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Mentalising and self-efficacy – disentangling their impact on well-being and symptom severity in novice special education teachers

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ABSTRACT

The transition from university education to daily work at school is recognised as a significant challenge for teachers and special education teachers, termed 'reality shock'. This study investigates the role of mentalising – the capacity to perceive and interpret behaviour based on intentional mental states – and teaching-related self-efficacy as potential intrapsychic mechanisms that mediate the impact of current stress experiences on the development of stress-related symptoms and declines in well-being. Analysing data from 696 novice special education teachers in southern Germany, a structural equation model revealed that mentalising and teaching-related self-efficacy mediate the relationship between stress experiences, the levels of stress-related symptoms, and impaired well-being. Furthermore, the findings suggest that both psychological processes may reflect largely independent coping mechanisms. Practical implications are discussed.

KEYWORDS

Stress; mentalising; self-efficacy; well-being; special education teachers

Introduction

Stress experience of special education teachers

The Transactional Model of Stress delineates stress as the outcome of the interaction between an individual and their environment, perceived by the individual as challenging, surpassing their resources, or jeopardising their well-being (Lazarus and Folkman 1984). Stress experience, therefore, is process-driven and reflects a subjectively perceived imbalance between challenges and coping resources, often accompanied by a hypervigilant psychophysiological state of arousal (Glaser and Kiecolt-Glaser 2005). This state can lead

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to symptoms of stress-related exhaustion (Obbarius et al. 2021), compromised well-being (Meng and D'Arcy 2016), and contribute to the onset of sustained health impairments such as psychopathological symptoms (Gradus 2017). Psychopathological symptoms and well-being both represent central aspects of mental health, which in turn reflects a multifaceted construct (Hausler et al. 2017)

Various studies indicate that substantial proportions of in-service teachers report a high degree of mental health difficulties (e.g. Chang 2009; Skaalvik and Skaalvik 2011). Studies addressing stress-related exhaustion among special education teachers are generally less common than those involving teachers from regular schools. An older study from Germany examining the experience of psychological burnout or exhaustion among over 30,000 employees concludes that special education teachers represent the most burdened group of professionals, reporting the highest levels of emotional exhaustion (Hasselhorn and Nübling 2004).

Current data from surveys of US special education teachers suggest that this situation remains unchanged. According to McGrew and colleagues (2023), over 60% of this teacher group reported a disproportionately high level of emotional exhaustion. Additionally, nearly 40% of special education teachers met the criteria for a mental illness, with the closure of schools due to the pandemic potentially worsening the distress experienced (Ahmed and Namaziandost 2023). Findings from a Swedish 10-year longitudinal study also indicate serious mental health problems among special education teachers. Based on data from over 3 million employees, it was found that over a period of 10 years, particularly male special education teachers were at an increased risk of developing depressive symptoms (Johansson, Falkstedt, and Almroth 2022).

The transition from university teacher training to professional practice in the field is considered a particularly vulnerable phase. The concept of 'reality shock' (Hobson and Ashby 2012) describes the phenomenon where initially idealised perceptions of the professional life as a special education teacher first encounter lasting experiences with the reality of special education schools or inclusive settings as a long-term perspective, thereby contributing to the development of pronounced stress experiences.

Concrete triggers of high-stress experiences for special education teachers, beyond the ambiguously defined workplace (which includes both school and home environments), unclear working hour regulations, or coercive interactions with students (Rothland 2013), encompass disruptions in the classroom and issues with discipline (e.g. Tsouloupas et al. 2010), as well as limited self-regulatory abilities and maladaptive coping strategies (e.g. Lehr, Schmitz, and Hillert 2008). In light of this, several studies highlight a notable increase in stress-induced emotional exhaustion upon entering the teaching profession in schools and special education contexts (e.g. Dicke et al. 2015; Klusmann et al. 2012; Klusmann and Waschke 2018; Voss and Kunter 2020). This line of research emphasises the necessity to identify potentially protective mechanisms involved in the intrapsychic processing of high-stress experiences during this challenging phase (Klusmann and Waschke 2018).

Mentalizing

A potentially protective mechanism underpinning the processing of distressing experiences is the capacity to mentalise (Luyten et al. 2020). Mentalising involves the ability to perceive and contemplate one's own and others' behaviours as based on intentional

mental states (Fonagy and Allison 2014). Mental states encompass emotions, beliefs, intentions, or needs. With a foundation in mentalising, one's own behaviour ('what am I feeling and how does it influence my behavior?') and the behaviour of others ('what is the other person feeling and how does it influence their behavior?') become more understandable and predictable, as they are imbued with meaningful intentionality originating in mental states (Fonagy et al. 2002).

In the clinical realm, the concept of mentalising holds particular significance (Katznelson 2014), as it sheds light on the origins and persistence of mental disorders (Fonagy et al. 2002; Luyten et al. 2020) and provides interventions to improve mentalising abilities (e.g. Bateman and Fonagy 2004). Clinical research underscores that mentalising is compromised across various mental disorders (Overview: Johnson et al. 2022). Moreover, psychotherapeutic (e.g. Fischer-Kern et al. 2015) and psychosocial interventions (Adkins, Luyten, and Fonagy 2018) have been shown to reduce ineffective mentalising, leading to an improvement in symptom severity (e.g. De Meulemeester et al. 2018).

Beyond the clinical domain, mentalising capacity is considered crucial in processing stress experiences (Luyten et al. 2020). Associations between stress and impairments in mentalising capacity have been empirically confirmed (e.g. Nolte et al. 2013). In detail, mentalising is described as an intrapsychic processing system involved in managing stress-inducing experiences (Holmes 2017). It is postulated that robust mentalising ensures a more coherent self-awareness and a reliable perception of one's own and others' mental states, even in the face of highly distressing situations. Mentalising thereby fosters a sense of comprehensibility and manageability during stress-induced states of arousal and thus it engenders a buffering effect when otherwise the risk of the development of mental health impairments is more likely (Fonagy et al. 2017). Empirical data support this hypothesis: Effective mentalising has been shown to mediate the direct negative impact of stress-inducing experiences on symptom severity (e.g. Chiesa and Fonagy 2014) and current well-being (Brugnera et al. 2021).

Teaching-related self-efficacy

In contrast to mentalising, teaching-related self-efficacy (Gibson and Dembo 1984) is viewed as a firmly established intrapsychic coping mechanism, mitigating the impact of high-stress experiences on stress-related symptoms and well-being. Self-efficacy encompasses self-referential cognitions that reflect an individual's confidence in their capacity to tackle challenges (Bandura 1997). Contrary to viewing self-efficacy as a singular, overarching construct, it is more appropriate to consider it in terms of domain-specific dimensions related to particular areas of functioning, as suggested by O'Mara and colleagues (O'Mara et al. 2006). Following this notion, teaching-related self-efficacy pertains to the belief that educational challenges, such as creating conducive learning environments or managing classroom disruptions, are manageable (Gibson and Dembo 1984; Klassen et al. 2011).

Empirical evidence consistently suggests that teaching-related self-efficacy is associated with positive outcomes such as effective instructional quality, adept classroom management, job satisfaction, and student achievement (e.g. Depaepe and König 2018; Klassen and Chiu 2010). The significance of low teaching-related self-efficacy for the onset of mental health issues was underscored early in the conceptual literature (Bandura 1997),

a notion supported by studies investigating this association among teachers and student teachers (e.g. Dicke et al. 2014, 2015; Pas, Bradshaw, and Hershfeldt 2012; Skaalvik and Skaalvik 2010). These findings confirm teaching-related self-efficacy as an important intrapsychic coping resource, mediating the relationship between daily stressors and mental well-being (Schönfeld et al. 2016).

The current study

Given the numerous challenges faced by special education teachers when transitioning from university teacher training to daily practice in either special education schools or inclusive learning environments, this study aims to explore the interplay between current stress experiences as a predictor of stress-related symptoms and current well-being of novice special education teachers in southern Germany. Additionally, the study seeks to investigate whether mentalising and teaching-related self-efficacy function as protective coping mechanisms within this framework, thereby mediating these established associations (e.g. Gradus 2017; Meng and D'Arcy 2016; Obbarius et al. 2021).

The protective effect of teaching-related self-efficacy has been extensively documented among teachers (e.g. Dicke et al. 2014; Skaalvik and Skaalvik 2010). Additionally, preliminary findings lend support to the health-preserving role of mentalising capacity in teachers (Schwarzer et al. 2023) and educators (Schwarzer and Gingelmaier 2020). However, special education teachers at the outset of their careers – a particularly distressing phase in their professional development (Dicke et al. 2015; Klusmann and Waschke 2018; Voss and Kunter 2020) – have not yet been examined in this regard. Evaluating the role of mentalising in mitigating teacher burden might be critical as easy-to-implement interventions to foster mentalising abilities exist (Gingelmaier and Kirsch 2020).

The following hypotheses are tested in the current study: Based upon the current state of research, it is anticipated that increased stress levels are associated with heightened symptom severity and lower well-being (Hypothesis 1). Drawing on Schönfeld and colleagues' (2016) findings, it is further hypothesised that the links between stress, symptom severity, and well-being are mediated by the teaching-related self-efficacy of special education teachers (Hypothesis 2). Finally, it is expected that the associations between stress, symptom severity, and well-being are mediated by the mentalising

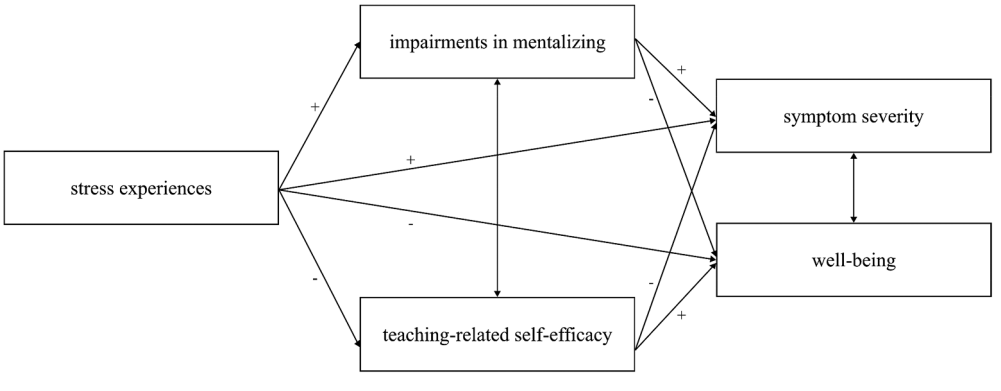


Figure 1. Hypothesized model.

capacity of special education teachers (Hypothesis 3). Figure 1 shows the hypothesised mediation model.

Materials and methods

Participants and procedure

The data from this cross-sectional study come from three cohorts of novice special education teachers in southern Germany in the academic years 2022, 2023 and 2024 who had begun their professional careers at special education schools and were in their first year of teaching. Participants were contacted through the seminar administrations. The training of special education teachers in Germany is organised into two phases: a theoretical phase at the university and a practical phase known as the 'Referendariat'. During the Referendariat, special education teachers already work at schools but are still assigned to training seminars and, therefore, have full access to all personal data. To reach as many novice special education teachers as possible, we presented the study's goals to a total of three seminar administrations. After obtaining approval from the seminar administration, the training seminars requested novice special education teachers to participate in the study by sending a link to the survey via email. Data collection was conducted using the online platform SoSci Survey. All participants were provided with written information about the study's purpose and provided written consent to participate. The study was deemed ethically unobjectionable by the Ethics Committee of Pädagogische Hochschule Ludwigsburg (III-Sopaed-NiSc-0020).

In a first step, all cases were excluded from the dataset in which entire test inventories remained unprocessed ($n = 30$). After excluding all outliers deviating from multi-normality, the sample consisted of a total of 696 special education teachers (85.1% female; 14.4% male; 0.6% not reported), with a mean age of 26.73 years (SD = 3.39; Min. = 22; Max. = 54). Eleven individuals (1,5%) reported that German was not their native language but did not differ significantly with regard to the variables used in this study. Furthermore, there were no differences between gender and the variables examined in the study, except for significant differences with small effect size found between gender and current stress experiences ($\eta^2 = .02$; $p = .005$).

Measures

Stress

The experience of stress was evaluated using the Screening Scale of the Trier Inventory for Chronic Stress (TICS) (Schulz, Schlotz, and Becker 2004). TICS measures current stress levels based on 12 Likert-scaled items (1 = never to 5 = very frequently) (Example: 'How often have you experienced the following situation in the last three months: times when work piles up on me'). TICS is considered a reliable and valid instrument for assessing stress experience in an economical manner. Higher scores indicate higher levels of stress experience. The internal consistency of the scale was very good (MacDonald's $\omega = .87$). The scores were not normally distributed (Kolmogorov – Smirnov test: $p < .001$).

Mentalizing

The Reflective Functioning Questionnaire (RFQ) (Fonagy et al. 2016) was used to measure mentalising capacity. RFQ is a self-report measure that assesses individuals' ability to use mental states to explain behaviours. The RFQ is recognised as a questionnaire that is cost-effective and suitable for use with large sample sizes. In its original version, the RFQ included eight items, with responses recorded on a seven-point Likert scale ranging from 1 (completely disagree) to 7 (completely agree), that loaded onto a total of two factors. Both factors reflect specific impairments in mentalising. However, as the RFQ has been shown to not psychometrically perform very well, recent guidance, based on research with substantial samples from Germany and the USA (Spitzer et al. 2021), recommends employing the RFQ as a one-dimensional scale. This scale should contain only six items with the strongest factor loadings that specifically assess uncertainty in employing mental states as reliable information (e.g. 'I don't always understand the reasons behind my actions'). Therefore, in the current study the RFQ was used this way with higher scores indicating stronger impairments in mentalising. In the current study the internal consistency of the scale was acceptable (MacDonald's $\omega = .75$). The scores were not normally distributed (Kolmogorov – Smirnov test: $p < .001$).

Self-efficacy

Teaching-related self-efficacy was assessed using the Teacher Self-Efficacy Scale (LSWS) (R. Schwarzer and Schmitz 2002). LSWS comprises 10 statements measuring teaching-related self-efficacy using a four-point Likert scale (1 = strongly disagree to 4 = strongly agree) (Example: 'I am confident that I can establish good rapport with even the most challenging students if I make an effort'). High scores indicate pronounced teaching-related self-efficacy. The internal consistency of the scale was satisfactory (MacDonald's $\omega = .74$). The values were not normally distributed (Kolmogorov – Smirnov test: $p < .001$).

Symptom severity

A brief version of the Symptom Checklist (SCL) (Derogatis 1994) was used to assess symptom severity. The SCL9 comprises nine Likert-scaled statements (1 = not at all to 5 = very much) (Example: 'How much have you suffered from feelings of powerlessness in the past 7 days?'). SCL9 is a screening tool with excellent psychometric properties confirmed in various studies (e.g. Petrowski et al. 2019). High scores indicate a high level of symptom severity. The internal consistency of the scale was good (MacDonald's $\omega = .82$). The scores did not follow a normal distribution, as indicated by a significant Kolmogorov – Smirnov test ($p < .001$).

Well-being

The Brief Inventory of Thriving (BIT) (Su, Tay, and Diener 2014) was utilised to assess well-being. BIT comprises 10 Likert-scaled statements (1 = strongly disagree to 5 = strongly agree) (Example: 'I generally feel good'). BIT is considered a reliable and valid measure for operationalising well-being (Hausler et al. 2017). High scores indicate pronounced well-being. In the present study, the internal consistency of the scale was satisfactory (MacDonald's $\omega = .81$). The scale was not normally distributed (Kolmogorov – Smirnov test: $p < .001$).

Data analytic plan

The number of missing values was negligible (0.25%) and reconstructed due to random omission using the Expectation-Maximization algorithm (Tabachnick and Fidell 2012). Multivariate outliers were detected using the Mahalanobis distance and were subsequently excluded at a significance level of $p > .001$ (χ^2 test) (3 cases) (Tabachnick and Fidell 2012). Relationships between the scales were explored using non-parametric correlation coefficients (Spearman). Subsequently, hypotheses were examined within a structural equation model employing the maximum likelihood estimator. For this purpose, five latent factors were constructed: 'stress experience' with items from the TICS, 'impairments in mentalizing' with items from the RFQ, 'teaching-related self-efficacy' with items from the LSWS, 'symptom severity' with items from the SCL, and 'well-being' with items from the BIT, each of them validated through confirmatory factor analyses. Following this, the latent constructs were related within a structural equation model in order to test the hypotheses (Weiber and Sarstedt 2021). Model fit was assessed using fit indices recommended by Hu and Bentler (1999), including (1) the $\chi 2$ test result, (2) the root mean square error of approximation (*RMSEA*) along with the 90% confidence intervals, (3) the comparative fit index (*CFI*), and the standardized root mean squared residual (*SRMR*) (indicating good model fit: non-significant $\chi 2$ test, $RMSEA \leq .06$; $CFI \geq .95$, $SRMR \leq .06$; satisfactory fit: non-significant $\chi 2$ test, $RMSEA \leq .08$; $CFI \geq .90$, $SRMR \leq .08$). Given the sample size, a significant χ^2 test was anticipated. Mediation effects were examined using the bias-corrected bootstrap confidence interval (*CI*) method (10,000 bootstrap samples) and 95% confidence intervals to ensure robust results for data deviating from multinormality (Nevitt and Hancock 2001).

Results

Table 1 shows the descriptive statistics and the intercorrelation between all variables. Generally, moderate negative associations were noted among stress experience, teaching-related self-efficacy, and well-being. Pronounced negative correlations were identified between stress experience, impairments in mentalising, and symptom severity.

Table 1. Descriptives and intercorrelations.

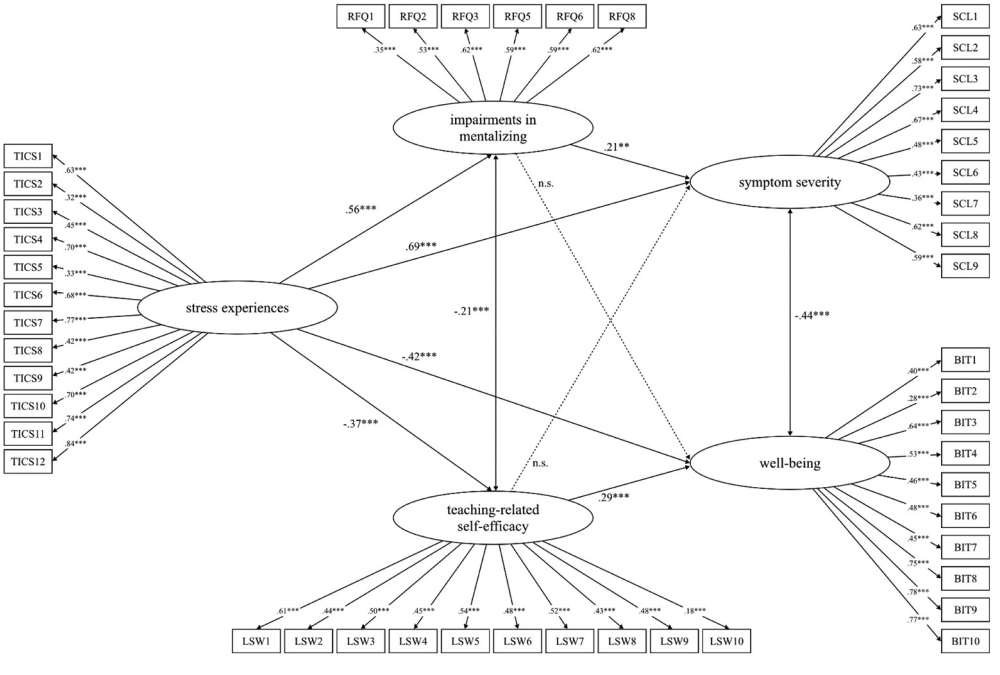
	M (SD)	1	2	3	4	5	6
1 age	26.73 (3.39)	–					
2 TICS	32.25 (7.60)	.09*	–				
3 RFQ	18.68 (6.07)	.01	.44***	–			
4 LSWS	30.31 (3.65)	.01	−.29***	−.26***	–		
5 SCL	18.60 (5.99)	−.04	.65***	.43***	−.23***	–	
6 BIT	41.69 (4.69)	−.07	−.39***	−.27***	.37***	−.39***	–
skewness		4.48	0.17	0.33	−.12	1.05	−0.65
kurtosis		32.43	−0.34	−0.14	0.70	1.12	0.79
Mac Donalds			.87	.75	.74	.82	.81

$N = 696$. All correlation coefficients were estimated using a non-parametric measure (Spearman). TICS = Trier Inventory of Chronic Stress. RFQ = Reflective Functioning Questionnaire. LSWS = Teacher Self-Efficacy-Scale. SCL = Symptom Checklist. BIT = Brief Inventory of Thriving. ***$p < .001$, **$p < .01$, *$p < .05$.

Furthermore, a negative relationship was documented between teaching-related self-efficacy expectations and impairments in mentalising capacity.

For hypothesis testing, the fit of the latent measurement models was first assessed through separate confirmatory factor analyses. The measurement model reflecting stress experience demonstrated a good fit to the data ($\chi^2(42, n = 696) = 105.97$, $p < .001$; *RMSEA* = .05 [.04–.06]; *CFI* = .98; *SRMR* = .03). Similarly, the measurement model representing limitations in mentalising capacity also exhibited a good fit ($\chi^2(5, n = 696) = 12.83$, $p = .025$; *RMSEA* = .05 [.02–.08]; *CFI* = .99; *SRMR* = .02), as did the measurement models representing teaching-related self-efficacy ($\chi^2(29, n = 696) = 49.66$, $p = .010$; *RMSEA* = .03 [.02–.05]; *CFI* = .98; *SRMR* = .03), symptom severity ($\chi^2(23, n = 696) = 36.75$, $p = .035$; *RMSEA* = .03 [.01–.05]; *CFI* = .99; *SRMR* = .02), and well-being ($\chi^2(28, n = 696) = 65.45$, $p = .002$; *RMSEA* = .04 [0.03–0.06]; *CFI* = .98; *SRMR* = .03).

In a second step, the latent constructs were examined within a structural equation model, yielding a model fit within an acceptable range ($\chi^2(993, n = 696) = 1754.18$, $p < .001$; *RMSEA* = .03 [0.03, 0.04]; *CFI* = .93; *SRMR* = .05) (Figure 2). In the final model, age, gender, and native language were found to have no significant associations with the dependent variables of symptom severity and well-being. The inclusion of these variables resulted in a deterioration of model fit, and hence, they were excluded. Table 2 outlines all pathways. Results from 10,000 bootstrap samples indicated that stress experience may positively influence impairments in mentalising and symptom severity while showing negative associations with teaching-related self-efficacy and well-being. Additionally, impairments in mentalising was positively linked with symptom severity but showed no association with the well-being of participants.



Note: $N = 696$. *** $p < .001$, ** $p < .01$, * $p < .05$.

Figure 2. Structural equation model. $N = 696$. ***$p < .001$, **$p < .01$, *$p < .05$.

Table 2. Standardized regression coefficients and 95% confidence intervals (CI) for each path in the structural equation model.

Path	β	95% CI
TICS to SCL	.69***	[.60 – .76]
TICS to BIT	−.42***	[−.52 – −.33]
TICS to RFQ	.56***	[.47 – .63]
TICS to LSWS	−.37***	[−.44 – −.29]
RFQ to SCL	.21***	[.12 – .31]
RFQ to BIT	n.s.	
LSWS to SCL	n.s.	
LSWS to BIT	.29***	[.20 – .38]
TICS to SCL via RFQ	.13***	[.07 – .19]
TICS to SCL via LSWS	n.s.	
TICS to BIT via RFQ	n.s.	
TICS to BIT via LSWS	−.12**	[−.19 – −.05]

N = 696. TICS = Trier Inventory of Chronic Stress. RFQ = Reflective Functioning Questionnaire. LSWS = Teacher Self-Efficacy-Scale. SCL = Symptom Checklist. BIT = Brief Inventory of Thriving. ***$p < .001$, **$p < .01$, *$p < .05$.

Conversely, teaching-related self-efficacy might positively impact well-being but was not related to the reported symptom severity by special education teachers.

Furthermore, within the structural equation model, the direct association between current stress experience and symptom severity was partially mediated by impairments in mentalising capacity, while teaching-related self-efficacy did not mediate this pathway. Conversely, the negative link between stress experience and well-being was partially mediated by teaching-related self-efficacy but not by impairments in mentalising capacity (see Table 2). Overall, both direct and indirect effects had a combined impact of $\beta = -.54$ [−.59 – −.48]; $p < .001$ on current well-being, explaining 36.5% of the variance in well-being. In contrast, the combined direct and indirect effects on current symptom severity had an effect of $\beta = .81$ [.77–.85]; $p < .001$, explaining 68.7% of the variance in symptom severity.

Discussion

The present study aimed to investigate whether mentalising and teaching-related self-efficacy mediate the adverse effects of current stress experiences on stress-related symptomatology and well-being among novice special education teachers early in their careers in southern Germany. While the protective role of teaching-related self-efficacy in teachers has been successfully established in several studies (e.g. Dicke et al. 2014, 2015; Pas, Bradshaw, and Hershfeldt 2012; Skaalvik and Skaalvik 2010), further research is warranted to ascertain a similar protective impact for mentalising capacities, shedding light on their potentially distinct mechanisms. Although initial research confirms this protective function in teachers working in regular school (Schwarzer et al. 2023) and educational staff in early childhood settings (Schwarzer and Gingelmaier 2020), a lack of data addressing special education teachers remains.

Hypothesis 1, which proposes positive associations between stress experience, heightened symptom severity, and compromised well-being, received support through the structural equation model. Increasing levels of stress experience were linked to an

increase in reported symptom burden and a decline in current well-being among 696 novice special education teachers. This reaffirms the well-documented adverse effects of high-stress experience (Glaser and Kiecolt-Glaser 2005; Gradus 2017; Meng and D'Arcy 2016; Obbarius et al. 2021), lending further support for integration into the theoretical framework of the Transactional Stress Model (Lazarus and Folkman 1984).

This finding highlights the importance of acknowledging stress experience as a significant factor impacting the vocational experiences of novice special education teachers (Rothland 2013). Furthermore, given these results, it appears necessary to include a focus on stress experience, its detrimental effects, and the cultivation of coping strategies alongside methodological and didactic training through psychoeducation and supervision or reflective practice – already during training of special education teachers (e.g. Gingelmaier 2018), particularly when considering the highly distressing transition from university training to the daily work in schools (Hobson and Ashby 2012). This is reflected in findings on the overall high vocational burden in special education teachers, reported by older (e.g. Hasselhorn and Nübling 2004) and recent studies (e.g. Johansson, Falkstedt, and Almroth 2022; McGrew et al. 2023).

Additionally, it is noteworthy that stress experience is strongly associated with psychological and somatic burden within the studied sample. Heightened stress experience manifests more prominently in the intensity of symptoms, while its effect on overall well-being appears less conspicuous. Moreover, a moderate association was observed between symptom severity and subjective well-being, aligning with contemporary conceptualisations of mental health that emphasise its multidimensional nature, characterised not solely by the presence or absence of symptoms but also by more subjective experiences such as well-being (Hausler et al. 2017).

Hypothesis 2, suggesting a partial mediation from current stress experiences on symptom severity as well as from current stress experiences on well-being through teacher-related self-efficacy, received partial confirmation based on the structural equation model. In detail, the direct path between stress experience and the development of stress-related symptoms was not mediated by teacher-related self-efficacy, as no significant association between teacher-related self-efficacy and current symptoms could be identified. Conversely, we found evidence for a partial mediation of the relationship between stress experience and the subjective well-being through teaching-related self-efficacy. These findings deepen our understanding of the protective role of self-efficacy, especially considering that current studies in the field often rely solely on one single measure to assess mental health (e.g. Dicke et al. 2014, 2015; Pas, Bradshaw, and Hershfeldt 2012; Skaalvik and Skaalvik 2010), which overlooks the multidimensionality of mental health (Hausler et al. 2017).

In this study, the protective function of self-efficacy is affirmed based on cross-sectional data. However, teaching-related self-efficacy does not seem to be linked to the severity of overall symptoms as a core feature of mental health. Instead, teacher-related self-efficacy was associated with well-being as another important facet of mental health, pointing to more intricate associations between various mechanisms underpinning mental health in this population. However, this result is consistent with findings by Schönfeld and colleagues (2016), who reported that self-efficacy, within a sample representative of the German population, was more strongly linked to positive aspects of mental health such as current well-being rather than to psychological symptoms. Given the inherently subjective nature

of both well-being, reflecting a perceived state of positive functioning (Hausler et al. 2017), and self-efficacy, operationalising as individuals' beliefs in their ability to cope with challenges (Bandura 1997), this result supports key notions of the theoretical framework of the self-efficacy concept.

Similarly, hypothesis 3 could also only be partially supported by the findings of the structural equation model. In the current study, participants' mentalising did not mediate the direct relationship between current stress experience and subjectively experienced well-being as no associations between mentalising and well-being were established in the final model. This finding contradicts previously published research that has shown positive associations between mentalising abilities and current well-being among regular school teachers (Schwarzer et al. 2023), daycare educators (Schwarzer & Gingelmaier), and psychotherapists (Brugnera et al. 2021). In contrast, the relationship between stress experience and the severity of current symptoms was partially mediated by the mentalising abilities of novice special education teachers. This result is in line with a body of empirical research that has demonstrated positive associations between impaired mentalising and the manifestation of pathological symptoms (e.g. Chiesa and Fonagy 2014). It further supports the assumption that robust mentalising abilities can serve as a mechanism in the intrapsychic processing of stress-inducing experiences (Holmes 2017) – but only regarding the association with pathological symptoms through diminishing one's own self-perception regarding current symptom distress (Fonagy et al. 2017). Consequently, when considering both a concrete operationalisation of mental health through current symptom distress as well as a mental health indicator with a stronger subjective focus such as well-being, the present study provides new insight into the protective function of effective mentalising abilities by demonstrating that limitations in mentalising are particularly linked to mental health impairments rather than to positive aspects of mental health assessed via well-being.

In summary, the present study sheds light on the potential roles of two psychological resources that, based on the findings reported here, each contribute to the processing of stress experiences – although the causal interpretation provided here relies solely on theoretically grounded assumptions and should be considered suggestive until confirmed in longitudinal research designs. Given the modest associations between the latent variables of 'impairments in mentalising' and 'teaching-related self-efficacy', it is notable that both capacities seem to have only minor associations, suggesting largely independent intrapsychic processing mechanisms, each of them having a specific focus: While the results indicate that mentalising may play a role in the processing of stress-related symptoms, it also suggests that teaching related self-efficacy may have particularly positive effects on subjective well-being.

Limitations

In light of the study design, it is crucial to acknowledge several limitations. Causal conclusions are not possible due to the study's cross-sectional research design. Therefore, it is important to replicate the results in longitudinally designed studies to establish more robust conclusions of causal relationships. Additionally, the sample poses a limitation, as it only consists of special education teachers in the early stages of their careers. Conclusions regarding the intricate associations between study variables among special education teachers with more of experience cannot be drawn, although similar mechanisms are

anticipated. Importantly, the current study does not allow for the generalisation of the specified relationships across different cultural contexts, as it pertains to a very selective population of special education teachers at a specific point in their professional careers in a highly industrialised country. For instance, the concept of mentalising is often criticised for its strong Western-European focus (e.g. Keller 2019). Additionally, it is important to consider that stress experiences are also influenced by cultural contexts (e.g. Klassen, Usher, and Bong 2010). Moreover, the operationalisation in this study may introduce biases in the results since all variables were assessed through self-reports due to the sample size, necessitating economic measures. Furthermore, shared variance across all measurement instruments may influence the reported results, potentially skewing the findings (shared method variance). There are concerns about the psychometric quality of the RFQ, as its original factor structure has been questioned in a recent study. This study suggests using the RFQ as a unidimensional scale (Spitzer et al. 2021). However, even in this case, further psychometric evaluations are needed. For instance, while Spitzer and colleagues (2021) reported sufficient internal consistency for this unidimensional scale, with a McDonald's Omega $\omega = .75$ the current study indicates the need for further specification of the RFQ's psychometric properties in future research. Moreover, it is crucial to note the high correlation between stress experience and symptom severity which could suggest a shared latent trait. Lastly, future studies should explore the influence of personality traits, as their association with teachers' well-being has been evidenced in various studies (e.g. Liu et al. 2022).

Implications

Considering the results reported in this study, along with the current state of research highlighting the positive impact of teaching-related self-efficacy (e.g. Dicke et al. 2014, 2015; Pas, Bradshaw, and Hershfeldt 2012; Skaalvik and Skaalvik 2010) and mentalising on mental health (e.g. Adkins, Luyten, and Fonagy 2018; De Meulemeester et al. 2018; Fischer-Kern et al. 2015), interventions focusing on the promotion of mentalising abilities and teaching-related self-efficacy hold promise for preventing high-stress experiences among novice special education teachers. Supervision sessions to develop reflective capacities demonstrate potential, specifically addressing the challenging professional circumstances of special teachers and special teacher trainees to enhance their self-efficacy and mentalising abilities.

Reflection opportunities within case discussions to establish a mentalising understanding and positively influence professional self-efficacy should be considered promising interventions. In this regard, feedback on lesson planning from experienced colleagues seems particularly beneficial for nurturing self-efficacy among novice teachers and special education teachers (Mok, Rupp, and Holzberger 2023). The essence of mentalising-promoting interventions, as highlighted by Fonagy and Allison (2014), lies in the experience of novice professionals being mentalised by supervisors, mentors, school leaders and broader (systemically conceived) work environment during this challenging phase of their careers, as well as in the use of mentalising-promoting interventions in supervision based on principles derived from Mentalization-Based Therapy (MBT) (Bateman and Fonagy 2004).

Disclosure statement

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

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Data availability statement

Data and code will be made available by request. Please contact the first author.

Author contributions

N.H.S. designed the study, led the recruitment process, facilitated the intervention, prepared, analysed and interpreted data, and wrote the first draft of the manuscript. P.C.L., T.N., A.T., H.K., R. L. and S.G. contributed to the manuscript and supervised the data analyses. All authors reviewed the manuscript and gave approval of this final version.

References

Adkins, T., P. Luyten, and P. Fonagy. 2018. "Development and Preliminary Evaluation of Family Minds: A Mentalization-Based Psychoeducation Program for Foster Parents." *Journal of Child & Family Studies* 27 (8): 2519–2532. https://doi.org/10.1007/s10826-018-1080-x.

Ahmed, G. H. A., and E. Namaziandost. 2023. "Special Education teachers' Mental Health After Reopening Schools During Covid-19." *PLOS ONE* 18 (5): e0284870. https://doi.org/10.1371/journal.pone.0284870.

Bandura, A. 1997. *Self–Efficacy: The Exercise of Control*. New York: Freeman.

Bateman, A. W., and P. Fonagy. 2004. *Mentalization-Based Treatment for Borderline Personality Disorder*. Oxford: Oxford University Press.

Brugnera, A., C. Zarbo, A. Compare, A. Talia, G. A. Tasca, K. de Jong, A. Greco, et al. 2021. "Self-Reported Reflective Functioning Mediates the Association Between Attachment Insecurity and Well-Being Among Psychotherapists." *Psychotherapy Research* 31 (2): 247–257. https://doi.org/10.1080/10503307.2020.1762946.

Chang, M.-L. 2009. "An Appraisal Perspective of Teacher Burnout: Examining the Emotional Work of Teachers." *Educational Psychology Review* 21 (3): 193–218. https://doi.org/10.1007/s10648-009-9106-y.

Chiesa, M., and P. Fonagy. 2014. "Reflective Function as a Mediator Between Childhood Adversity, Personality Disorder and Symptom Distress." *Personality and Mental Health* 8 (1): 52–66. https://doi.org/10.1002/pmh.1245.

De Meulemeester, C., K. Vansteelandt, P. Luyten, and B. Lowyck. 2018. "Mentalizing as a Mechanism of Change in the Treatment of Patients with Borderline Personality Disorder: A Parallel Process Growth Modeling Approach." *Personality Disorders Theory, Research, & Treatment* 9 (1): 22–29. https://doi.org/10.1037/per0000256.

Depaepe, F., and J. König. 2018. "General Pedagogical Knowledge, Self-Efficacy and Instructional Practice: Disentangling Their Relationship in Pre-Service Teacher Education." *Teaching & Teacher Education* 69:177–190. https://doi.org/10.1016/j.tate.2017.10.003.

Derogatis, L. R. 1994. *Administration, Scoring, and Procedures Manual*, SCL-90–R. Minneapolis, MN: National Computer Systems.

Dicke, T., P. D. Parker, D. Holzberger, O. Kunina-Habenicht, M. Kunter, and D. Leutner. 2015. "Beginning teachers' Efficacy and Emotional Exhaustion: Latent Changes, Reciprocity, and the Influence of Professional Knowledge." *Contemporary Educational Psychology* 41:62–72. https://doi.org/10.1016/j.cedpsych.2014.11.003.

Dicke, T., P. D. Parker, H. W. Marsh, M. Kunter, A. Schmeck, and D. Leutner. 2014. "Self-Efficacy in Classroom Management, Classroom Disturbances, and Emotional Exhaustion: A Moderated

Mediation Analysis of Teacher Candidates." *Journal of Educational Psychology* 106 (2): 569–583. https://doi.org/10.1037/a0035504.

Fischer-Kern, M., S. Doering, S. Taubner, S. Hörz, J. Zimmermann, M. Rentrop, P. Schuster, P. Buchheim, and A. Buchheim. 2015. "Transference-Focused Psychotherapy for Borderline Personality Disorder: Change in Reflective Function." *The British Journal of Psychiatry: The Journal of Mental Science* 207 (2): 173–174. https://doi.org/10.1192/bjp.bp.113.143842.

Fonagy, P., and L. Allison. 2014. "The Role of Mentalizing and Epistemic Trust in the Therapeutic Relationship." *Psychotherapy Theory, Research, Practice, Training* 51 (3): 372–380. https://doi.org/10.1037/a0036505.

Fonagy, P., G. Gergely, E. Jurist, and M. Target. 2002. *Affect Regulation, Mentalization, and the Development of the Self*. London, UK: Karnac Books.

Fonagy, P., P. Luyten, E. Allison, and C. Campbell. 2017. "What We Have Changed Our Minds About: Part 1. Borderline Personality Disorder as a Limitation of Resilience." *Borderline Personality Disorder and Emotion Dysregulation* 4 (1): 11. https://doi.org/10.1186/s40479-017-0061-9.

Fonagy, P., P. Luyten, A. Moulton-Perkins, Y. W. Lee, F. Warren, S. Howard, R. Ghinai, P. Fearon, B. Lowyck, and K. Laws. 2016. "Development and Validation of a Self-Report Measure of Mentalizing: The Reflective Functioning Questionnaire." *PLOS ONE* 11 (7): e0158678. https://doi.org/10.1371/journal.pone.0158678.

Gibson, S., and M. H. Dembo. 1984. "Teacher Efficacy: A Construct Validation." *Journal of Educational Psychology* 76 (4): 569–582. https://doi.org/10.1037/0022-0663.76.4.569.

Gingelmaier, S. 2018. "Die Bedeutung des Mentalisierens für das Beratungsformat Supervision am Beispiel von Schulen [The importance of mentalizing for supervision using schools as an example." In *Handbuch mentalisierungsbasierte Pädagogik [Handbook mentalization-based education]*, edited by S. Gingelmaier, S. Taubner, and A. Ramberg, 235–240. Göttingen: Vandehoeck & Ruprecht. https://doi.org/10.13109/9783666452499.223.

Gingelmaier, S., and H. Kirsch. 2020. *Praxisbuch Mentalisierungsbasierte Pädagogik Practical Guide Mentalization-Based Education*. Göttingen: Vandenhoeck & Ruprecht.

Glaser, R., and J. K. Kiecolt-Glaser. 2005. "Stress-Induced Immune Dysfunction: Implications for Health." *Nature Reviews Immunology* 5 (3): 243–251. https://doi.org/10.1038/nri1571.

Gradus, J. L. 2017. "Prevalence and Prognosis of Stress Disorders: A Review of the Epidemiologic Literature." *Clinical Epidemiology* 9:251–260. https://doi.org/10.2147/CLEP.S106250.

Hasselhorn, H. M., and M. Nübling. 2004. "Work-Related Mental Health of Employees in Germany." *Arbeitsmedizin, Sozalmedizin*." *Umweltmedizin* 39:568–576.

Hausler, M., A. Huber, C. Strecker, M. Brenner, T. Höge, and S. Höfer. 2017. "Validation of a Holistic Measure for the Construct of Well-Being—the German Version of the Comprehensive Inventory of Thriving (CIT) and the Short Version Brief Inventory of Thriving (BIT)." *Diagnostica* 61 (3): 219–228. https://doi.org/10.1026/0012-1924/a000174.

Hobson, A., and P. Ashby. 2012. "Reality Aftershock and How to Avert It: Second-Year teachers' Experiences of Support for Their Professional Development." *Cambridge Journal of Education* 42 (2): 177–196. https://doi.org/10.1080/0305764X.2012.676628.

Holmes, J. 2017. "Roots and Routes to Resilience and Its Role in Psychotherapy: A Selective, Attachment-Informed Review, *Attachment & Human Development* 19 (4): 364–381. https://doi.org/10.1080/14616734.2017.1306087.

Hu, L., and P. M. Bentler. 1999. "Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria versus New Alternatives." *Structural Equation Modeling: A Multidisciplinary Journal* 6 (1): 1–55. https://doi.org/10.1080/10705519909540118.

Johansson, E., D. Falkstedt, and M. Almroth. 2022. "Depression Among Teachers: A Swedish Register-Based Study." *BMC Public Health* 22 (1): 355. https://doi.org/10.1186/s12889-022-12758-0.

Johnson, B. N., Y. Kivity, L. K. Rosenstein, J. M. LeBreton, and K. N. Levy. 2022. "The Association Between Mentalizing and Psychopathology: A Meta-Analysis of the Reading the Mind in the Eyes Task Across Psychiatric Disorders." *Clinical Psychology Science & Practice* 29 (4): 423–439. https://doi.org/10.1037/cps0000105.

Katznelson, H. 2014. "Reflective Functioning: A Review." *Clinical Psychology Review* 34 (2): 107–117. https://doi.org/10.1016/j.cpr.2013.12.003.

Keller, H. 2019. "Mythos Bindungstheorie." In *Konzept. Methode. Bilanz [Myth of Attachment Theory. Concept. Method*, Review ed. Weimar: Verag das netz.

Klassen, R. M., and M. M. Chiu. 2010. "Effects on teachers' Self-Efficacy and Job Satisfaction: Teacher Gender, Years of Experience, and Job Stress." *Journal of Educational Psychology* 102:741–756. https://doi.org/10.1037/a0019237.

Klassen, R. M., V. M. C. Tze, S. M. Betts, and K. A. Gordon. 2011. "Teacher Efficacy Research 1998–2009: Signs of Progress or Unfulfilled Promise?" *Educational Psychology Review* 23 (1): 21–43. https://doi.org/10.1007/s10648-010-9141-8.

Klassen, R. M., E. L. Usher, and M. Bong. 2010. "Teachers' Collective Efficacy, Job Satisfaction, and Job Stress in Cross-Cultural Context." *Journal of Experimental Edication* 78 (4): 464–486. https://doi.org/10.1080/00220970903292975.

Klusmann, U., M. Kunter, T., Voss, and J. Baumert. 2012. "Emotional Exhaustion and Job Satisfaction of Beginning Teachers: The Role of Personality, Educational Experience and Professional Competence." *German Journal of Educational Psychology* 26 (4): 275–290. https://doi.org/10.1024/1010-0652/a000078 .

Klusmann, U., and N. Waschke. 2018. *Gesundheit und Wohlbefinden im Lehrberuf* [Mental health and well-being in the teaching profession]. Göttingen: Hogrefe. https://doi.org/10.1026/02863-000.

Lazarus, R., and S. Folkman. 1984. *Stress, appraisal, and coping*. New York: Springer.

Lehr, D., E. Schmitz, and A. Hillert. 2008. "Coping Patterns and Mental Health. A Cluster-Analytic Study on Coping Patterns in Teachers." *Zeitschrift für Arbeits- und Organisationspsychologie* 52 (1): 3–16. https://doi.org/10.1026/0932-4089.52.1.3.

Liu, Z., Y. Li, W. Zhu, Y. He, and D. Li. 2022. "A Meta-Analysis of teacher's Job Burnout and Big Five Personality Traits." *Frontiers in Education* 7:822659. https://doi.org/10.3389/feduc.2022.822659.

Luyten, P., C. Campbell, E. Allison, and P. Fonagy. 2020. "The Mentalizing Approach to Psychopathology: State of the Art and Future Directions." *Annual Review of Clinical Psychology* 16 (1): 297–325. https://doi.org/10.1146/annurev-clinpsy-071919-015355.

McGrew, J., L. Ruble, C. J. Cormier, and D. Dueber. 2023. "Special educators' Mental Health and Burnout: A Comparison of General and Teacher Specific Risk Factors." *Teaching & Teacher Education* 132:104209. https://doi.org/10.1016/j.tate.2023.104209.

Meng, X., and C. D'Arcy. 2016. "Coping Strategies and Distress Reduction in Psychological Well-Being? A Structural Equation Modelling Analysis Using a National Population Sample." *Epidemiology and Psychiatric Sciences* 25 (4): 370–383. https://doi.org/10.1017/S2045796015000505.

Mok, S. Y., D. Rupp, and D. Holzberger. 2023. "What Kind of Individual Support Activities in Interventions Foster Pre-Service and Beginning teachers' Self-Efficacy? A Meta-Anaysis." *Educational Research Review* 40:100552. https://doi.org/10.1016/j.edurev.2023.100552.

Nevitt, J., and G. R. Hancock. 2001. "Performance of Bootstrapping Approach to Model Test Statistics and Parameter Standard Error Estimation in Structural Equation Modeling." *Structural Equation Modeling: A Multidisciplinary Journal* 8 (3): 353–377. https://doi.org/10.1207/S15328007SEM0803_2.

Nolte, T., D. Z. Bolling, C. M. Hudac, P. Fonagy, L. Mayes, and K. A. Pelphrey. 2013. "Brain Mechanisms Underlying the Impact of Attachment-Related Stress on Social Cognition." *Frontiers in Human Neuroscience* 7:816. https://doi.org/10.3389/fnhum.2013.00816.

Obbarius, N., F. Fischer, G. Liegl, A. Obbarius, and M. Rose. 2021. "A Modified Version of the Transactional Stress Concept According to Lazarus and Folkman was Confirmed in a Psychosomatic Inpatient Sample." *Frontiers in Psychology* 12:584333. https://doi.org/10.3389/fpsyg.2021.584333.

O'Mara, A. J., H. W. Marsh, R. G. Craven, and R. L. Debus. 2006. "Do Self-Concept Interventions Make a Difference? A Synergistic Blend of Construct Validation and Meta-Analysis." *Educational Psychologist* 41 (3): 181–206. https://doi.org/10.1207/s15326985ep4103_4.

Pas, E. T., C. P. Bradshaw, and P. A. Hershfeldt. 2012. "Teacher- and School-Level Predictors of Teacher Efficacy and Burnout: Identifying Potential Areas for Support." *Journal of School Psychology* 50 (1): 129–145. https://doi.org/10.1016/j.jsp.2011.07.003.

Petrowski, K., B. Schmalbach, S. Kliem, A. Hinz, E. Brähler, and I. Puebla. 2019. "Symptom-Checklist -K-9: Norm Values and Factorial Structure in a Representative German Sample." *PLOS ONE* 14 (4): Article e0213490. https://doi.org/10.1371/journal.pone.0213490.

Rothland, M. 2013. "Beruf: Lehrer/Lehrerin - Arbeitsplatz: Schule [Profession: teacher – working space: school." In *Belastung und Beanspruchung im Lehrerberuf. Modelle. Befunde. Interventionen* [Stress and Strain in the Teaching Profession. Models. Findings. Interventions], edited by M. Rothland, 21–39. Wiesbaden, Germany: Springer VS.

Schönfeld, P., J. Brailovskaia, A. Bieda, X. C. Zhang, and J. Margraf. 2016. "The Effects of Daily Stress on Positive and Negative Mental Health: Mediation Through Self-Efficacy." *International Journal of Clinical and Health Psychology* 16 (1): 1–10. https://doi.org/10.1016/j.ijchp.2015.08.005.

Schulz, P., W. Schlotz, and P. Becker. 2004. *TICS. Trierer Inventar zum chronischen Stress* [Trier inventory of chronic stress]. Göttingen, Germany: Hogrefe.

Schwarzer, N. H., and S. Gingelmaier. 2020. "Mentalisieren als schützende Ressource bei angehenden Erzieherinnen und Erziehern [Mentalizing as a protective ressource among prospective childhood educators]." *Frühe Bildung* 9 (3): 144–152. https://doi.org/10.1026/2191-9186/a000485.

Schwarzer, N. H., T. Nolte, P. Fonagy, J. Griem, U. Kieschke, and S. Gingelmaier. 2023. "The Relationship Between Global Distress, Mentalizing and Well-Being in a German Teacher Sample." *Current Psychology* 42 (2): 1239–1248. https://doi.org/10.1007/s12144-021-01467-3.

Schwarzer, R., and G. S. Schmitz. 2002. WirkLehr. Skala Lehrer-Selbstwirksamkeit [WirkLehr. Teacher-self-efficacy-scale]. Leibniz-Institut für Psychologie (ZPID) (Hrsg.). *Open Test Archive*. https://doi.org/10.23668/psycharchives.4600.

Skaalvik, E. M., and S. Skaalvik. 2010. "Teacher Self-Efficacy and Teacher Burnout: A Study of Relations." *Teaching & Teacher Education* 26 (4): 1059–1069. https://doi.org/10.1016/j.tate.2009.11.001.

Skaalvik, E. M., and S. Skaalvik. 2011. "Teacher Job Satisfaction and Motivation to Leave the Teaching Profession: Relations with School Context, Feeling of Belonging, and Emotional Exhaustion." *Teaching & Teacher Education* 27 (6): 1029–1038. https://doi.org/10.1016/j.tate.2011.04.001.

Spitzer, C., J. Zimmermann, E. Brähler, S. Euler, L. Wendt, and S. Müller. 2021. "Die deutsche Version des Reflective Functioning Questionnaire (RFQ): Eine teststatistische Überprüfung in der Allgemeinbevölkerung [The German Version of the Reflective Functioning Questionnaire (RFQ): A Psychometric Evaluation in the General Population]." *PPmP - Psychotherapie Psychosomatik Medizinische Psychologie* 71 (3/04): 124–131. https://doi.org/10.1055/a-1234-6317.

Su, R., L. Tay, and E. Diener. 2014. "The Development and Validation of the Comprehensive Inventory of Thriving (CIT) and the Brief Inventory of Thriving (BIT)." *Applied Psychology Health and Well-Being* 6 (3): 251–279. https://doi.org/10.1111/aphw.12027.

Tabachnick, B. G., and L. S. Fidell. 2012. *Using Multivariate Statistics*. Boston: Pearson.

Tsouloupas, C. N., R. L. Carson, R. Matthews, M. J. Grawitch, and L. K. Barber. 2010. "Exploring the Association Between teachers' Perceived Student Misbehaviour and Emotional Exhaustion: The Importance of Teacher Efficacy Beliefs and Emotion Regulation." *Educational Psychology* 30 (2): 173–189. https://doi.org/10.1080/01443410903494460.

Voss, T., and M. Kunter. 2020. ""Reality Shock" of Beginning Teachers? Changes in Teacher Candidates' Emotional Exhaustion and Constructivist-Oriented Beliefs." *Journal of Teacher Education* 71 (3): 292–306. https://doi.org/10.1177/0022487119839700.

Weiber, R., and M. Sarstedt. 2021. *Structural Equation Modeling*. Wiesbaden: Springer Gabler. https://doi.org/10.1007/978-3-658-32660-9.