Adaptation of the Teacher Self-Efficacy Scale to Azerbaijani: Investigating its Relationship with Work Engagement, Anxiety, and Job Satisfaction

Ulkar Zalova Nuriyeva[1], Prof. Bakhtiya Aliyev[2], Dr. Elnur Rustamo[3], Rahila Mammadova[4], Aysel Naghiyeva[5], Fatima Dadashzada[6] ✉

Psychology Scientific Research Institute, Azerbaijani

Keywords	Abstract
teacher self-efficacy, work engagement, job satisfaction, anxiety, scale adaptation	*Teacher self-efficacy is a central construct influencing instructional practices, classroom management, and student outcomes. Despite its importance, no validated instrument exists in Azerbaijan to assess teachers' self-efficacy. This study aimed to adapt the Teacher Sense of Efficacy Scale (TSES) into Azerbaijani and examine its psychometric properties. Data were collected from 293 Azerbaijani teachers via an online survey. Confirmatory factor analysis (CFA) supported the original three-factor structure, with acceptable fit indices (χ^2/df = 3.283, CFI = .939, TLI = .922, RMSEA = .088). Reliability was evaluated through multiple indices, demonstrating high internal consistency (Cronbach's α = .925), strong item homogeneity (McDonald's ω = .926), and robust test-score reliability (Guttman's $\lambda6$ = .930). Item Response Theory (IRT) analyses indicated strong discrimination parameters for all items (α = 1.78–2.91), confirming the scale's capacity to differentiate teachers with varying efficacy levels. Concurrent validity was supported through positive correlations with work engagement and job satisfaction, and negative correlations with anxiety. Overall, the findings suggest that the Azerbaijani TSES is a psychometrically sound instrument, suitable for research, professional development, and policy applications. This adaptation provides a valuable tool for assessing teacher self-efficacy in Azerbaijani educational contexts, contributing to cross-cultural research and enhancing evidence-based strategies to improve teacher effectiveness and well-being.*

Ulkar Zalova Nuriyeva[1], Prof. Bakhtiya Aliyev[2], Dr. Elnur Rustamo[3], Rahila Mammadova[4], Aysel Naghiyeva[5], Fatima Dadashzada[6] / Educational Psychology 14 (2) (2025)

INTRODUCTION

In recent years, educational research has increasingly emphasized the importance of teachers and their continuous professional development. A central concept in this context is self-efficacy, which refers to teachers' confidence in their ability to effectively guide and influence the teaching and learning process. Rooted in Bandura's (1997) social-cognitive theory, self-efficacy extends beyond mere competence—it plays a vital role in shaping motivation, persistence, and resilience in the face of challenges. In education, teacher self-efficacy reflects teachers' beliefs in their ability to manage classrooms, engage learners, employ effective instructional strategies, and positively influence student achievement, thereby contributing significantly to educational quality.

Self-efficacy is broadly defined as an individual's belief in their own ability to perform a particular task successfully (Wilson, 2017). Psychologically, it represents the belief in one's capacity to mobilize motivation, resources, and actions necessary to achieve specific goals (Bandura, 1977, 1986). This belief influences how individuals approach difficulties, the effort they invest, and their perseverance in the face of setbacks. Unlike more traditional constructs, self-efficacy is understood as a dynamic judgment that varies by task and context (Bandura, 1997). As Mahatma Gandhi noted, "If I say to myself that I cannot do a certain thing, it is possible that I may end by really becoming incapable of doing it"(Wuepper & Lybbert, 2017).

Since its introduction, the self-efficacy construct has been further developed by Bandura himself and other scholars (Bandura, 1986, 1997, 2012; Maddux, 1995, 2009; Pajares, 1997; Schwarzer, 2014). As Gecas (2004) highlights, when individuals strengthen their belief in their abilities and act accordingly, self-efficacy can function as a self-fulfilling prophecy.

In the educational domain, teacher self-efficacy is associated with teachers' beliefs in their capacity to effectively teach, manage classrooms, and guide students. Teachers with higher levels of self-efficacy approach instruction with confidence, sustain motivation, and demonstrate enhanced psychological well-being (McCallum & Price, 2010). They display greater responsibility toward lessons, attend to students' individual needs, and employ innovative strategies (Riggs & Enochs, 1990). They also build supportive and encouraging relationships, fostering trust and cooperation in classrooms, which enhances students' respect and engagement (Balcı, 2001; Avanzi et al., 2018; Klassen & Chiu, 2010; Zee & Koomen, 2016).

Teachers with strong self-efficacy also engage constructively with parents, positively influencing students' academic and social development (Bümen, 2009). Such collaboration strengthens the school–family partnership, supports holistic student growth, and fosters an open, optimistic approach to teaching. Confident teachers adapt lessons to students' needs, apply project-based and problem-based learning, and adopt new instructional technologies.

Psychological studies underscore the significance of teacher self-efficacy, as it affects both teaching effectiveness and student achievement (Klassen et al., 2009; Klassen & Tse, 2014). Teachers with higher efficacy report greater job satisfaction, lower occupational stress, and fewer difficulties with misbehavior management (Caprara et al., 2003). Thus, understanding teacher self-efficacy is crucial for promoting both teacher well-being and educational success (Daniela et al., 2019).

Teacher self-efficacy strongly shapes students' outcomes. Efficacious teachers are able to motivate even struggling learners (Armor et al., 1976), while low self-efficacy is often linked to authoritarian or teacher-centered approaches that rely on strict discipline rather than supportive strategies. This highlights the need for preventive interventions aimed at strengthening teachers' confidence in their instructional abilities.

Ulkar Zalova Nuriyeva[1], Prof. Bakhtiya Aliyev[2], Dr. Elnur Rustamo[3], Rahila Mammadova[4], Aysel Naghiyeva[5], Fatima Dadashzada[6] / Educational Psychology 14 (2) (2025)

However, before such interventions can be developed, reliable measurement tools are required. At present, no psychometrically validated instrument exists in Azerbaijan to assess teacher self-efficacy, creating a gap in both research and practice.

One of the most widely used instruments is the Teacher Sense of Efficacy Scale (TSES), developed by Tschannen-Moran and Woolfolk Hoy (2001). The scale consists of 12 items rated on a 5-point Likert scale across three dimensions: Efficacy in Instructional Strategies (4 items), Efficacy in Classroom Management (4 items), and Efficacy in Student Engagement (4 items). These domains capture teachers' perceived competence across key areas of practice.

The TSES has been adapted into more than 20 languages and applied across diverse cultural and socio-economic contexts, highlighting its reliability and global utility. For instance, it has been validated in Spanish (Salas-Rodríguez et al., 2021), Chinese (Shao et al., 2025), Turkish (Işık & Derinbay, 2015), East Asian contexts including China, Korea, and Japan (Nie et al., 2015), and Polish (Narkun & Smogorzewska, 2023). Such adaptations underscore the importance of culturally sensitive and psychometrically sound instruments for evaluating teacher self-efficacy across educational systems.

Aim of the Study

The present study aims to adapt the Teacher Sense of Efficacy Scale (TSES) into the Azerbaijani language and to examine its psychometric properties, including validity and reliability, within a sample of Azerbaijani teachers

METHODS

Participants

This study was conducted among a sample of 293 individuals aged 18 and above in Azerbaijan. The sampling process was carried out using the convenience sampling method, and data were collected through an online survey. Among the participants, 266 were women (90.8% of the total sample), while 27 were men (9.2% of the total sample). The mean age of the group was 37.84 years, with a standard deviation of 11.4. Regarding economic status, the majority of participants (n = 229) self-reported their financial situation as moderate (78.2%), while 16.7% rated it as low and 5.1% as high. Additionally, 73.0% (n = 214) of respondents reported having a Bachelor`s degree education, whereas 21.8% had completed Master`s education. In terms of marital status, the majority of participants—66.5% (n = 203)—were married, while 26.3% (n = 77) were single. Detailed demographic information about the participants is presented in Table 1.

Table. 1 Descriptive information of the participants

	Frequency	%
Gender		
Famale	266	90.8
Male	27	9.2
Martial Status		
Single	77	26.3
Married	203	69.3
Divorced	7	2.4
Widowed	6	2.0
Economic Status		
Poor	49	16.7
Moderate	229	78.2
Good	15	5.1

Ulkar Zalova Nuriyeva[1], Prof. Bakhtiya Aliyev[2], Dr. Elnur Rustamo[3], Rahila Mammadova[4], Aysel Naghiyeva[5], Fatima Dadashzada[6] / Educational Psychology 14 (2) (2025)

Employement Status		
Public sector	242	82.6
Private sector	51	17.4
Education Status		
Bachelor's degree	214	73.0
Master's degree	64	21.8
Doctoral's degree	15	5.1
Pedagogical Practice		
Less than 1 year	30	10.2
1-5 years	68	23.3
6-10 years	29	9.9
11-20 years	82	28.0
21-30 years	60	20.5
More than 30 years	24	8.2

Ethics

This research was carried out in strict adherence to the ethical guidelines established in the 1975 Helsinki Declaration. The study received ethical approval from the Ethics Committee of the Psychology Scientific Research Institute in Baku.

Measure

Teacher Sense of Efficacy Scale (TSES) created by Tschannen-Moran and Woolfolk Hoy (2001), is one of the most widely used instruments for evaluating teachers' beliefs in their own capacity to bring about desired outcomes in student engagement, instructional practices, and classroom management. It is designed to measure the extent to which teachers perceive themselves to be competent in three directions of teaching. In this study, the Azerbaijani-adapted version of the Teacher Sense of Efficacy Scale (TSES) was structured with 12 items, and its internal consistency was checked by conducting a pilot test beforehand. Responses were rated on a 9-point Likert scale ranging from 1 ("I can do nothing") to 9 ("I can do a lot"). As a result, the overall Cronbach's alpha coefficient of the instrument was .91, and the subscales ranged from .87 to .92, indicating that the instrument has high reliability.

The Generalized Anxiety Disorder-7 (GAD-7), developed by Spitzer and colleagues in 2006, is a screening tool used to detect likely cases of generalized anxiety disorder (GAD) and to evaluate the severity of associated symptoms. It includes seven items that reflect common anxiety experiences, such as "Worrying too much about different things." Participants respond using a 4-point Likert scale ranging from 0 ("not at all") to 3 ("nearly every day"). The scale demonstrates strong internal consistency, with a Cronbach's alpha of 0.895—well above the acceptable threshold of 0.80—indicating excellent reliability. The scale was adapted into Azerbaijani by Aliyev et al. in 2025.

The Utrecht Work Engagement Scale (UWES), developed by Schaufeli, Salanova, and colleagues in 2002, consists of items that reflect three core dimensions of work engagement: Vigor (VI – 6 items), Dedication (DE – 5 items), and Absorption (AB – 6 items). In recent years, it has been widely used to assess individuals' levels of work engagement. The scale includes 17 items, such as: "At my work I always persevere, even when things do not go well". Each item is rated on a 7-

Ulkar Zalova Nuriyeva[1], Prof. Bakhtiya Aliyev[2], Dr. Elnur Rustamo[3], Rahila Mammadova[4], Aysel Naghiyeva[5], Fatima Dadashzada[6] / Educational Psychology 14 (2) (2025)

point frequency scale ranging from 0 (never) to 6 (always), indicating how often the respondent experiences each state. The scale was adapted into Azerbaijani by Nahmatova et al. in 2024.

The **Generic Job Satisfaction Scale (GJSS)**, developed by Macdonald and MacIntyre in 1997, is a brief and widely applicable instrument designed to assess overall job satisfaction across diverse occupational groups. The scale consists of 10 items reflecting different aspects of workplace experience, such as *"I receive recognition for a job well done"* and *"My wages are good."* Responses are provided on a 5-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). The scale has demonstrated acceptable internal consistency, with a Cronbach's alpha of 0.77—above the minimum reliability threshold of 0.70—indicating satisfactory reliability. The scale was adapted into Azerbaijani by Aliyev et al. in 2025.

Data analysis

The purpose of this study was to investigate the psychometric characteristics of the IRT, with a focus on evaluating its structural validity, overall reliability, criterion-related validity, and predictive validity. Structural validity was examined through a Confirmatory Factor Analysis (CFA) using the Maximum Likelihood estimation method in SPSS Statistics 29. The evaluation included multiple fit indices, such as the chi-square (χ^2) to degrees of freedom (df) ratio, Comparative Fit Index (CFI), Normed Fit Index (NFI), Relative Fit Index (RFI), Incremental Fit Index (IFI), Tucker-Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA). Internal consistency of the H-Sat Scale was measured using Cronbach's alpha (α), McDonald's omega (ω), and Guttmann's lambda ($\lambda6$) coefficients. Furthermore, a detailed network analysis was conducted in JASP 0.18.01 to visually illustrate the relationships between variables. Teacher Sense of Efficacy Scale (TSES), The Generalized Anxiety Disorder-7 (GAD-7), The Utrecht Work Engagement Scale (UWES) and The Job Satisfaction Scale.

RESULT AND DISCUSSION

To evaluate the factor structure and psychometric soundness of the Azerbaijani adaptation of the Teacher Sense of Efficacy Scale (TSES), a Confirmatory Factor Analysis (CFA) was conducted. The results supported the three-factor model originally proposed by Tschannen-Moran and Woolfolk Hoy (2001), indicating that the scale's dimensional structure was largely retained in the Azerbaijani context.

The initial model demonstrated an acceptable but not optimal fit: $\chi^2/df = 3.283$, CFI = .939, TLI = .922, RFI = .891, IFI = .940, NFI = .916, RMSEA = .088. According to conventional criteria (Hu & Bentler, 1999; Kline, 2016), values of CFI and TLI above .90 and RMSEA below .08 indicate adequate fit. Although the indices exceeded the .90 threshold for most measures, the RMSEA value was slightly above the recommended cut-off, suggesting room for improvement in overall model fit.

All items demonstrated statistically significant factor loadings in the Azerbaijani version (Figure 1). Specifically, all loadings exceeded the recommended .30 threshold (Kline, 1994), ranging from .66 to .78 for 12 items, which reflects moderate to strong associations with their respective factors. Loadings above .60 are generally considered strong, whereas values between .30 and .59 represent moderate associations. These results confirm the structural validity of the scale, supporting the retention of all items.

The CFA results provide empirical evidence that the three-factor structure of the TSES is applicable in the Azerbaijani context. Despite minor limitations in model fit, the findings justify the use of the adapted scale for measuring teacher self-efficacy in Azerbaijan.
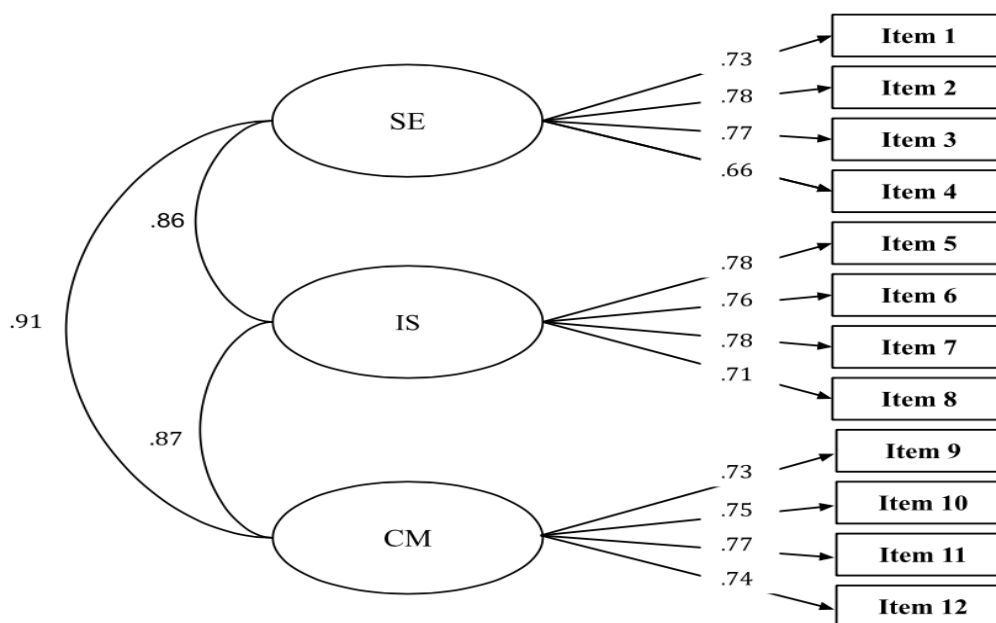
Ulkar Zalova Nuriyeva[1], Prof. Bakhtiya Aliyev[2], Dr. Elnur Rustamo[3], Rahila Mammadova[4], Aysel Naghiyeva[5], Fatima Dadashzada[6] / Educational Psychology 14 (2) (2025)

Figure 1. Confirmatory factor analysis of the Teacher Sense of Efficacy Scale (TSES)

Following the Confirmatory Factor Analysis (CFA), the Graded Response Model (GRM) within the Item Response Theory (IRT) framework was employed to further evaluate the psychometric properties of the Azerbaijani version of the Teacher Sense of Efficacy Scale (TSES). Consistent with psychometric expectations, all items demonstrated discrimination parameters (α) greater than 1, ranging from 1.78 (Item 1) to 2.91 (Item 10) (Table 2). According to Baker's (2001) classification, values above 1.0 indicate strong discriminative capacity, and the present findings confirm that each of the 12 items exhibits high discriminative power. In particular, Item 10 showed the highest discrimination ($\alpha = 2.91$), while Items 1 and 11–12, although comparatively lower, still fell well within the strong discrimination range ($\alpha = 1.78$–1.91).

Moreover, all item discrimination parameters were statistically significant (Z = 9.70–10.30, p < .001), providing robust evidence that the items reliably differentiate between individuals with varying levels of teacher self-efficacy. Overall, these results demonstrate that the Azerbaijani-TSES consists of items with adequate difficulty coverage and strong discrimination indices, supporting its validity as a reliable instrument for assessing teachers' self-efficacy in the Azerbaijani context.

Table 2. Item Response Theory Estimaties for TSES

Item	α coefficient	z	P > |z|
Item 1	1.78	9.71	0.001
Item 2	1.86	9.76	0.001
Item 3	2.17	9.87	0.001
Item 4	2.17	10.07	0.001
Item 5	2.02	9.86	0.001
Item 6	2.15	9.98	0.001
Item 7	2.07	10.01	0.001
Item 8	2.25	10.30	0.001

Item 9	2.16	10.25	0.001
Item 10	2.91	9.70	0.001
Item 11	1.91	10.01	0.001
Item 12	1.90	9.90	0.001

The internal consistency of the Azerbaijani adaptation of the Teachers' Self-Efficacy Scale was evaluated using McDonald's ω, Cronbach's α, and Guttman's λ6. Results indicated excellent reliability, with McDonald's ω = 0.926, Cronbach's α = 0.925, and Guttman's λ6 = 0.930. All values exceeded the recommended threshold of 0.90, demonstrating strong homogeneity among items. According to Nunnally and Bernstein (1994), reliability coefficients above 0.70 are considered acceptable, while values greater than 0.90 indicate high reliability. These findings confirm that the adapted scale possesses excellent internal consistency and is suitable for use in the Azerbaijani educational context.

Table 3. Reability Analysis of TSES

Estimate	McDonald`s ω	Cronbach`s α	Guttman`s λ6
Point estimate	0.926	0.925	0.930
95% CI lower bound	0.913	0.912	0.918
95% CI upper bound	0.938	0.937	0.946

To examine the concurrent validity of the Azerbaijani-adapted Teacher Sense of Efficacy Scale (TSES), Pearson correlation coefficients were calculated between the TSES total score and its three subscales — Efficacy in Instructional Strategies, Efficacy in Classroom Management, and Efficacy in Student Engagement — and three criterion measures: subscales of work engagement (UWES) — vigor, dedication and absorption —, job satisfaction, and anxiety (GAD-7). Descriptive statistics for all study variables are presented in Table 4. The TSES total score and subscale scores demonstrated adequate variability, indicating suitability for correlation analysis.

Table 4. Concurrent valitidy of subscales of TSES

Variable	M	Sd	1	2	3	4	5	6	7	8
1. TSES total	6.86	1.36	-	-	-	-	-	-	-	-
2. ESE	6.86	1.48	.883**	-	-	-	-	-	-	-
3. EIS	6.97	1.44	.875**	.674**	-	-	-	-	-	-
4. ECM	6.76	1.56	.914**	.729**	.798**	-	-	-	-	-
5. JSS	3.77	0.65	.355**	.346**	.301**	.297**	-	-	-	-
6. GAD-7	0.91	0.53	.219**	.255**	.166**	.172**	.409**	-	-	-
7. VS	4.73	1.09	.578**	.543**	.491**	.526**	.511**	-.474**	-	-
8. DS	5.10	1.06	.563**	.522**	.507**	.491**	.531**	-.435**	.767**	-
9. AS	4.63	1.12	.532**	.458**	.488**	.485**	.393*	-.349**	.775**	.720**

** p < .01

Note: TSES - Teacher Self-Efficacy Scale, ESE - Efficacy in Student Engagement, EIS - Efficacy in Instructional Strategies, ECM - Efficacy in Classroom Management, JSS - Job satisfaction Scale, GAD-7 - Generalized Anxiety Disorder, VS - Vigor Scale, DS - Dedication Scale, AS - Absorption Scale

Ulkar Zalova Nuriyeva[1], Prof. Bakhtiya Aliyev[2], Dr. Elnur Rustamo[3], Rahila Mammadova[4], Aysel Naghiyeva[5], Fatima Dadashzada[6] / Educational Psychology 14 (2) (2025)

The total TSES score exhibited strong positive correlations with its three subscales (r = .875–.914, p < .001), thereby confirming the internal consistency of the measure. Moreover, significant positive associations were observed between TSES subscale — EIS (r = .301, 95% CI [.189,.404]), ESE (r = .346, 95% CI [.238,.446]), ECM (r = .297, 95% CI [.185,.401]) — and job satisfaction (r = .301–.355, p < .001), as well as with all dimensions of work engagement (Vigor: r = .491–.578; Dedication: r = .491–.563; Absorption: r = .458–.532, all p < .001). These findings converge with prior evidence indicating that teachers who report higher self-efficacy also tend to experience stronger engagement with their work and greater job satisfaction (Caprara et al., 2003; Klassen et al., 2009).

In contrast, TSES subscales — EIS (r = .-166, 95% CI [-.279, -.049]), ESE (r = -.255, 95% CI [-.362, -.141]), ECM (r = - .172, 95% CI [-.285,-.056]) — demonstrated significant negative correlations with GAD-7, suggesting that greater self-efficacy is associated with lower levels of anxiety symptoms. This inverse relationship is consistent with Bandura's (1997) theoretical framework, which posits that individuals with strong efficacy beliefs exhibit greater psychological resilience and reduced vulnerability to stress.

Overall, the pattern of correlations—positive with job satisfaction and work engagement, and negative with anxiety—provides compelling evidence for the concurrent validity of the Azerbaijani adaptation of the TSES.
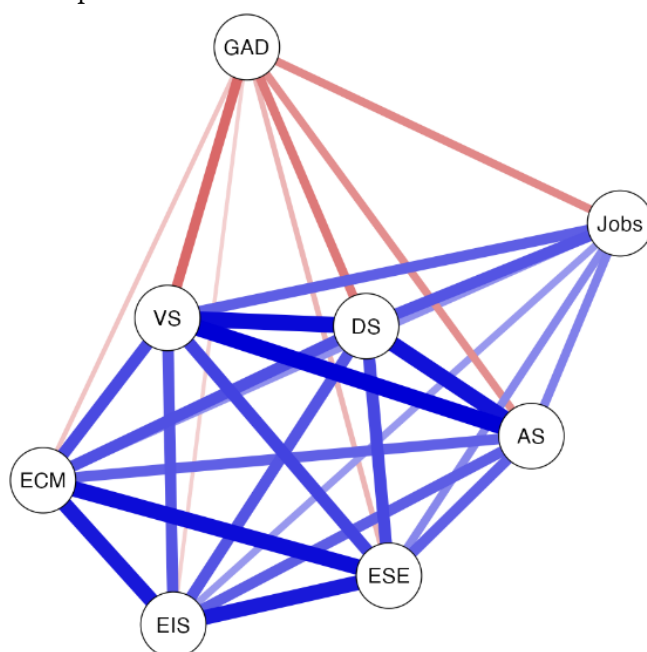

Figure 2. Networking analysis of TSES

Figure 2 presents the results of the network analysis, highlighting the links between the dimensions of TSES and other variables. The subscales of TSES showed robust associations with job satisfaction, anxiety, and three subscales of work engagement, emphasizing the strong interconnections among these constructs.

Discussion

In recent years, teacher self-efficacy has attracted growing scholarly attention due to its critical role in shaping instructional practices, classroom management, teacher resilience, and ultimately student outcomes. Teachers with strong self-efficacy beliefs are generally more adaptive, effective, and persistent when facing pedagogical challenges. Despite its significance, limited empirical work has examined teacher self-efficacy in Azerbaijan using culturally adapted and psychometrically validated instruments. To address this gap, the present study aimed to adapt a widely used Teacher Self-Efficacy Scale into the Azerbaijani language and evaluate its psychometric properties, including construct validity and reliability, within a sample of Azerbaijani teachers.

Ulkar Zalova Nuriyeva[1], Prof. Bakhtiya Aliyev[2], Dr. Elnur Rustamo[3], Rahila Mammadova[4], Aysel Naghiyeva[5], Fatima Dadashzada[6] / Educational Psychology 14 (2) (2025)

The factorial structure of the Azerbaijani version was examined through Confirmatory Factor Analysis (CFA). Findings demonstrated consistency with the original scale (Gálvez-Nieto, 2023), with all item loadings exceeding the recommended threshold of 0.30, indicating adequate representation of the underlying construct. Model fit indices further supported the structural validity of the 12-item adaptation, showing satisfactory levels of fit and alignment with the results of prior validation studies (Ansley et al., 2020). Thus, the Azerbaijani version preserved the theoretical and empirical integrity of the original scale.

In the Item Response Theory (IRT) analysis, the reliability and model fit of all items were evaluated. To our knowledge, this represents the first application of IRT to the Teacher Sense of Efficacy Scale (TSES) in the Azerbaijani context. All item discrimination values were above 1.0, exceeding the threshold identified by Baker (2001) as indicative of strong discriminative capacity. Notably, eight items surpassed a value of 2.0, reflecting particularly high distinguishing power. Moreover, the IRT results confirmed that the items adequately covered a broad range of difficulty levels, supporting their utility in assessing teacher efficacy across varying ability levels. These findings suggest that the Azerbaijani adaptation of the TSES demonstrates sound psychometric properties under IRT. Nevertheless, future research may benefit from examining the invariance of these parameters across different teaching subgroups to further strengthen the evidence base.

Reliability analyses assessed the internal consistency of the scale using Cronbach's α (Cronbach, 1951), McDonald's ω (McDonald, 1999), and Guttman's λ6 (Guttman, 1945). According to Nunnally and Bernstein (1978), reliability coefficients above 0.70 are acceptable, while values exceeding 0.90 indicate excellent reliability. In this study, all coefficients surpassed these thresholds, demonstrating strong internal consistency and supporting the scale's capacity to measure teachers' self-efficacy reliably in the Azerbaijani context.

To further establish validity, associations were examined between the Teacher Self-Efficacy Scale (TSES) and theoretically related constructs, including anxiety, work engagement, and job satisfaction. Consistent with prior research, self-efficacy was negatively associated with anxiety symptoms, frequently assessed by the Generalized Anxiety Disorder-7 (GAD-7) scale (Rao & Hong, 2021). Teachers reporting lower efficacy beliefs were more vulnerable to anxiety, particularly in high-stress educational environments, which in turn undermined their resilience, motivation, and openness to innovative teaching strategies. Conversely, higher self-efficacy functioned as a protective factor, buffering against emotional exhaustion and depersonalization (Bantea, 2017).

Additionally, self-efficacy was positively associated with work engagement, as measured by the Utrecht Work Engagement Scale (UWES). Teachers who perceived themselves as competent and effective reported higher levels of vigor, dedication, and absorption, suggesting that self-efficacy enhances meaningful involvement in teaching tasks. Parallel to this, positive correlations emerged with job satisfaction, a construct crucial not only for individual well-being but also for organizational outcomes such as teacher retention, student achievement, and overall school climate.

Limitation

This study has several limitations that warrant consideration. First, the sample was limited to teachers from Baku and nearby areas, restricting the generalizability of findings to other regions of Azerbaijan. Future studies should include more diverse geographical contexts. Second, most participants were women, suggesting that a more balanced gender distribution would provide a fuller understanding of self-efficacy across demographic groups. Third, the exclusive use of online data collection limited participation to individuals with internet access, potentially underrepresenting teachers in rural or resource-constrained areas. Employing mixed data collection methods would enhance representativeness.

Despite these constraints, this study makes an important contribution by validating the Teacher Self-Efficacy Scale in the Azerbaijani context. Future research could adopt longitudinal or mixed-methods designs to capture changes in self-efficacy over time and provide richer insights into teachers' experiences.

Conclusion

Findings indicate that the Azerbaijani adaptation of the TSES is a psychometrically sound instrument with robust construct validity, excellent internal consistency, and strong concurrent

validity. Beyond its methodological contribution, the scale provides a valuable framework for examining how teachers' beliefs about their professional competence intersect with psychological well-being, motivation, and job-related attitudes. Given the increasing demands and emotional challenges in contemporary educational systems, such insights are particularly relevant for informing teacher training, professional development, and policy in Azerbaijan.

REFERENCES

Ansley, B. M., Houchins, D. E., Varjas, K., Roach, A., Patterson, D., & Hendrick, R. (2020). The impact of an online stress intervention on burnout and teacher efficacy. Teaching and Teacher Education, 94, 103251. https://doi.org/10.1016/j.tate.2020.103251

Armor, D. J., Conry-Oseguera, P., Cox, M., King, N., McDonnell, L., Pascal, A., Pauly, E., & Zellman, G. (1976). *Analysis of the School Preferred Reading Program in Selected Los Angeles Minority Schools*. Santa Monica, CA: RAND Corporation. R-2007-LAUSD. https://www.rand.org/pubs/reports/R2007.html

Avanzi, L., Miglioretti, M., Velasco, V., Balducci, C., Vecchio, L., Fraccaroli, F., & Skaalvik, E. M. (2018). Reciprocal relations between self-efficacy beliefs and teacher burnout: A longitudinal study. *Frontiers in Psychology, 9*, 1–10. https://doi.org/10.3389/fpsyg.2018.00001

Balcı, A. (2001). *Etkili okul ve okul geliştirme. Ankara: Pegema Yayıncılık.*

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, 28(2), 117–148. https://doi.org/10.1207/s15326985ep2802_3

Bandura, A. (1997). *Self-efficacy: The exercise of control.* New York: Freeman.

Bandura, A. (2002). Self-efficacy assessment. In R. Fernandez-Ballesteros (Ed.), *Encyclopedia of psychological assessment*. London: Sage Publications.

Bümen, N. T. (2009). İlk ve Ortaöğretim Öğretmenlerinin Özyeterlik İnançlarının İncelenmesi: İzmir İli Örneği, 18. Ulusal Eğitim Bilimleri Kurultayı. *İnternetten* 18 Eylül 2010 tarihinde əldə edilmişdir: http://www.pegem.net/akademi/kongrebildiri_detay.aspx?id=101344

Caprara, G. V., Barbaranelli, C., Steca, P., & Malone, P. S. (2006). Teachers' self-efficacy beliefs as determinants of job satisfaction and students' academic achievement: A study at the school level. *Journal of School Psychology*, 44(6), 473–490.

Gálvez-Nieto, J. L., Salvo-Garrido, S., Domínguez-Lara, S., Polanco-Levicán, K., & Mieres-Chacaltana, M. (2023). Psychometric properties of the Teachers' Sense of Efficacy Scale in a sample of Chilean public school teachers. *Frontiers in Psychology, 14*, 1272548. https://doi.org/10.3389/fpsyg.2023.1272548

Gibson, S., & Dembo, M. (1984). Teacher efficacy: A construct validation. *Journal of Educational Psychology*, 76(4), 569–582. https://doi.org/10.1037/0022-0663.76.4.569

Goddard, R. D., Hoy, W. K., & Woolfolk-Hoy, A. (2000). Collective teacher efficacy: Its meaning, measure, and impact on student achievement. *American Educational Research Journal*, 37(2), 479–507. https://doi.org/10.3102/00028312037002479

Guttman, L. (1945). A basis for analyzing test-retest reliability. *Psychometrika*, 10(4), 255–282. https://doi.org/10.1007/BF02288892

Işık, A., & Derinbay, D. (2015). Turkish version of the Principals' Sense of Efficacy Scale: Validity and reliability study. *Eurasian Journal of Educational Research, 60*, 1–16. https://doi.org/10.14689/ejer.2015.60.1

Klassen, R. M., & Chiu, M. M. (2010). Effects on teachers' self-efficacy and job satisfaction: Teacher gender, years of experience, and job stress. *Journal of Educational Psychology, 102*(3), 741–756. https://doi.org/10.1037/a0019237

Klassen, R. M., & Chiu, M. M. (2010). Effects on teachers' self-efficacy and job satisfaction: Teacher gender, years of experience, and job stress. *Journal of Educational Psychology*, 102(3), 741–756.

Mccallum, F., & Price, D. (2010). Well teachers, well students. *The Journal of Student Wellbeing*, 4(1), 19–34. https://doi.org/10.21913/JSW.v4i1.599

McDonald, R. P. (1999). *Test theory: A unified treatment*. Lawrence Erlbaum Associates.

Nahmatova, U., Aliyeva, M., Rustamova, N., & Zalova Nuriyeva, U. (2024). The Azerbaijani adaptation of the Utrecht Work Engagement Scale: Investigating its influence on psychological distress and life-job satisfaction. *Technium Social Sciences Journal, 63*, 35–46. https://doi.org/10.47577/tssj.v63i1.11801

Narkun, Z., & Smogorzewska, J. (2023). Studying self-efficacy among teachers in Poland is important: Polish adaptation of the Teacher Efficacy for Inclusive Practice (TEIP) Scale. *Exceptionality Education International, 29*(2). https://doi.org/10.5206/eei.v29i2.9405

Nie, Y., Hong, J., Monobe, G., Zheng, G., Kambara, H., & You, S. (2015). Cross-cultural validation of Teachers' Sense of Efficacy Scale in three Asian countries: Test of measurement invariance. *Journal of Psychoeducational Assessment, 33*(8), 757–769. https://doi.org/10.1177/0734282915574021

Nunnally, J. C., & Bernstein, I. H. (1978). *Psychometric theory* (2nd ed.). McGraw-Hill.

Nunnally, J. C., & Bernstein, I. H. (1978). *Psychometric theory* (2nd ed.). McGraw-Hill. Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297–334. https://doi.org/10.1007/BF02310555

Pianta, R. C. (1999). *Enhancing relationships between children and teachers*. Washington: American Psychological Association. (Kitab olduğu üçün DOI yoxdur. Əlavə link: https://psycnet.apa.org/record/1998-08193-000)

Rao, N., & Hong, J. Y. (2021). Teacher self-efficacy and anxiety: The mediating role of emotion regulation. *Teaching and Teacher Education*, 101, 103305.

Riggs, I., & Enochs, L. (1990). Toward the development of an elementary teacher's science teaching efficacy belief instrument. *Science Education*, 74(6), 625–637. https://doi.org/10.1002/sce.3730740605

Salas-Rodríguez, F., Lara, S., & Martínez, M. (2021). Spanish version of the Teachers' Sense of Efficacy Scale: An adaptation and validation study. *Frontiers in Psychology, 12*, 714145. https://doi.org/10.3389/fpsyg.2021.714145

Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two-sample confirmatory factor analytic approach. *Journal of Happiness Studies*, 3(1), 71–92.

Schaufeli, W., Salanova, M., Gonzalez-Roma, V. and Bakker, A. (2002) The Measurement of Engagement and Burnout: A Two Sample Confirmatory Factor Analytic Approach. *Journal of Happiness Stadies, 3*, 71-92.

Shao, M., Muhamad, M. M., Razali, F., Mohd Nasiruddin, N. J., Sha, X., & Yin, G. (2025). The Chinese adaptation of the Teachers' Sense of Efficacy Scale in early childhood pre-service teachers: Validity, measurement invariance, and reliability. *Behavioral Sciences, 15*(3), 329. https://doi.org/10.3390/bs15030329

Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of Internal Medicine, 166*(10), 1092–1097. https://doi.org/10.1001/archinte.166.10.1092

Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education*, 17(7), 783–805.

Wilson, P. (2017). People meet in a classroom and say 'Hello': A psychoanalytic perspective on the emotional relationship between the teacher and student. In D. Colley & P. Cooper (Eds.), *Attachment and Emotional Development in the Classroom* (pp. 153-165). *London and Philadelphia: Jessica Kingsley Publishers*.

Zee, M., & Koomen, H. M. Y. (2016). Teacher self-efficacy and its effects on classroom processes, student academic adjustment, and teacher well-being: A synthesis of 40 years of research. *Review of Educational Research, 86*(4), 981–1015. https://doi.org/10.3102/0034654315626801