TEACHER EDUCATION & DEVELOPMENT | RESEARCH ARTICLE

Relationship between teacher empowerment and job satisfaction: A Meta-Analytic path analysis

Seyedali Ahrari¹*, Samsilah Roslan¹, Zeinab Zaremohzzabieh¹, Roziah Mohd Rasdi² and Asnarulkhadi Abu Samah²

Abstract: This research aims to analyze studies that have investigated the effects of teacher empowerment on job satisfaction. From the results obtained from the meta-analytic structural equation modeling of 11 studies (N = 19,462), it has been found that the teacher empowerment model and job satisfaction are meaningfully correlated. The findings have also revealed that decision-making and self-efficacy among teachers had a significant impact on job satisfaction, followed by professional growth. Conversely, autonomy, impact, and status among teachers were negatively linked to job satisfaction. The findings confirm the significant effects of teacher empowerment on job satisfaction.

Subjects: Education; Teacher Education & Training; Educational Psychology

Keywords: Job satisfaction; teacher empowerment model; meta-analysis; meta-analytic structural equation modeling

ABOUT THE AUTHOR

Seyedali Ahrari is a Ph.D. graduate of Universiti Putra Malaysia (UPM) in the field of Youth Studies. Currently, he is working in the Faculty of Educational Studies. He does research in Educational Policy, Curriculum Theory, and Student Development.

Samsilah Roslan is a professor and Dean at the Faculty of Educational Studies, UPM. Her research interest encompasses Psychosocial Profile, Self-Regulation, Gifted Education, Special Educational Needs, and Flow Experience.

Zeinab Zaremohzzabieh (Ph.D.) currently works at the Faculty of Educational Studies, Universiti Putra Malaysia. Her research interest encompasses Youth Studies, Social Statistics, and Meta-Analysis.

Roziah Mohd Rasdi is a lecturer at the Faculty of Educational Studies, UPM. Her research interest encompasses Career Development, Human Resource Development, and Talent Management.

Asnarulkhadi Abu Samah is a professor at the Faculty of Human Ecology and associate at the Institute for Social Science Studies, UPM. His research interests are Sociological Theory, Urban/Rural Sociology, and Community Development

PUBLIC INTEREST STATEMENT

According to research, the teaching career offers several extremely satisfying conditions in tandem with situations of elevated workload, the undesirable effects of which are likely to negatively affect job satisfaction. This study is designed to assess studies that have investigated the effects of teacher empowerment on job satisfaction.

Teacher empowerment is defined and measured in terms of teachers’ power to participate in decision-making about teaching and learning conditions. The study may help to provide relevant information on the significant effects of specific factors of the teacher empowerment model (TEM) on job satisfaction among teachers in schools. The results support the importance of empowerment in the construction of teacher’s job satisfaction. The information gained from the research may be useful for the concerned government authorities, policymakers, and Ministry of Education planners. It may initiate others for further study on ways to empower teachers and related fields.
1. Introduction

Teachers play a key part in the development of society by influencing the mindset of young people. However, the shortage of teachers is a global problem affecting the education systems in many countries. Over 15% of school teachers in the United States (US) annually leave their teaching jobs at schools (Goldring et al., 2014). Likewise, the European Union (EU) nations also face serious teacher shortages (European Commission, 2018). Numerous studies examining job satisfaction among teachers have found high levels of job displeasure (Wangai, 2012). Other scholars have examined teachers’ job satisfaction, the factors influencing it, and the effects on their functioning. For instance, Al-Yaseen and Al-Musaleem (2015) have discovered that work anxiety is the key reason behind the low job satisfaction among Kuwaiti teachers, resulting in unsatisfactory functioning, absence of desire to work, and low levels of innovation. Job satisfaction is a multidimensional notion that can have varying meanings to different individuals. Polatcan and Cansoy (2019) defined job satisfaction as the opinions and sensations people have about their work. As a major predictor of teacher turnover, job satisfaction can be described as a positive feeling resulting from the assessment of job experiences, a belief on what must be received in comparison to what is received concerning rewards, as well as an assortment of mental and contextual conditions that culminate in an individual stating, “I am satisfied with my job” (Simon & Johnson, 2015). It plays a key role in the solidity of the teaching force and is an obligation that needs to be fulfilled by teaching organizations (Hijazi, 2017).

Eggleston (2019) showed that teachers may have a higher level of job satisfaction when school headmasters engage them in making decisions and offer occasional work in their jobs. Different research papers have uncovered associations between the factors of teacher empowerment and job satisfaction (Choi et al., 2019; Hoy & Miskel, 2013; Khany & Tazik, 2016). Hoy and Miskel (2013) claim that most reasons that lead to higher job satisfaction also empower teachers. Interestingly, one way to recognize empowered teachers is in assessing the power to make free decisions by them (Jiang et al., 2019). Harper (2018) discovered that levels of empowerment were significantly connected to levels of job satisfaction. While Ceminsky (2018) showed that job satisfaction is not the same as teacher empowerment, a meta-analysis by Chamberlin et al. (2018) has revealed this more or less empowerment to be associated significantly with job satisfaction. The fundamental feature of motivation for Chamberlin et al. (2018) refers to the cognitive thoughts that happen within persons as they carry out completing job-related tasks. According to Gonzalez-Morales et al. (2018), a supervisor’s success relies on the emphasis placed on the subordinate’s needs as a person instead of a firm’s goals for production, which is rooted in the position of employee empowerment or participative decision-making. According to Snodgrass Rangel et al. (2020), teacher empowerment consists of professional growth, decision-making, incentive, and status, and their contribution to teachers’ feelings of job satisfaction. Teacher empowerment as explained by Snodgrass Rangel et al. (2020) as a mixture of decision-making, professional growth, status, self-efficacy, autonomy, and impact. As one, these elements served as a basis for understanding the types of work environments that nurture the creation of empowered teachers and served as the foundation for the teacher empowerment model (TEM; Short & Rinehart, 1992a) which was used as the model for examining teacher empowerment in the present study. These six dimensions served as internal indicators of the extent to which the work setting fulfilled the teacher’s requirements.

Even though numerous studies have investigated the influence of teacher empowerment on job satisfaction, no review has systematically analyzed the association between teacher empowerment and job satisfaction. This study focuses on six dimensions of TEM. Some studies have shown that these aspects of TEM and job satisfaction are associated, while others have shown that these aspects are unconnected (Skaalvik & Skaalvik, 2017). This study aims to deliver a rich comprehension of applying meta-analytic methods combined with structural equation modeling (MASEM) to teacher education research. We show the potential contributions of MASEM to teaching and teacher education by showing how to synthesize findings linked to the theory of TEM and job satisfaction. The key purpose of the authors is to show how MASEM can be employed to examine
the relationship between TEM and JS. Although we just discuss MASEM in this study, the processes can be easily expanded to other subjects in teaching and teacher education. Rather than separately assessing correlation coefficients, education researchers may now assess an entire theoretical model by MASEM. This facilitates the advancement of the teaching field with the theory-informed creation of collected realistic data.

2. Theoretical foundation

2.1. Teacher empowerment model

Empowerment includes several steps, with an emphasis on the need to continuously practice these steps to achieve the desired outcomes (Nunan et al., 2019). At a micro level, teacher empowerment can be conceptualized as providing teachers with the privilege to exercise professional reasoning with the daily curriculum and teaching subjects. On a higher level, it is conceptualized as the administration’s investment in teachers by giving them the opportunity and freedom to be involved in the regulation of school objectives and policies (Bleumers et al., 2012). At least two different paths lead to successful TE. Firstly, the schools must provide a base that encourages teachers to work collectively for school improvement and professional growth (Bach, 2019). Secondly, after helping teachers discover how much they have to offer and ensuring that they are confident in their skills and knowledge, they should not be excluded from school-related policies (Washburn & Olbrys, 2018). As shown in (Figure 1), Hobbs and Moreland (2009) uncovered six aspects of empowerment which were also proposed by Short and Rinehart (1992a); these are the decision-making (DM), professional growth (PG), status (ST), self-efficacy (SE), autonomy (AU), and impact (IM).

2.2. Hypotheses and research model

(i) Decision-making: Many researchers have revealed that partaking in decision-making may intensify teachers’ job satisfaction (Bouwmans et al., 2017; Lai & Schildkamp, 2016). Decision-making means “involvement of teachers in important decisions that straightforwardly influence their job, for example, finances, teacher recruitment, planning, course, and other curricular areas” (Short, 1994a, p. 489). This allows teachers to control their working environment and teaching space and feel that they are appreciated by other staff. Siuty et al. (2018) propose that teachers are the most well-appointed people to make decisions about what occurs in their schools. In

![Figure 1. Teacher empowerment model (Short & Rinehart, 1992a).](https://doi.org/10.1080/2331186X.2021.1898737)
quantitative research of 159 teachers conducted in Arusha city secondary schools in Tanzania; the study was conducted to verify the link between engagement in decision-making and teachers' dedication; the results confirmed that teachers are committed to the success of their schools if they were involved in the decision-making process (Ngussa & Gabriel, 2017). Sarafidou and Chatziioannidis (2013), in a survey study of 143 primary school teachers in Greece, investigated teacher engagement in different fields of decision-making. The results showed that the robust predictor of job satisfaction was their engagement in decisions concerning teacher concerns.

(ii) Professional growth: It denotes “teachers’ insights that the education setting where they work offers them chances to develop, to learn constantly, and to develop skills” (Short, 1994, p. 489). Burkhauser (2017) stated that teachers should be permitted to work together and partake in professional learning with different teaching methods. Izadinia (2016) stated headmasters and policymakers should recognize teachers that are involved in job-related improvement. Other studies have recognized teacher professional growth as a requirement for teaching and teacher education (e.g., Thomas, 2017). Short and Rinehart (1992a) showed that white female teachers considered participatory decision-making, control over their daily activities, teaching skills, and opportunities for growth to be empowering aspects of their everyday work life. Results from a national survey of 300 secondary school teachers in Punjab, India, suggested that there was a positive connection between job satisfaction and professional development (Bashir, 2017). A piece of evidence from another survey of 44 junior high school teachers in Indonesia confirmed that there was a positive connection between teachers’ professional growth and job satisfaction (Sudrajat et al., 2018).

(iii) Status: It is the third factor of empowerment (Ritter, 2019). It points out to the job-related appreciation and respect that teachers receive from colleagues for their proficiency (Short, 1994a). The status of the job needs to be improved and this can be done by empowering teachers to make decisions influencing their vocations (Banker, 2017). A previous study among 449 teachers from elementary and secondary schools from Cyprus showed that teachers who were happy with their status were also pleased with the empowerment they felt they had (Zembylas & Papanastasiou, 2005).

(iv) Self-efficacy: It is one of the TEM’s dimensions (Snodgrass Rangel et al., 2020). It shows teachers’ beliefs in their ability in teaching and their capability to make a difference in their teaching setting (Banker, 2017). It develops as teachers increase their competencies. When they accept their ability and knowledge of teaching is of value, they will sense more empowered (Short, 1998). Teacher self-efficacy has been linked with school improvement attempts, by making a climax of empowered teaching professionals within the setting (Skaoalvïk & Skaoalvïk, 2017). Findings from the Center for Teaching Quality in a large urban district in North Carolina confirmed that persuading teacher self-efficacy is crucial to create empowered teachers as the main factor in enhancing student learning outcomes (Berry et al., 2010). In a study of 612 school teachers in a northeastern state, Wu and Short (1996) showed that teacher’s job satisfaction was predicted by both self-efficacy and professional growth.

(v) Autonomy: It is an important dimension of teacher empowerment from a structural viewpoint (Dikilitas & Griffiths, 2017). It is a sense of independence to make professional decisions related to their job (Benson, 2016). The researchers demonstrated that professionalism and empowerment were shown to increase as curricular autonomy increased, which could mean that autonomy would be one encouraging structural factor for empowerment (Evers et al., 2017). As stated by Berry et al. (2010), teachers that are provided autonomy and independence tend to become more good teachers; this is verified by the findings of the CTQ’s survey of a big urban area in North Carolina; these findings suggested empowerment as a crucial facet in increasing student success.
(vi) Impact: Impact is the last factor of TEM. It shows teachers’ demand to have an impact on the teaching-learning process. They need to be told that they are influencing the process of teaching-learning (Dail et al., 2018). Teachers should trust their views and opinions will not be rejected (Panagiotopoulos et al., 2019). The results from the study of 10,544 school teachers in Ohio, which outlined and assessed the factors of teacher empowerment, showed that since teachers felt they were prohibited to make a useful influence, their sense of empowerment was measured as neutral (B. J. Klecker & Loadman, 1998). Hung (2005) performed research between junior high school teachers’ empowerment and job satisfaction in the Kaohsiung, Taiwan. A significant association was discovered between the impact and teacher job satisfaction. Drawing on TEM (Short & Rinehart, 1992a), the following hypotheses have been postulated as depicted in (Figure 2).

**Hypothesis 1:** Teachers’ decision-making positively affects their job satisfaction.

**Hypothesis 2:** Teachers’ professional growth positively affects their job satisfaction.

**Hypothesis 3:** Teachers’ status positively affects their job satisfaction.

**Hypothesis 4:** Teachers’ self-efficacy positively affects their job satisfaction.

**Hypothesis 5:** Teachers’ autonomy positively affects their job satisfaction.

**Hypothesis 6:** Teachers’ impact positively affects their job satisfaction.

3. The review

3.1. Design

The study design was framed based on the Joanna Briggs Institute (2014) regulations and was developed from Moher et al.’s (2010) “Preferred Reporting Items for Systematic Reviews and Meta-analysis”.

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**Figure 2. Research model.**

![Research Model Diagram](https://example.com/figure2)
3.2. Literature search strategy
Several electronic databases, including the Web of Science, PsycInfo, ProQuest, ScienceDirect, and DOAJ, were searched independently by two researchers as a reliability procedure and also a usual gold standard of systematic reviews and meta-analyses (Haddaway et al., 2015; Impellizzeri & Bizzini, 2012). To find relevant studies on TEM and job satisfaction, research studies published between January 1990 and February 2020 were included. This study used specific methods to find each term embedded in each database to maximize sensitivity. The current study employed terms and a combination of key terms such as teacher, empower*, teacher empowerment*, teacher empowerment model, job, work, and career satisfaction* (see Table 1). To increase the study’s search circle, research papers, dissertations, and reports were included in the database. Finally, the method of unstructured exploration (Cooper et al., 2009) was used by employing Google, including the academic literature search engine Google Scholar and the scholarly database of Scopus to select pertinent research papers. The current researchers also looked for more studies from reference lists.

3.3. Inclusion criteria
The present study included only published peer-reviewed journal studies, chapters, proceedings, dissertations, and reports with quantitative research methodology. The inclusion criteria were: (1) English language research; (2) sample of teachers in schools; (3) studies on the influence of teacher empowerment on job satisfaction; and (4) studies on teacher empowerment and job satisfaction measured by accepted questionnaire scales with a high degree of reliability and validity. Then, the researchers checked either the p-values or the correlation coefficients. The sample size was reported because this information was needed to conduct meta-analytic structural equation modeling (MASEM). This research included studies with results obtained from regression analysis, SEM, and recorded either p-values or correlation coefficients.

3.4. Recording of information
The present study summarized the relevant statistics and entered them into an Excel database. Then, the researchers reported the main aim of the study, published year, the correlation between exogenous constructs, and the correlation between exogenous constructs and endogenous variables. All of the above information was used in the meta-analysis as presented in (Tables 1 and 2).

3.5. Study selection and outcomes
Initially, the search found 2,357 studies that were relevant to the inclusion criteria, and these studies were imported into the Zotero reference management software. Zotero is an open-source reference software for the management of bibliographic data and related research data (Ivey &

| Database       | Search terms                                      | No. of studies |
|----------------|---------------------------------------------------|----------------|
| ScienceDirect  | Teacher*, empower*, and (work, job satisfaction)  | 778            |
| ProQuest       | Teacher*, empower*, and (work, job satisfaction)  | 376            |
| PsycInfo       | Teacher*, empower*, and (work, job satisfaction)  | 694            |
| Web of Science | Teacher*, empower*, and (work, job satisfaction)  | 401            |
| DOAJ           | Teacher*, empower*, and (work, job satisfaction)  | 108            |
| Duplicates removed |                                               | 1922           |
| Studies kept after both review (YES studies) |                                               | 435            |
| ULTIMATE study collection (once assessing the quality) |                                               | 11             |

Note. * Publications were only included in the study if they contain the indicated search terms.
| No. | Criteria                                    | Hung (2005) | Klecker (1996) | Kirika (2011) | B. Klecker and Loadman (1996) | Martino (2003) |
|-----|---------------------------------------------|-------------|----------------|---------------|-------------------------------|---------------|
| 1   | Future studies                              | 1           | 1              | 1             | 0                            | 1             |
| 2   | Probably sampling                           | 1           | 1              | 1             | 1                            | 1             |
| 3   | Suitable size of the sample                 | 1           | 1              | 0             | 1                            | 1             |
| 4   | The sample was drawn from more than one location | 1           | 1              | 1             | 1                            | 1             |
| 5   | Anonymity preserved                         | 1           | 1              | 1             | 1                            | 1             |
| 6   | Response rate >60%                          | 0           | 0              | 0             | 1                            | 1             |
| 7   | Reliable measurement of outcome(s)          | 1           | 1              | 1             | 1                            | 1             |
| 8   | A valid measure of outcome (s)              | 1           | 1              | 1             | 1                            | 1             |
| 9   | A valid measure of independent variables    | 1           | 1              | 1             | 1                            | 1             |
| 10  | Empowerment reliability                     | 2           | 2              | 2             | 0                            | 2             |
| 11  | Theory driven                               | 1           | 1              | 1             | 0                            | 1             |
| 12  | Correlation analysis for multiple effects   | 1           | 1              | 1             | 1                            | 1             |
| 13  | Outliers management                         | 0           | 1              | 0             | 0                            | 0             |
|     | Total score                                 | 12          | 13             | 11            | 9                            | 13            |

(Continued)
|   | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | Total score |
|---|---|---|---|---|---|---|----|----|----|----|-------------|
| 4. The sample was drawn from more than one section | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 12 |
| 5. Anonymity preserved | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 12 |
| 6. Response rate >60% | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 12 |
| 7. Reliable measurement of outcomes | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 12 |
| 8. A valid measure of outcome(s) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 12 |
| 9. A valid measure of the independent variables | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 12 |
| 10. Empowerment reliability | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 12 |
| 11. Correlation analysis for multiple effects | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 12 |
| 12. Outliers management | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 12 |
| Total score | 12 | 9 | 10 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |

Ahrari et al., Cogent Education (2021), 8: 1898737
https://doi.org/10.1080/2331186X.2021.1898737
Crum, 2018). The automated Duplicate Items function was then used to remove duplicated research, decreasing the search findings to 435 studies. The topics and abstracts were screened before the researchers identified 78 potential studies regarding the association between TEM constructs and job satisfaction. After a careful examination of the remaining studies, 11 out of the 67 studies were selected to be included in the current research (see Tables 1 and 2 for more detail). (Figure 3) displays the search strategy that was utilized.

3.6. Quality assessment
Individually, two researchers employed the “Quality Assessment and Validity Tool for Correlational Studies” to obtain further information on the eleven studies (that met the inclusion criteria), specifically the methodology characteristic (QAVTCS; Ciccoli et al., 2014). The quality assessment tool was employed to check four key parts of the study: design, sample selection, instrument, and data analysis. Thirteen standards were assessed, with a total of 14 possible scores. Built on the designated score, studies were categorized as low (0–4), moderate (5–9), or high (10–14) quality. Inconsistencies in the scores were settled after a debate between the two researchers. This resulted in nine studies rated as high and two as the medium. The rest did not achieve most of the criteria listed in the QAVTCS, so it was scored as 3 which was of low-level quality and was omitted from additional review. Therefore, all eleven studies were kept for analysis (see Table 2).

3.7. Data abstraction
The researchers employed a planned method for data abstraction. The subsequent data obtained include authors, publication year, aim, nation, variables, sample size, and mean age (see Table 3 and 4 for further detail).

4. Data analysis
4.1. Meta-Analytic method
A meta-analysis provides a summary effect that is useful in explaining general trends. The initial core task is to select between using fixed and random-effects models. This study was guided by Field and
| No. | Author(s)          | Year | Aim                                               | Country | Variable(s) (M/SD)                                                                 | Sample size | Mean age |
|-----|-------------------|------|--------------------------------------------------|---------|--------------------------------------------------------------------------------|-------------|----------|
| 1   | Hung              | 2005 | To study the link amid TE and JS                 | Taiwan  | DM, PG, ST, SE, AU, IM, TE, JS (2.89/.66, 3.60/.60, 3.80/.57, 3.63/.53, 3.93/.85, 3.21/.62, 3.64/.51, 3.01/.27) | 410         | -        |
| 2   | Klecker           | 1996 | To inspect school teacher assuming reforming through the use of scheme capital grants | USA     | DM, PG, ST, SE, AU, IM, TE, JS (3.43/69, 4.19/63, 4.07/61, 4.12/51, 3.08/1.07, 3.57/78, 3.82/52, 3/9) | 4084        | -        |
| 3   | Kirika            | 2011 | To investigate transformational leadership in Christian schools | USA     | DM, PG, ST, SE, AU, IM, TE, JS (2.98/63, 4.04/68, 4.32/43, 4.49/44, 3.65/73, 2.25/45, 3.87/45, 3.51/41) | 121         | -        |
| 4   | Klecker & Loadman | 1996 | To test the association between TE and JS        | USA     | DM, PG, ST, SE, AU, IM, TE, JS (3.43/69, 4.19/63, 4.07/61, 4.12/51, 3.08/1.07, 3.58/78, 3.82/51, 3/9) | 10,544      | -        |
| 5   | Martino           | 2003 | To verify the leadership style of school principals and to assess a link between TE, leadership style, and JS | USA     | DM, PG, ST, SE, AU, IM, TE, JS (33.42/ 6.97, 23.91/2.88, 25.05/1.73, 23.83/3.19, 14.03/2.4, 24.75/2.35, 24.13/3.21, 42.4/3.42) | 425         | -        |

(Continued)
| No. | Author(s)     | Year | Aim                                                                 | Country | Variable(s) (M/SD)                                                                 | Sample size | Mean age |
|-----|--------------|------|----------------------------------------------------------------------|---------|-----------------------------------------------------------------------------------|-------------|----------|
| 6   | Dono-Koukouris | 2003 | To determine the leadership style of teachers, and to assess the     | USA     | DM, PG, ST, SE, AU, IM, TE, JS (33.87/5.43, 23.88/3.713, 25.56/1.696, 25.05/3.765, 15.10/2.677, 25.85/1.183, 24.88/3.11, 48.62/3.55) | 326         | -        |
| 7   | Snyder       | 1995 | To determine the relationships between principals’ conflict resolution, TE, and JS | USA     | DM, AU, TE, JS (26.78/6.91, 13.27/3.49, 138.26/17.25, 49.87/4.45) | 151         | 46.09    |
| 8   | Bogler & Nir | 2012 | To explore the mediating effect of TE on the link between teachers’ perception of school support and JS | Israel | DM, PG, ST, SE, AU, IM, TE, JS (2.82/4.9, 3.48/4.2, 3.59/3.8, 3.37/3.9, 3.43/4.6, 3.28/4.7, 3.29/3.7, 3.27/4.58) | 2,565       | 40       |
| 9   | Slye         | 1999 | To study the relationship between TE and JS                           | USA     | DM, PG, ST, SE, AU, IM (3.699, 4.606, 4.23/458, 4.188/4.35, 3.66/7.22, 4.15/4.55) | 367         | -        |
| 10  | Hynes        | 2004 | To examine the relationships between JS among elementary school principals and the degree of TE dimensions | USA     | DM, PG, ST, SE, AU, IM, JS (3.59/69, 4.48/63, 4.53/53, 4.49/56, 3.74/75, 4.41/56, 4.04/502) | 286         | -        |
| 11  | Bowden       | 2002 | To maintain a relationship between the use of cooperative leadership and the JS | USA     | TE, JS                                                                                | 183         | 42.8     |

Note. DM = decision-making, PG = professional growth, ST = status, SE = self-efficacy, AU = autonomy, IM = impact, TE = teacher empowerment, JS = job satisfaction, M = mean, and SD = standard deviation.
Gillett’s (2010) advice that the proper selection of a model should be based on the characteristics of the included studies and the deductions as determined earlier. With regards to the random-effects model, Michael Borenstein et al. (2010) stated that it provides for the variation of the true effect size from study to study of normal distribution. Scholars have acknowledged the relevance and suitability of the random-effects models in diverse research contexts as these models allow the random variation of effect sizes (Cheung, 2015; Cleaphas & Zwinderman, 2017). As opposed to random-effects models, the fixed-effect model is based on the homogeneity of the effect size of selected researches. Therefore, the researchers of this study decided on the use of a random-effects model after observing that not only most of the included studies were conducted distinctly but also several samples were drawn from numerous participants. Correspondingly, the heterogeneity tests of effect sizes were carried out, such as 95% confidence interval (CI), Cochran’s Q statistic, and I² statistic (M. Borenstein et al., 2017). The 95% CI of every estimate was made around the true score correlation. Apart from the usefulness of Q statistic in assessing heterogeneity, the I² statistic was more suited for low-volume meta-analyses (Veroniki et al., 2015). Thus, the researchers employed the I² statistic to assay the heterogeneity levels, and the estimated heterogeneity variances are presented in (Table 5). The I² index ranged from 96.252 to 98.860, thus indicating that the correlations have a fairly heterogeneous characteristic.

4.2. Path analysis

A correlation matrix was used to run a path analysis using maximum likelihood estimation. Subsequently for each construct, the means and standard deviations were maintained at 0 and 1, respectively. Based on the corrected correlations after meta-analysis, the researchers conducted MASEM using the AMOS 23.0 software to assay the underlying factors affecting job satisfaction using Short and Rinehart’s (1992b) TEM. The first stage to conduct MASEM is to find all the related constructs involved in the correlation matrix. The following step is data extraction (the inclusion/exclusion criteria). After preparing correlation matrices, researchers synthesize the correlation matrices into a pooled correlation matrix (also called the stage 1 analysis). At this phase, researchers must choose whether to use a fixed or a random-effects model. After completing this stage, researchers show the test statistics and the goodness-of-fit indices of the structural equation model. Model fit was assessed using goodness-of-fit indices, such as chi-square/degree-of-freedom ratio (CMIN/DF), comparative fit index (CFI), root-mean-square error of approximation (RMSEA), Tucker Lewis index (TLI), and incremental fit index (IFI).

5. Results

5.1. Study features

Based on the previously mentioned standards, the eleven studies consist of nine dissertations and two journal articles, all of which met the required criteria. These studies then provided a total of 19,969 respondents who had also met the inclusion criteria. The earliest study was published in 1995 while the latest was published as recent as 2012. These studies were conducted in three countries, but nine of them were from the United States. Overall, the sample size had a wide range of 121 (Kirika, 2011) to 10,544 (B. Klecker & Loadman, 1996).

5.2. Total relationship between TEM Constructs and JS

(Table 5) shows the correlational analysis of the six TEM constructs and job satisfaction. Every average weighted correlation (r̅) was meaningfully varied from zero (p < .001). The analysis shows that job satisfaction with autonomy (r̅ = 0.283) had low to medium levels of correlation, followed by status (r̅ = 0.380) and impact (r̅ = 0.411). All correlations revealed significant heterogeneity between studies, with all Q statistics being significant. The I² statistics proposed that the correlations between all TEM dimensions and job satisfaction proposed high heterogeneity levels, as stated by Higgins et al. (2003). However, all six dimensions of TEM were significantly linked to job satisfaction, where 95% confidence interval excluded 0.
### Table 4. Raw correlation coefficient and two-tailed p-value included for the meta-analytic processes

|         | DM-PG | DM-ST | DM-SE | DM-AU | DM-IM | DM-JS | PG-ST | PG-SE | PG-AU | PG-IM | PG-JS | ST-SE | ST-AU | ST-JS | ST-IM | ST-JS | SE-AU | SE-IM | SE-JS | AU-IM | AU-JS | IM-JS | TE-JS |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Hung (2005) | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Kleeber and Keok (1996) | 0.641 | 0.662 | 0.594 | 0.593 | 0.739 | 0.657 | 0.709 | 0.727 | 0.555 | 0.735 | 0.705 | 0.726 | 0.546 | 0.791 | 0.700 | 0.607 | 0.735 | 0.654 | 0.608 | 0.426 | 0.698 | -     |
| Krik (2011) | 0.690 | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| B. Keeker and Loadman (1996) | 4.19  | 0.574 | 0.471 | 0.510 | 0.637 | 0.513 | 0.570 | 0.612 | 0.284 | 0.531 | 0.522 | 0.604 | 0.373 | 0.698 | 0.606 | 0.328 | 0.518 | 0.506 | 4.65  | 0.393 | 0.560 | 7.000 **|
| Martin (1993) | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Dana-Koukouts (2003) | 0.02  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Snyder (1999) | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Bag (1999) | 0.60  | 0.53  | 0.51  | 0.58  | 0.75  | 0.53  | 0.72  | 0.66  | 0.57  | 0.66  | 0.61  | 0.67  | 0.55  | 0.64  | 0.52  | 0.56  | 0.72  | 0.61  | 0.63  | 0.41  | 0.56  | 0.69  |
| Syl (2002) | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | 0.22  | 0.41  | 0.56  | 0.69  |
| Hynes (2004) | -     | -     | -     | -     | 0.04  | -     | -     | -     | -     | -     | 0.13  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| Bowden (2002) | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | 0.46  | 0.45  | 0.465 **|

**Note.** The correlation coefficient (r) and the two-tailed p-value that was not reported by the studies are marked as a dash (-). Significant levels considered from the original analyses (significant levels are not stated if the studies did not report them). DM = decision-making, PG = professional growth, ST = status, SE = self-efficacy, AU = autonomy, IM = impact, and JS = Job satisfaction. * p < .05. ** p < .01. *** p < .001.
Table 5. Random effects average correlation and heterogeneity statistics for TEM constructs and job satisfaction

| Associations | K | N   | r*  | CI 95% LI | Q      | I² (LI-U1) |
|--------------|---|-----|-----|-----------|--------|------------|
| DM→JS        | 10| 19,341 | 0.432 | 0.340–0.515 | 348.152 | 97.415     |
| PG→JS        | 9 | 19,128 | 0.419 | 0.281–0.539 | 672.798 | 98.811     |
| ST→JS        | 8 | 19,007 | 0.380 | 0.236–0.507 | 614.067 | 98.860     |
| SE→JS        | 8 | 19,007 | 0.419 | 0.306–0.521 | 407.773 | 98.283     |
| AU→JS        | 9 | 19,158 | 0.283 | 0.198–0.364 | 213.421 | 96.252     |
| IM→JS        | 8 | 19,007 | 0.411 | 0.279–0.528 | 546.555 | 98.719     |

Note. N = Sample size; K = Number of study effect sizes included in the meta-analysis; CI = confidence interval; Q and I² = tests of heterogeneity; r* = random effects average correlation. DM = decision-making, PG = professional growth, ST = status, SE = self-efficacy, AU = autonomy, IM = impact, and JS = Job satisfaction. *p < 0.05. **p < 0.01. ***p < 0.001.

5.3. Meta-Analysis correlation matrix

(Table 6) presents the results of the meta-analysis in a correlation matrix where subsequent path analyses were established. Job satisfaction is positively associated with TEM, as shown by the range of 0.283 to 0.432. Also, there were positive correlations of TEM dimensions, as indicated by the range of 0.479 to 0.716. Thus, this study revealed that job satisfaction with TEM constructs had a medium to a large level of association, including decision-making, professional growth, status, self-efficacy, autonomy, and impact.

DM = Decision-making, PG = Professional growth, ST = Status, SE = Self-efficacy, AU = Autonomy, IM = Impact, and JS = Job satisfaction.

5.4. Path analysis

Figure 4 shows the use of MASEM to examine the research model in this study. Table 5 presents the meta-analytic correlation matrix, and it exhibits the confidence interval results. To assess the

Table 6. Meta-analysis correlation matrix among TEM constructs and job satisfaction

| Construct | JS     | DM     | PG     | ST     | SE     | AU     | IM     |
|-----------|--------|--------|--------|--------|--------|--------|--------|
| JS        |        | 10/19,341 | 9/19,128 | 8/19,007 | 8/19,007 | 9/19,158 | 8/19,007 |
| DM        | 0.432  |        | 0.591  | 0.592  | 0.671  | 0.669  | 0.669  |
|           | 10     | 19,341 | 4      | 17,193 | 3      | 17,193 | 3      |
| PG        | 0.419  | 0.591  |        | 0.550  | 0.669  | 0.669  | 0.669  |
|           | 9      | 19,128 | 3      | 17,193 | 3      | 17,193 | 3      |
| ST        | 0.380  | 0.592  | 0.550  |        | 0.479  | 0.493  | 0.507  |
|           | 8      | 19,007 | 3      | 17,193 | 3      | 17,193 | 3      |
| SE        | 0.419  | 0.669  | 0.479  | 0.493  |        | 0.668  | 0.571  |
|           | 8      | 19,007 | 3      | 17,193 | 3      | 17,193 | 3      |
| AU        | 0.283  | 0.669  | 0.479  | 0.493  | 0.507  |        | 0.668  |
|           | 9      | 19,158 | 3      | 17,193 | 3      | 17,193 | 3      |
| IM        | 0.411  | 0.716  | 0.649  | 0.716  | 0.668  | 0.668  |        |
|           | 8      | 19,007 | 3      | 17,193 | 3      | 17,193 | 3      |

Note: The diagonal of weighted correlations showed the cells underneath. The diagonal of the number of studies (K) and the pooled sample sizes have displayed the cells' overhead.
model fit, this study used Kline’s (2016) model fit indices with CMIN/DF, IFI, CFI, and TLI. Accordingly, the model achieves a satisfactory fit when the fit indices score at least 0.90 (Kline, 2016), and the model is deemed acceptable when the RMSEA scores are within a range of 0.03 to 0.08. Table 7 shows the fit indices for the model of this study having scored CMIN/DF = 2.848, p < 0.01, IFI = 0.935, CFI = 0.910, TLI = 0.936, and RMSEA = 0.0632. These indices suggest that the model is of suitable fit (Kline, 2016).

5.5. Structural model
This model included decision-making, professional growth, status, self-efficacy, autonomy, and impact as independent variables, while job satisfaction acted as the dependent variable. As revealed in (Figure 4) and (Table 8), decision-making significantly influenced the degree of job satisfaction (β = 0.34, p-value = 0.000), thus supporting H₁. This is consistent with Skaalvik and Skaalvik (2017) study, where decision-making was revealed to have a significant influence on teachers’ job satisfaction. Muguongo et al. (2015) also proved that there was a significant association between decision-making and job satisfaction. Hence, this result could suggest that teachers who participated in different situations involving decision-making had higher chances of being satisfied with their job than other teachers. The analysis showed that professional growth (β = 0.85, p-value = 0.000) towards job satisfaction was positive. Therefore, this result supports H₂. It seems that professional growth could result in greater job satisfaction among teachers. The result of this analysis is in line with past studies that found professional growth opportunities to

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**Table 7. Fit indices of the SEM model**

| Fit index | Recommended value | Model Value |
|-----------|-------------------|-------------|
| χ²/DF     | < 5.00            | 2.848       |
| IFI       | > 0.90            | 0.935       |
| CFI       | > 0.90            | 0.911       |
| TLI       | > 0.90            | 0.936       |
| RMSEA     | < 0.08            | 0.0632      |

**Note.** IFI: Incremental fit index; CFI: Comparative fit index; TLI: Tucker–Lewis Index; RMSEA: Root mean square error of approximation.
lead to job satisfaction (e.g., Hadar & Brody, 2016). However, status ($\beta = -.25$, $p$-value = .013) was negatively linked to job satisfaction. Thus, this finding does not support $H_3$. This is in contrast with the previous findings that mentioned that teachers’ status alone could lead to job satisfaction (Lee & Nie, 2017). The findings of this research showed that self-efficacy ($\beta = .31$, $p$-value = .000) towards job satisfaction was positive. Thus, $H_4$ is supported. It confirms previous findings that self-efficacy increased job satisfaction among teachers (Hemric et al., 2010). Besides, the research model revealed that autonomy ($\beta = -.075$, $p$-value = .000) and job satisfaction had a negative relationship. Consequently, this result does not support $H_5$. In contrast, the findings of Hemric et al. (2010) and Dou et al. (2017) have repeatedly labeled the fulfillment of a teacher’s need for autonomy as an important factor influencing job satisfaction. As shown in (Figure 4) and (Table 8), impact ($\beta = -.033$, $p$-value = .004) was negatively associated with job satisfaction. Thus, $H_6$ is not supported. This is in contrast with past studies that found a positive link between teachers’ impact and their satisfaction (Zwozdiak-Myers, 2018). Together, decision-making, personal growth, status, self-efficacy, autonomy, and impact explained 27% of the variance in teachers’ job satisfaction.

6. Discussion and implications
Meta-analysis is a method used for unraveling quantitative data (Gurevitch et al., 2018). This technique was employed to study both the association of TEM factors with job satisfaction, as well as to validate TEM. The present study represents the only meta-analytic assessment of TEM to date. This model included 11 studies to examine job satisfaction among school teachers. The following paragraphs present the theoretical, methodological, and practical implications of this study’s results.

From a theoretical viewpoint, the results have suggested that some TEM factors have positive effects on the relationships between job satisfaction and decision-making, personal growth, and self-efficacy. Consistent with Short et al. (1994), the results also revealed that more empowered teachers reported lower levels of strain. Not only that, but the findings have also further proven that teacher empowerment has a medium level of influence on job satisfaction. Together, these results indicate that job satisfaction could be affected by a range of personal empowerment variables. This is similar to Abraiz et al. (2012) who found in their separate studies a significant and positive association between TEM and job satisfaction. Conversely, some TEM factors, i.e., status, autonomy, and impact, are negatively associated with job satisfaction. The findings showed that autonomy and impact were not significant predictors of job satisfaction. The present result is not consistent with that by Pearson and Moomaw (2005) and several other studies which have demonstrated that the degree of autonomy perceived by teachers is indicative of the current job satisfaction (Federici, 2013). Besides that, our findings are in contrast with past studies, such as Ferguson et al. (2012) who have shown that the teachers’ impact is a predictor of their job satisfaction.

Table 8. Structural model results

| Hypothesized relationship | Estimate | Standard Error | S.E. | C. R | P  |
|---------------------------|----------|----------------|------|------|----|
| DM→JS                     | .240     | .007           | .344 | 34.175 | *** |
| PG→JS                     | .099     | .011           | .085 | 8.783 | *** |
| ST→JS                     | -.017    | .007           | -.025 | -2.484 | .013 |
| SE→JS                     | 1.214    | .041           | .306 | 29.940 | *** |
| AU→JS                     | -.087    | .009           | -.075 | -9.273 | *** |
| IM→JS                     | -.064    | .022           | -.033 | -2.865 | .004 |

Note. *p < .05, **p < .001, ***p < .01. DM = Decision-making, PG = Professional growth, ST = Status, SE = Self-efficacy, AU = Autonomy, IM = Impact, and JS = Job satisfaction.
Consequently, it is recommended for future studies to reconsider and redefine TEM factors because some dimensions may belong to the category of individual empowerment with others in the area of team empowerment. It is critical to reform the work-life of teachers and encourage academic growth. It can be concluded that challenging work conditions in schools need a new paradigm of working and thinking (Subitha, 2018), meaning job satisfaction needs both types of empowerment. Particularly, the present study’s results have shown that teachers must be considered as valuable assets and experts in the educational field. They need to have authority and freedom over their profession to be involved in meaningful work. This can increase their sense of organizational commitment in addition to their satisfaction and performance.

From a methodological viewpoint, the results suggest three implications for prospective studies. To begin with, the present paper offers an extra purpose for meta-analysis studies. This study conducted a meta-analysis due to two main reasons. First, researchers in a field can combine knowledge to find answers to research questions. Second, researchers can use these results to propose a novel theory or model for prospective studies. Furthermore, the third method for this type of analysis was found: it denotes the importance of theory-led studies in choosing, forming, and conducting current studies (Kyriakides et al., 2013). In doing so, TEM proposes a framework to direct and organize exogenous factors in the path analysis for validating the model in addition to suggestions for improving the current model. Thus, a theory-driven meta-analysis can also contribute toward theory-building and reformation (Reynolds et al., 2014).

Another implication of this paper is that it suggests a need for more experimental and longitudinal research. If one considers studies used to examine the concept mapping effect, it can simply be concluded that empirical studies are very powerful in the effects of discovery—if these effects exist. This is consistent with Hattie’s (2008) study, which mainly drew on empirical studies to yield particularly high effect sizes compared to those revealed by the cross-sectional or quasi-experimental studies employed. Longitudinal studies can be used to study the influence of TEM on job satisfaction over some time. Third, the present study proposes future research to go beyond investigating objective outcomes and to study the effects of these outcomes on student outcomes. Prospective studies and future reviews can also consider expanding their scope to include higher education as an understudy among the educational levels.

From a practical viewpoint, the results could provide implications for policymakers and schools, particularly with regards to teaching and educational curricula. Currently, academics are placing gradual emphasis on a “learner-centered approach” or “transforming pedagogy” (Dole et al., 2016) that accepts the new roles of teachers as facilitators, information-gatherers, decision-makers, promoters, counselors and so on. These roles can be applied, learned, and improved, with the ability to improve teachers’ job satisfaction. Apart from that, this review could help policymakers and schools to formulate strategies towards developing and maintaining workplace empowerment. The present study revealed experimental proof of the influence of TEM on the job satisfaction of teachers in different studies. Thus, these findings can help inform school teachers. In particular, teachers’ educational programs can be improved by practicing six elements of TEM in their instructions and lessons. It allows teachers to plan lessons by implementing professional growth and self-efficacy as well as receiving constructive criticisms on how they can adjust their working practices (Latter et al., 2018). For instance, a greater self-efficacy empowers persons to solve problems with better effort and persistence (DiBenedetto & Schunk, 2018). School principals responsible for creating and applying quality professional growth opportunities for teachers should be encouraged to consider lessons to study professional development as a way to increase teacher self-efficacy and empowerment. Therefore, professional growth can also be included in school culture as a value. Though the results showed that autonomy was negatively associated with job satisfaction. This study supports that TEM factors such as autonomy during teaching appear to be important but not sufficient for obtaining real changes in teachers’ ways of working and their instructional practices in the classroom. Marks and Louis (1999) stated that teachers who are provided autonomy in decision-making can
change the instructional environment of the classroom—what we have called classroom control, and increase their influence over issues relating to students, such as grouping practices, discipline policies, and so on.

With regards to the difficulties involved in teacher preparation programs, Grossman et al. (2009) noted that one of the main barriers in perfecting these programs is for teachers, headmasters, managers, and practicing teachers to reach an agreement on a set of basic practices around which teacher preparation and professional growth programs should be created. These findings can help teachers make up-to-date decisions that are based on theory and practice. Such decisions are possibly the only way to enable the redesign and advancement of teacher education. It would also address the critics who often question the effectiveness of educational programs in empowering teachers and increasing job satisfaction.

7. Limitations and avenues for future studies
It is important to note that this study shares similar limitations with other meta-analyses, and despite of the strengths of the current study, the limitations should be taken into consideration (Price et al., 2016). First, the study might have omitted other factors that could influence job satisfaction. Due to the limited number of available study effects, including all possible variables or personal characteristics in the causal model was not feasible even though they were generally found to affect teachers’ job satisfaction (Torres, 2019). Another methodological constraint is the limited search terms, such as “intent to quit” or “employment” and synonyms for empower or empowerment. Future studies can use these terms to observe if there will be additional results. Essentially, meta-analyses are also limited by the inherent bias against unpublished literature due to the inclusion-exclusion criteria. Besides that, only studies published in English were included in the analysis, and grey literature was not included in search.

Nevertheless, the final number of studies examined was small, thus contributing to a small sample size because various studies examined the effect sizes for at least two outcomes. It is imperative that the readers carefully reflect on the available sample sizes for our reported meta-analyses. Therefore, by employing a multi-level modeling approach for data analysis, these limitations were somewhat corrected (Christ et al., 2017).

To conclude, the present study results can be mainly summarized as statistically significant. Initially, the significantly high heterogeneity levels of the findings reduced the accuracy of the random effect size. Furthermore, the small datasets made it difficult for the researchers to test moderators that could potentially support the study. As stated by Card (2012), an inadequate sample size to conduct a moderator inspection \( k < 11 \) requires omission of the particular association. Besides that, the discrepancies in the results might be ascribed to the diverse job satisfaction scales. As a suggestion for the future research, detailed studies are needed to explore the heterogeneous findings.

Another challenge was that the meta-analysis was limited to the statistics provided by the primary researchers (Blut, 2020). Primary studies reporting inadequate statistics cannot be included in a MASEM, rendering a considerable loss of primary information. Finally, a meta-analysis of correlation coefficients does not take the presence of other constructs into account. Thus, a meta-analysis of correlation coefficients does not deliver estimates on the indirect and direct effects, both of which are critical in mediation analysis.

8. Conclusion
The current meta-analysis synthesized the existing body of research on the relationship between teacher empowerment and job satisfaction based on the TEM using random effects. The meta-analytic findings supported the applicability of the TEM to the teacher samples and clarified several of relationship inconsistencies between the model and job satisfaction. Overall, the TEM yielded a model that showed the direct mechanisms that led to the empowerment experienced by
teachers since the teachers who worked in supportive environments contributed immensely to school reform efforts. Thus, retention rates can be improved as teacher turnover is reduced. It was also an interesting methodology that provided further insights into this research topic; it is anticipated that other researchers will be encouraged to conduct meta-analysis to further address research gaps. During the COVID-19 pandemic, teacher shortages have been and continue to be an issue across the globe. It has affected over 63 million teachers, and magnified the long-standing issues of inadequacies and inequities in the education systems (UNESCO, 2020). We suggest that future researches analyze studies conducted during the COVID-19 pandemic era and look into the factors influencing teacher’s job satisfaction across the globe.

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Author details
Seyedali Ahrari1
E-mail: seyedaliahrari@gmail.com
ORCID ID: http://orcid.org/0000-0001-9094-8695
Samsilah Roslan1
Zeinab Zaremohazzabieh1
Roziah Mohd Rosdi1
Asnarulkhadi Abu Samah1
1 Faculty of Educational Studies, Universiti Putra Malaysia, Serdang, Malaysia.
2 Faculty of Human Ecology, Universiti Putra Malaysia, Serdang, Malaysia.

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