



Special Education Teachers' Perceived Stress towards Transformational Teaching

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The impact of psychological factors on transformational teaching (TFT) performance has been widely considered in inclusive and special education. The main aim of this cross-country study was to investigate the role of bio-psycho symptoms (BPS), mindfulness and subjective well-being as serial mediators of the relationship between perceived stress and TFT among Indonesian and Thai special education teachers. A total of 368 participants—177 teachers from Indonesia and 191 teachers from Thailand—completed self-report measures assessing the mentioned variables. Descriptive and correlational analyses were conducted. Serial mediation analyses found that in addition to the negative direct effect of stress on TFT, subjective well-being was a mediator among Indonesian special education teachers, while BPS, mindfulness and personal well-being were serial mediators among Thai special education teachers. They can be recognised as partial mediations on the proposed model. Findings suggest that the effect of stress on TFT is weakened by mindfulness and subjective well-being. Importantly, special education teachers may benefit from evidence-based stress management interventions and mindful-wellness programmes to achieve better implications for their teaching.

Keywords: serial mediation, special education teachers, stress, transformational teaching

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INTRODUCTION

The responsibility to provide educational services for all without exception is indispensable. Currently, the estimated prevalence of children with disabilities worldwide is 5.1% (Afkar, Yarrow, Surbakti, & Cooper, 2020; Thompson, 2017). In the Association of Southeast Asian Nations (ASEAN countries), Indonesia and Thailand hold the highest prevalence rate. Although the rate is below the global consideration, it possibly occurred from a significant underreporting caused by poor service provision and disability meaning identification (Bonati & Andriana, 2021). The underestimated number can be more significant than the service provided. A considerable gap exists; approximately 50% of children with disabilities had never attended school. Thus, the literacy rate by disability status compared with that without a disability is the lowest in this region, especially in Indonesia where less than 25% of children with special needs are enrolled at schools (Faragher et al., 2021; UNESCO, 2018). Unfortunately, these children with developmental disabilities and physical, mental and learning problems in various communities are hardly visible and recognised as one of the most stigmatised groups in society (Agustian, 2017).

In the aspect of teacher practice, inclusive education policies were initially raised to establish equality for all students and attempted to decrease the rate of out-of-school youth. However, several limitations exist, and the progress seems slow to shift from a segregated education system (Hehir et al., 2016). The special education qualified teacher per student ratio in Indonesia and Thailand is also in an unbalanced proportion. Another factor is limited infrastructure and learning facilities for students with special needs compared with other developing countries, affecting the teaching quality (Yusuf & Yeager, 2011). In addition, implementing inclusive education policies is challenging for new teachers. Apart from the increasing responsibility for preparing the learning curriculum of special-needs and regular students, teachers also face many obstacles with inclusive education implementation (Kristiana & Simanjuntak, 2021). Previous research reported that teachers still lack related knowledge and adequate skills for the successful opportunity of inclusive education (Giangreco, Suter, & Doyle, 2010; Tarnoto, 2016). Furthermore, teachers and regular students may need to be more concerned about tolerance than before. Finally, teachers for children with special needs are potentially susceptible to stress and burnout. Evidence shows that Indonesian and Thai special education teachers who have high-stress experiences bring negative consequences in general. They are likely less sympathetic towards their teaching, have less tolerance for mental illness, become absent and choose early retirement than other teachers (Notoprayitno & Jalil, 2019; Yotanyamaneewong & Juhari, 2012).

Although a small research base focuses on students in the inclusive education system in Indonesia and Thailand, as in Hosshan, Stancliffe, Villeneuve and Bonati (2020), a pervasive deficit view to raise the amplification voices of teachers is standard. Thus, this study investigates special education teachers who, despite indicating negative bio-psycho symptoms (BPS) of stress towards several positive aspects, have managed their teaching, following the particular education system in each country. Understanding these aspects may help policymakers and researchers gain insights into the inclusive issue of

how Indonesian and Thai teachers work with special-needs students professionally and contentedly.

Perceived Work Stress (PWS) and Negative Effects

Teaching students with difficulties and disabilities are more stressful than teaching regular students (Tahrirah, 2019). Different teachers have different ways of responding to the spectrum of work stress. Karimah and Mulyono (2021) conducted a study among teachers in Indonesia and found that the workload associated with work stress varies depending on students' different characteristics. Kristiana, Kustanti, and Salma (2018) revealed that over 50% of special education teachers suffer from poor mental health conditions and cannot deal with their problems effectively. Over 70% reported a sleeping problem stemming from anxiety at work. Similarly, Thai special education teachers delved into negative psychological aspects, including low esteem and self-actualisation. Several reported clear indications of stress, such as headache, sleeplessness, depressed symptom and lack of fresh energy (Yotanyamaneewong, 2012). In addition, teachers must acquire and implement new techniques to lessen the impact of negative stress, establish and construct strong and supportive connections and foster emotional intelligence in this time of heightened accountability for achievement and personal responsibility. Healthy classroom conditions reduce negative stress and helps students learn effectively (Nelson, Low & Nelson, 2005). These factors may affect TFT, as we hypothesised in the proposed model.

Teachers' Mindfulness and Subjective Well-being

Mindfulness is a sensory awareness of the present experience of optimal feelings, thoughts and perceptions. Subjective well-being refers to how people perceive their quality of life at cognitive and emotional levels (Liu, Chen, Liu, Lin, & Chiou, 2020). Mindfulness declares a strong relationship with well-being. It leads to behavioural regulation without negative thoughts and habits, particularly on a high-level positive affect (Collard, Avny, & Boniwell, 2008). Mindfulness possibly enhances emotion regulation and problem solving among educators of children with special needs. Listening accurately, being attuned to their reactions and confronting ambiguous situations can be influenced by the mindfulness and well-being perception. Offering mindfulness consideration can be a practical approach in the school system, reducing special-needs teachers' stress and distress whilst increasing well-being. It potentially modifies teachers' cognitions that support mental functions and caregiving competencies (Benn, Akiva, Arel, & Roeser, 2012).

Transformational Teaching

Slavich (2005) was the first to use the term 'transformational teaching' and described it as the belief that promotes students' meaningful life change (Slavich & Zimbardo, 2012). Currently, TFT refers to diverse teaching methods to promote students' growth. It can be a means of practice, lookout and reflection based on the qualified care and empathy of teachers. This teaching method creates dynamic relationships between teachers and learners without assimilating labelled or stereotyped groups of students (Warman, 2020). TFT involves actions that inspire and encourage students to maximise

their potential behaviours in four aspects: idealised influence, inspirational motivation, intellectual stimulation and individual consideration (Wilson et al., 2012). Professional beliefs about teaching students with disabilities have changed on the basis of experiences and transformed into perspective special education (Giangreco, Dennis, Cloninger, Edelman, & Schattman, 1993). Although little empirical research exists regarding the TFT experience of special education teachers, to date, TFT is related to student improvement in self-motivation, self-efficacy and intention to engage in several activities (Beauchamp, Barling, & Morton, 2011).

Study Context

Teachers' ability to respond to diverse students is often investigated in previous studies. Recent evidence shows that teachers struggle with inclusive practices without support from school administrators, a sound design of educational programmes for students with disabilities and an adequate capacity to meet the needs of all students (Klibthong & Agbenyega, 2020). The main objectives of our study are threefold: a) to examine the association among PWS, BPS, mindfulness, teachers' subjective well-being (TSWB) and TFT; b) to test the effect of PWS on TFT through BPS, mindfulness and TSWB, if applicable and c) to explore the existence of Indonesia and Thailand differences among these variables. A serial mediation is proposed and shown in Figure 1 to explain the joint mediation of BPS, mindfulness and TSWB. Specifically, the following research questions guide this investigation:

1. Does bio-psycho symptoms play a mediating role between perceived work stress and transformational teaching?
2. Does mindfulness play a mediating role between perceived work stress and transformational teaching?
3. Does teachers' subjective well-being play a mediating role between perceived work stress and transformational teaching?
4. Will bio-psycho symptoms, mindfulness and teachers' subjective well-being jointly play a serial mediating role between perceived work stress and transformational teaching?

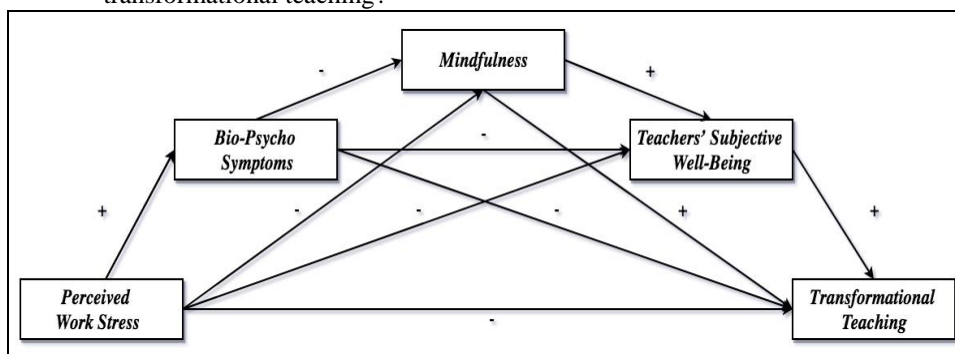


Figure 1
Serial mediation model hypothesised for the study

METHOD

Participants comprised teachers whose students were aged 3–12 years and required special teaching and care in special education schools or inclusive schools in Indonesia and Thailand. Of the 368 participants, 177 from 59 cities in Indonesia (male, $n = 36$, 20.3%; female, $n = 141$, 79.7%; age 26–32 years, $n = 55$, 31.1 %; age > 47 years, $n = 49$, 27.7 %) and 191 from 36 cities in Thailand (male, $n = 33$, 17.3%; female, $n = 158$, 82.7%; age 26–32 years, $n = 55$, 28.8 %; age 33–39, $n = 44$, 23.0% and > 47 years, $n = 44$ 23.0%) fully completed the survey. Chi-square analysis showed no difference in gender and age between Indonesian and Thai participants ($\chi^2_{\text{gender}}(1, n = 368) = .56, p = .45$; $\chi^2_{\text{age}}(4, n = 368) = 2.48, p = .64$)

Measures

BPS was assessed by a 12-item developed questionnaire that explores the negative effect of participants' experience of healthcare surveillance symptoms occurring in the last six months. This scale was intended to address the tendency of future mental health problems. The participants rated the item on a seven-point Likert scale ranging from 1 = almost every day to 7 = never. Sample items are 'difficult falling asleep,' 'tense muscles, sore neck and back' and 'eating too much or too little'. The original scale was translated from Indonesian to Thai by using a back-translation method. The study declared validity and reliability with Cronbach's alphas at $\alpha_{\text{indo}} = .84$ and $\alpha_{\text{Thai}} = .87$.

Mindfulness was measured by the 15-item mindful attention awareness scale (MASS). This scale was designed to assess dispositional mindfulness. MASS is always applied to measure present-centred awareness and is predictive of well-being constructs. The participants rated the items on a six-point Likert scale ranging from 1 = almost always to 6 = seldom. Sample items are 'I break or spill things because of carelessness, lack of attention or thinking of something else' or 'I find it difficult to stay focused on what is happening in the present.' The scale was translated into Indonesian and Thai by using a back-translation method. Validity and reliability with Cronbach's alphas at $\alpha_{\text{indo}} = .84$ and $\alpha_{\text{Thai}} = .87$ were declared (Brown & Ryan, 2003)

PWS was measured using the 39-item work-related stress questionnaire that defines the characteristics of risks from work-related stress. The questionnaire was designed for further effectively managing and controlling the health and safety of employees in organisations. Participants rated the items on a five-point Likert scale ranging from 1 = never to 6 = always. Sample items are 'I can decide when to take a break' and 'my colleagues are willing to listen to my work-related problems'. The scale was translated into Indonesian and Thai by using a back-translation method. The study confirmed validity and reliability with Cronbach's alphas at $\alpha_{\text{indo}} = .81$ and $\alpha_{\text{Thai}} = .81$ (UNITE Health and Safety, 2020)

Teachers' subjective well-being was assessed using the eight-item teacher subjective well-being questionnaire (TSWQ; v.03-28-20). TSWQ has two components, namely, teaching efficacy and school connectedness. Subscale scores can be used as standalone teacher well-being composite measures. TSWQ was intended to use for school mental health research and assessment purposes. The participants rated the items on a four-

point Likert scale ranging from 1 = seldom to 4 = almost always. Sample items are 'I am a successful teacher' for teaching efficacy and 'I am good at helping students learn new things' for school connectedness. The scale was translated into Indonesian and Thai by using the back-translation method. Validity and reliability with Cronbach's alphas at $\alpha_{\text{indo}} = .83$ and $\alpha_{\text{Thai}} = .71$ were declared (Renshaw, 2020).

TFT was adopted by a 16-item transformational teaching questionnaire, which explores *TFT* mindset. This scale was intended to measure the core dimensions of idealised influence, inspirational motivation, individualised consideration and intellectual stimulus. The participants rated the item on a four-point Likert scale ranging from 1 = strongly disagree to 4 = strongly agree. Sample items are 'I am certain I can master the skills taught in the class this year', 'I have a say regarding what skills I want to practice' and 'I can interact with students very well'. The original scale was in English and then translated into Indonesia and Thai by using a back-translation method. The study confirmed validity and reliability with Cronbach's alphas at $\alpha_{\text{indo}} = .92$ and $\alpha_{\text{Thai}} = .78$ (Beauchamp et al., 2010).

Procedure

Special education schools and centres were randomly selected at the beginning of the research. The clustering sampling technique was applied to the participants in each selected site, from 59 cities in Indonesia and from 36 cities in Thailand. After receiving permissions from principals, consent forms and all research objectives and information were provided through an online platform in Indonesia and online and paper-based questionnaires in Thailand. The participants were informed about the purpose, procedure and contract information of the study, serving their convenience for response during the pandemic between 2020 and 2021 in both countries. A total of 368 participants completed and returned the survey voluntarily. The data were proven complete, and no data removal was suspected. Thus, all data were included in the analysis. The Research Ethics Board of Universitas Negeri Surabaya approved the study.

Data Analysis

To confirm the mediation effects on how PWS affects special education teachers' *TFT* through BPS with mindfulness and subjective well-being as mediators, a serial multiple mediation analysis was performed using PROCESS Model 6 with three mediators (Hayes, 2012, 2017). Data from both countries were analysed separately. The direct and indirect effects passing through mediators in individuals and in a series were investigated. The significance of the mediation effects was identified using the bias-corrected bootstrapping method involving 5,000 samples. Bootstrapped 95% confidence interval (CI) results that did not straddle zero were statistically significant. Gender was controlled for covariance in both Indonesian and Thai samples. All data were analysed by IBM SPSS Version 22.

FINDINGS

Preliminary Analyses

The descriptive statistics and correlations of the five studied variables are presented in Table 1. Regarding correlation analysis, Indonesian participants had small to moderate associations among the studied variables. PWS was positively correlated with BPS and negatively correlated with TSWB and TFT. BPS was negatively correlated with mindfulness and positively correlated with TSWB. In addition, TSWB was positively correlated with TFT. Among Thai participants, associations were declared as minor. PWS was positively correlated with BPS and negatively correlated with TFT. BPS was negatively correlated with mindfulness and TFT. TSWB was also positively correlated with TFT.

In country comparison, Indonesian participants showed significantly higher frequency of BPS than Thai participants, with condition $t(366) = 12.70, p < .01$. Indonesian participants also had significantly lower mindful attention awareness, TSWB and TFT than Thai participants, with condition $t(366) = -10.47, p < .01$; $t(366) = -3.78, p < .01$; $t(366) = -11.99, p < .01$, respectively. No significant difference was found in PWS.

Table 1
Descriptive statistics and correlation matrix of key variables

Variables	<i>M</i>	<i>SD</i>	Skewness	Kurtosis	2	3	4	5
<i>Indonesian samples (n = 177)</i>								
1. PWS	3.33	.32	.41	1.6	.24**	-.00	-.49**	-.25**
2. BPS	5.94	.78	-1.23	1.51		-.15*	.20**	.02
3. MASS	3.00	.20	-.50	.40			.01	.05
4. TSWB	3.25	.47	-.43	-.38				.44**
5. TFT	3.11	.26	1.28	1.57				
<i>Thai samples (n = 191)</i>								
1. PWS	3.33	.27	.07	.06	.22**	.08	-.04	-.17*
2. BPS	4.77	.96	-.25	-.38		-.19**	-.01	-.17*
3. MASS	3.25	.32	-.34	-.10			.04	.01
4. TSWB	3.43	.43	-.64	-.24				.18*
5. TFT	3.43	.25	-.71	1.93				

Note: Perceived Work Stress (PWS), Bio-Psycho Symptoms (BPS), Mindfulness (MASS), Teachers' Subjective Well-Being (TSWB), Transformational Teaching (TFT);

* $p < .05$, ** $p < .01$

Statistical Assumption Test

The skewness and kurtosis ranged with the normality criteria. All measure reliability coefficients were highly acceptable with values above .70. Herman's single-factor was adopted to explore the possibility of common method bias (CMB). The first factor accounted for 37.07% of the variance, still below 40% (Podsakoff, MacKenzie, & Podsakoff, 2012). CMB bias was thus not found. The Mahalanobis distance was below 16. Multicollinearity was not present, indicating the variance inflation factor values

between 1.02 and 1.39 and tolerance values between .71 and .97. All basic requirements of all assumptions were met according to the suggestions of Field (2016).

Serial Multiple Mediation Analyses

The correlation in previous analysis revealed no significant associations among in-country differences. Therefore, all these correlated variables were included in the mediation analysis for Indonesian and Thai samples separately. The serial mediation analysis results revealed that the model is saturated, and the regression estimations are shown in Table 2. PWS was treated as the independent variable (X), BPS as the first mediator (M1), mindfulness as the second mediator (M2), TSWB as the third mediator (M3) and TFT as the dependent variable (Y). Seven indirect effects were observed in the serial mediation model, such as Indirect Part 1: X > M1 > Y, Indirect Part 2: X > M2 > Y, Indirect Part 3: X > M3 > Y, Indirect Part 4: X > M1 > M2 > Y, Indirect Part 5: X > M1 > M3 > Y, Indirect Part 6: X > M2 > M3 > Y and Indirect Part 7: X > M1 > M2 > M3 > Y, as illustrated in Figure 1.

As presented in Table 2, bootstrap sampling (5,000 times) was applied to confirm the hypothesis. Firstly, the analysis for the Indonesian group revealed that (1) PWS positively predicted BPS ($\beta = .11, p < .05$), (2) BPS negatively predicted mindfulness ($\beta = -.15, p < .05$), (3) PWS and BPS negatively predicted TSWB ($\beta = -.49, \beta = -.19$, all $p_s < .01$). In addition, mindfulness positively predicted TSWB ($\beta = -.11, p < .05$) and (4) BPS negatively predicted TST ($\beta = -.17, p < .05$). Moreover, TSWB positively predicted TST ($\beta = .44, p < .01$). Secondly, the analysis for the Thai group indicated that (1) PWS positively predicted BPS ($\beta = .09, p < .05$), (2) PWS and BPS negatively predicted mindfulness ($\beta = -.17, p < .05$; $\beta = -.10, p < .01$), (3) PWS and BPS negatively predicted TST ($\beta = -.06, .04$, all $p_s < .05$). Furthermore, TSWB positively predicted TST ($\beta = .11, p < .01$); however, BPS and mindfulness failed to predict TSWB ($\beta = -.05, -.01$ and $.02$, all $p_s < .05$, respectively).

In the examination of the direct and indirect effects of PWS on TST presented in Table 3, the results for the Indonesian group indicated that (1) PWS had a significant direct influence on TST and (2) the indirect effect of PWS > TSWB > TFT was significant ($\beta = -.17$, 95% CI ranged from $-.25$ to $-.11$). No significant effect was found in other indirect paths. The findings failed to support the serial mediation model; nevertheless, a mediation effect of TSWB was observed, suggesting that PWS indirectly impacted TST through TSWB. In the Thai group model, (1) PWS had a significant direct influence on TST, (2) the indirect effect of PWS > BPS > MASS > TFT was significant ($\beta = .02$, 95% CI ranged from $-.03$ to $-.01$), (3) the indirect effect of PWS > BPS > TSWB > TFT was significant ($\beta = -.01$, 95% CI ranged from $-.01$ to $-.01$) and (4) the indirect effect of PWS > MASS > TSWB > TFT was significant ($\beta = .07$, 95% CI ranged from $.01$ to $.09$). No significant effect was found in other indirect paths. The findings jointly supported the serial mediation model; however, mediation effects were small, as found in two mediators, not in three mediators as we hypothesised. Therefore, PWS infinitesimally and indirectly impacted TFT through BPS and MASS, BPS and TSWB and MASS and TSWB.

Table 2
Summary of serial mediation model estimations

Dependent variables	Independent variables	Indonesian samples				Thai samples			
		β	SE	t	R ²	β	SE	t	R ²
BPS (M1)	PWS (X)	.11	.18	.60*	.10	.09	.25	-.30*	.12
MASS (M2)	BPS (M1)	-.15	.04	2.02*	.16	-.10	.02	2.70**	.21
	PWS (X)	-.08	.10	.09		-.07	.08	1.30*	
TSWB (M3)	MASS (M2)	.11	.06	-.22*	.29	.02	.09	.60	.06
	BPS (M1)	-.19	.03	3.01**		-.01	.03	-.21	
	PWS (X)	-.49	.09	7.67**		-.03	.48	.49	
TST (Y)	TSWB (M3)	.44	.04	5.56**	.21	.11	.04	2.66**	.17
	MASS (M2)	.05	.04	.83		.03	.05	-6.23	
	BPS (M1)	-.17	.02	-1.11*		-.04	.01	2.57*	
	PWS (X)	.05	.06	.47		-.06	.06	-1.00*	

Note: Perceived Work Stress (PWS), Bio-Psycho Symptoms (BPS), Mindfulness (MASS), Teachers' Subjective Well-Being (TSWB), Transformational Teaching (TFT);

* $p < .05$, ** $p < .01$

Table 3
Indirect effect of perceived work stress on transformational teaching

Paths	Indonesian samples		Thai samples	
	β	95% CI	β	95% CI
PWS > BPS > TFT	-.01	[-.01, .01]	-.03	[-.04, .03]
PWS > MASS > TFT	-.01	[-.01, .01]	-.03	[-.02, .02]
PWS > TSWB > TFT	-.17	[-.25, -.11]	-.03	[-.02, .01]
PWS > BPS > MASS > TFT	.04	[-.01, .01]	.02	[-.03, -.01]
PWS > BPS > TSWB > TFT	.03	[-.01, .01]	.01	[-.01, -.01]
PWS > MASS > TSWB > TFT	.01	[-.01, .01]	.07	[.01, .09]
PWS > BPS > MASS > TSWB > TFT	-.01	[-.01, .01]	-.02	[-.01, .01]
Total effect	-.21	[-.33, -.09]	-.16	[-.19, -.06]
Direct effect	-.03	[-.09, -.01]	-.06	[-.09, -.03]
Total indirect effect	-.17	[-.25, -.11]	-.13	[-.15, -.14]

Note: Perceived Work Stress (PWS), Bio-Psycho Symptoms (BPS), Mindfulness (MASS), Teachers' Subjective Well-being (TSWB), Transformational Teaching (TFT);

DISCUSSION

The primary objective of this research was to understand how PWS affects TFT via BPS, mindfulness and TSWB among special education teachers in Indonesia and Thailand. The study obtained interesting findings on how work stress affects the mental health of the target teachers and mitigates mindfulness and subjective well-being, thereby rendering both countries' paths separately. A serial mediation of BPS, mindfulness and TSWB between PWS and TFT was not observed. However, a mediation effect on TSWB was found between PWS and TFT among Indonesians. In addition, three possible two-mediator serial mediation models among Thai teachers existed. This section discusses the significant findings and their implications for special education training programme development and consideration on special education policies.

As teaching is considered a high-risk profession, teachers have been recognised as subject to high stress levels (Kovess-Masféty, Rios-Seidel, & Sevilla-Dedieu, 2007). In line with the current results, other studies have declared that PWS is positively associated with unhealthy physical and mental symptoms, especially student-related stressors (Pas, Bradshaw, & Hershfeldt, 2012). In addition, PWS is associated with a worsening cardiac risk profile and predicts the risk of mortality (Ahola, Väänänen, Koskinen, Kouvonen, & Shirom, 2010). The results are consistent with previous reports from both countries on special teachers' stress and teaching barriers (Notoprayitno & Jalil, 2019; Yotanyamaneewong & Juhari, 2012; Zhang, Bai, & Li, 2020). These findings support the notion that high stress levels significantly impact teaching quality retention for special education teachers. Workload may be one of the distracting factors when they feel unmanageable and experience emotional exhaustion. Other reported consequences include special education teachers reducing feelings of achievement, failing to meet student needs, not succeeding and no longer socialising and collaborating with colleagues (Boonroungrut & Huang, 2021; Boonroungrut, Thamdee, & Saroinsong; Cancio et al., 2018).

Concerning the partial mediation results from both countries, the findings suggest that in addition to the direct effect of stress on TFT, it is known from literature, including its reversed effects (Castillo, Álvarez, Esteva, Queralt, & Molina-García, 2017). Among Indonesian special education teachers, negative mediation was found in these associations through subject well-being, although well-being positively affected TFT. TSWB possibly decreased the power of stress before affecting TFT. This finding follows the works of Mäkinen (2013) and Oo and Boonroungrut (2017) who argued that well-being must be considered seriously for working conditions in inclusive classrooms for all three settings, namely, one-size-fits-all, didactic-pedagogical and TFT to further meet the needs of diverse students. Among Thai special education teachers, a negative mediation effect was also found. Mindfulness and TSWB might have played an essential role in preventing these difficulties from work stress. Converging evidence suggests that mindfulness plays a crucial factor in improving teachers' well-being. Intrapersonal and interpersonal mindfulness in teaching may also be improved (Tarrasch, Berger, & Grossman, 2020). As expected, mindfulness and well-being seem essential in the onset and maintenance quality of teaching among all kinds of educators (Benn et al., 2012; Liu et al., 2020). TFT produced by these positive factors has positive implications in educational settings, explaining variations in students' psychological and behavioural outcomes (Wilson et al., 2012).

Given our results, psychological interventions should be provided to stressed special teachers because these interventions may help improve their teaching performance, as mentioned in the previous paragraph. Various communities have spotlighted meditation programmes, which are effective in improving teachers' resilience and other fatigue factors. Teachers can benefit from in-school wellness programmes or home practices (Valosek et al., 2021). Ansley et al. (2021) involved online stress intervention and showed that increases in teacher efficacy and personal success are linked to the programme, not decreases in emotional weariness and depersonalisation.

Regarding inclusive education policies, our results confirm previous findings of Kantavong, Sujarwanto, Rerkjaree, and Budiyanoto (2017). Although Indonesian and Thai special education teachers had positive attitudes towards their students, they were at a medium level in exhaustion dimensions with neither support nor assistance when working in inclusive classrooms. Educational inclusion policies and practices in both countries had developed from disability and legislation viewpoints. Kantavong and Kiettikunwong (2020) suggested that governments and politicians can make appropriate practices the national standards to improve inclusion in education. Moreover, teachers and parents must increase acceptance and awareness of the needs of students with disabilities to optimise inclusive-based teaching quality and better classroom management. To deal with workload, offering temporary teaching assistants may be a short-term solution. Importantly, Indonesian and Thai teachers declare that they have not enough knowledge or particular techniques for working with students who require special needs depending on different types of disabilities as education for all. In accordance with Efendi et al. (2022) and Boonroungrut, Saroinsong and Eiamnate (2022), various student characteristics, including developmental record for gathering and evaluating them, require improvement in administration in inclusive schools.

A significant limitation of the study are self-reports and less objective assessments on work stress and BPS measures. Future research should include objective variables for measuring these associations and use another research design (e.g. longitudinal study) to examine this model. Using further validated scales may increase model robustness because they are only identified after translation. The outlined findings demonstrate that the effect of PWS and TFT decreases when mediated by subjective well-being among Indonesian teachers and when mediated by mindfulness and subjective well-being among Thai teachers. These findings confirm the importance of considering the work stress that may affect the quality of teaching students with special needs. Although the findings declare partial serial mediation, they require further exploration. TFT in special education has undergone pedagogical practices in both countries, and adapting TFT to daily teaching is sometimes difficult for teachers. This study reports the negative impact of stress and positive impact of mindfulness. It reveals the psychological factors that contribute to various burnout stress-related symptoms, including lack of support in terms of policy direction and geopolitical limitation in different geographical areas. The psychological intervention for improving stress coping seems to be suggested, and it can benefit special education teachers to deal with their students under the current inclusion strategies and policies.

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REFERENCES

Afkar, R., Yarrow, N., Surbakti, S., & Cooper, R. (2020). Inclusion in Indonesia's Education Sector: A Subnational Review of Gender Gaps and Children with Disabilities: The World Bank.

Agustian, H. Y. (2017). Redefining disability in the context of 'masyarakat madani', an Indonesian model of inclusive society. *British Journal of Special Education*, 43(4), 358-372.

Ahola, K., Väänänen, A., Koskinen, A., Kouvonen, A., & Shirom, A. (2010). Burnout as a predictor of all-cause mortality among industrial employees: a 10-year prospective register-linkage study. *Journal of psychosomatic research*, 69(1), 51-57.

Ansley, B. M., Houchins, D. E., Varjas, K., Roach, A., Patterson, D., & Hendrick, R. (2021). The impact of an online stress intervention on burnout and teacher efficacy. *Teaching and Teacher Education*, 98, 1-11.

Beauchamp, M. R., Barling, J., Li, Z., Morton, K. L., Keith, S. E., & Zumbo, B. D. (2010). Development and psychometric properties of the transformational teaching questionnaire. *Journal of Health Psychology*, 15(8), 1123-1134.

Beauchamp, M. R., Barling, J., & Morton, K. L. (2011). Transformational teaching and adolescent self-determined motivation, self-efficacy, and intentions to engage in leisure time physical activity: A randomised controlled pilot trial. *Applied Psychology: Health and Well-Being*, 3(2), 127-150.

Benn, R., Akiva, T., Arel, S., & Roeser, R. W. (2012). Mindfulness training effects for parents and educators of children with special needs. *Developmental psychology*, 48(5), 1-12.

Bonati, M. L., & Andriana, E. (2021). Amplifying children's voices within photovoice: Emerging inclusive education practices in Indonesia. *British Journal of Learning Disabilities*, 49(1), 1-15.

Boonroungrut, C., & Huang, F. (2021). Reforming theory of planned behavior to measure money management intention: a validation study among student debtors. *RAUSP Management Journal*, 56, 24-37.

Boonroungrut, C., Thamdee, N., & Saroinsong, W. Research on students in COVID-19 pandemic outbreaks: A bibliometric network analysis. *International Journal of Instruction*, 15(1), 457-472.

Boonroungrut, C., Saroinsong, W. P., & Eiamnate, N. (2022). Brief report: Visualizing scientific landscape on learning disabilities in Scopus between 2012 and 2021. In *Innovation on Education and Social Sciences* (pp. 134-140). Routledge.

Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: mindfulness and its role in psychological well-being. *Journal of personality and social psychology*, 84(4), 822-848.

Cancio, E. J., Larsen, R., Mathur, S. R., Estes, M. B., Johns, B., & Chang, M. (2018). Special education teacher stress: Coping strategies. *Education and Treatment of Children*, 41(4), 457-481.

Castillo, I., Álvarez, O., Esteva, I., Queralt, A., & Molina-García, J. (2017). Passion for teaching, transformational leadership and burnout among physical education teachers. *Revista de psicología del deporte*, 26(3), 57-61.

Collard, P., Avny, N., & Boniwell, I. (2008). Teaching mindfulness based cognitive therapy (MBCT) to students: The effects of MBCT on the levels of mindfulness and subjective well-being. *Counselling Psychology Quarterly*, 21(4), 323-336.

Efendi, M., Pradipta, R. F., Dewantoro, D. A., Ummah, U. S., Editanto, E. & Yasin, M. H. M. (2022). Inclusive Education for Student with Special Needs at Indonesian Public Schools. *International Journal of Instruction*, 15(2), 967-980.

Faragher, R., Chen, M., Miranda, L., Poon, K., Chang, F. R., & Chen, H. (2021). Inclusive education in Asia: Insights from some country case studies. *Journal of Policy and Practice in Intellectual Disabilities*, 18(1), 23-35.

Field, A. (2016). *Discovering statistics using IBM SPSS statistics*. London: Sage.

Giangreco, M. F., Dennis, R., Cloninger, C., Edelman, S., & Schattman, R. (1993). "I've counted Jon": Transformational experiences of teachers educating students with disabilities. *Exceptional children*, 59(4), 359-372.

Giangreco, M. F., Suter, J. C., & Doyle, M. B. (2010). Paraprofessionals in inclusive schools: A review of recent research. *Journal of educational and psychological consultation*, 20(1), 41-57.

Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling. In: University of Kansas, KS.

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*: Guilford Publications.

Hehir, T., Grindal, T., Freeman, B., Lamoreau, R., Borquaye, Y., & Burke, S. (2016). *A Summary of the Evidence on Inclusive Education*. ABT Associates.

Hosshan, H., Stancliffe, R., Villeneuve, M., & Bonati, M. L. (2020). Inclusive schooling in Southeast Asian countries: A scoping review of the literature. *Asia Pacific Education Review*, 21(1), 99-119.

Kantavong, P., & Kiettikunwong, N. (2020). Different paths for inclusion in Thailand: improving special teachers as leaders in the development of inclusive education. *Journal of Research in Special Educational Needs*, 20(1), 74-84.

Kantavong, P., Sujarwanto, Rerkjaree, S., & Budiyo. (2017). A comparative study of teacher's opinions relating to inclusive classrooms in Indonesia and Thailand. *Kasetsart Journal of Social Sciences*, 38(3), 291-296.

Karimah, V. N., & Mulyono, M. (2021). The Relation Between Mental Workload with Work Stress Experience by Teachers in Special Education School. *Journal of Computational and Theoretical Nanoscience*, 18(1-2), 487-490.

Klibthong, S., & Agbenyega, J. S. (2020). Assessing issues of inclusive education from the perspectives of Thai early childhood teachers. *International journal of early years education*, 1-16.

Kovess-Masféty, V., Rios-Seidel, C., & Sevilla-Dedieu, C. (2007). Teachers' mental health and teaching levels. *Teaching and Teacher Education*, 23(7), 1177-1192.

Kristiana, I. F., Kustanti, E., & Salma, S. (2018). Is Mental Health Important to Influence Interpersonal Competence Among Teacher of Children with Disability?: A Survey in District of Central Java, Indonesia. *Advanced Science Letters*, 24(6), 4451-4454.

Kristiana, I. F., & Simanjuntak, E. (2021). Engaged Teachers Scale for Special Educational Needs Teachers in Indonesia: A Rasch Model Approach. Paper presented at the International Conference on Psychological Studies (ICPSYCHE 2020).

Liu, C., Chen, H., Liu, C.-Y., Lin, R.-T., & Chiou, W.-K. (2020). The effect of loving-kindness meditation on flight attendants' spirituality, mindfulness and subjective well-being. *Healthcare*, 8(1), 1-14.

Mäkinen, M. (2013). Becoming engaged in inclusive practices: Narrative reflections on teaching as descriptors of teachers' work engagement. *Teaching and Teacher Education*, 35, 51-61.

Nelson, D. B., Low, G. R., & Nelson, K. A. Y. E. (2005). The emotionally intelligent teacher: A transformative learning model. *Texas Study of Secondary Education*, 13, 7-10.

Notoprayitno, M. I., & Jalil, F. (2019). Legal Aspect of Inclusive Education for Persons with Disabilities in Indonesia. *Education Quarterly Reviews*, 2(4), 799-810.

Oo, T. T., & Boonroungrut, C. (2017). A Study on the Emotional Intelligence of Student Teachers: A Case Study at Loikaw Education College, Myanmar. *Journal of Psychology Kasem Bundit University*, 7(1), 72-82.

Pas, E. T., Bradshaw, C. P., & Hershfeldt, P. A. (2012). Teacher-and school-level predictors of teacher efficacy and burnout: Identifying potential areas for support. *Journal of school psychology*, 50(1), 129-145.

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual review of psychology*, 63, 539-569.

Renshaw, T. (2020). Teacher Subjective Wellbeing Questionnaire (TSWQ): Measure and user guide. In: Open Science Framework. Retrieved from <https://osf.io/6548v>.

Slavich, G. M., & Zimbardo, P. G. (2012). Transformational teaching: Theoretical underpinnings, basic principles, and core methods. *Educational psychology review*, 24(4), 569-608.

Tahrirah, T. (2019). The relationship between mental workload and work stress in teacher of school of disabled children. *The Indonesian Journal Of Occupational Safety and Health*, 8(1), 76-83.

Tarnoto, N. (2016). Permasalahan-permasalahan yang dihadapi sekolah penyelenggara pendidikan inklusi pada tingkat SD. *Humanitas: Jurnal Psikologi Indonesia*, 13(1), 50-61.

Tarrasch, R., Berger, R., & Grossman, D. (2020). Mindfulness and compassion as key factors in improving teacher's well being. *Mindfulness*, 1-13.

Thompson, S. (2017). Disability prevalence and trends. K4D Helpdesk Report of Institute of Development Studies. (unpublished work)

UNESCO. (2018). Education and disability: analysis of data from 49 countries. Information Paper No. 49.

Valosek, L., Wendt, S., Link, J., Abrams, A., Hipps, J., Grant, J., . . . Nidich, S. (2021). Meditation Effective in Reducing Teacher Burnout and Improving Resilience: A Randomized Controlled Study. *Frontiers in Education*, 6, 1-6.

Warman, S. G. (2020). Transformational Teaching: A Multiple Case Study Examining Transformational Teaching as Pedagogy (Doctor of Education), Concordia University Portland

Wilson, A. J., Liu, Y., Keith, S. E., Wilson, A. H., Kermer, L. E., Zumbo, B. D., & Beauchamp, M. R. (2012). Transformational teaching and child psychological needs satisfaction, motivation, and engagement in elementary school physical education. *Sport, Exercise, and Performance Psychology*, 1(4), 215.

Yotanyamaneewong, S. (2012). Thai teachers with low/high burnout and their perceptions of teaching with Special Education Needs (SEN). University of Birmingham,

Yotanyamaneewong, S., & Juhari, S. (2012). Preventing teacher burnout: Exploring the perceptions of teachers for children with social, emotional and behavioural difficulties (SEBD) in Thailand. In *Transforming Troubled Lives: Strategies and Interventions for*

Children with Social, Emotional and Behavioural Difficulties (Vol. 2, pp. 139-160): Emerald Group Publishing Limited.

Yusuf, M., & Yeager, J. L. (2011). The implementation of inclusive education for students with special needs in Indonesia. *Excellence in Higher Education*, 2(1), 1-10.

Zhang, M., Bai, Y., & Li, Z. (2020). Effect of Resilience on the Mental Health of Special Education Teachers: Moderating Effect of Teaching Barriers. *Psychology Research and Behavior Management*, 13, 537-547.