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A structured review of the potential role of school leaders in making teaching more attractive

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ABSTRACT

Some attempts to address the worldwide shortage of teachers focus on raising the prestige of teaching, and making the occupation more appealing. Teacher job satisfaction and well-being have been identified as important factors linked to the status of teachers, with school leadership reportedly playing a key role. This paper is part of a larger review of 96 studies about teacher retention. Here we present the findings from 28 studies on effective leadership practices and attributes relevant to teacher well-being. These studies were identified via a systematic search of five large databases and other sources, and their results synthesised in terms of the strength of the evidence. There is some consensus that "effective" leaders share a combination of attributes - supportive, empowering and creating a positive teaching and learning environment. However, research in this field is replete with methodological flaws, almost all is correctional at best, making it difficult to make any causal claims. There is no clear and consistent definition of "effective" leadership. "Effective" school leaders are believed to exhibit a combination of various characteristics. What these characteristics are is difficult to define as the same label can be given to different constructs and different labels for similar constructs. The outcome measures (well-being and job satisfaction) are also rather nebulous, with multiple components. Most of these measures are based on respondents' subjective assessment. In conclusion, it is far from clear how to make leaders more effective in promoting teacher well-being, and even what effective leaders look like.

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Leadership quality; leadership practices; structured review; teacher well-being; job satisfaction; teacher retention

Background

The teaching profession appears to be in a crisis with teacher shortages in many countries (Ovenden-Hope, 2022; Gorard et al., 2024). Attempts to address the shortage of teachers worldwide now tend to focus on raising the prestige of teaching as an occupation, and making it more appealing. The OECD (2015) identified teacher job satisfaction and

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well-being as important factors linked to the status of teachers. A particular concern is therefore teacher attrition (Fern, 2017; Ingersoll et al., 2012; OECD, 2019; UNESCO, 2023; Sutcher et al., 2016).

Excessive workload and poor work-life balance have been cited as the most important reasons for teachers leaving the profession (Long & Danechi, 2022). It is difficult to measure workload accurately, particularly in order to be able to compare over time or across professions. Teachers' perceptions of workload are, however, found to be strong predictors of their decision to leave teaching (Cooper-Gibson Research, 2018; Higton et al., 2017; Lynch et al., 2016; Torres, 2016).

Unfortunately, reducing teacher workload does not necessarily reduce turnover (Cohen, 2005; See et al., 2020). Some studies suggest that it is the school environment that matters, with school leadership being viewed as influential in determining the ethos and working conditions within a school (Hulpia et al., 2012). A series of observational studies point to teachers' perceptions of administrative support and leadership as being strong predictors of teachers' intention to leave (Allensworth et al., 2009; Boyd et al., 2011; Marinell & Coca, 2013). Johnson et al. (2012), for example, argued that although working conditions are generally considered important to teachers, it is the principal's leadership, school culture and relationships with colleagues, which are most influential.

Teacher shortages are also often attributed to job prestige and the low perceived status of teaching, and satisfaction with the profession. For example, TALIS data has shown that teachers in England do not feel valued by society, policy makers and the media (OECD, 2019). This may have contributed to challenges in retaining teachers, because feeling undervalued could affect job satisfaction and overall well-being, and may discourage others from entering the profession.

While there is some research on the impact of school leadership and organisational climate on student attainment, the evidence of impact on teacher outcomes, such as teacher well-being, job satisfaction and retention is less clear. This new study looks at what school leaders can do to support teachers' mental well-being, their job satisfaction and commitment to teaching, to make teaching more attractive. This is part of a larger study looking at promising approaches to improving teacher status, prestige, well-being and job satisfaction that have an impact on retention of teachers. In this larger study, we identified three major themes relevant to teacher status, well-being and job satisfaction. One of these themes was school leadership practices and organisational climate. Of the 96 studies, 28 were about leadership, practices and organisational climate. Thirty-four were about direct strategies to support teachers' well-being, such as coping and stress interventions (e.g. mindfulness training, meditation and emotion regulation) and 15 were psychological interventions (e.g. positive psychology and cognitive behavioural therapy). Nineteen were about teacher professional development, mentoring and direct classroom management strategies to support teachers' well-being, specifically professional self-efficacy and stress. Due to the multiple themes and the large number of studies, we decided to focus on school leadership for this paper and the other themes in another paper.

Why focus on teacher well-being?

Addressing teacher well-being is an important idea for addressing teacher attrition. In almost all countries and across phases of education, teachers who report a great deal

of stress are more likely to report wanting to leave the profession (Viac & Fraser, 2020). Stress and burnout are deemed critical factors in the retention of teachers. There is evidence that teachers who have a positive relationship with their students and colleagues are happier with their job, and that students whose teachers are content with their job also feel happier (Collie et al., 2015; Klassen et al., 2012; Zee & Koomen, 2016; Spilt et al., 2011). Therefore, establishing strong teacher–student and collegial relationships not only benefits students' well-being, but also teachers' well-being, which in turn, leads to greater motivation and satisfaction, and thus a higher probability of staying on in the job.

Improving working environment

There is some research evidence pointing to the strong correlation between working conditions, teacher well-being and teacher attrition (Geiger & Pivovarova, 2018; Chambers Mack et al., 2019; Madigan & Kim, 2021). International evidence shows that a diminishing status of teaching as a profession combined with poor or inadequate working conditions leads to teacher attrition (Borman & Dowling, 2008; Ingersoll & Smith, 2003). Burge et al. (2021) argued that although pay and rewards may temporarily improve retention, the workplace characteristics (workload, school culture and teaching environment) are more important influences for teacher decisions to stay or leave. Improving teachers' working environment, therefore, can potentially address teacher turnover. A systematic review by See et al. (2020) also points to the importance of improving school cultures and ethos in influencing retention.

Research in England by the Department for Education [DfE] (2017, 2018b) suggested that the workload associated with teaching is the biggest cause of attrition in the profession. Other studies have found that poor pupil behaviour in school leads to higher workload for teachers, higher levels of stress and reduced well-being levels, which negatively affects teacher retention (DfE, 2018a; Gorard et al., 2024; Ofsted, 2019; Williams, 2018).

School leadership

All of the above issues have been linked to school leadership. A number of studies have highlighted the important role of leadership/administrative support in influencing the working environment of the school (e.g. Grissom, 2011). Several US studies have pointed to the role of school leaders as influential in determining the ethos and working conditions within a school (Borman & Dowling, 2008; Ingersoll, 2001; Johnson et al., 2012; Leithwood, 2006). For example, school leaders that are supportive in providing the resources for teaching and in the disciplining of pupils can reportedly make a difference to teachers' workload and job satisfaction. In a comparative international study involving Taiwan, Germany and the US, Blömeke et al. (2017) found that beginner teachers' commitment to stay was linked to their perception of leadership quality, with perceived appraisal and workload (generic and subject) being seen as the key driving forces in their decision-making. Other studies have also pointed to teachers' perceptions of administrative support and leadership as being strong predictors of teachers' intention to leave (e.g. Allensworth et al., 2009; Boyd et al., 2011; Marinell & Coca, 2013). Sims (2017) used 2018 TALIS data, and showed that "better" school leadership is associated with

higher job satisfaction for teachers, and a reduction in teachers' likelihood of leaving. In a national survey by Scholastic and the Bill and Melinda Gates Foundation (2010) around 30% of teachers cited lack of leadership support as the most significant challenges they faced. A survey of former teachers in England also cited the lack of support from leadership as one of the top reasons for teachers leaving the profession (DfE, 2017).

Early studies of school leadership attempted to build a typology of school leaders. Burns (1978), for example, introduced the concepts of transactional and transformational leadership. Transactional leadership is described as autocratic where the emphasis is on extrinsic rewards and close monitoring of the staff activities. Transformational leaders, on the other hand, are meant to be charismatic, inspirational, leading by example, creating a sense of shared identity (Bass, 1996). Transformational leaders promote educational innovation by creating a vision for the future, building a culture of collaboration and empowering others to become leaders themselves, encouraging growth and change, promoting continuing professional development and are inspirational. TALIS data includes measures of transformational leaders as achieving consensus in decision-making, awareness of teachers' needs, inspiring new ideas and treating teachers as professionals (Barbieri et al., 2019).

Others have named leadership practices that encourage shared decision-making as distributive or distributed leadership (or shared leadership), that includes instructional leadership. This is often associated with terms like collaboration, shared decision-making and autonomy. According to Spillane (2006), distributed leadership is not a leadership type, but a lens or framework for understanding leadership on a spectrum. So, a leader can be simultaneously distributed and democratic or non-democratic (Gronn, 2009). These different characterisations are not helpful. In fact, they make it really challenging to identify specific practices or attributes that are of any practical relevance in education (see below).

The aim of this structured review is to consolidate the findings of these disparate studies to provide a methodologically robust synthesis of international evidence to identify effective leadership practices and innovations that support teachers' well-being, workplace satisfaction and retention. The research question is:

> What leadership attributes or practices are most effective in supporting teachers' well-being, job satisfaction and retention?

Methods

The review was conducted in three stages.

Identification of literature

The first stage was to identify the relevant literature. A set of keywords was developed to facilitate the search. These included terms relating to status, self-esteem, self-efficacy, job satisfaction and working environment. Note that the keywords relate to the larger study, which also looks at direct interventions aimed at improving teacher well-being and job satisfaction (not necessarily involving leadership). As the research question is causal, the keywords also included causal terms.

intervention OR initiative OR incentive OR policy OR scheme OR plan OR leadership OR mentor* OR effect OR impact OR correlation* OR comparative OR quasi-experiment* OR experiment* OR longitudinal [abstract]

AND

teacher OR educator OR instructor OR "in-service teacher"

AND

prestige OR status OR "social status" OR image OR well-being OR "mental health" OR "job satisfaction" OR self-esteem OR morale OR "school environment" OR "working environment" OR "professional development" OR "selection of candidates" OR "value accorded to teachers"

For the purpose of this review, we view "school leaders", "leadership practices and attributes" broadly under interventions as these characteristics can be changed or enhanced, which can have an effect on teacher outcomes and their working environment.

These terms were first tested on the Web of Science search engine to see if they were sensitive enough to pick up relevant pieces of literature and studies already known to us. After a few adjustments, they were then applied to a range of educational, psychological and sociological databases (EBSCOhost and Web of Science). EBSCOhost includes ERIC, British Education Index, Applied Social Science Index Abstract and PsycInfo. As the topic was about mental health and well-being, we also searched PubMed and Medline. To help avoid publication bias and so that unpublished reports or grey literature were not missed, we also searched ProQuest Dissertations and Google Scholar. The search terms were adjusted to adapt to the vocabulary, wildcard characters and commands of each of the databases. Table 1 shows how many reports emerged.

These search terms were tested in several iterations to find the combination that is most sensitive in picking up known studies. The first set of keywords was to identify any interventions or policies or initiatives that have an impact on teachers' working environment, status, mental health (all related to teachers' prestige, status and job satisfaction). The role of school leaders was consistently shown to play an important role in teachers' well-being and school environment. For this reason, we have included "school leaders" and interventions to improve school leadership as factors that can have an impact on teacher outcomes and their work environment. Therefore, for the purpose of this review, we view "school leaders", "leadership practices and attributes" broadly under interventions as they are determinants or instruments of change.

To readers who may be curious as to why only 31 studies were identified in Google Scholar, we need to explain that Google Scholar was searched in addition to the electronic databases to ensure that we have not missed out unpublished studies. Therefore, we have

Table 1. Number of records identified from each of the databases and number exported to EndNote.

Databases	No. of records identified	No. of records exported to EndNote
PubMed	2910	33
Medline	2928	15
Web of Science	22,523	47
EBSCOHost	45,242	15
Google Scholar	31	31
From other sources	124	124
Total	73,875	265

included only studies that have not been identified from early searches from the electronic databases. Hence, only 31 were identified as unique to Google Scholar and all 31 were included.

As with any structured review, even one using the range of databases listed here, it is not possible to claim that all relevant studies have been found. As ever, the question is not whether some studies may have been missed, but whether there are studies missed that are of such rigour and significance that they would change the overall findings.

Screening

Because of the large number of hits from some databases, we sorted the records by relevance, and did a quick screen by titles and abstracts. The most relevant records appeared first. We kept searching until we came to a point where we found no relevant studies in the next 10 pages, at which point the search stopped. Identified studies were then exported to EndNoteX9 and screened for duplicates (using the Find Duplicates function) and relevance, on the basis of their title and abstract. Only studies judged as related specifically to the research questions were retained. We developed a list of inclusion and exclusion criteria using the PICOS (population, intervention, comparison, outcomes and study design) framework. Studies were included if they:

- were about school teachers (not just school leaders or teaching assistants) in mainstream state-funded /government schools
- included an intervention or initiative to improve teacher status, working environment, well-being or job satisfaction of teachers
- had measurable outcomes
- were empirical (i.e. research with analysis of data)

Studies were excluded if they:

- were not about teachers in mainstream state-funded schools at all (i.e. special schools, independent fee-paying schools, hospital schools or pupil referral units)
- related only to specific groups of teachers, e.g. special education teachers or ethnic minority teachers
- were about student achievement or student well-being
- were not about strategies or policies to improve job satisfaction, status, school climate/working environment or teachers' well-being
- were not empirical, e.g. descriptions of programmes or initiatives, anecdotal accounts from schools about successful strategies, intervention manuals, opinion pieces or promotion literature, guidance briefs or manuals on how to improve the stated outcomes
- had no clear evaluation of outcomes
- were not reported in English

We did not limit the publication dates to avoid missing relevant material. A large number of studies involving surveys, or comparisons before and after with no comparison groups, were included in this review but were rated low in quality. Although they may be eventually excluded in the analysis, we included them in the discussion as they may suggest

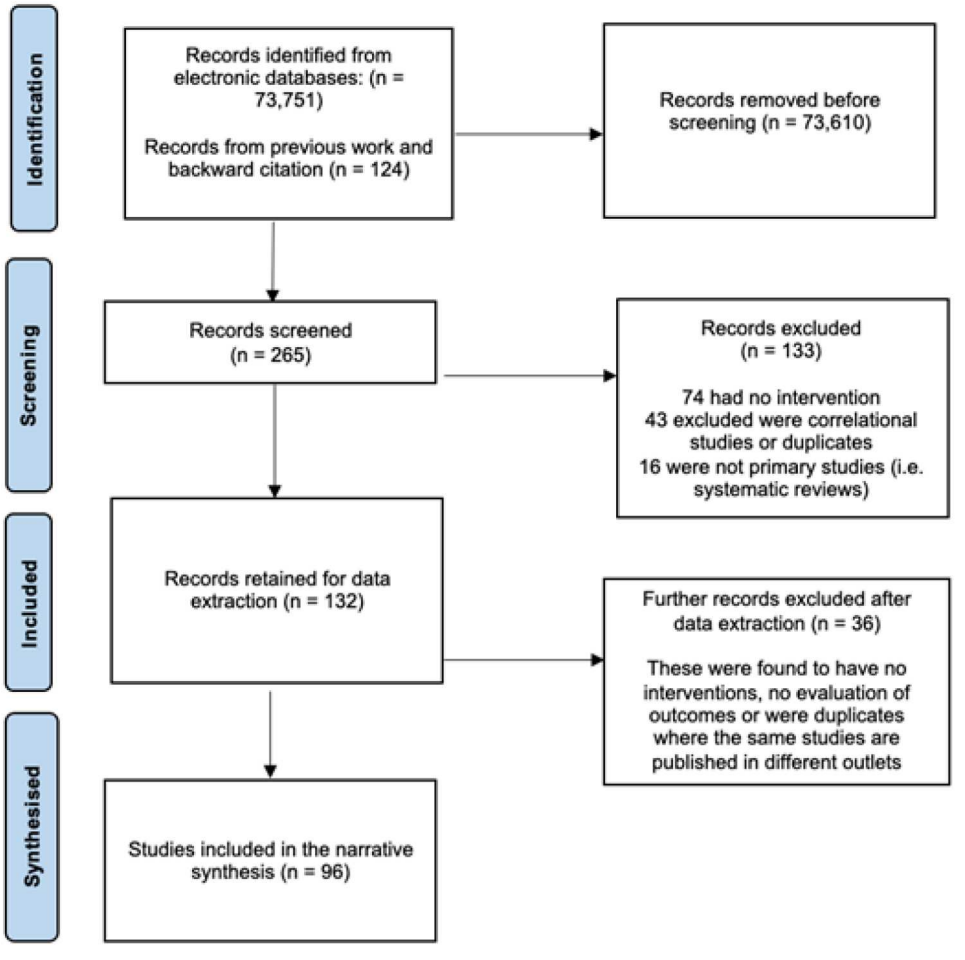

Figure 1. Prisma flow chart.

some interventions that can be tested. The Prisma flow chart (Figure 1) traces the number of records from identification to synthesis.

Of the 96 studies noted here, 28 were more about leadership interventions, practices and organisational climate. These reported 29 outcomes as one study (Jacob et al., 2015) reported both teacher turnover and teacher collaboration as outcomes. This paper only considers these 29 outcomes.

Data extraction

Studies that met the inclusion and exclusion criteria were retained for data extraction and full texts of these studies were then read and key information relating to research design, scale of study, how groups were assigned (for randomised control trials or RCTs), the outcomes measured, measurement quality and any threats to validity (e.g. missing data, diffusion, conflict of interest), were noted. Such information is essential in determining the strength of the evidence.

Around 5% of the 96 studies were coded by at least two of the research team independently, and the coding and ratings were compared. We initially screened 5 papers, selecting a selection of studies about leadership, mindfulness training and direct classroom management strategies. These included Carroll et al. (2021) (Mindfulness training), Cheng (1996) (school leadership and organisation factors), Gaspar et al. (2022) (RCT of classroom management strategies) and Jennings et al. (2019) (mindfulness training, the CARE programme). It is to be expected that not all studies will give their intervention the same name or label. It is the job of the reviewer to code these according to some common elements. For example, there were interventions about social emotional regulation, yoga, meditations and mindfulness training. We met and decided to code these as Coping and Stress interventions. There was another group of interventions with potential to enhance teacher well-being but focus on the psychology or the state of mind of the individuals. We code these as Positive Psychology. These included Cognitive Behavioural Therapy (CBT), Acceptance and Commitment Therapy (ACT) and Positive Psychological Intervention (PPI). We could not at first decide where gratitude intervention sits, but upon discussion we thought it would sit well with positive psychology. Another example is the Three Block Model of Universal Design for Learning programme (Katz, 2014). It was not immediately clear from the title what theme this would be. Upon close reading, we decided to code it under teacher professional development and classroom management.

We coded all studies about school leaders, leadership practices and leadership styles and their influence on the organisational climate, e.g. participative and collaborative decision-making, school culture/climate under school leadership and organisational climate. We were initially unsure whether to code them separately but decided to code them under the same theme as organisational climate is very much influenced by leadership skills and practices. Studies under this theme were clearcut and there was no disagreement.

While 5% were initially double-screened, reviewers were constantly cross-checking with the lead reviewer regarding the coding as they went along. So, effectively more than five studies were double-screened, but we did not keep track of the numbers that were consulted as this was an ongoing process.

Evidence rating

Each included study was assessed on the strength of its evidence based on four criteria (see Table 2). A security rating was awarded to each study from 1* (not strong enough for causal claim) to 4* (the most credible evidence for a causal claim). For more details about this quality assessment framework, see Gorard (2021, p. 94). Studies that were rated 0 are not discussed in this paper as they do not add anything to the evidence base.

The table is meant to be read from left to right and from top to bottom, starting with the research design. As our research question is a causal one, the strongest design for a causal question would be a randomised control trial (or similar). These would be rated 4* for design. Quasi-experimental studies (e.g. matched comparisons using propensity score matching, difference-in-differences, regression discontinuity) would be rated slightly lower (3* or less), as the groups compared may not be similar, and other confounding factors or unobserved variables cannot be accounted for. Moving across the columns, if the study has a large sample in each comparator group then it stays at the same level.

Table 2. Criteria for judging the strength of research evidence.

Design	Scale	Dropout	Data quality	Rating
Strong design for research question (RQ)	Large number of cases (per comparison group)	Minimal attrition, no evidence of impact on findings	Standardised, pre-specified, independent	4*
Good design for RQ	Medium number of cases (per comparison group)	Some attrition (or initial imbalance)	Pre-specified, not standardised or not independent	3*
Weak design for RQ	Small number of cases (per comparison group)	Moderate attrition (or initial imbalance)	Not pre-specified but valid in context	2*
Very weak design for RQ	Very small number of cases (per comparison group)	High attrition (or initial imbalance)	Issues of validity or appropriateness	1*
No consideration of design	A trivial scale of study, or N unclear	Attrition huge or not reported	Poor reliability, too many outcomes, weak measures	0

It will drop lower if it is a smaller scale study. Moving along to the right, if there is no or low attrition, then it remains at the same level. If there is high attrition, then it drops levels again and so on. The ratings only move downwards.

To encourage consistency of rating across studies, four members of the team independently reviewed and rated a sample of 10 papers before meeting to discuss the ratings. There was very high agreement. During the synthesis stage, the team leader reviewed some of these pieces if there were any doubts about the scoring based on the information extracted. This approach is widely and successfully used, and further explanations for why these four research elements are used appear in Gorard (2024).

Because of the dearth of experimental studies in some areas, such as developing leadership to improve school climate, we have also included correlational studies if they were large scale. We even included some studies with no comparison groups, but these were rated lower in terms of strength of evidence.

Results

Although school leadership practices and organisational climate have often been suggested as factors that can impact teacher well-being, workplace satisfaction and retention, this review found little evidence to support this claim. Spurious unwarranted causal claims are widespread in the field (Gorard, 2005, 2013; Coe, 2022). The strongest studies on school leadership tend to be correlational, based on principals' reports of their own leadership practices or teachers' perceptions of school leadership and their reports of job satisfaction and intention to stay. Experimental studies examining the impact of school leaders' actions or professional learning training on their leadership practices and teacher outcomes are almost non-existent. Given so little robust evaluation of any leadership practices, it is impossible to say what are effective practices or what school leadership attributes make effective leaders.

Only one 3* study was found (the highest rated study in this whole review, because none were judged 4*). This was an intervention reporting positive effects. Seventeen studies were rated 2* and all but three reported a positive impact of leadership on teachers' well-being and job satisfaction (Table 3). It is common for weak studies to portray positive outcomes – a form of publication bias, or researcher effect (Gorard et al., 2017). These are correlational but using large administrative datasets. The

Table 3. Intervention – school leadership and organisational climate ($n = 29$ outcomes).

Strength of evidence	Positive	Mixed/inconclusive	No/negative
4*	–	–	–
3*	Jacob et al. (2015)		
2*	Jacob et al. (2015) Ford et al. (2018) Grissom (2011, 2012) Grissom and Bartanen (2019) Ingersoll (2001) Ouellette et al. (2018) Pagán-Castaño et al. (2021) Ronfeldt and McQueen (2017) Richter et al. (2012) Shen (1997) Sims (2017) Sims and Jerrim (2020) Stang-Rabrig et al. (2022) Boyd et al. (2011)	Player et al. (2017) Ladd (2011)	
1*	Allensworth et al. (2009) Cheng (1996) Herman et al. (2021) Johnson et al. (2012) Liu et al. (2021) Marinell and Coca (2013) Suleman et al. (2021) Ross et al. (2012) Weiss (1999) Zhang et al. (2021)	Klecker and Loadman (1996) Semarco and Cho (2018)	

correlational design meant that we could not be certain of the direction of causation. For example, it is possible that teachers who are satisfied with their job are more likely to view their principals positively. Conversely, those who experience depression and anxiety are less likely to see their principals as supportive. Unless principals have been randomly selected to be trained in different aspects of leadership, the direction of causation cannot be certain. Hence, these otherwise good studies are not rated higher than 2*. For the purpose of this review, we report only on those outcomes related to teachers, i.e. not student achievement.

Because only a small number of studies met our inclusion criteria, we discuss the weaker studies where relevant as well, where they may suggest areas for future research.

Effective school leadership practices and leadership attributes

Effective leadership is thought to encompass a combination of practices, and effective leaders are thought to be defined by some common attributes. School leaders could play an important role in setting the climate and ethos of the school, which is linked to teachers' job satisfaction, their well-being and potential to stay in the school or in the profession. The following sections look at the kinds of leadership practices or attributes relevant to teachers' well-being and retention. It is difficult to identify or categorise discrete leadership characteristics as there is so much overlap, and studies give different labels to similar characteristics, or similar labels to different characteristics. Most studies talked about effective leaders as possessing a combination of attributes. But research sometimes highlights some of these characteristics more than others.

Effective leaders may have a positive influence on the school working conditions and teacher retention

Comparing teachers' working conditions over time using the 2013 and 2018 TALIS data linked with the School Workforce data for England, Sims and Jerrim (2020) found that teachers who reported better school leadership/management were more likely to report higher job satisfaction and lower likelihood of leaving school. Of the variables related to working conditions, school leadership/management had the strongest association with job satisfaction. For intention to leave, school leadership/management and discipline are important predictors. There is no consistent pattern of association between workload and attrition. Leadership/management includes providing teachers with opportunities to make school decisions, a culture of shared responsibility, collaborative school culture with mutual support, teachers being given greater autonomy to do their work, and effective management. 2*

Ingersoll (2001) also utilised data from SASS and TFS to examine the effects of school organisational climate on teacher turnover. The results showed that lack of administrative support and poor salary were good predictors of teachers moving school. Low pay and lack of administrative support were also predictors of leaving the profession completely, but low student motivation and poor school discipline were additional reasons. Ingersoll argued that organisations and, by extension, principals who protect academic freedom, job security and allow teachers to express disagreements, were more successful in retaining teachers. The analysis controls for teacher and school characteristics. 2*

Teachers' perceptions of leadership quality are often used as a measure of workplace conditions. Ladd (2011) defined a positive working environment as one where leaders are seen as trusting, supportive (particularly with respect to maintaining discipline) and involving teachers in shared decision-making. These leadership characteristics are predictors of teacher attrition and retention. The study used data from the North Carolina surveys of school climate for 2006 and 2008. Teachers' perceptions of the school working condition are a strong determinant of their intention to leave current school, but they are less predictive of actual departure. The racial mix of school students is a stronger predictor of actual departure than the quality of school leadership at middle school compared to elementary school. 2*

Stang-Rabrig et al. (2022) examined the relationship between school climate and teachers' well-being during the Covid-19 pandemic. In particular, they looked at collegial school environment, availability of technical support and personal resources, and teacher stress, exhaustion and job satisfaction – many of these are things that are or could be linked to school leadership. The study was a nationwide survey involving 3,250 teachers in Germany. Structural equation modelling showed that when support from colleagues was evaluated as high, teachers reported lower stress and higher job satisfaction. This study illustrates how a collegial school environment is important in supporting teachers' mental health. This is a cross-sectional study, so no causal interpretations can be drawn. Outcomes were based on teachers' self-reports, which can be affected by social desirability bias, potentially affecting participants' responses both consciously and unconsciously. The use of social media to recruit participants might limit generalisability as social media channels can be selective. 2*

Allensworth et al. (2009) analysed teacher personnel records from 2003/2004–2006/2007 for 24,848 teachers in Chicago Public Schools. Teacher records were linked with

schools. The results show that principal leadership and teacher cooperation are good predictors of staff stability. Teachers are more likely to stay in schools with a positive, collegial and collaborative culture – where there are positive, trusting and working relationships with colleagues, strong sense of collaborative responsibility and commitment to improve school. They are more likely to stay in schools where teachers perceive principals as strong instructional leaders who provide direct support to their practice and where they are given an opportunity to take part in school decisions. Unfortunately, the data did not distinguish between those who left for retirement reasons or were laid off, or left due to school closures or cut backs, and those who left due to dissatisfaction with the school or leadership. 1*

Zhang et al. (2021) analysed linked TALIS-PISA data for nine economies for which the data was available. This included responses from 18,571 teachers across 1512 schools. The results showed that job satisfaction was strongly correlated with well-being, and self-efficacy. School climate (which again could be linked to leadership) was least associated with teacher well-being while self-efficacy was least related to school climate. The findings suggest that there is a heterogeneity of effects of culture and local contexts, and the influence of the school climate on teacher well-being and job satisfaction may vary across different countries/economies. 1*

Weiss (1999) drew on the Schools and Staffing Survey (SASS) and the Teacher Follow-up Survey (TFS) to examine the relationship between first-year teachers' reports of school working conditions, teacher morale and intention to stay. Controlling for school and teacher characteristics, the study found that the strongest predictors of teachers' intention to stay in teaching were their perceptions of school leadership, culture and autonomy. Teacher attrition was higher in schools where teachers had little control over school decision-making, administrative support was poor and student discipline problems were rife. In this paper it is not clear how the regression analysis was performed, what the total sample size was, nor the scale of missing data. It also appears that they used ordinal/categorial Likert-scale data as real numbers. 1*

Johnson et al. (2012) found that teachers in schools with a positive school context are more satisfied and plan to stay longer in schools, after controlling for student demographics. While working conditions generally appear to be important to teachers and their future career plans, it is the social conditions – such as the principal's leadership, school culture and relationships with colleagues – which are better predictors. The study included over 70,000 teachers from a state-wide survey of school working conditions in Massachusetts. Because they excluded schools with over 60% non-response and also teachers who did not complete all questions, the results could be biased (see Gorard, 2020). 1*

Taken together, these studies suggest a relatively positive picture for the link between leadership and staff welfare. However, none has more than a correlational design, and most are based on perceptions rather than actual behaviour, or outcomes such as staff leaving.

Relationship between supportive leadership and teacher outcomes

A series of observational studies point to teachers' perceptions of administrative and leadership support as strong predictors of teachers' intention to leave. However, what

"supportive leadership" means here is not clear. It can take a variety of forms, from providing teachers with professional development opportunities to protecting them from the pressure of accountability, or giving them autonomy over their professional development choices (Hirsch & Emerick, 2007).

Ronfeldt and McQueen (2017) drew on the SASS and TFS datasets, and included the Beginning Teacher Longitudinal Study (BTLS) survey data as well to investigate whether different kinds of induction support predict turnover among first-year teachers. To mitigate against unobserved factors, the authors used propensity score matching of demographic characteristics to link 1600 teachers receiving extensive induction (i.e. 4–6 induction supports) with 1130 teachers not receiving extensive induction (i.e. 0–3 types of support). The results showed that receiving extensive induction supports reduced teacher migration by 5% compared with not receiving extensive induction support. Supportive communication with school leadership had the strongest link, reducing the odds of leaving by around 55% to 67%. Every additional induction support was associated with an average decrease in the odds of leaving teaching by between 18% and 22%. One major limitation of this study is that the measure of induction was based on teachers' self-report and this can be prone to reporting bias. 2*

Also using the Schools and Staffing Survey for 2011–2012 and the 2012–2013 Teacher Follow-up Survey, Player et al. (2017) examined the relationship between leadership, person-job fit and teacher mobility. Teachers who reported positive school leadership (defined as supportive and encouraging, recognise good work, enforce rules and give disciplinary support, communication of school vision to teachers) were less likely to move school than those who reported weaker leadership. 2*

Ford et al. (2018) used data from TALIS to examine the relationship between a supportive teacher evaluation system and teacher job satisfaction. Using multiple regression analysis, the results showed that teachers' perceptions of the school climate, teacher–student relationships and collaborative decision-making were strong predictors of teacher job satisfaction. Controlling for teacher and school characteristics and working conditions, the study found a small, positive relationship between the perceptions of supportive teacher evaluation experiences and teachers' job satisfaction. 2*

Sims (2017) also used the TALIS dataset but only for England. The data included 953 teachers which were then linked with the School Workforce Census (SWC). Logistic regression analysis showed that the strongest predictor of both teacher job satisfaction and teachers' desire to move school was leadership/management quality. The author explained that a supportive leader would provide the support and resources making workload manageable. A one standard deviation (SD) improvement in the quality of leadership is associated with 0.5 SD increase in teacher job satisfaction and a 64% reduction in the odds that a teacher would express strong desire to move school. 2*

Boyd et al. (2011) surveyed 4650 first-year teachers in New York City with a follow-up survey of those same teachers a year later, including those who had left. They then matched these teachers' responses with the district administrative data and examined the responses of teachers in the same school about working conditions in the school and the career trajectories as well as the retention behaviour of all other teachers in the same school including those who responded to the survey. Their analyses showed that the strongest predictor of teachers' intention to leave was teacher assessment of administrative support. Job dissatisfaction was the top reason given for leaving or

wanting to leave, and the reason for the dissatisfaction appears to be teachers' perceptions of weak administrative support. 2*

Marinell and Coca (2013) analysed data from 4,000 middle school teachers obtained from the New York City Dept of Education human resource records. The results showed that teacher turnover was lower in schools where principals were perceived as trusting, supportive, knowledgeable and efficient. This fosters high levels of order, teacher collegiality and teacher professional control (autonomy). 1*

Again, the overall picture is positive, based on the limited evidence available.

Relationship between empowering school leaders and teacher outcomes

School leaders who are supportive are also considered empowering, another common trait of those deemed effective leaders. A number of studies have suggested empowerment is associated with positive changes in satisfaction and work commitment. This is where school leaders empower their staff and give them the autonomy in decision-making and control over some aspects of the school organisation. Five studies looked specifically at whether this has beneficial effects for teachers' job satisfaction and mental health. These were all cross-sectional studies with no comparators, so the overall evidence is again rather weak.

Shen (1997) used the 1990–1991 SASS and 1991–1992 (TFS) follow-up survey data of 3612 teachers to examine the relationship between school leadership (specifically, school administrators being aware of staff members' problems) and teacher autonomy (specifically, teachers' influence over school policies) on teacher retention decisions. They compared teachers who stayed with those who moved and those who left teaching completely. The results showed a positive correlation between school leadership and teacher retention. Specifically, leadership practice that empowers teachers, involves them in decision-making, and is supportive of teachers' work was found to be an important determinant of teacher retention decisions. 2*

Empowering leaders could give teachers control or autonomy over their professional decisions. Analysis of UK Household Longitudinal Study data and the National Foundation of Educational Research Teacher Voice survey (Worth & Van den Brande, 2020) showed that teacher autonomy (control over their professional development goals) is strongly related to teachers' job satisfaction, their perceptions of workload manageability and intention to stay in the profession. 2*

Grissom (2011, 2012) suggests that only under an effective leader does teacher empowerment (i.e. participation in decision-making) have a positive influence on retention. And the impact of empowerment intervention on teachers' job satisfaction depends on teachers' perceptions of the amount of support they received from their managers. It is therefore hard to disentangle supportive and empowering attributes in leaders. Grissom added that principal effectiveness is associated with greater teacher satisfaction and a lower probability of teachers leaving the school within a year. For every standard deviation increase in principal effectiveness, there is a 1.5 percentage point decrease in a teacher's probability of leaving the school. Grissom defined an effective leader as one who is discriminatory in keeping high-performing teachers while increasing turnover of low-performing teachers based on the observation scores in the evaluation rubric. The effect of effective leaders is stronger in disadvantaged schools as defined by student

demographics. The study utilised data from the 2003–2004 Schools and Staffing Survey (SASS) and the 2004–2005 Teacher Follow-up Survey on working conditions. The sample included 31,000 teachers in 6,300 schools. 2*

In a later study, Grissom and Bartanen (2019) argued that reducing turnover for all teachers including low-performing ones can have negative effects on the morale and job satisfaction of the high-performing teachers. They analysed longitudinal administrative data from Tennessee for the years 2011–2012–2016–2017 and data from the Tennessee Educator Acceleration Model (TEAM), which evaluates the effectiveness of principals and teachers. Linking these datasets, the study showed that principals rated as effective on the administrator evaluation rubric were more likely to retain teachers rated as effective based on the observation scores but less likely to retain teachers with very poor observation scores. 2*

Suleman et al. (2021) found that leadership-empowering behaviour was positively correlated with teachers' psychological well-being. 564 secondary school teachers in London were surveyed with a response rate of 92%. Despite the stratified random sampling, oddly only 32% of the sample was female. Well-being was measured using the 6-point Likert Psychological Well-being Scale, while leadership behaviour was measured using the 7-point Leader Empowering Behaviour Questionnaire. Regression analysis showed that the strongest predictor was accountability for outcomes, followed by coaching for performance, delegation of authority and information sharing. The regression did not control for pre-psychological well-being, so it is hard to be confident about the results. 1*

A survey of 10,544 classroom teachers from 307 schools in the US found a positive relationship between teachers' perception of the level of leadership empowerment and their self-report levels of job satisfaction (Klecker & Loadman, 1996). The response rate to the survey was 39% thus reducing the trustworthiness of the finding. 1*

Liu et al. (2021) surveyed 557 Chinese kindergarten teachers using a 5-point Likert-scale questionnaire to measure school leadership and job satisfaction. The results showed a positive relationship between empowering leadership and teachers' job satisfaction, with job satisfaction being positively associated with affective commitment. 1*

A key point emerging here is that simply retaining teachers is not necessarily a mark of good leadership. Sometimes a school can improve by losing less effective teachers.

Other features of leadership

Pagán-Castaño et al. (2021) examined the relationship between school leadership, human resource management, teacher well-being and work performance. The sample included 315 secondary school teachers from 75 schools in Spain. Measures included practices like consistency, coherence and consensus (agreement and fairness). Well-being included measures of emotional burnout, psychosomatic disorders and physical health symptoms, job satisfaction and happiness. Leadership quality was measured using the Empowering Leadership Questionnaire, which assesses two leadership styles: leadership by example and leadership of high communication. The results show that high communication leadership and leadership by example are positively associated with human resources management. Human resource management, in turn, is positively associated with psychological and physical well-being. It is not clear how the school leaders were identified or selected. 1*

One study (Semarco & Cho, 2018) reported that task-oriented managerial leadership behaviour is predictive of teachers' retention intention. Task-oriented behaviour refers to planning, clarifying, monitoring and problem-solving behaviours. This was a cross-sectional study involving 558 teachers and 279 head teachers (response rate 83%) in Ghana. Teachers' perceptions of their headteachers' managerial practices were correlated with their retention intention. The authors reported that headteachers' planning activities were the only significant predictor of retention, while their clarifying, monitoring and problem-solving behaviours significantly predicted their planning behaviour. The reporting of results is not clear. 1*

Does improving school leadership skills improve teacher retention?

If certain leadership characteristics and practices are associated with teacher job satisfaction, well-being and retention, would interventions to foster these characteristics improve teacher outcomes? This review found only two studies that evaluated interventions focused on improving school leadership to enhance school climate and working conditions. The overall picture is inconclusive. There is no clear evidence on the effectiveness of leadership interventions. As Gorard (2005) showed 20 years ago, there seems little appetite in research on leadership to test whether it actually makes a discernible difference.

The strongest study in this review (Jacob et al., 2015), evaluated a two-year professional learning programme (Balanced Leadership Professional Development Program) for school leaders, where 126 principals were randomly assigned to the programme or to a "business as usual" control group. The mechanism of change from teacher collaboration and turnover is hard to determine. The programme emphasised five key practices for effective principals: shaping a vision of academic success, creating a climate hospitable to education, cultivating leadership in others, improving instruction and managing people, data and processes to foster school improvement. Principals were taught three strategies for improving practices: knowing what to do, how to do it and when to do it. In the course, principals also reflected on and discussed real-life problems faced and how they would apply lessons to their school context. Although there was a reduction in principal and teacher turnover in the intervention group, the impact on teacher collaboration and instructional climate is less clear. As the intervention is multi-component, it is not possible to say which of the five practices was most effective. Perhaps it is a combination of practices (balanced leadership) that is needed to bring about positive results. This study was conducted in Michigan's rural schools. Whether similar effects will be observed in other contexts remains to be seen. 3*

Herman et al. (2021) conducted two RCTs of a school leadership training programme to improve school leadership skills and organisational climate. The Leadership in Behaviour Support programme supports administrators in shaping and influencing school culture and climate. Participants were 639 teachers in 31 schools from across phases of education. Organisational health was assessed using the Organisational Health Inventory, which measured Collegial Leadership (perception of principals as friendly and supportive). As the teacher surveys were anonymous, comparisons were conducted at school level (less powerful) based on simple regression models. The results showed that teachers' well-being (stress, depression and anxiety) was correlated with the school climate, and

a collegial school leadership positively predicted teachers' well-being and job satisfaction. However, the analysis did not estimate the impact of the intervention. Instead, it used participation in the intervention and prior school year as covariates. Effectively, despite using RCTs, the study could only establish correlation rather than causation. 1*

Discussion

Summary

A key finding from this review is that much of the research on leadership and teacher well-being is poorly designed for causal claims meaning that it is hard to make any confident recommendations for policy and practice. Therefore, despite the abundance of research in this field, we still do not know how to make leaders more effective. Nor do we even really know what effective leaders look like. Due to the same kind of methodological and conceptual problems that we encountered, Coe (2022, p. 5) describes much advice stemming from research in this area as "too vague to be meaningful or actionable".

Methods limitations

This is partly because there is an absence of robust evaluations of the impact of school leadership practices on school climate and any teacher outcomes. The strongest study that evaluated an intervention focusing on five practices of effective leaders shows promise in reducing principal and teacher turnover, but the mechanism of change is unclear. Because of attrition (20 treatment schools dropped out after randomisation, although the analysis was based on intention to treat), we cannot be certain how much of the results were due to the intervention or other pre-existing differences. This was a relatively small study based on only 126 principals in rural schools in one state in the US. Currently, we do not have secure knowledge about how to develop effective school leaders in regard to teacher well-being and so retention, and no convincing evidence that any training programme for school leaders has had any discernible impact on teachers' outcomes.

Researchers often compare teachers' assessment of their well-being, job satisfaction and intention to stay in the school with their responses to a list of leadership characteristics, and then summarise these leadership characteristics as effective if they correlate strongly with teachers' assessment of themselves. This approach is likely to lead to spurious and unwarranted claims. These correlational studies can only suggest that two factors being examined are related. They do not mean that one causes the other. This is what Ouston (1999) called the "potted plant theory" of effectiveness. If you find potted plants in effective schools, then having potted plants is lazily deemed to be the key to an effective school.

There are other problems with the research on school leadership more generally, which researchers in this field rarely acknowledge. Most of the large datasets used in the research cited in this review use Likert (or Likert-type) responses to the key questions about leadership and well-being. Imagining that these responses (not just the frequencies of those responses) is a real number leads to potentially misleading findings, especially when added to the vagueness of the concepts being "measured". There are appropriate

methods for analysis, including cross-tabulations, odds ratios and even rank correlations, but these were not used in any of this literature.

Also, administrative data, as widely used in the pieces in this review, is neither collected from random cases, nor somehow randomised later. Therefore, the use of any analytical technique mathematically predicated on randomisation is a clear error. The primary data collected in any of these studies is incomplete due to non-response or attrition, as noted in the descriptions above. Again, this means that any results cannot have arisen solely by chance, and using the panoply of significance testing is inappropriate. This error is almost universal.

It is possible that our review (the search terms we used, the databases searched and the stringent inclusion criteria) may have excluded relevant studies. But we do not think this is the main reason why we could not find enough causal studies to provide conclusive evidence. First, we have subsequently conducted another review (Dong et al. 2023) for a different funder focusing specifically on school leadership using slightly different strategies for the search and a combination of search terms. We found similar limitations in the studies in the new review. Coe's (2022) review also highlighted similar methodological limitations in research on school leadership. Herman et al.'s (2017) review also found largely correlational studies with some quasi-experimental studies and only 2 RCTs. This suggests that perhaps the field of educational leadership needs to move forward to provide more robust evidence of some of the claims made. We know that it is possible to conduct RCTs and quasi-experimental studies to evaluate school leadership (e.g. Herman et al., 2021; Jacob et al., 2015; Wu et al., 2006). Therefore, there is no reason to believe that any studies not found would change this pattern.

Conceptual limitations

There is reasonable consensus among the studies in this review on five key attributes and practices of effective school leadership. Effective leaders are often described as supportive, promoting collegial collaboration, teacher professional development, enhancing open communication and creating a positive teaching and learning environment. These characterisations of school leaders look neat and plausible in theory but are of limited practical use. There is a lot of overlap between them. The majority of the studies in our review included elements of each of these leadership characteristics in their measures.

Even when researchers used the same survey dataset they define similar constructs differently and attach different labels even to similar constructs depending on the question items they had selected from any questionnaire. One explanation for this is the common practice among researchers of using factor analysis to group these varying characteristics into convenient latent factors and assign a label to them. These labels do not always mean the same thing between studies and similar attributes may be given different, and so confusing, labels. This is known as a "jingle-jangle" fallacy (Kelley, 1927). According to Coe (2022) such leadership constructs sound attractive but are usually poorly constructed and measured.

For example, Boyd et al. (2011) defined "effective administration" as one that is fair, supportive and consultative, involves teachers in making decisions and is effective in dealing with outside pressures. Others defined strong leadership as one which provides

teachers with opportunities to make school decisions, promotes a culture of shared responsibility, creates collaborative school culture with mutual support and teachers being given greater autonomy to do their work (Sims & Jerrim, 2020). Collegial leadership is sometimes described as "supportive leadership" (Herman et al., 2021). Hancock and Scherff (2010) assessed support as clarity of communication, enforcement of rules and appreciation of teachers. Others consider a supportive leader as one who gives teachers autonomy over their professional development (e.g. Worth & Van den Brande, 2020), while others define a supportive leader as one who provides support and resources for teaching (Sims, 2017).

Further, the concept of organisational health, school climate/environment overlaps with school leadership. A school's working conditions are often described as determined by the school leaders. But in other studies, school leadership is a component of working conditions. Others consider support from colleagues as an indication of the school climate (e.g. Stang-Rabrig et al., 2022). Herman et al. (2021) used collegial leadership as an indicator of the organisational health, while Wu et al. (2006) regarded teachers' collegial relationship as an outcome of the leadership practice. This makes it hard to synthesise these studies.

Outcome measures, such as job satisfaction, self-efficacy and well-being, are far from universally agreed. For example, job satisfaction is sometimes used as a measure of well-being (Herman et al., 2021; Pagán-Castaño et al., 2021; Stang-Rabrig et al., 2022). Others consider job satisfaction, workplace well-being and self-efficacy as discrete factors (e.g. Zhang et al. 2021).

Some studies (Mostafa & Pál, 2018; Schleicher, 2018; Van Horn et al., 2004) consider self-efficacy and job satisfaction as cognitive well-being, which they define as teachers' belief in their own abilities to perform. These beliefs can influence the amount of effort teachers put into their job, and how long they persist in teaching. Affective well-being is also sometimes referred to as mental well-being.

Another challenge in addressing the issue of teacher retention through well-being, job satisfaction and working conditions is the intricate inter-relation among these variables where they may also be outcome factors. In some studies well-being, emotional exhaustion and burnout are predictors, in others they are outcomes. Several studies assessed working conditions as a measure of leadership quality, and used these measures as predictors. However, in some instances working conditions are treated as a dimension of job satisfaction, which is an outcome of leadership/management quality, while in others they are a predictor of job satisfaction. Well-being and job satisfaction can be an outcome of working conditions, and well-being can also be an outcome of job satisfaction. This can clearly lead to common method bias. Correlating these variables with organisational climate is likely to show strong correlations as they are measuring the same construct. If the two sets of perceptual errors are correlated, use of the perceptual variables will produce biased estimates of their covariance (Favero & Bullock, 2015). A positive bias can exaggerate the covariance. This mainly stems from the rather fuzzy conceptualisation of these variables over an entire field.

To address common source bias, some of the better studies have linked the SASS dataset with the Teacher Follow-up Survey to look at actual retention. Others have looked at the responses of the same teacher at different time-points. Even so there can still be bias when multicollinearity is present. For example, teachers who reported greater satisfaction with teaching were more likely to report more positive school working conditions and were less likely to leave. When there is multicollinearity, it is

difficult to determine the relative contribution of each predictor variable in a regression analysis. Moreover, any relationship can only be correlational and not causal.

Even if we can precisely delineate the attributes of effective leaders, the judgement of whether a school leader is deemed effective depends on the specific outcome being measured, the context of the school and the composition of the staff they lead. As with school effectiveness studies, much of the recommendations made in leadership research are not specific enough to be useful. Whether a type of leadership works or not depends on a number of other factors, assumptions or conditions. They may not be appropriate to their context (Coe & Fitz-Gibbon, 1998). For example, autonomy and collaborative decision-making have often been regarded as attributes of effective leaders, but "autonomy" may not be desirable or appropriate in all contexts. Similarly, involving all teachers in decision-making may not be a productive use of time as treating all staff the same could potentially demoralise effective staff who feel that their contributions are not recognised. Research has also measured effective leaders in terms of levels of empowerment. However, Grissom (2011) suggests that empowerment works only under the guidance of an effective leader, but then what is an effective leader? We are led to a likely tautology. This is just like in teacher effectiveness where the conclusion is that an effective teacher is one that is effective (i.e. has students with better test scores), and then a claim is made that effective teachers improve student scores by a certain amount (i.e. have better students test scores).

Summary

In conclusion, it is rare for us to conduct a large-scale synthesis of prior evidence on any topic and to have so few robust substantive conclusions to make. But this is the situation here. And despite resistance or perhaps reluctance, since these same points were made 20 or more years age, the field needs to move on, by clarifying what the terms involved mean, and beginning both to measure and then test them more robustly.

All that we can really conclude substantively is that there is considerable agreement among the studies reported here. There is no reason to believe that any studies not found would change this pattern. There is clearly a link between reported aspects of leadership as experienced by teachers, and their self-reported well-being and plans to remain to teaching. Whether this is tautological, or merely a correlation created by something else, or causal in either direction, urgently needs to be investigated.

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