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RESEARCH PAPER

# Teacher Self-Efficacy as a Predictor of Job Satisfaction: A Meta-Analytic Investigation

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**ABSTRACT**

This study estimated the average relationship between teacher self-efficacy and job satisfaction, limited to published correlational studies of teachers. Teachers who feel capable usually report greater satisfaction. Reported strength of this link varies widely across studies. This quantitative study was a meta-analysis replicating and extending an earlier review. The population comprised published studies of teachers from pre-school to university. The sample combined that review's studies with several recent ones. Correlations were pooled with a random-effects model. Sensitivity and moderator analyses checked robustness. Self-efficacy and job satisfaction were moderately and positively related. The estimate remained stable when individual or very large studies were removed. Variation between studies was very large, and publication year did not explain it. School leaders should support teachers' sense of competence alongside better working conditions. Future research should use longitudinal designs and systematic searches.

**KEYWORDS** Teacher Self-Efficacy, Job Satisfaction, Meta-Analysis, Replication, Heterogeneity, Teacher Well-Being

## Introduction

Teacher shortages and early exits from the profession have kept teacher job satisfaction on the research agenda for more than two decades. Job satisfaction is the evaluation a person makes of their job (Locke, 1976), and in studies of teachers it is measured as satisfaction with the profession, with the current school, or as a composite of intrinsic and extrinsic facets. Among the personal factors studied alongside it, self-efficacy has probably received the most attention. Bandura (1997) defined self-efficacy as a person's belief in being able to organise and carry out the actions a task requires. For teachers the belief is usually measured in three areas: instructional strategies, classroom management and student engagement (Tschannen-Moran & Woolfolk Hoy, 2001). There are good reasons to expect the two to be related. Teachers who feel able to manage classes and reach students experience more success, and success is satisfying. The influence can also run the other way, because a school with supportive leadership and reasonable workloads gives teachers more chances to succeed and is a more satisfying place to work in any case.

Many studies have examined the relationship between teacher self-efficacy and job satisfaction, but its size is still unsettled. Reported correlations range from −.04 (Reilly et al., 2014) to .71 and above (Aldridge & Fraser, 2016). Most of the variation between studies is real and not due to sampling error, so a single average is not enough for an education system to know what to expect. The most commonly cited average, the 0.41 reported in the latest meta-analysis (Xiao & Zheng, 2025), was computed from Fisher's z values, and the article does not state whether the figure is a correlation or a z value. The best-sampled estimate

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available, from TALIS 2018 (Gouëdard et al., 2023), is only about half that size. Researchers who use the published average as a benchmark, and administrators who rely on it to justify efficacy-building programmes, may therefore be working from a number that is too high for many settings.

The present study replicates and extends the meta-analysis of Xiao and Zheng (2025). Its first objective was to estimate the pooled correlation between teacher self-efficacy and job satisfaction across 44 studies, after re-analysing the 39 published correlations and adding five recent ones. Its second objective was to describe how much the correlations vary between studies and to test whether the variation is related to publication year. Its third objective was to establish whether the pooled estimate is robust to the removal of influential, very large or lower-certainty studies.

The results have practical uses. Researchers planning new studies need an accurate benchmark for power calculations and for judging whether their own correlation is unusual. School leaders and policy makers need to know that an average drawn from other countries may not hold in their own, and the prediction interval puts a number on that uncertainty. The study-level data in Table 2 and the diagnostics reported here should also help authors of later reviews decide which moderators are worth coding.

**Literature Review**

Social cognitive theory gives the main reason for expecting self-efficacy and job satisfaction to be related. Bandura (1997) argued that people who believe they can carry out a task set higher goals, persist longer and recover faster from setbacks. Applied to teaching, the argument is that teachers who trust their ability to instruct, manage a class and engage students (Tschannen-Moran & Woolfolk Hoy, 2001) meet more of the daily successes that feed a favourable evaluation of the job (Locke, 1976). Several primary studies were designed on this basis. Lent et al. (2011) tested a social cognitive model of job and life satisfaction with Italian teachers, and Caprara et al. (2006) treated teachers' self-efficacy beliefs as determinants of job satisfaction at the school level.

The theory does not require that influence runs in one direction only. Satisfied teachers may judge their own competence more favourably, and conditions in the school can raise both at once. Studies in the present data set have examined self-efficacy together with school climate (Aldridge & Fraser, 2016), perceived autonomy (Skaalvik & Skaalvik, 2014), school goal structure (Skaalvik & Skaalvik, 2017), transformational leadership (Yıldız & Şimşek, 2016) and collective efficacy (Fathi & Savadi Rostami, 2018; Stephanou et al., 2013; Viel-Ruma et al., 2010). Others have placed it alongside stress, burnout and emotional exhaustion (Capone & Petrillo, 2020; Capri & Guler, 2018; Høigaard et al., 2012; Reilly et al., 2014; Troesch & Bauer, 2017). Self-efficacy is therefore rarely studied alone, and its zero-order correlation with job satisfaction is usually one entry in a larger correlation matrix.

Primary studies agree on the direction of the association far more than on its size. Among the correlations pooled here, the strongest come from Greece (r = .77; Stephanou et al., 2013), Indonesia (r = .72; Kusumaninggati et al., 2018) and Australia (r = .71; Aldridge & Fraser, 2016). At the other end, Reilly et al. (2014) in Ireland and Demirdag (2015) in the United States found correlations close to zero, and Somech and Drach-Zahavy (2000) reported r = .16 in Israel. Large samples do not settle the matter. Canrinus et al. (2012) found r = .21 among 5,575 teachers in the Netherlands, whereas Caprara et al. (2006) found r = .53 among 2,184 teachers in Italy and Skaalvik and Skaalvik (2014) found r = .41 among 2,569 teachers in Norway.

Three meta-analyses have summarised the evidence. Kalkan (2020) pooled studies published from 2000 to 2018 and found a positive, moderate effect. Kasalak and Dağyar

(2020) meta-analysed country-level results from the TALIS 2008, 2013 and 2018 surveys, covering 426,515 teachers in 50 countries, and found a positive association that differed by survey year. Most recently, Xiao and Zheng (2025) pooled 39 primary studies and reported an average effect of 0.41 with $I^2$ = 97%, together with a stronger association above high-school level than below it.

Relevant studies have continued to appear. Gouëdard et al. (2023) reported r = .22 in the TALIS 2018 data, a sample larger than the 39 studies of the latest meta-analysis combined. Biçer (2023) found r = .234 among 150 teachers of Turkish as a foreign language, Chen (2025) r = .546 among 450 university teachers in western China, Abaide and Razi (2026) r = .49 among 385 university English instructors in Libya, and Zhu et al. (2026) r = .332 among 1,201 Shanghai teachers in TALIS 2024.

The objectives of the present study respond to gaps in the existing syntheses. No prediction interval has been published for this association, so the range of correlations to be expected in a new setting is unknown, and the extent to which the pooled result rests on a handful of extreme studies has not been examined in detail. Small primary studies and large-scale survey data have been synthesised separately (Kasalak & Dağyar, 2020; Xiao & Zheng, 2025), which leaves open whether the two kinds of evidence agree when pooled. University teachers and language teachers outside Europe and North America appear in very few of the pooled samples.

The study differs from earlier work in several respects. It pools the TALIS 2018 correlation together with small primary studies and shows how a pooled result behaves when one study is five times larger than all the others together. The added samples come from settings absent from the earlier data set: university teachers in western China, university English instructors in Libya and teachers of Turkish as a foreign language. The pooled effect is expressed on the correlation scale, which settles the metric of the earlier average, and a prediction interval and study-level influence diagnostics are reported for the first time for this data set.

## Material and Methods

A meta-analysis of correlational studies was conducted as a replication and extension of earlier work. Correlations and sample sizes for 39 studies were taken from Xiao and Zheng (2025, Table 2), whose search covered ERIC, ProQuest, Web of Science and Google Scholar. No new systematic search was carried out.

Five further studies were added (Table 1). These are recent studies known to the author and were not identified through a systematic search, and other eligible studies may exist. A sixth candidate, Zhang et al. (2023), was not pooled because a zero-order correlation between the two total scores could not be confirmed from the article. A provisional value for it (r = .58, N = 982) is used only in a sensitivity analysis. Five other studies known to the author were already in the baseline set (Aldridge & Fraser, 2016; Blackburn et al., 2017; Karabiyik & Korumaz, 2014; Li et al., 2017; Reilly et al., 2014) and were counted once. The review protocol was not registered.

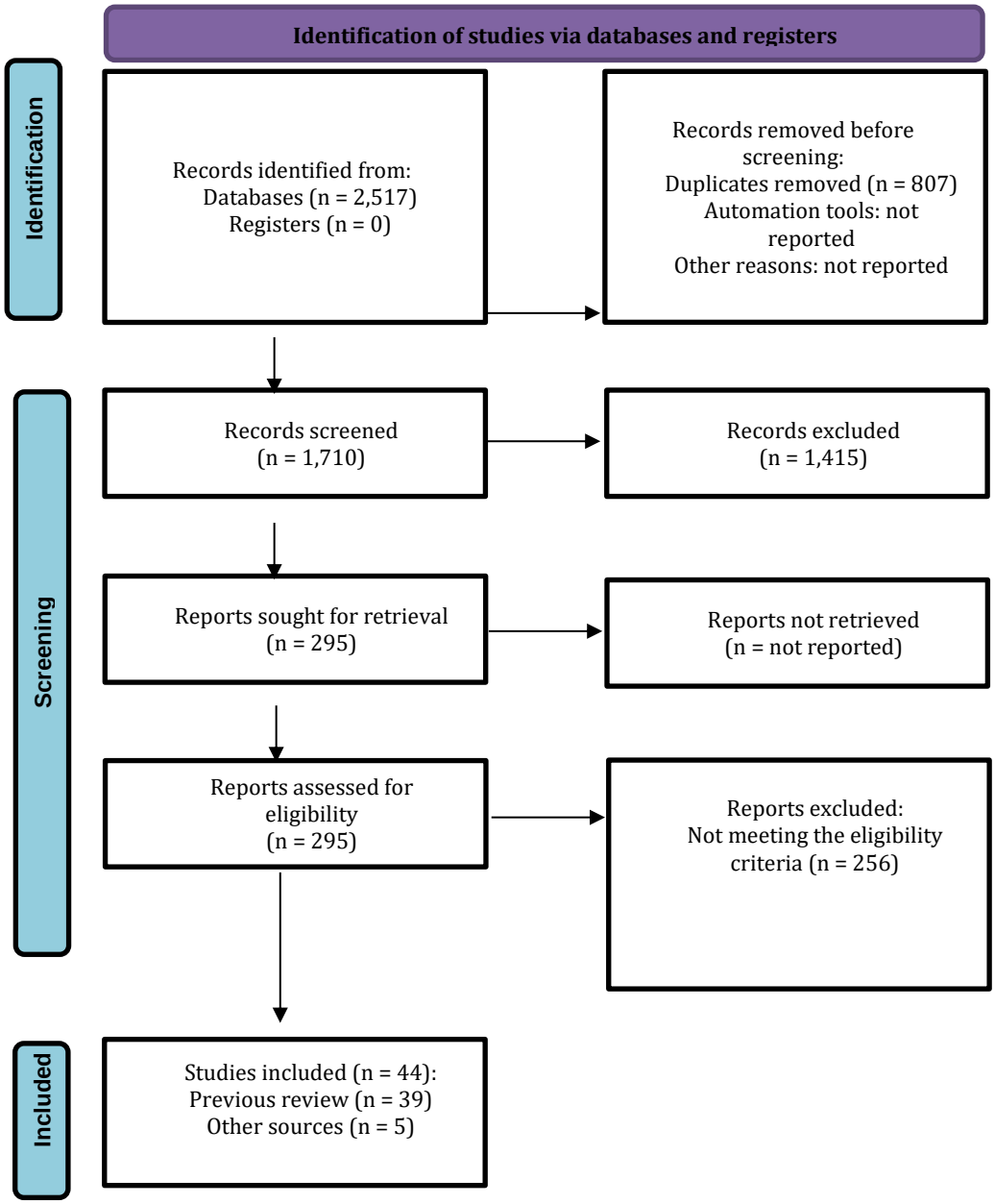



**Figure 1.** PRISMA 2020 flow diagram (template from Page et al., 2021). Counts for identification, screening and eligibility are those reported by Xiao and Zheng (2025) for the previous review. The five added studies were known to the author and were not identified through a database search.

A study was eligible if (a) participants were teachers at any level from pre-school to university; (b) it measured both self-efficacy and job satisfaction with multi-item scales; (c) it reported a zero-order Pearson correlation between the two total scores together with the sample size; and (d) it was written in English. Journal articles and doctoral dissertations were both accepted, as in the baseline review. Path coefficients, regression weights and latent correlations were not used as substitutes for a zero-order correlation.

For each added study, the first author, year, country, teacher population, sample size and correlation were recorded from the article's correlation table or results text. For the baseline studies, the values printed by Xiao and Zheng (2025) were used. As a check on transcription, their analysis was re-run on the 39 transcribed values. This returned Q(38) =

802.07 and an Egger test of t(37) = 1.13, p = .27, identical to the figures in their article, so the baseline data used here match the data analysed in that review.

One entry needed closer attention. In Chen (2025) the correlation table and the results text both give r = .546 for self-efficacy and job satisfaction; a different value (.467) appears in that article's discriminant-validity table, which is not a matrix of zero-order correlations, so .546 was used.

Possible overlap between samples was checked. Gouëdard et al. (2023) used TALIS 2018 and Zhu et al. (2026) used the Shanghai sample of TALIS 2024; these are different survey cycles with different respondents. The two studies by Skaalvik and Skaalvik (2014, 2017) report different samples of Norwegian teachers. As a precaution, a sensitivity analysis removed the later study of each pair that shared a country and research group or survey programme.

**Table 1**
Studies added to the baseline set

| Study | Country | Population | N | r | Source in article |
|---|---|---|---|---|---|
| Gouëdard et al. (2023) | Cross-country | School teachers, TALIS 2018 | 125,321 | .220 | Table 2 |
| Biçer (2023) | Multiple | Teachers of Turkish as a foreign language | 150 | .234 | Table 3 |
| Chen (2025) | China | University teachers | 450 | .546 | Table 1 and text |
| Abaide & Razi (2026) | Libya | University English instructors | 385 | .490 | Table 8 |
| Zhu et al. (2026) | China (Shanghai) | School teachers, TALIS 2024 | 1,201 | .332 | Results text |

Note. Biçer (2023) measured general rather than teaching-specific self-efficacy.

Each correlation was converted with Fisher's transformation, $z = 0.5 \times \ln[(1 + r)/(1 - r)]$, with sampling variance $1/(N - 3)$. Pooled values and interval limits were converted back with $r = \tanh(z)$ for reporting (Borenstein et al., 2009).

A random-effects model was fitted because the studies come from different countries, school levels and instruments and cannot be assumed to share one true correlation. The between-study variance $\tau^2$ was estimated by restricted maximum likelihood. Tests and confidence intervals used the Knapp-Hartung adjustment (Knapp & Hartung, 2003). Heterogeneity was described with Q, $I^2$ (Higgins & Thompson, 2002) and a 95% prediction interval (IntHout et al., 2016).

Robustness was checked in five ways: (1) leave-one-out re-estimation; (2) studentized deleted residuals to identify outlying studies (Viechtbauer & Cheung, 2010); (3) exclusion of studies or groups of studies chosen before the analysis, namely the TALIS 2018 sample, the four dissertations and possibly overlapping samples; (4) inclusion of Zhang et al. (2023) with its provisional value; and (5) a comparison of the baseline studies with the added ones. Publication year was tested as a continuous moderator in a mixed-effects meta-regression. Small-study effects were assessed with a funnel plot, a regression test with the standard error as predictor in the random-effects model, the rank correlation test (Begg & Mazumdar, 1994) and, for comparison with the baseline review, the classical Egger test (Egger et al., 1997). Analyses were run with a script in Python (NumPy and SciPy). The model that includes the provisional study was also run in JASP and gave identical results.

## Results and Discussion

The 44 studies were published between 2000 and 2026 and include 149,074 teachers; without the TALIS 2018 sample the total is 23,753. Sample sizes ranged from 14 to 125,321 (median 293). Twenty countries are represented by single-country samples, most often the United States (8 studies), Türkiye (6) and Italy (5), and two studies drew on several countries. Four baseline studies are doctoral dissertations. Correlations ranged from −.04 to .77 with a median of .34, and 42 of the 44 were positive. Study-level data are given in Table 2.

**Table 2**
**Correlations and sample sizes of the 44 included studies**

| Study | Country | N | r | Set |
|---|---|---|---|---|
| Akomolafe & Ogunmakin (2014) | Nigeria | 398 | .260 | Baseline |
| Aldridge & Fraser (2016) | Australia | 781 | .710 | Baseline |
| Avanzi et al. (2013) | Italy | 348 | .350 | Baseline |
| Barouch Gilbert et al. (2014) | Dominican Republic | 75 | .290 | Baseline |
| Blackburn et al. (2017) | USA | 105 | .550 | Baseline |
| Briones et al. (2010) | Spain | 68 | .260 | Baseline |
| Burić & Moè (2020) | Croatia | 536 | .460 | Baseline |
| Çevik (2017) | Türkiye | 358 | .330 | Baseline |
| Canrinus et al. (2012) | Netherlands | 5,575 | .210 | Baseline |
| Capone & Petrillo (2020) | Italy | 285 | .520 | Baseline |
| Caprara et al. (2006) | Italy | 2,184 | .530 | Baseline |
| Capri & Guler (2018) | Türkiye | 452 | .270 | Baseline |
| Cayupe et al. (2023) | Peru | 300 | .420 | Baseline |
| Demir (2020) | Türkiye | 321 | .250 | Baseline |
| Demirdag (2015) | USA | 208 | −.010 | Baseline |
| Didonna (2018) | USA | 122 | .260 | Baseline |
| Fathi & Savadi Rostami (2018) | Iran | 312 | .550 | Baseline |
| Høigaard et al. (2012) | Norway | 192 | .300 | Baseline |
| Karabiyik & Korumaz (2014) | Türkiye | 83 | .270 | Baseline |
| Kennedy (2014) | USA | 110 | .350 | Baseline |
| Kusumaninggati et al. (2018) | Indonesia | 172 | .720 | Baseline |
| Lent et al. (2011) | Italy | 235 | .370 | Baseline |
| Li et al. (2017) | China | 352 | .420 | Baseline |
| Moè et al. (2010) | Italy | 399 | .330 | Baseline |
| Ortan et al. (2021) | Romania | 658 | .420 | Baseline |
| Renbarger & Davis (2019) | USA | 226 | .290 | Baseline |
| Rincon (2018) | USA | 14 | .540 | Baseline |
| Reilly et al. (2014) | Ireland | 121 | −.040 | Baseline |
| Safari et al. (2020) | Iran | 212 | .640 | Baseline |
| Skaalvik & Skaalvik (2014) | Norway | 2,569 | .410 | Baseline |
| Skaalvik & Skaalvik (2017) | Norway | 760 | .330 | Baseline |
| Somech & Drach-Zahavy (2000) | Israel | 251 | .160 | Baseline |
| Song et al. (2020) | China | 1,525 | .300 | Baseline |
| Stephanou et al. (2013) | Greece | 268 | .770 | Baseline |
| Troesch & Bauer (2017) | Switzerland | 193 | .360 | Baseline |
| Viel-Ruma et al. (2010) | USA | 70 | .290 | Baseline |
| Watts (2013) | USA | 171 | .380 | Baseline |
| Yıldırım (2015) | Türkiye | 306 | .300 | Baseline |
| Yıldız & Şimşek (2016) | Türkiye | 252 | .550 | Baseline |
| Gouëdard et al. (2023) | Cross-country (TALIS 2018) | 125,321 | .220 | Added |
| Chen (2025) | China | 450 | .546 | Added |
| Abaide & Razi (2026) | Libya | 385 | .490 | Added |
| Biçer (2023) | Multiple countries | 150 | .234 | Added |
| Zhu et al. (2026) | China (Shanghai) | 1,201 | .332 | Added |

Note. Baseline = values taken from Xiao and Zheng (2025, Table 2). Added = extracted from the primary article for the present study. The pooled effect was z = 0.412 (SE = 0.033), t(43) = 12.59, p < .001, which corresponds to r = .390, 95% CI [.333, .444] (Table 3, Figure 2). By Cohen's (1988) benchmarks this lies between a medium and a large correlation; the two variables share about 15% of their variance.

The 39 baseline studies alone gave z = 0.414, or r = .392 [.329, .452]. The value of 0.41 reported by Xiao and Zheng (2025) therefore appears to be on the Fisher's z scale, and the five added studies moved the estimate by .002. The added studies on their own gave r = .373 [.172, .544], which did not differ from the baseline set, F(1, 42) = 0.05, p = .825.

**Table 3**
**Random-effects meta-analysis of 44 studies**

| Statistic | Value |
|---|---|
| Studies (k); participants (N) | 44; 149,074 |
| Pooled Fisher's z (SE) | 0.412 (0.033) |
| 95% CI for z | [0.346, 0.478] |
| Pooled r [95% CI] | .390 [.333, .444] |
| Test of pooled effect | t(43) = 12.59, p < .001 |
| Heterogeneity | Q(43) = 1405.32, p < .001 |
| $I^2$ | 97.7% |
| $\tau^2$ ($\tau$) | 0.042 (0.206) |
| 95% prediction interval, z | [−0.009, 0.833] |
| 95% prediction interval, r | [−.009, .682] |

Note. Restricted maximum likelihood estimation with Knapp-Hartung adjustment.

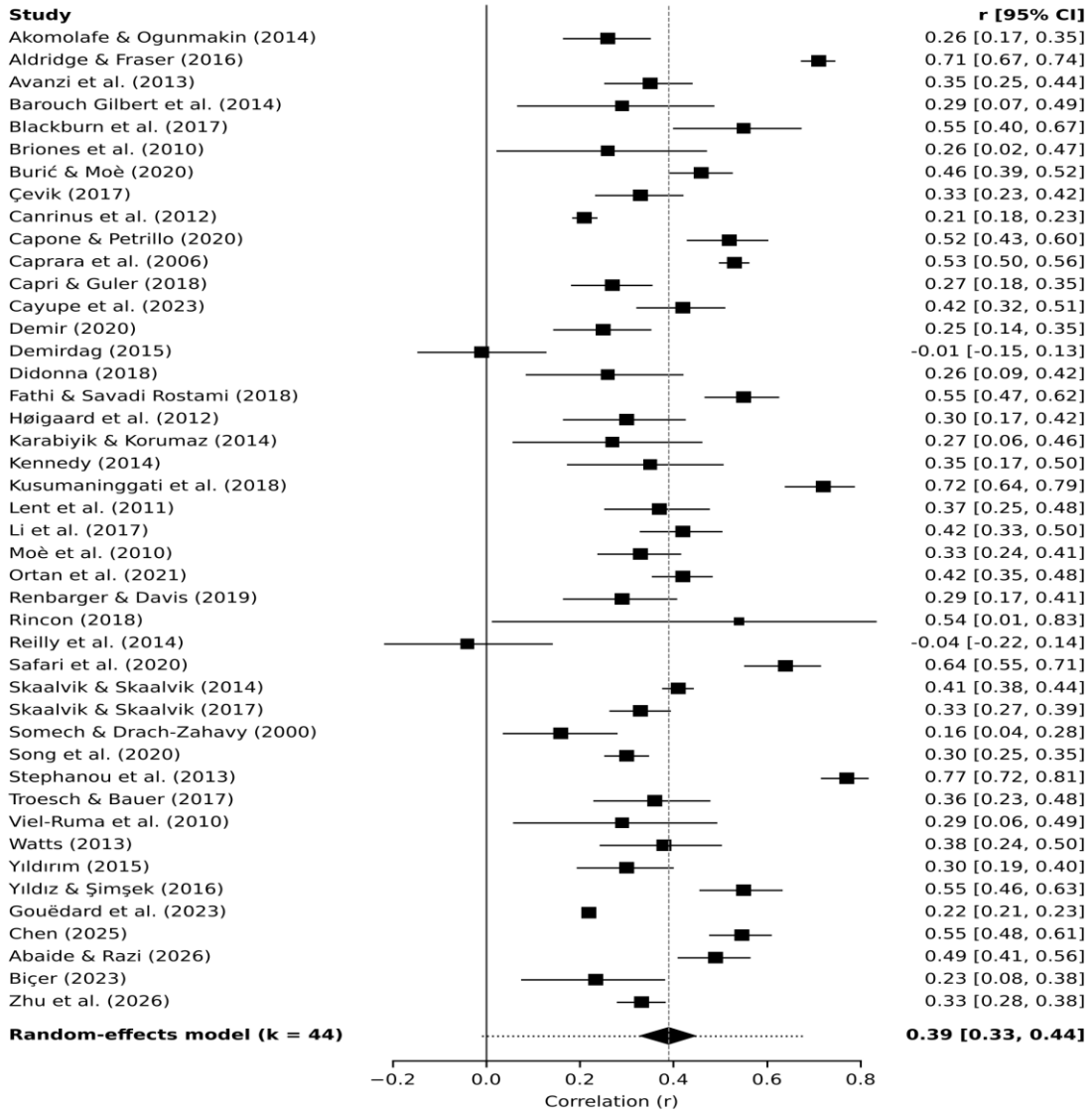



**Figure 2.** Forest plot of the 44 correlations. Squares are study estimates with 95% confidence intervals, sized by random-effects weight. The diamond is the pooled estimate and the dotted line its 95% prediction interval.

About 98% of the observed variance in the correlations reflects real differences between studies. Neither publication year nor the removal of any study or group of studies reduced it appreciably. No other moderators were coded, so the source of the variation is unknown.

Removing one study at a time produced pooled correlations between .378 (without Stephanou et al., 2013) and .398 (without Demirdag, 2015), and $I^2$ stayed between 95.6% and 97.8%. Five studies had studentized deleted residuals beyond ±1.96: Stephanou et al. (2013; 3.16), Aldridge and Fraser (2016; 2.45) and Kusumaninggati et al. (2018; 2.39) on the high side, and Reilly et al. (2014; −2.09) and Demirdag (2015; −2.03) on the low side. These studies pull in opposite directions and largely offset one another. None was removed from the main analysis because there was no evidence of an error in any of these studies.

Table 4 shows the planned analyses. None moved the pooled correlation by more than .012. Leaving out the TALIS 2018 sample lowered Q from 1405 to 838 but left $I^2$ at 95.6%, so the heterogeneity is not produced by that one study. Adding Zhang et al. (2023) with the provisional value raised the estimate to .395.

**Table 4**
**Sensitivity analyses**

| Analysis | k | r [95% CI] | $I^2$ | 95% PI (r) |
|---|---|---|---|---|
| All studies | 44 | .390 [.333, .444] | 97.7% | [−.009, .682] |
| Baseline studies only | 39 | .392 [.329, .452] | 95.8% | [−.023, .692] |
| Added studies only | 5 | .373 [.172, .544] | 96.8% | [−.124, .720] |
| Without Gouëdard et al. (2023) | 43 | .394 [.336, .449] | 95.6% | [−.006, .685] |
| Without Stephanou et al. (2013) | 43 | .378 [.325, .428] | 97.2% | [.019, .650] |
| Without dissertations | 40 | .392 [.330, .451] | 98.0% | [−.023, .692] |
| Without possible overlapping samples | 42 | .393 [.333, .450] | 97.8% | [−.017, .690] |
| With Zhang et al. (2023), r = .58 | 45 | .395 [.338, .449] | 97.8% | [−.005, .686] |

Note. PI = prediction interval. Dissertations: Didonna (2018), Kennedy (2014), Rincon (2018), Watts (2013). Possible overlapping samples: Skaalvik and Skaalvik (2017) and Zhu et al. (2026). Publication year was not related to effect size, b = 0.007 per year (SE = 0.006), F(1, 42) = 1.17, p = .285. Year accounted for none of the between-study variance, and residual heterogeneity remained very large, QE(42) = 1086.67, p < .001.The funnel plot (Figure 3) is widely scattered at every level of precision, as expected when heterogeneity is high. The regression test with the standard error as predictor was not significant, F(1, 42) = 0.05, p = .821, nor was the rank correlation test, Kendall's τ = −.06, p = .571. The classical Egger test was significant for the full set, t(42) = 4.76, p < .001, but this result came entirely from the TALIS study, whose precision is extreme and whose correlation is below average. Without it the test gave t(41) = 1.22, p = .229. There was no consistent sign that small studies report larger correlations, although such tests are unreliable when heterogeneity is this high (Sterne et al., 2011).

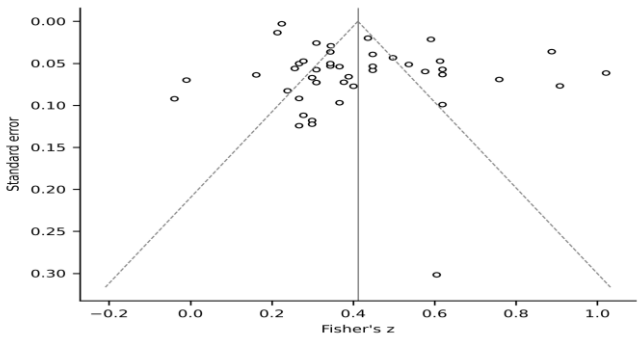



Figure 3. Funnel plot of Fisher's z against standard error for the 44 studies. The vertical line is the pooled estimate; dashed lines show the pseudo 95% limits.

The present study reproduced the results of the most recent meta-analysis on teacher self-efficacy and job satisfaction and extended it to 44 studies. Teachers with higher self-efficacy reported higher job satisfaction, with a pooled correlation of about .39. Adding five recent studies, one of which is five times larger than the rest of the data set together, left the earlier estimate almost unchanged. The spread of the correlations matters as much as their mean, because few individual studies sit close to the average.

A correlation of .39 is consistent with social cognitive theory, in which people who expect to succeed at their work invest more effort and cope better with setbacks (Bandura, 1997). It is also consistent with the reverse account, in which satisfied teachers judge their own competence more favourably, and with the possibility that school conditions such as leadership and workload raise both. Every study in the data set is cross-sectional, so the analysis cannot separate these explanations.

The re-analysis also clears up the earlier average. Xiao and Zheng (2025) reported 0.41 in their abstract without naming the metric. Re-running their 39 values gave z = 0.414, so the figure is a Fisher's z and the corresponding correlation is .39. The difference is small, and it is the same with or without the added studies, but later work should quote the value on the correlation scale.

The earlier review found stronger associations above high-school level (Xiao & Zheng, 2025), and the two university samples added here (r = .546 and .49) fit that pattern, though two studies are not a test. Differences in instruments are another likely source. Studies that measure satisfaction with teaching itself should produce higher correlations than studies that include pay and working conditions, and Biçer's (2023) use of a general self-efficacy scale may explain the modest correlation in that study.

In TALIS 2018, the largest and most diverse sample in the data set, the correlation was .22, well below the pooled value. This agrees with the meta-analysis of TALIS data by Kasalak and Dağyar (2020), in which the association varied across survey cycles. Small single-site studies may recruit more homogeneous or more motivated groups, or TALIS's short scales may attenuate the correlation. The present data cannot distinguish between these explanations. Readers who want one number for a typical teacher population should keep in mind that the best-sampled study gives a lower one than the average of the literature.

The main limitation is the way the data were assembled. The five added studies were not found through a systematic search, and eligible studies published after the baseline review are likely to have been missed. One relevant study could not be pooled because its zero-order correlation was not confirmed. Baseline correlations were taken from the published table of Xiao and Zheng (2025). The re-analysis reproduced their statistics exactly, which rules out transcription errors in the present study but not extraction errors in the original review. Those authors also excluded studies judged to be outliers, and this may have reduced heterogeneity in the baseline set to an unknown degree. For these reasons the result should be read as a replication and extension of that review, not as a new systematic review.

## Conclusion

Teachers who feel more capable in the classroom tend to be more satisfied with their work. Across 44 studies and 149,074 teachers the pooled correlation was .39, and it stayed within .012 of that value when any single study, the dissertations or the very large TALIS 2018 sample was removed. The average hides a great deal of variation. The prediction interval ran from about zero to .68, and in the largest and most varied sample the correlation was only .22. A pooled figure drawn from many countries and school levels should be checked against local evidence before it is used to justify a programme in any one of them.

The present study reports the effect on the correlation scale, adds a prediction interval, and shows that the result holds with and without the largest available sample. The added studies were not found through a systematic search, so a full update of the literature since 2023 is the obvious next step. Why the association differs so widely between settings is still unknown. Whether a change in efficacy is followed by a change in satisfaction can only be answered by longitudinal or intervention studies.

**Recommendations**

For practice, school leaders should attend to teachers' sense of competence, for example through mentoring and feedback on teaching, as one part of efforts to improve satisfaction. Self-efficacy training should not be treated as a remedy by itself, because the data do not show that raising efficacy raises satisfaction, and because workload and school leadership affect satisfaction directly. School leaders should also be cautious about importing the average from other countries, given that the largest international sample produced a correlation of only .22.

For research, more cross-sectional correlations will add little. Longitudinal and intervention studies should be conducted to establish direction, a systematic search should update the literature since 2023, and future syntheses should code school level, instrument and facet of satisfaction so that the heterogeneity can be explained.

For theory, the link between efficacy and satisfaction should be modelled as dependent on context, because the width of the prediction interval shows that it is far from constant. School level, the instrument used and the facet of satisfaction measured are the most plausible conditions to build into future models.

**Declarations**

**Funding:** This research received no external funding.

**Conflicts of interest:** The author declares no conflict of interest.

**Ethics approval:** Not required; the study used published aggregate data only.

**Data availability:** All study-level data are reported in Table 2. The analysis script is available from the corresponding author.

**Declaration of AI Use:** The authors declare that no artificial intelligence (AI) tools or AI-assisted technologies were used in the preparation, analysis, interpretation, or writing of this manuscript.

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