher resilience: Context matters. *Teaching and Teacher Education*, *82*, 117–128. https://doi.org/10.1016/j.tate.2019.03.012

Akhmetova, G. (2002). *Training of teachers in the higher pedagogical organizations of Kazakhstan, 1958–2000* [Doctoral dissertation]. Kazakh State University. (published in Russian).

Alhija, F. N. A. (2015). Teacher stress and coping: The role of personal and job characteristics. *Procedia - Social and Behavioral Sciences*, 185, 374–380. https://doi.org/10.1016/j.sbspro.2015.03.415

Baggio, J. A., Brown, K., & Hellebrandt, D. (2015). Boundary object or bridging concept? A citation network analysis of resilience. *Ecology and Society*, 20(2), 2. https://doi.org/10.5751/ES-07484-200202

Beltman, S., Mansfield, C., & Price, A. (2011). Thriving not just surviving: A review of research on teacher resilience. *Educational Research Review*, 6(3), 185–207. https://doi.org/10.1016/j.edurev.2011.09.001

Beltman, S., Mansfield, C., Wosnitza, M., Weatherby-Fell, N., & Broadley, T. (2018). *Using online modules to build capacity for teacher resilience*. In M. Wosnitza, F. Peixoto, S. Beltman, & C. F. Mansfeld (Eds.), Resilience in education: Concepts, contexts and connections (pp. 237–253). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-76690-4_14

Benard, B. (2003). Turnaround teachers and schools. In B. Williams (Ed.), *Closing the achievement gap: A vision for changing beliefs and practices* (pp. 115–137). Association for Supervision and Curriculum Development.

Brunetti, G. J. (2006). Resilience under fire: Perspectives on the work of experienced, inner city high school teachers in the United States. *Teaching and Teacher Education*, 22(7), 812–825. https://doi.org/10.1016/j.tate.2006.04.027

Castro, A. J., Kelly, J., & Shih, M. (2010). Resilience strategies for new teachers in high-needs areas. *Teaching and Teacher Education*, 26(3), 622–629. https://doi.org/10.1016/j.tate.2009.09.010

Chen, J. J., Li, Z., Rodrigues, W., & Kaufman, S. (2022). Thriving beyond resilience despite stress: A psychometric evaluation of the newly developed Teacher Stress Scale and Teacher Thriving Scale. *Frontiers in Psychology*, 13, 862342. https://doi.org/10.3389/fpsyg.2022.862342

Clarà, M. (2017). Teacher resilience and meaning transformation: How teachers reappraise situations of adversity. *Teaching and Teacher Education*, 63, 82–91. https://doi.org/10.1016/j.tate.2016.12.010

Day, C., & Gu, Q. (2014). *Resilient teachers, resilient schools: Building and sustaining quality in testing times*. Routledge.

Fernandes, L., Peixoto, F., Gouveia, M., Silva, J., & Wosnitza, M. (2019). Fostering teachers' resilience and well-being through professional learning: Effects from a training programme. *The Australian Educational Researcher*, 46(4), 681–698. https://doi.org/10.1007/s13384-019-00344-0

Flores, M. A. (2018). Teacher resilience in adverse contexts: Issues of professionalism and professional identity. In *Resilience in education: Concepts, contexts and connections* (pp. 167–184). https://doi.org/10.1007/978-3-319-76690-4_10

Friborg, O., Hjemdal, O., Rosenvinge, J. H., & Martinussen, M. (2003). A new rating scale for adult resilience: What are the central protective resources behind healthy adjustment? *International Journal of Methods in Psychiatric Research*, 12(2), 65–76. https://doi.org/10.1002/mpr.143

Hazel, G. (2018). Finding a place for resilience in teacher preparation. In: M. Wosnitza, F. Peixoto, S. Beltman, & C. F. Mansfield (Eds.), *Resilience in education*. Springer. https://doi.org/10.1007/978-3-319-76690-4_13[Mismatch] http://www. ecologyandsociety.org/vol13/iss1/art9/.

Jennings, P. A., & Greenberg, M. T. (2009). The prosocial classroom: Teacher social and emotional competence in relation to student and classroom outcomes. *Review of Educational Research*, 79(1), 491–525. https://doi.org/10.3102/0034654308325693

Johnson, M. L., Taasoobshirazi, G., Kestler, J. L., & Cordova, J. R. (2015). Models and messengers of resilience: A theoretical model of college students' resilience, regulatory strategy use, and academic achievement. *Educational Psychology*, 35(7), 869–885. https://doi.org/10.1080/01443410.2014.893560

Kyriacou, C. (2001). Teacher stress: Directions for future research. *Educational Review*, 53(1), 27–35. https://doi.org/10.1080/00131910120033628

Lawrence, K. C., & Falaye, A. O. (2020). Trauma-focused counselling and social effectiveness skills training interventions on impaired psychological functioning of internally displaced adolescents in Nigeria. *Journal of Community & Applied Social Psychology*, 30(6), 616–627. https://doi.org/10.1002/casp.2477

Leroux, M., & Théorêt, M. (2014). Intriguing empirical relations between teachers' resilience and reflection on practice. *Reflective Practice*, 15(3), 289–303. https://doi.org/10.1080/14623943.2014.900009

Malindi, M. J. (2014). Exploring the roots of resilience among female street-involved children in South Africa. *Journal of Psychology*, 5(1), 35–45. https://doi.org/10.1080/09764224.2014.11885503

Mansfield, C. F., Beltman, S., Broadley, T., & Weatherby-Fell, N. (2016). Building resilience in teacher education: An evidenced informed framework. *Teaching and Teacher Education*, 54, 77–87. https://doi.org/10.1016/j.tate.2015.11.016

Mansfield, C., Beltman, S., & Price, A. (2014). 'I'm coming back again!' The resilience process of early career teachers. *Teachers and Teaching*, 20(5), 547–567. https://doi.org/10.1080/13540602.2014.937958

Masten, A. S., & Obradović, J. (2008). Disaster preparation and recovery: Lessons from research on resilience in human development. *Ecology and Society*, 13(1), 1–16. https://doi.org/10.5751/ES-02282-130109

Nishimura, T. (2014). Effective professional development of teachers: A guide to actualizing inclusive schooling. *International Journal of Whole Schooling*, 10(1), 19–42.

Organisation for Economic Co-operation and Development (OECD). (2014). *Secondary education in Kazakhstan. Reviews of national policies for education*. OECD Publishing. https://edinnovation.wisc.edu/

Panter-Brick, C. (2015). Culture and resilience: Next steps for theory and practice. *Youth Resilience and Culture: Commonalities and Complexities*, 233–244. https://doi.org/10.1007/978-94-017-9415-2_17

Papatraianou, L. H., & Le Cornu, R. (2014). Problematising the role of personal and professional relationships in early career teacher resilience. *Australian Journal of Teacher Education*, *39*(1), 100–116. https://doi.org/10.14221/ajte.2014v39n1.7

Patterson, J. H., Collins, L., & Abbott, G. (2004). A study of teacher resilience in urban schools. *Journal of Instructional Psychology*, *31*(1), 193–216.

Pooley, J. A., & Cohen, L. (2010). Resilience: A definition in context. *The Australian Community Psychologist*, *22*(1), 30–37. https://psychology.org.au/aps/media/acp/pooley.pdf.

Prilleltensky, I., Neff, M., & Bessell, A. (2016). Teacher stress: What it is, why it's important, how it can be alleviated. *Theory into Practice*, *55*(2), 104–111. https://doi.org/10.1080/00405841.2016.1148986

Qanay, G., Anderson-Payne, E., Ball, S., Barnett, P., Kurmankulova, K., Mussarova, V., & Tanayeva, A. (2019). Developing teacher leadership in Kazakhstan. *International Journal of Teacher Leadership*, *10*(1), 53–64. https://files.eric.ed.gov/fulltext/EJ1220157.pdf.

Sandilos, L. E., Goble, P., Rimm-Kaufman, S. E., & Pianta, R. C. (2018). Does professional development reduce the influence of teacher stress on teacher–child interactions in pre-kindergarten classrooms? *Early Childhood Research Quarterly*, *42*, 280–290. https://doi.org/10.1016/j.ecresq.2017.10.009

Segun-Martins, I. O., & Dennis, U. D. (2017). Hardiness, sensation seeking, optimism and social support as predictors of stress tolerance among private secondary schools' teachers in Lagos state. *IFE PsychologIA: An International Journal*, *25*(2), 366–382.

Sheridan, S. M., Edwards, C. P., Marvin, C. A., & Knoche, L. L. (2009). Professional development in early childhood programs: Process issues and research needs. *Early Education and Development*, *20*(3), 377–401. https://doi.org/10.1080/10409280802582795

Silva, J. C., Pipa, J., Renner, C., O'Donnell, M., & Cefai, C. (2018). Enhancing teacher resilience through face-to-face training: Insights from the ENTREE project. In M. Wosnitza, F. Peixoto, S. Beltman, & C. Mansfield (Eds.), *Resilience in education: Concepts, contexts and connections* (pp. 255–274). Springer.

Sorensen, T. J., & McKim, A. J. (2014). Perceived work-life balance ability, job satisfaction, and professional commitment among agriculture teachers. *Journal of Agricultural Education*, *55*(4), 116–132. 10.5032/jae.2014.04116

Tait, M. (2008). Resilience as a contributor to novice teacher success, commitment, and retention. *Teacher Education Quarterly*, *35*(4), 57–75. http://www.jstor.org/stable/23479174

Tastanbekova, K. (2018). Teacher education reforms in Kazakhstan: Trends and issues. Bulletin of Institute of Education, University of Tsukuba, *42*(2), 87–97. http://hdl.handle.net/2241/00151888.

Theron, L. C., Theron, A. M. C., & Malindi, M. J. (2013). Toward an African definition of resilience: A rural South African community's view of resilient basotho youth. *Journal of Black Psychology*, *39*(1), 63–87. https://doi.org/10.1177/0095798412454675

Ungar, M. (2011). The social ecology of resilience: Addressing contextual and cultural ambiguity of a nascent construct. *The American Journal of Orthopsychiatry*, *81*(1), 1–17. https://doi.org/10.1111/j.1939-0025.2010.01067.x

Ungar, M. (2016). Creating a context for resilience in medical settings: The role of collaborative professionals and informal supports. In *Child and adolescent resilience within medical contexts* (pp. 211–225). https://doi.org/10.1007/978-3-319-32223-0_12.

Van Rensburg, A., Theron, L., & Rothmann, S. (2019). A social ecological modeled explanation of the resilience processes of a sample of Black Sesotho-speaking adolescents. *Psychological Reports*, *122*(4), 1211–1234. https://doi.org/10.1177/0033294118784538

Yonezawa, S., Jones, M., & Singer, N. R. (2011). Teacher resilience in urban schools: The importance of technical knowledge, professional community, and leadership opportunities. *Urban Education*, *46*(5), 913–931. https://doi.org/10.1177/0042085911400341

Zhai, F., Raver, C., & Li-Grining, C. (2011). Classroom-based interventions and teachers' perceived job stressors and confidence: Evidence from a randomized trial in Head Start settings. *Early Childhood Research Quarterly*, *26*(7), 442–452. https://doi.org/10.1016/j.ecresq.2011.03.003

Zinsser, K. M., Bailey, C. S., Curby, T. W., Denham, S. A., & Bassett, H. H. (2013). Exploring the predictable classroom: Preschool teacher stress, emotional supportiveness, and students' social-emotional behavior in private and Head Start classrooms. *NHSA Dialog*, *16*, 90–108.