

Who becomes a teacher and why?

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Abstract

This paper reports on a comprehensive review of international evidence, synthesising the findings of some of the strongest empirical work on the main factors influencing people's decisions to be teachers or not. Four search engines, including Google and Google Scholar and five electronic databases identified 517 studies of which 212 were included in this narrative synthesis. These studies highlighted three main motivating factors: intrinsic, altruistic and extrinsic, although the order of the ranking varies with subjects, phase of education and gender of teachers. In general, these studies reported that women are more likely to report being motivated by intrinsic and altruistic reasons, while men are more likely to cite extrinsic reasons. Across all cultures, men are reported to be more strongly influenced by social norms and expectations and were less likely to choose primary and early years teaching. Women are also more likely to experience higher levels of career satisfaction and less social dissuasion than men. Research on motivation to teach is also often focused only on those who have already made the decision to teach. Therefore, policies based on these studies might only be attracting those who are already persuaded. This paper argues that to improve recruitment of under-represented groups (e.g., males and STEM subject graduates), attention should instead be on those who might otherwise have gone into teaching, but have not. For this group, the review found that it is the status of the profession, the working environment and salary over the long term that are important.

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KEYWORDS

factors influencing teaching as a career, FIT-Choice, motivation to teach, teacher recruitment

Context and implications**Rationale for the study**

The widespread shortage of teachers is a global concern. There are particular challenges in attracting and retaining men, STEM subject teachers and ethnic minority groups to teaching. There is currently no systematic synthesis of international evidence on how to get under-represented groups into teaching.

Why the findings matter

Our findings matter because recruitment and retention of teachers is a pressing issue facing many countries. Our review considers a much more comprehensive range of factors than previous research. We weight the strength of evidence of each study so that policies to address shortages of under-represented groups are based on the strongest evidence.

Implications for policy makers

Our review found that the strongest determinants of who go into teaching or not are the individuals' sociological background and choice of subject at school. Therefore, policies to attract more into teaching should focus on those who are still in school. For men and STEM subject graduates, extrinsic factors (status, prestige and working conditions) matter. Therefore, policies to recruit under-represented groups should focus on these factors. Most previous research on this topic excludes non-teachers, resulting in misleading results. This has implications for future research and government policies. Policies to attract people into teaching should consider the career drivers of those who might have otherwise gone into teaching, but did not.

BACKGROUND

Teachers are essential for the provision of an effective education system (See et al., 2020) and can make a difference to children's academic and lifelong outcomes (Chetty et al., 2014; Gerritsen et al., 2017; Goe, 2007; Goldhaber et al., 2018; Sibieta, 2018). A shortage of teachers can have detrimental effects on children's life chances.

Widespread shortages of teachers have been reported in several countries (Eurydice, 2018), and the problem is predicted to get worse in some countries as the pupil population increases or as more qualified teachers leave teaching. Shortages are particularly acute in some subjects (e.g., maths, physics and chemistry) and regions (inner city schools or more remote areas). Such shortages are often attributed to the relatively poor pay of teachers, low status, poor career prospects and heavy workloads in schools, which make teaching a less attractive career, especially for men (e.g., Aldeman, 2015; Dee & Goldhaber, 2017; Sutcher et al., 2019).

Recruitment to initial teacher training is often associated with the national labour market and the attractiveness of other occupations (See et al., 2020). During times of economic

uncertainty, such as during the recession in England and the Covid-19 pandemic, the number of people choosing teaching as a career increases (Worth & Faulkner-Ellis, 2021). The perception of teaching as a favourable career compared to others is therefore an important one, but the literature often suggests that this is a reason why fewer people choose teaching as a career. This may be due to a variety of factors including financial rewards (such as salary) or the demand of the role (such as workload).

As the populations in many countries become more diverse, the challenge is now also focused on increasing the diversity of the teaching workforce. Difficulties in getting more males and ethnic minorities into the teaching workforce, especially in the primary/early years, have increasingly become a challenge. Teaching is reportedly one of the most gender-segregated professions among the 23 countries that participated in the OECD Teaching and Learning International Survey in 2012 (OECD, 2014).

This paper considers how to get more people into teaching and keep them in the profession by identifying individuals' motivation to go into teaching or not. In particular, it contributes to previous reviews on recruitment by reviewing research on under-represented groups and by comparing results across countries or regions. This is essential knowledge so that appropriate policy initiatives can be devised to address the current issue of teacher shortages internationally. For example, in developing countries, pay and job security may be more important factors than altruistic reasons. While some factors may not be relevant to the Western English-speaking countries in general, they are applicable where recruitment of foreign language teachers is concerned. These international studies can reveal cultural similarities and differences that may guide and inform the recruitment of teachers (Fokkens-Bruinsma & Canrinus, 2014; Klassen et al., 2011). For this reason, our review will consider studies from English- and non-English-speaking countries to understand these cultural influences.

The main purpose of the study is to understand why some people choose teaching as a career and why some do not, in order to identify important factors that determine individuals' choice of teaching as a career.

METHODS

Search strategy

To ensure that the search was comprehensive and picked up as much relevant literature as possible, we conducted three searches using slightly different search terms. These are applied to known sociological, educational and psychological databases/search engines (EBSCOHost, ProQuest Dissertations and Theses, Google and Google Scholar). EBSCO-Host includes databases such as ERIC, PsycInfo, PsycArticles, British Education Index and Education Abstracts. We also followed up on known studies from our previous work and from references in the studies identified in the search:

- Search 1: (“student* choice of teaching as a career”) OR (“undergraduate* choice of teaching as a career”) AND (factors) AND (“initial teacher education”) OR (“initial teacher training”) AND (strategies or initiatives or schemes or policies)). The first search uncovered 126 records that were potentially relevant.
- Search 2: A second search using the following key terms found 645 potentially relevant studies. Of these, 241 were duplicates and removed, leaving 404 imported records: (“teaching as a career”) AND (student* or undergraduate* or “university students”) AND (choice or decision)).

- Search 3: A search of Google Scholar obtained 286,000 hits. We viewed the first 650 and stopped because the next 5 pages or 50 articles found no relevant reports. Of the 650, 101 were found to be relevant to the topic.

Screening

These studies were then exported to EPPI-Reviewer for screening. A number of records were not relevant but contained some of the keywords (e.g., not about choice of teaching as a career). We first screened the titles and abstracts and removed those that were clearly not relevant to the topic. Duplicated results were highlighted using the EPPI-reviewer duplicate function; these were checked and duplicates deleted. The full reports were then screened using a predefined inclusion and exclusion criteria. Studies were included if they were:

- Empirical
- About school teaching
- About teaching in mainstream schools
- About attracting men and ethnic minorities into teaching
- Focused on choice or motivations or influencing factors relating to teaching as a profession
- About perceptions of teaching

Studies were excluded if they were:

- Only about individuals' perceptions of teaching as a career
- Studies about attracting people to non-core subjects or subjects not traditionally considered as hard-to-staff
- Studies on characteristics of individuals who choose teaching as a career rather than reasons for choice of teaching as a career
- Focused on outcomes that are not about teaching as a career (e.g., maybe about teaching competency or investment in teaching)
- Not about classroom teachers (e.g., if they were about head teachers, teaching assistants or administrative staff)
- About teachers in higher education
- Not empirical, that is, not research
- Publications from practitioners reflecting on their views (e.g., opinion pieces)
- Not reported or published in English
- Published prior to 1990

Any studies thought not to meet the inclusion criteria were removed and the reason logged in EPPI-reviewer. We have not restricted our search to any regions in the world as the intention was to look at political and cultural differences that might explain how we can attract certain types of teachers, such as foreign language teachers or teachers of ethnic minority backgrounds. However, we have limited our search to those post-1990 as factors influencing peoples' choice of career or more specifically teaching as a profession may have changed over the last three decades. Nevertheless, we retained some pre-1990 studies if they were seminal pieces or if the research was of a very high quality, which is rare of studies on this topic. As the screening was done by three reviewers, a sample of five were independently screened first and then compared to ensure consistency across reviewers.

Data extraction

To facilitate synthesis and quality evidence rating, key information from each included study was extracted and summarised using EPPI-Reviewer. The following screening template was used for the data extraction:

- Country
- Main topic or research questions (e.g. motivations to teach or perceptions of teaching)
- Research design (e.g., cross-sectional, longitudinal, case study/ethnographic, experimental/quasi-experimental)
- Research method for data collection (e.g., questionnaire survey, diary, administrative data)
- Sample (size of the sample, phase of education)
- Response rate/attrition
- Results (how the data are analysed and reported)
- Security of findings (each study is rated for strength of evidence based on the quality assessment protocol below)

Quality assessment

Unlike previous reviews, this current review considers the weight of the evidence of each of the studies included. This helps ensure that the findings are based on the most robust evidence, of the kind necessary to inform policy decisions. Each research report is therefore

TABLE 1 Criteria for judging the quality of research evidence

Design	Scale	Dropout	Outcomes	Other threats	Rating
Fair design for comparison (e.g., RCT)	Large number of cases per comparison group	Minimal attrition with no evidence that it affects the outcomes	Standardised pre-specified independent outcome	No evidence of diffusion or other threat	4*
Balanced comparison (e.g., regression discontinuity, difference-in-difference)	Medium number of cases per comparison group	Some initial imbalance or attrition	Pre-specified outcome, not standardised or not independent	Indication of diffusion or other threat, unintended variation in delivery	3*
Matched comparison (e.g., propensity score matching)	Small number of cases per comparison group	Initial imbalance or moderate attrition	Not pre-specified, but valid outcome	Evidence of experimenter effect, diffusion or variation in delivery	2*
Comparison with poor or no equivalence (e.g., comparing volunteers with non-volunteers)	Very small number of cases per comparison group	Substantial imbalance or high attrition	Outcomes with issues of validity and appropriateness	Strong indication of diffusion or poorly specified approach	1*
No report of comparator	A trivial scale of study (or <i>N</i> unclear)	Attrition not reported or too high for comparison	Too many outcomes, weak measures or poor reliability	No consideration of threats to validity	0*

quality appraised to assess the strength or credibility of the evidence based on the kind of research used. This was assessed using the 'Gorard Sieve' (Gorard, 2021) based on five criteria: the design, scale of study, scale of missing data, quality of data obtained and other threats to validity (Table 1). How the 'sieve' works is that each study is awarded a star ranging from 0 (no weight can be placed on the study) to 4* (the most robust that could be expected in reality). This is an indication of how secure the findings are. These criteria are a judgement of the quality of evidence, which refers to the security of the findings and not necessarily the quality of the research. To ensure inter-rater reliability, four members of the team reviewed and rated a sample of papers. Team members met to discuss each piece to come to a consensus. This is to ensure consistency of rating across studies. During the synthesis stage the team leader revisited some of these pieces if there were any doubts about the scoring based on the information extracted.

Synthesising the evidence

To facilitate the synthesis, the studies were initially sorted by outcomes according to whether they were about motivations or perceptions of teaching. Under each outcome, we classified the studies by regions. We also looked at those studies that examined the outcomes by phase of education, gender and ethnicity. This helps us understand what encourages or discourages certain groups of people into teaching so that targeted approaches can be used to recruit shortage teachers. To complement the data, we also analysed the 2018 OECD Teaching and Learning Survey (TALIS) data to get a picture of national data.

RESULTS

A total of 212 studies were included in the review (Figure 1). We grouped these studies by the four major regions: East and Southeast Asia, Africa, Middle East and Western democracies (henceforth known as the West).¹ This is because existing literature suggests that teachers in different regions may be motivated to choose, or not choose, teaching for different reasons. South Asia, such as Pakistan and Bangladesh, is not included as there were no studies rated 2* above that looked at countries in this region.

For the purposes of this paper, we focus on studies rated at least 2*. However, some of the lower evidence studies will still be discussed if they add anything interesting to the narrative. These studies, although they do not inform the evidence, can provide context and additional information. About 69% of the research reports are rated 1* and below (Table 2). These are mainly studies with a weaker design, such as small samples, no comparator or high attrition. These studies rated 1* or 0 are not discussed here. The other 2* and above are discussed in the following section.

What motivates people in different countries to go into teaching?

According to the 2018 OECD TALIS data, teachers in most countries rated desire to influence children as an important factor motivating their decision to be teachers. The majority of teachers in the survey also cited altruistic reasons (e.g., desire to benefit disadvantaged, contribute to society), with the exception of teachers in Finland. Finnish teachers were more likely to be motivated by teaching being a steady career (career progression) and a reliable income. Teachers in Shanghai and Taiwan, South Korea and Singapore were the most likely

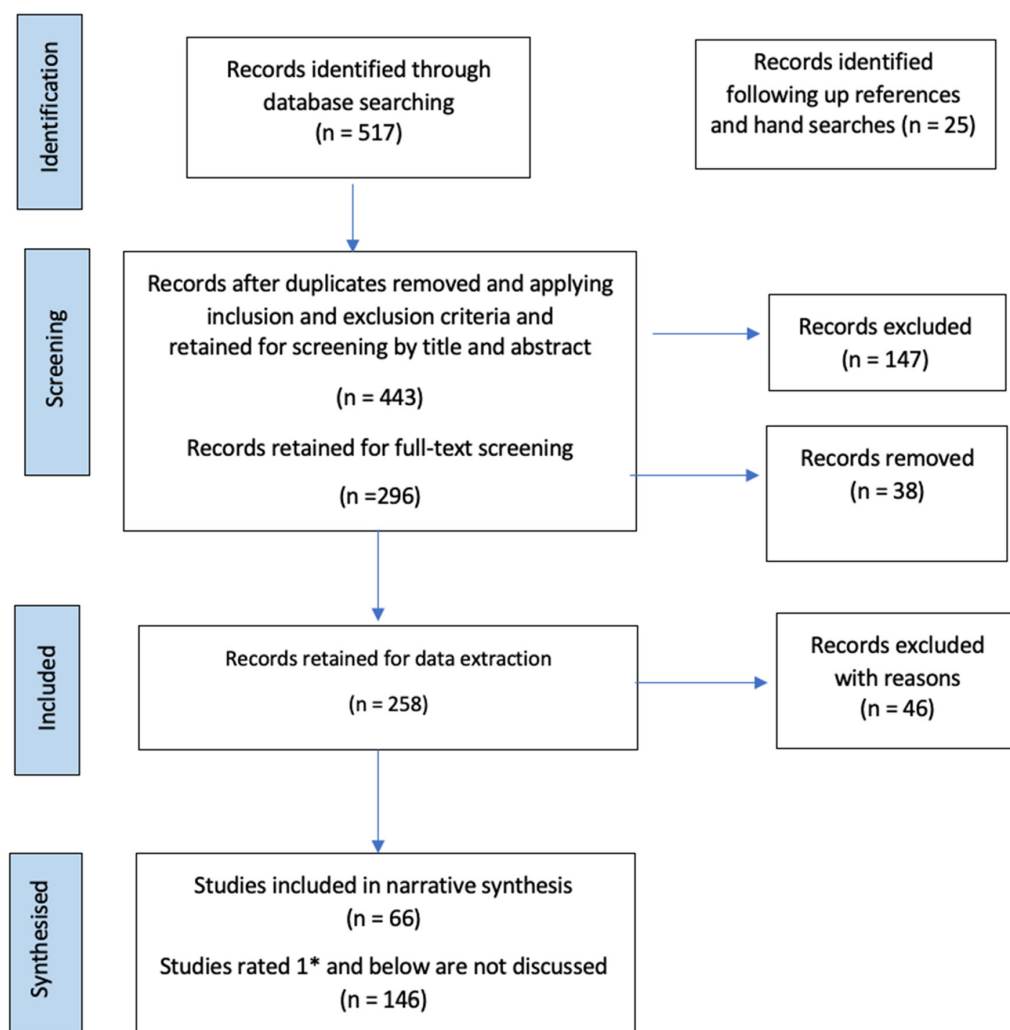


FIGURE 1 Flow chart showing the number of records at each stage of the review

TABLE 2 Number of studies with each security rating ($n = 212$)

Security rating	Number of studies
4*	0
3*	11
2*	55
1*	123
0*	23

to consider teaching as a career that fits in with their personal responsibilities, that is, family life. On the other hand, teachers in England were least likely to go into teaching for these reasons. They were most likely to report being motivated by the altruistic value of teaching (Table 3).

TABLE 3 Factors motivating teachers to enter teaching among OECD and partner countries (%)

Country	Personal life	Steady career	Reliable income	Secure job	Influence children	Benefit disadvantaged	Contribute to society
England	54	50	85	86	83	59	66
Estonia	64	61	67	71	88	73	80
Singapore	66	63	80	82	89	66	82
Japan	68	73	75	72	88	62	82
South Korea	70	75	80	88	92	75	88
Shanghai (China)	77	82	86	87	97	81	93
Finland	82	83	89	87	93	81	93
Chinese Taipei	84	89	89	88	94	88	94
Alberta	90	95	88	93	99	78	95
OECD	93	96	97	94	98	88	95

Source: OECD (2018) Teaching and Learning Survey (TALIS).

Teaching motivation of East Asians and Southeast Asians

There are seven studies rated 2* and above in this region (see Table A1 in Appendix A). Only one involves secondary school students (Lai et al., 2005). The rest were of pre-service teachers. Among Chinese secondary students in Hong Kong, the strongest motivating factors were altruistic/intrinsic reasons—for example, interest in the subject, enjoy being with children/adolescent, want to help others, fit with personality, and opportunity for continuing education. For those not interested in teaching, the top reasons were personality fit, the nature of the job (monotonous job, strenuous duties, too much responsibilities and working environment) and better job prospects in other occupations.

Pre-service teachers also reported being attracted to teaching because of their desire to contribute to society (Bakar et al., 2014; Lee et al., 2019; Lin et al., 2012; Ye et al., 2021) and interest in subject and desire to share knowledge with children (Htang, 2019). A positive school experience is also an important factor for East Asian and Southeast Asian pre-service teachers. Besides positive experience of school and other altruistic reasons, in-service teachers were more likely to suggest that it was their perceived ability to teach that attracted them to teaching.

In the studies reported in the review, most teachers in East and Southeast Asia indicated that they did not enter teaching as a fall-back career. This corroborates with the TALIS data where over 80% teachers in China, South Korea and Taiwan said that teaching was their first-choice career, compared to only around 60% of teachers in Finland and England (Figure 2).

In summary, East Asians/Southeast Asians seem to be most likely motivated by interest in the subject, followed by social contribution factors. For some in-service teachers their perceived ability to teach may have attracted them to teaching. But this could be post-hoc rationalisation of their career decision.

Teaching motivation of African participants

Only four studies conducted in African countries rated 2* that met our inclusion criteria were included in our review (Table A2 in Appendix A). The common factor among these studies is the emphasis on intrinsic motivation. 'Passion for teaching' was noted to be an important

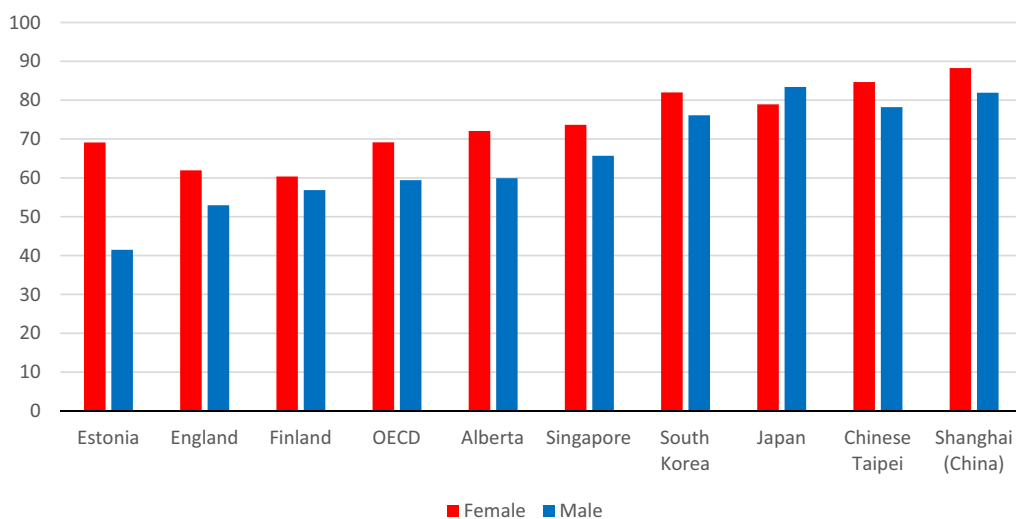


FIGURE 2 Teaching as a first choice career. Source: OECD (2018) teaching and learning survey (TALIS)

factor in influencing pre-service teachers in Ghana. Job security was the second most influential factor for trainee teachers. Although students considered financial incentives were important in their decision to teach, the removal of these allowances did not result in a drop in enrolment, suggesting that financial incentives may be important, but they are not a deal breaker. See (2004) reported similar findings among pre-service teachers in England and Wales where trainees said that these incentives only made it easier for them to take up teaching, but did not affect their decisions.

Moses et al.'s (2019) study of Tanzanian pre-service teachers also noted intrinsic motivation as the primary attraction to teaching. Respondents rated 'commitment to student learning' as very important. They saw it as their responsibility to make teaching interesting to their students. Their perceived ability to teach is another reason why they went into teaching.

School experience is also reported as an important influence on secondary school students' decision to go into teaching or not in Nigeria. Adkintomide and Oluwatosin (2011) found that teachers' characteristics, in particular the quality of teaching and teacher's spoken English, was a strong influencing factor. Around three-quarters (74%) of students had a negative attitude towards teaching as a career, with a majority of students (84.4%) indicating that it was teachers' characteristics that discouraged them from choosing teaching as a career. This suggests that positive school experiences are important. But this is because the study only focused on teachers' characteristics. Other influential factors in the literature were not compared.

Among Moroccan undergraduates it was their innate interest in teaching that attracted them to teaching. This includes desire to share their knowledge with others and perceived innate ability/talent for teaching (Kyriacou & Benmansour, 2002). Moroccan undergraduates were also motivated by the opportunity for personal development. This study was based on a survey of 203 Moroccan university students studying French or English. It has to be mentioned that, unlike many countries, Morocco does not experience a shortage of teachers. In fact, entry into teacher education is competitive and the supply of teachers far exceeds the demand. Perhaps this is because in Morocco teaching is perceived as a highly respected job, suggesting that the status of teachers is high.

In summary, pre-service teachers in Africa are more likely to be motivated by the inherent nature of the job itself (ability and passion for the job) as well as a desire to work with children and a commitment to children's learning. Having teachers as positive role models, can be a powerful influence on students' choice of teaching as a career in Africa.

Teaching motivation of Middle Eastern participants

Three studies that met our inclusion criteria and rated 2* are from Turkey (Table A3 in Appendix A). They all surveyed pre-service teachers' motivation, but came to slightly different conclusions. One is from Israel and one from the UAE.

Kılınç et al.'s (2012) study of 1591 pre-service teachers in Turkey found that pre-service teachers were most likely to report being influenced by altruistic reasons (e.g., desire to contribute to society, such as wanting to 'shape future of children and adolescents' and 'enhance social equity'). Yüce et al. (2013) surveyed 238 pre-service teachers in Turkey and reported that pre-service teachers were more likely to report being motivated by extrinsic factors, such as status, job flexibility, salary, social influence (support and pressure) and job security. One reason for the conflicting findings from the two studies could be that Yüce et al.'s study had proportionately more items under extrinsic factor compared to Kılınç et al.'s. When the items were analysed individually, the important motivators included extrinsic, intrinsic and altruistic factors.

Öztürk-Akar (2020) investigated the motivations of 248 pre-service teachers on alternative certification routes from three disciplines (69% response rate). Most of the students rated social utility values highest followed by intrinsic and personal utility values, but there are some variations among students in different disciplines. Sports teachers scored intrinsic career motivation and personal ability more highly than the other teachers. Teachers in health study rated time for family as important. Maths students were more likely to go into teaching as the fall-back choice. Older students rated intrinsic career value, job transferability and working with children more highly than their younger classmates.

Female Israeli pre-service teachers also reported wanting to be teachers because of their perceived innate ability to teach (Garra-Alloush et al., 2021). They also cited job security and teaching fitting into their personal life as a family friendly profession, as reasons for entering teaching. As in Yüce et al.'s study of Turkish pre-service teachers, when the items were analysed individually, the item that was rated highest was their interest in the subject.

In summary, it appears that pre-service teachers in Turkey were most likely to be motivated by altruistic reasons, such as wanting to make a social contribution. In Israel, on the other hand, job security and interest in the subject are important influencing factors, while in the UAE, extrinsic factors like salary and career progression were deemed more important. It is not possible to make any reasonable conclusions about influence on culture on individual's motivations as the study subjects across these studies are different.

Motivation of participants in the Western democracies

There are altogether 48 studies rated 2* and above conducted in the West. Of these, 9 were rated 3*, 39 were awarded 2*. Some studies included school students, undergraduates and pre-service teachers. Therefore, you will find these studies repeated in the different categories. A disproportionately large number of studies were conducted in the USA (18/48 of those rated 2* and above). Of these, five were rated 3*.

Secondary school students

Nine of these studies are based on the views of secondary school students (Table B1 in Appendix B). Apparently, school teaching is not a popular choice of career among secondary school students in the West. These studies generally report that less than 20% of students are interested or have considered teaching as a career.

The strongest study, rated 3*, was a large study involving over 4,000 (response rate 87%) high school students across six states (Mangieri & Kemper, 1984). The results showed that intrinsic factors like students' innate interest in the subject and their perceived knowledge and skill were a motivating factor in their decision to be teachers. *Desire to work with children/young people* was also an important factor. Although prestige (or status), recognition and working conditions were not important to those who were interested in teaching, they were considered very important to those not interested in teaching. There is also a gender difference with males more likely (56%) to consider working conditions as very important than females (28%). Therefore, policies to attract more men into teaching should emphasise those factors that are considered very important to them.

The 2* studies also reported similar results. Interest in the subject, perceived ability in teaching, job satisfaction and a desire to work with children were key motivating factors. Christensen et al. (2019) found that the strongest predictor of who would consider teaching were participants' self-efficacy, the belief in one's ability. Encouragement from family and friends, gender and academic success also predict which student would choose teaching. Those who intended to teach were more likely to be females and perceived themselves as average students.

Schaffner and Jepsen (1999) recruited 243 high school students in the US to test the relationship between students' perceived ability to teach and their likelihood of choosing teaching as a career choice. The results of the path analysis showed a link between self-efficacy and interest in teaching, and interests in teaching in turn influences career choice. Interestingly, strong belief in teaching values (e.g., teaching contributes to society, teachers make a difference to children's lives) are negatively correlated with students' intention to be a teacher. This contradicts the findings of most cross-sectional studies. It is possible that the programme raises students' perception of the value of teaching, but did not alter their commitment to teaching. The findings demonstrate that recruitment policies that highlight the social or utility value of teaching may not work in changing students' behaviour.

Wong's (1994) study of 646 grade 7 and 8 students revealed that school experience is an important factor, particularly for male students. Those with negative perceptions of the school/classroom environment were less inclined to express interest in teaching compared to those who felt a belonging to the school.

Male students in Switzerland also reported that their perceived ability was an important factor in their decision (Keck Frei et al., 2017). Interest in working with children/young people, the importance of having free time for other things and having relevant prior experience working with children are factors that influence male students' decision to teach. Other international studies (Brookhart & Freemann, 1992; Fokkens-Bruinsma & Canrinus, 2012a; Hoy, 2008; Thomson et al., 2012) also reported similar results. Having teachers among family members had no influence on students' decision to train as a teacher although having male role models, such as teachers and fathers, played an important role in supporting their career decision.

An important finding is that the majority of male student teachers made their decision while in school. Similar findings were found among German students (Faulstich-Wieland et al., 2010; Savage et al., 2021) and undergraduates in England (Gorard et al., 2021). Opportunity for professional advancement was not considered an important factor for those

who decided to train. But for those who did not want to be teachers, professional advancement, status and financial security are important in their choice of career.

Johnston et al.'s (1999b) study involving 1036 sixth-form students in Northern Ireland, also identified altruistic and intrinsic motivation (e.g., wanting to work with children, to contribute to society and impart knowledge) as students' motivations for wanting to be teachers. Extrinsic factors, such as job security, salary, status and promotion prospects, were deemed less important. There are some differences between gender, with females being more likely to place greater importance on working with children, whereas male students were more likely to emphasise the importance of salary. Because there was no comparison made between those who chose to teach and those who did not, it was not possible to say what motivates students to go into teaching and what puts them off.

James and Choppin (1977) compared the motivation and perceptions of 1859 sixth-form school students in England and Wales. The 30% who indicated some level of interest in teaching reported that it was their desire to contribute to society that encouraged them to consider teaching. They were less concerned about salary and status. They see teaching as a secure career with attractive working hours while also providing them the opportunity to influence the future generation.

In summary, the factors influencing secondary students' choice of teaching as a career is a desire to work with children. Perception of job satisfaction, desire to contribute to society and positive experience of school and students' perceived innate ability and interest in the subject are other factors. However, the stronger studies (3*) suggest that salaries and professional advancement are important in attracting those who are not yet interested in teaching. Studies that only asked teachers invariably emphasised the importance of altruistic and intrinsic factors. Highlighting the social utility value of teaching may work in persuading those already interested in teaching to be teachers, but may be less effective in altering the career choice of those who are still unsure about teaching.

Undergraduates

Ten studies looked at undergraduates' motivation to teach, six of these were rated 3* (the strongest study in this review) (Table B2 in Appendix B). These studies found that, in general, around half of undergraduates have considered teaching at some point. In England, over 59% of the students said that they had considered teaching as a career (Gorard et al., 2021) and 20% had serious intentions to become a teacher. The figures are similar in Norway (Kyriacou et al., 2002) where 55% of the 84 first-year undergraduates surveyed indicated that they had considered being a teacher, with 14% who said they had seriously considered teaching. See's (2004) study of undergraduates and teacher trainees in Wales and south-west England found that 64% of respondents had thought of being a teacher. Of these 30% indicated they had firm intentions to be teachers. One study in the USA found that only 40% of STEM subject undergraduates were willing to consider a career in teaching (Elfers et al., 2008).

The preceding section suggests that the primary motivating factors to teach are the intrinsic and altruistic values of teaching. Giersch (2016) conducted an experiment with 238 undergraduates in a North Carolina university who did not plan to enter teaching. Participants were randomly divided into three groups. One group was presented with a list that emphasised 'social utility values' of teaching (or altruistic motivation), and another group was given a list of 'personal utility values' of teaching (or intrinsic motivation), while the third group formed the control. The results showed that students receiving the 'personal utility' treatment were more likely to find teaching appealing (66%) or very appealing (21%) than those exposed to the social utility treatment (58%). The control group (those not assigned to any treatment)

were least likely to find teaching appealing (46%). These findings suggest that exposure to personal and social utility values of teaching potentially can increase college students' interest in the profession (for both men and women).

In a similar experiment, Giersch (2021) tested 10 motivating factors on 597 non-education major students in one university in North Carolina who were not studying or planning to teach. Students were randomly assigned to three treatment groups (one group exposed to intrinsic rewards, one to extrinsic rewards and the third group to altruistic rewards) and one control group with no treatment. The results showed that the likelihood of choosing teaching as a career increased for all students exposed to the three treatments, but not for the control group. This suggests that all these factors (intrinsic, extrinsic and altruistic) were influential, but intrinsic rewards were more important to non-educators, followed by altruism (social utility) and lastly extrinsic rewards (personality utility). There was a small gender difference, with men more to be attracted to teaching for extrinsic reasons. Teachers or aspiring teachers, tend to rank altruism more important than the other factors.

Other studies suggest that an individual's perceived job fit also has an influence on their career decision-making (Klassen et al., 2022; Uggerslev et al., 2012). Klassen et al. (2022) conducted a psychological experiment where respondents were presented with a realistic portrayal of the job/teaching to see how they respond to real life classroom scenarios. Their responses were then matched with the attributes required for a teaching career as determined by experienced teachers. The results showed that how participants respond to the scenarios predicted whether they were more likely to explore a teaching career.

To understand whether teaching would appeal to undergraduates, some studies (e.g., in England and Norway) also considered what undergraduates look for in a career. In general, undergraduates place priority on the working environment and job satisfaction. They want a job that is enjoyable with a pleasant working environment, and that provides intellectual challenge, job security, promising career prospects and competitive salary in the long term (Gorard et al., 2021; Kyriacou et al., 2002). This suggests that perhaps a deterrent to teaching is that it is perceived as an unenjoyable job with a poor working environment and low status/prestige. These extrinsic factors are important to undergraduates, but often under-emphasised in most previous research that only surveyed those in teaching or preparing to be teachers, as teachers are less likely to rate these extrinsic factors highly.

When the views of those who have not considered teaching are included, the results are different. For example, undergraduates in Norway who indicated no interest in teaching tended to rate extrinsic factors—salary, promotion prospect—highly in their career choice (Kyriacou et al., 2002). Similarly, See (2004), Gorard et al. (2021) and Elfers et al. (2008) also found that non-teachers were more likely to value factors like salary, promotion opportunities, job status and good working conditions. For those already applying or intending to teach, extrinsic factors such as salary, career status and progression were less important; instead, they were reporting more intrinsic drivers such as wanting to give back to society and a chance to share knowledge of their subject with prior good experience of schooling, and academic interest as drivers. Crucially, though, for the group who considered but rejected the idea of teaching, extrinsic motivators such as pay and career status/opportunities were more important. Men and those in STEM subjects (Elfers et al., 2008) were more likely to be motivated by financial factors, such as loan forgiveness than women. Opportunities for advancement and leadership, a positive school experience, in particular the positive experience they had with their school teacher, are also important motivating factors for many students. This suggests these extrinsic factors may be the key deterrents for those not wishing to be teachers.

Perhaps this is why research on the motivation of teachers or intending teachers might downplay the importance of these extrinsic motivators and emphasise altruistic ones. To attract those who might have considered teaching, policies would need to focus on job satis-

faction, job status, career prospects and interest in subject and salary rather than financial incentives alone. Awareness of these potential differences is important for developing policy and targeting resources towards those who could be attracted to the profession.

Several studies also pointed out the relevance of an individual's demographic background in their choice of teaching as a career. These factors are rarely considered among studies that used the FIT-Choice instrument. Teaching appears to be disproportionately attracting those from less educated families with less prestigious occupational backgrounds, who have somewhat lower attainment prior to university. Prospective teachers also tend to expect lower degree results or had lower educational attainment, and come from some of the most generic subject areas (Allen, 2000; Gorard et al., 2021; Tusin, 1991; Tusin & Pascarella, 1985). The analysis shows that the factor that most strongly predicts those who are likely to consider teaching or not are those things related to student's university career, such as their subject choice, year of study and entry qualification. Those who chose generic subjects related to sports, languages and English are most likely to consider becoming a teacher, while those in more clearly occupationally related areas such as medicine, law and architecture are least likely. The kind of courses that students take at university is closely related to their career intention, suggesting that many have already made a decision prior to entry to university as indicated in other studies (e.g., Cornali, 2019; Faulstich-Wieland et al., 2010; Keck Frei et al., 2017).

As Gorard et al. (2021) pointed out, the strongest predicting factors regarding who will be teachers or not are those related to students' university years. Therefore, knowing students' perceptions of teaching as a career does not help much in predicting if they intend to teach or not. Financial incentives are not the deciding factors in students' intention to teach. Such incentives are important to those who are already considering teaching, but do not make a difference in their decision to teach or not.

In summary, undergraduates in the West were more likely to consider teaching if they perceived teaching as enjoyable with a positive work environment and offering job satisfaction. The evidence from the stronger studies indicates that the major deterrents to teaching might be the perceived negative working environment. Extrinsic factors were particularly important to men and those in STEM subjects. Therefore, policies to attract these under-represented groups might do well to emphasise the extrinsic value of teaching, such as pay, job status and job satisfaction. On the other hand, theoretical experiments also suggest that for those who might consider teaching, but have not, highlighting the intrinsic value of teaching could make teaching appealing to them. Although student background characteristics are important predictors of who are likely to choose teaching as a career, they are not malleable in the short term, and so these differences do not help much in deciding how to attract more people into teaching. However, we know that most undergraduates have made a career decision by the time they are in university. Therefore, to increase the number of teachers in some subjects, like maths and science, might require an approach that targets students before they make their subject choice at university.

Pre-service teachers and in-service teachers

Research on pre-service/in-service teachers is invariably based on participants' self-reported reasons for going into teaching. Such studies will require respondents to recall their decisions *ex post facto*, which often involves retrospective justification. For this reason, all studies apart from one are rated 2* and below (Table B3 in Appendix B).

Han and Rossmiller (2004) analysed data of 1038 students from the National Longitudinal Study of High School Class and five follow-up surveys, to see who went into teaching and who stayed on in teaching. Their findings are consistent with those of other studies

that suggest that practising teachers and those who indicated interest in teaching are more likely to be motivated by the intrinsic value of teaching, and less likely to say that they go into teaching for the money. Job satisfaction was an important factor in people's decision to stay in teaching. They also found that salary differentials that exist between teaching and other employment opportunities were more of a concern for men than for women. The authors reckoned that it was not the salary per se, but the lower economic status of teachers compared to other professions. Consistent with other studies, Han and Rossmiller also found that teachers were more likely to be from a lower socio-economic background.

Teachers in Italy also indicated they were motivated by altruistic and intrinsic factors, for example working with children, social contribution and subject interest (Argentin, 2013). The study was based on a national survey of 3369 teachers in Italy. However, compared to women, men were more attracted by the benefits related to teaching. The working schedule of teaching, in particular, seems a relevant benefit to male teachers.

Summary results of studies that employed the FIT-Choice questionnaire instrument

A large majority of studies of teachers' motivation utilised the FIT-Choice Likert-scale self-report questionnaire, which broadly classifies these motivating factors into three categories: intrinsic (personal utility), altruistic (social utility) and extrinsic. It is, therefore, not surprising that these studies report all the factors as important, differing only in the order of importance. This reflects the limitations of the FIT-Choice instrument. Few studies included other potential exogenous factors, such as background characteristics, or used regression analysis to determine key influencing factors. These studies do not add to the evidence base because of the limitations of design and analysis. Their findings are summarised here.

Interest in subject

This is highlighted in a number of studies as an important influencing factor (Glutsch & König, 2019; Heinz et al., 2017; Moreau's, 2015; Zounhia et al., 2006). Subject interest was also an important, but not the most influential factor (Nano et al., 2019; Ponnock et al., 2018). Glutsch and König (2019) surveyed 386 first-year teacher trainees in one university in Germany who studied different subject combinations. Latent path analyses revealed that students who value their studied subjects' importance highly also show higher intrinsic, social-altruistic and pedagogical motivations. Heinz (2013) surveyed 344 successful applicants to secondary teacher training in Ireland. The most influential factor among these trainees was intrinsic (e.g., interest in subject, enjoyment of teaching, desire to share knowledge, followed by perceived ability and previous teaching experience). Other altruistic reasons, such as contributing to society, wanting to shape the future and desire to work with children were also reported as important. Participants were particularly concerned about the stress, status, long hours, pay, relationships with parents, relationships with colleagues and discipline. Since no comparisons were made with other professions, it is not possible to say if these concerns are specific of teaching. The motivating factors identified may also apply to other professions. It is, therefore, difficult to conclude that these are the factors that would necessarily attract people into teaching. It is possible that those who plan to be teachers would rate intrinsic and altruistic reasons highly, rather than that such factors motivate people to go into teaching. It is important to be clear about the direction of causation.

Other studies suggest that for some specialist subjects, pre-service teachers were more likely to say that it was their love for the subject that attracted them to teaching. Physical

education (PE) teachers in Greece, for example, were more likely to rate love their subject and like working with children and keeping fit as reasons for wanting to teach (Zounhia et al., 2006). Extrinsic reasons, like pay, job security and long holidays were not rated highly. It is possible that these were not deemed socially desirable reasons. The limited employment opportunity for PE graduates is a possible reason, but this was not explored in the FIT-Choice instrument.

Similarly, French teachers were more likely to indicate subject interest as a key motivator (Moreau, 2015). To the French teachers, their subject expertise is core to professional identities. Unlike countries like England, Australia and the USA, in France there was less of a 'feminine' construction of teaching. On the contrary, secondary school teaching was described as an opportunity for upward social mobility for some men from working-class backgrounds. The findings show that the national context remains relevant to teacher's identities and motivation to teach.

Innate interest in teaching and other intrinsic factors

Although subject interest is an important motivator in some studies, others suggest that key motivators among pre-service teachers are other innate motivation, such as intrinsic love for teaching and perceived abilities in teaching (e.g., Gratacós et al., 2017; Ivanec, 2020; Ponnock et al., 2018; Watt et al., 2012). For primary and early years teachers, the desire to work with children is a strong motivator (Johnston et al.'s, 1999a).

Klassen et al. (2011) compared pre-service teachers' motivation across cultures. Using a structured qualitative approach (a 10-statement test), the results showed that pre-service teachers in Canada and Oman both reported high levels of intrinsic motivation (e.g., perceived ability to teach and personal utility reasons). But pre-service teachers in Canada were more likely to report being motivated by social utility value than did Omani participants. This is perhaps because Omani participants believe that the role of guiding students' futures belong to the family and not exclusively to teachers. Omani teachers, on the other hand, were more likely to indicate teaching as a fall-back career perhaps because of high uncertainty avoidance and also that teaching offers greater job security.

Altruistic or social utility of teaching

Besides these intrinsic factors, teachers and potential teachers also cited altruistic reasons for their decision to be teachers, such as desire to shape the future of the next generation and making a contribution to society (Bergey & Ranellucci, 2021; Fokkens-Bruinsma & Canrinus, 2012a; Glutsch & König, 2019; Gratacós et al., 2017; Heinz et al., 2017; Lin et al., 2012; Moran et al., 2001; Nano et al., 2019; Wagner & Imanel-Noy, 2014; Watt et al., 2012; Watt & Richardson, 2007, 2008; Williams & Forgasz's, 2009; Yu, 2011).

Extrinsic motivators

There was some evidence that extrinsic reasons may also be important although for only some groups. Although most pre-service teachers cited intrinsic, altruistic and extrinsic factors as reasons for going into teaching, Harms and Knobloch (2005) found that those who chose to teach in formal education were more likely to indicate strong intrinsic motivation, whereas those who chose to teach in non-formal education were more strongly motivated by extrinsic factors (defined as salary and benefits, balance between career and personal time,

and opportunities for advancement/personal growth). Note that some of these factors are classified as intrinsic factors in other studies.

Pre-service teachers in Italy rated extrinsic motives, such as job security, good working hours, long holidays and lack of better prospects, as the most important influencing factors (Cornali, 2019). This is in contrast to research in countries with comparable social and economic development. One important difference is that, unlike some countries in Europe, Italy has an oversupply of early years teachers. It is also worth mentioning that all the respondents were females, most of whom came from middle-class families with high parental educational and professional background. Hence, they are likely to rank family friendly, good working hours and long holidays as an attraction.

Heinz et al. (2017) show that changes in economic events can also have implications for pre-service teacher's decision to go into teaching. They compared the motivations of students in 2006 and those in 2013, a period of economic recession. Those in 2013 were more likely to say they chose teaching as a fall-back career and time for family. Men in the 2013 cohort were more likely to rate 'working with children' and 'time with family' more highly than women. This was a period of economic recession and austerity where unemployment was high and it was common for fathers (who had lost their jobs) to care for children. Hogan et al. (2017) also found that extrinsic reasons, such as job security, can be more important during economic recession when the unemployment rate is high.

In summary, across countries in Europe, USA, Australia and New Zealand, the highest rated motivations for choosing teaching among pre-service teachers preparing for secondary, primary and early childhood teaching were the intrinsic reasons (innate interest in teaching, desire to share knowledge, perceived ability in teaching and subject interest) and the altruistic value of teaching (the desire to make a social contribution, shape the future, and work with children/adolescents). Positive prior experience in teaching and learning (i.e., positive school experience, work experience) was also important in a number of countries. Extrinsic factors are also motivators for men, STEM subject teachers and in periods of economic downturn when unemployment is high. These three main sources of motivation (intrinsic, extrinsic and altruistic) are reported in almost all studies that used some versions of the Watt and Richardson FIT-Choice instrument, which conveniently classes teacher's motivation into these three groups.

Because of the weaknesses in the research design and analyses in many of these studies, these findings must be treated with caution as they cannot establish the direction of causation. For example, we cannot be sure if it is interest in teaching that led to participation in prior teaching activities, or participation in prior teaching activities that led to interest in teaching. It is possible that those who chose teaching were more likely to rate these factors as important, rather than that these factors attracted people into teaching in the first place. It would be unwise to base policy recommendations on the evidence of such studies.

CONCLUSION

In almost all countries and across all phases of education, more women choose teaching as a career than men. Motivations to teach are generally universal, with some slight differences. Responses also differ depending on which group of people are being surveyed: secondary school students who have yet to make their career decision, undergraduates who have made their subject choice at university, pre-service teachers who are training to teach, but may or may not want to teach, and teachers who have made firm decisions (e.g., Faulstich-Wieland, 2013). Studies of language or STEM subject teachers also highlight slightly different responses from studies of the general teaching population.

Across cultures, men are more strongly influenced by social norms and expectations. Men are therefore least likely to choose primary and early years' teaching because of fear of how society (and family and friends) might view them. Some studies have reported that parents in schools are apprehensive about leaving their young children in the charge of a male teacher (Hansen & Mulholland, 2005; King, 1998; Stroud et al., 2000). The findings also suggest that women are more likely to experience higher levels of career satisfaction and less likely to be influenced by social norms and expectations than men.

In general, most people who have considered teaching report being motivated by intrinsic, altruistic and extrinsic reasons, although the order of the ranking varies slightly depending on the teachers' subjects, phase of education and gender. Women are more likely to report being motivated by intrinsic and altruistic reasons, whereas men are more likely to cite extrinsic reasons, such as job security and job status, and they tend to see teaching as low in demand, but high in opportunity costs.

Those who are interested in teaching or have considered teaching are more likely to say they are attracted to teaching for the inherent interest or ability to teach or the love of their subject (to share their knowledge). Love of children or enjoy working with adolescents, wanting to make a difference to children/young people's lives are common recurrent themes highlighted in many of the studies in the review. This is what Watt and Richardson (2007) classify as the social utility factor.

It is not surprising that research on this topic comes to the same conclusion. This is because most research included only prospective or practising teachers. When you ask those who are interested in teaching (or potential teachers) they are likely to say that they are more motivated by having a chance to share their knowledge and give something back. They are also reportedly less concerned with status, pay, and career prospects than their peers. But for those who have considered, but not intending to be teachers, these issues mattered when considering a career. Studies that focus only on teachers might downplay the importance of these extrinsic motivators. Crucial findings like this are lost when the views of those who are not in teaching are not considered.

Most studies also do not take into account the background characteristics of the individuals in the analyses. Those that did, suggest that the background characteristics of individuals are important factors in predicting who are likely to be teachers or not. These findings are from the more recent study by Savage et al. (2021).

Problems with the FIT-Choice questionnaire

A disproportionate amount of research on this topic employs the FIT-Choice questionnaire instrument. It is, therefore, pertinent to highlight key weaknesses in such research. The uncritical use of this instrument and the lack of understanding in analysing Likert-scale surveys has led to emphasis on some factors more than others. These Likert-scale instruments often feature a checklist of reasons on a 5-point Likert-scale survey instrument (e.g., Strongly Agree, Agree, Neither Agree nor Disagree and Strongly Disagree). Treating these ordinal scales as real numbers on a continuous scale with equal intervals between each scale and calculating the mean scores of the variables (i.e., calculating the mean value of each factor) is methodologically flawed as the degree of change in attitude or perception from 'strongly disagree' to 'disagree' is not the same as the degree of change from 'disagree' to 'unsure' or from 'unsure' to 'strongly disagree' (Gorard, 2021). The means of these variables are, therefore, meaningless especially when the scores among respondents are divergent, and no attempt is made to compare groups on the two extreme ends of the scale. A large number of studies also used average mean scores of the factors to indicate strength of influence.

The FIT-Choice model also appears to be too simplistic, forcing individuals' choice into three main factors: intrinsic, altruistic and extrinsic. As a result, we see very little variations

across nationalities. The only difference between countries is the order. The model is also limited in that it is unable to control for confounding or exogenous factors. This can potentially introduce bias where respondents seek to justify their career decisions with what they deem as socially acceptable or even noble reasons (Giersch, 2016). Few people would admit to being lazy or greedy and will be unlikely to suggest that they wanted to be teachers because they see it as a 'cushy' job or that they are too lazy to look around for other jobs.

Research using the FIT-Choice model often asks potential teachers or teachers what motivates them. Most cited altruistic and intrinsic reasons as these are deemed socially desirable or acceptable motivations for a profession like teaching. Although this may be useful, it does not help explain why some people choose teaching instead of other professions. The motivating factors identified may also apply to other professions. Research in a number of other careers indicated that people also enter those careers for altruistic reasons (Fagermoen, 1997; Good, 1993; Parker & Merrylees, 2002; Wicker, 1995). Therefore, it is difficult to conclude that these are the factors that would necessarily attract people into teaching. It is possible that those who plan to be teachers would rate intrinsic and altruistic reasons highly, rather than that such factors motivate people to go into teaching.

Almost all the studies also did not report the response rate. This is important since those who did not answer may be those who did not intend to teach. The findings are therefore biased. A large majority of the studies are based on undergraduates doing an education degree in one institution with non-randomised samples, yet use Chi-square, ANOVA and report only *t*-test results, *p*-value and confidence intervals. Such analyses can lead to misleading conclusions.

It is also not uncommon for studies to interpret the factor loadings in factor analysis (FA) as the overall mean scores for the factor. These studies tend to use FA to determine the most influential motivators—confusing the loadings as determinants. In studies regarding motivation to teach, the top loadings only suggest that these factors are common among those who chose teaching; it does not tell us that these are the principal factors that determine why people choose teaching.

Another issue with research using the FIT-Choice model is the lack of consistency in how these factors are classified. The classifications are arbitrary and vary across studies. Some studies classify 'job security' and 'time for family' as extrinsic factors, others label them as 'personal utility'. Although some studies label the desire to 'shape future of children' and 'make a social contribution' as altruistic factors, others interpreted these factors as intrinsic value. This can be problematic as Giersch (2021) has demonstrated that while all the three factors (intrinsic, extrinsic and altruistic) influenced students' motivation to choose teaching, results may differ between studies depending on how these concepts were operationalised and measured.

Problems also arise in how these factors are conceptualised in different culture. In Hong Kong, concepts of altruism and intrinsic values are not clear-cut. Although they are conceptually distinct in theory, respondents do not often see the distinction (e.g., Lai et al., 2005). These conceptual factors also do not work well in some cultures. In South Korea (Lee et al., 2019) altruistic values like desire to work with children and to contribute to society are closely related to self-perceptions represented by the qualification fit and desire to teach factor. This could be due to the cultural differences between countries in the Western democracies and South Korea, for example.

The number and kind of variables included in the survey instrument and the kinds of analyses can also affect the results. For example, not all studies include gender in the analysis (e.g., Tusin, 1991). Some considered socio-economic backgrounds and other endogenous variables, like self-concept, choice of major subject and selectivity of colleges, but many do not. Studies that also conduct additional regression analysis controlling for background variables have come to quite different conclusions.

It is also important to note that responses can vary depending on whether respondents were pre-service, in-service teachers, students in school or undergraduates who are at the point of making decisions about their major subjects at university. For example, in the early study by Lortie (1975), family friendly hours was reported as an important reason for in-service teachers' choosing to go into teaching, whereas this was not a factor of consideration at all among pre-service teachers in later studies. Answers also differ depending on the year of study at undergraduate degree or postgraduate degree. Depending on when the survey was carried out, answers may also differ. Fokkens-Bruinsma and Canrinus (2012a) found that pre-service teachers at the end of the training tended to rate social influences and ability as important motivating factors compared to those at the beginning of their training.

There are also discrepancies in how results can be interpreted. Santiago (2005) survey for the OECD shows that in several countries (e.g., Australia, Japan, Switzerland, Canada and England), public perceptions of teaching is positive. Teachers themselves, however, were more pessimistic about their own image (Adams, 2003). In a large survey of about 5000 teachers (Hargreaves et al. 2008), respondents said they did not feel respected, well thought of or esteemed, and fewer thought that the teaching profession is socially recognised. However, in a survey of the general population, most people ranked the teaching profession as the second most valued profession after doctors of medicine. These studies show that teachers have a lower perception of how society viewed their profession than what the general public actually think.

A related issue with surveying only those who are training to teach or who are in teaching is the problem of recall or post-hoc justification for teachers' decisions rather than their original motives. Initial motives and post-hoc recollections can be quite different because of the possibility of the effects of socialisation and a rationalisation of teachers' own decision (Henoach et al., 2015). Some suggested that student teachers' recollection of making decisions about the profession and their perceived competencies might be romanticised (Bohndick et al., 2017). This is quite a well-known theory called cognitive dissonance reduction (Festinger, 1957). For example, studies based on existing trainee teachers suggest that salary and other financial considerations are seldom key motivators (Davies & Hughes, 2018). Trainees tend to report intrinsic motivators like enjoyment of working with children (Goller et al., 2019) or being inspired by their own teachers or a family member (Heinz, 2015).

Recommendations

For future research

Our new review highlights major weaknesses in research in this area. The uncritical use of the FIT-Choice instrument, for example, has led to findings that are difficult to interpret. Most research in this field is so poor (having no context, or having partial coverage) that they are of no use to informing policies. The factors included in the instrument are not comprehensive—many studies did not include background characteristics (e.g., gender, phase of education, socio-economic background) in the analyses. When these are considered, the key determining factors are not teachers' reported motivation, but their sociological background and choice of subject at school. Students' decisions to be teachers or not are largely mapped out by the time they are in university. Students' choice of subjects at university, their entry qualifications, their predicted degree classification and their parental occupation and education are strong determinants of who are likely to be teachers or not. Future research on this topic would do well to consider these sociological and demographic factors.

Most previous research often involves surveys of those who are already in teaching or applying for training. These studies assume that those in teacher training programmes intend to go into teaching. This is not often the case. In many countries, students on a one-year training course have more career options. Questions that asked students what motivated them to enter teaching would not be relevant to those who have no intention of being a teacher (Dibapile, 2005). Although these studies may offer insight into the motivation of individuals who are already committed to teaching, they tell us nothing about individuals who have not enrolled in teacher education programmes, or not interested in teaching, nor if they might be attracted to the profession at all. It is a mistake to assume that the reasons given by current and prospective teachers for entering teaching would also be the reasons that draw others into teaching. Such research is not helpful as they do not give the answers researchers are really looking for. Future research might want to consider the career drivers of those who might otherwise have going into teaching, so that policy initiatives could also target this group to broaden the potential population from which teachers can be drawn.

A common and serious methodological flaw in most previous research on this topic is the exclusion of non-teachers, resulting in misleading results, and ineffective policies. These studies assume that those in teacher training programmes intend to go into teaching. But this is not often the case. Understanding the barriers and facilitators of those not in teaching is necessary to improve teacher supply. Policies aimed to increase recruitment into teaching, therefore, should focus on attracting those who might have otherwise gone into teaching, but have not.

Attracting under-represented groups

Individuals' decisions to teach or not is very much influenced by what they considered important in their choice of career. To attract under-represented groups, for example, men, ethnic minority groups and STEM subject graduates, more thought could be put into how teaching could be made more attractive to those who would otherwise have chosen teaching as a profession. The status of the profession, the working environment of teaching, the salary of teachers over the long term (especially important for men and those in STEM subjects)—these are things that mattered.

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CONFLICT OF INTEREST

There is no conflict of interest to declare.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICAL APPROVAL

The project has ethical approval from Durham University Ethics Committee, and is conducted according to the British Educational Research Association's ethical guidelines.

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ENDNOTE

¹ This refers to countries in the European Union as well as the UK, Norway, Iceland, Switzerland, the United States, Canada, Australia and New Zealand.

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APPENDIX A

TABLE A1 Summary of studies on teaching motivation in East Asian/Southeast Asian countries ($n = 7$)

Security rating	Studies	Country	Sample
3*	Lai et al. (2005)	Hong Kong	Secondary students
2*	Bakar et al. (2014)	Malaysia	Pre-service
	Htang (2019)	Myanmar	Pre-service
	Lee et al. (2019)	South Korea	Pre-service
	Lin et al. (2012)	China	Pre-service
	Ye et al., 2021	China	Pre-service / In-service
	Yong (1995)	Brunei Darussaalm	Pre-service

TABLE A2 Summary of studies on teaching motivation in African countries ($n = 4$)

Security rating	Studies	Country	Sample
2*	Abotsi et al. (2020)	Ghana	Pre-service
	Adkintomide and Oluwatosin (2011)	Nigeria	Students
	Kyriacou and Benmansour (2002)	Morocco	Undergraduates
	Moses et al. (2019)	Tanzania	Pre-service

TABLE A3 Summary of studies on teaching motivation in Middle Eastern countries ($n = 4$)

Security rating	Studies	Country	Sample
2*	Dickson (2013)	United Arab Emirates (UAE)	Secondary students
	Garra-Alloush et al. (2021)	Israel	Pre-service
	Kılınç et al. (2012)	Turkey	Pre-service
	Öztürk-Akar (2020)	Turkey	Pre-service
	Yüce et al. (2013)	Turkey	Pre-service

APPENDIX B

TABLE B1 Summary of studies on teaching motivation in the West (secondary students)

Rating	Studies	Country
3*	Mangieri and Kemper (1984)	USA
2*	Christensen et al. (2019)	USA
	Christensen (2021)	USA
	Hunter (1998)	USA
	James and Choppin (1977)	England and Wales
	Johnston et al. (1999b)	Northern Ireland
	Keck Frei et al. (2017)	Switzerland
	Schaffner and Jepsen (1999)	USA
Wong (1994)	USA	

TABLE B2 Summary of studies on teaching motivation in the West (undergraduates)

Rating	Studies	Country
3*	Elfers et al. (2008)	USA
	Giersch (2016)	USA
	Gorard et al. (2021)	England
	Kyriacou et al. (2002)	Norway
	See (2004)	England and Wales
	Allen (2000)	USA
2*	Giersch (2021)	USA
	Klassen et al. (2022)	UK
	Tusin and Pascarella (1985)	USA
	Tusin (1991)	USA

TABLE B3 Summary of studies on teaching motivation in the West (pre-service/in-service teachers)

Rating	Studies	Country
3*	Han and Rossmiller (2004)	USA
	Argentin (2013)	Italy
2*	Bergey and Ranellucci (2021)	USA
	Cornali (2019)	Italy
	Fokkens-Bruinsma and Canrinus (2012)	The Netherlands
	Giersch (2021)	USA
	Glutsch and König (2019)	Germany
	Gratacós et al. (2017)	Spain
	Harms and Knobloch (2005)	USA
	Heinz (2015)	International
	Heinz et al. (2017)	Republic of Ireland
	Hogan et al., 2017	New Zealand
	Howes and Goodman-Delahunty (2015)	Australia
	Ivanec (2020)	Croatia
	Johnston et al. (1999a)	Northern Ireland
	Lin et al. (2012)	USA
	Lohbeck and Frenzel (2022)	Germany
	Moran et al. (2001)	Northern Ireland
	Moreau (2015)	England/France
	Nano et al. (2019)	Albania
	Ponnock et al. (2018)	USA
	Sclan (1993)	USA
	Wagner and Imanel-Noy (2014)	Australia
	Watt and Richardson (2007)	Australia
	Watt et al. (2012)	Australia/USA/ Germany/Norway
	Weiss et al. (2018)	Germany/ Sweden/ Switzerland/ Romania
	Whannell and Allen (2014)	Australia
	Williams and Forgasz (2009)	Australia
	Wolf et al. (2021)	Germany
Wood (2001)	USA	
Yu (2011)	USA	
Zounhia et al. (2006)	Greece	

APPENDIX C

C1: Full list of studies identified in the review, including those rated 1* or 0 (that are not shown in the tables above)

References	Star rating
Abotsi et al. (2020)	2*
Adkintomide and Oluwatosin (2011)	2*
Allen (2000)	2*
Argentin (2013)	2*
Bakar et al. (2014)	2*
Bergey and Ranellucci (2021)	3*
Christensen (2021)	3*
Christensen et al. (2019)	2*
Cornali (2019)	2*
Dickson (2013)	2*
Elfers et al. (2008)	3*
Fokkens-Bruinsma and Canrinus (2012b)	2*
Garra-Alloush et al. (2021)	2*
Giersch (2016)	3*
Giersch (2021)	2*
Glutsch and König (2019)	2*
Gorard et al. (2021)	3*
Gratacós et al. (2017)	2*
Harms and Knobloch (2005)	2*
Han and Rossmiller (2004)	3*
Heinz (2015)	2*
Heinz et al. (2017)	3*
Hogan et al. (2017)	2*
Howes and Goodman-Delahunty (2015)	2*
Htang (2019)	2*
Hunter (1998)	2*
Ivanec (2020)	2*
James and Choppin (1977)	2*
Johnston et al. (1999a)	2*
Judge (2004)	2*
Keck Frei et al. (2017)	2*
Kılınc et al. (2012)	2*
Klassen et al. (2022)	2*
Kyriacou and Benmansour (2002)	2*
Kyriacou et al. (2002)	3*
Lai et al. (2005)	3*
Lee et al. (2019)	2*
Lin et al. (2012)	2*

(Continues)

APPENDIX C (Continued)

References	Star rating
Lohbeck and Frenzel (2022)	2*
Mangieri and Kemper (1984)	3*
Moran et al. (2001)	2*
Moreau (2015)	2*
Moses et al. (2019)	2*
Nano et al. (2019)	2*
Öztürk-Akar (2020)	2*
Ponnock et al. (2018)	2*
Schaffner and Jepsen (1999)	2*
Sclan (1993)	2*
See (2004)	3*
Tusin and Pascarella (1985)	2*
Tusin (1991)	2*
Wagner and Imanel-Noy (2014)	2*
Watt and Richardson (2007)	2*
Watt and Richardson (2008)	2*
Watt et al. (2012)	2*
Weiss et al. (2018)	2*
Whannell and Allen (2014)	2*
Williams and Forgasz (2009)	2*
Wolf et al. (2021)	2*
Wong (1994)	2*
Wood (2001)	2*
Ye et al. (2021)	2*
Yong (1995)	2*
Yu (2011)	2*
Yüce et al. (2013)	2*
Zounhia et al. (2006)	2*

Studies not discussed (rated 1* and below)

References	Star rating
Abulon (2012)	1*
Afrianto (2014)	1*
Akar (2012)	1*
Akpochafo (2020a)	1*
Akpochafo (2020b)	1*
Aksoy (2017)	1*
Al-Yaseen (2018)	1*
Albulescu and Albulescu (2015)	1*
Amani (2013)	1*
Anthony and Ord (2008)	1*
Archibong et al. (2009)	1*
Azman (2013)	1*
Balyer and Özcan (2014)	1*
Bastick (2000)	0*
Bergey et al. (2019)	0*
Bergmark et al. (2018)	1*
Beyon et al. (1992)	1*
Bohdick et al. (2017)	1*
Brown (1992)	1*
Brown and Butty (1999)	1*
Butt et al. (2010)	1*
Carrington (2002)	1*
Celik (2020)	1*
Chan (2005)	1*
Choi and Song (2014)	1*
Choi and Song (2015)	1*
Chong and Goh (2007)	1*
Chuan (2013)	1*
Chung and Huang (2012)	0*
Cushman (2000)	1*
Daniel and Ferrell (1991)	1*
Davies and Hughes (2018)	1*
De Corse and Vogtle (1997)	0*
De Hernandez (2020)	0*
Dibapile (2005)	0*
Dieterich and Panton (1996)	1*
Dos Santos (2019)	0*
Drahmann et al. (2019)	1*

(Continues)

APPENDIX C (Continued)

References	Star rating
Du Preez (2018)	1*
Dündar (2014)	1*
Eren and Tezel (2010)	0*
Eren (2012)	1*
Espinet et al. (1992)	1*
Evans (2011)	0*
Friedman (2016)	1*
Gao and Trent (2009)	0*
Goh and Lourdasamy (2001)	1*
Goller et al. (2019)	1*
Gordon (1993a)	0*
Gordon (1993b)	1*
Gordon (2000)	1*
Gore et al. (2015)	1*
Graham and Erwin (2011)	0*
Heinz (2013)	1*
Hennessy and Lynch (2017)	1*
Hillier et al. (2013)	1*
Howard (2009)	0*
Hudson (2017)	1*
Ibrahim (2015)	1*
Jeong (2016)	1*
Jones et al. (1999)	0*
Kass and Miller (2018)	0*
Keane and Heinz (2015)	1*
Khoh et al. (2005)	1*
Kılınç and Seymen (2014)	1*
Kiziltepe (2015)	1*
Klassen et al. (2011)	1*
Koch and Farquhar (2015)	0*
König and Rothland (2012)	1*
Kwok et al. (2022)	1*
Kyriacou and Coulthard (2000)	1*
Low et al. (2017)	0*
Mack and Jackson (1993)	1*
Mack (1996)	1*
Mack et al. (2003)	1*
MacKenzie (2013)	1*
Mangaol et al. (2017)	0*

APPENDIX C (Continued)

References	Star rating
Manuel and Hughes (2006)	1*
Maree et al. (2009)	1*
Markovits and Kartal (2013)	0*
Massari (2014)	1*
McDonald (2017)	0*
Meidl (2019)	0*
Milanowski (2002)	1*
Miller and Endo (2005)	1*
Morales (1994)	1*
Moss (2020)	1*
Mudzzielwana (2015)	1*
Mulholland and Hansen (2003)	1*
Mwamwenda (2010)	1*
Newby et al. (1995)	0*
Nolan and Rouse (2013)	1*
O'Sullivan et al. (2009)	1*
Organisation for Economic Cooperation and Development (OECD) (2018)	1*
Osguthorpe and Sanger (2013)	1*
Padhy et al. (2015)	1*
Park (2006)	1*
Petersen and Petker (2011)	1*
Pietrzak et al. (2011)	1*
Place et al. (1996)	1*
Pop and Turner (2009)	1*
Reid and Caudwell (1997)	1*
Richardson and Watt (2005)	1*
Richardson and Watt (2006)	1*
Saban (2003)	1*
Sahin (2014)	1*
Salifu et al. (2018)	1*
Sanatullova-Allison (2010)	1*
Serow (1993)	1*
Sharif et al. (2016)	1*
Shindler (1998)	1*
Shih (2016)	0*
Shipp (1999)	1*
Sibanda (2015)	1*
Sinclair (2008)	1*
Smith (2019)	1*

(Continues)

APPENDIX C (Continued)

References	Star rating
Smith and Pantana (2010)	1*
Smith et al. (2004)	1*
Stellmacher et al. (2020)	1*
Stroud et al. (2000)	1*
Sumison (2000)	1*
Suryani et al. (2013)	1*
Suryani (2014)	1*
Swope-Marrs (1998)	1*
Tašner et al. (2017)	1*
Tillmann et al. (2020)	1*
Thomson et al. (2012)	1*
Thomson (2013)	1*
Thuranira (2010)	1*
Tomšik (2016)	1*
Tomšik (2015)	1*
Topkaya and Uztosun (2012)	1*
Towse et al. (2002)	1*
Tustiawati (2017)	1*
Waller (2010)	1*
Wang and Fwu (2002)	1*
Wang (2004)	1*
Wang (2019)	1*
Watson (2012)	1*
Watt et al. (2013)	1*
Webb and Hodge (2003)	1*
Weiner (1993)	1*
Wilder (1999)	1*
Wong et al. (2014)	1*
Yates-Meniffee (1992)	1*
Zhang et al. (2019)	1*

C2: Studies that were excluded. These were either not available, outside publication date or excluded on evidence and topic. A number have titles that suggest relevance, but upon reading full texts, they are not deemed relevant.

References	Reasons
Alsheha (1988)	Excluded on date
Bradley (1983)	Excluded on date
Brown-West (1991)	Not available
Carpenter and Foster (1979)	Excluded on date
DeLong (1987)	Excluded on date
Farrell (1980)	Excluded on date
Farrugia (1986)	Excluded on date
Ferrell and Daniel (1993)	Excluded on topic
Forell (1981)	Excluded on date
Fox (1961)	Excluded on date
Frazier et al. (2019)	Excluded on topic
Frusher and Newton (1987)	Excluded on date
Guba et al. (1959)	Excluded on topic
Hardy (1970)	Excluded on date
Harris and Azwell (1992)	Excluded on topic
Henry (2017)	Excluded on date
Jenkins (1987)	Excluded on topic
Kemper and Mangieri (1985)	Excluded on date
Kim and Yang (2017)	Excluded on topic
Kimiti and Maria (2012)	Excluded on topic
Klausmeier et al. (1951)	Excluded on date
Kyriacou et al. (2003)	Excluded on topic
Lee and Yuan (2014)	Excluded on evidence
Levin (1985)	Excluded on date
Mack and Jackson (1990)	Excluded—article not available
Mutalib et al. (n.d.)	Excluded on topic
Mvungi (2009)	Excluded on evidence
Myers (1966)	Excluded on date
Nelsen and Giebink (1968)	Excluded on date
Nwagwu (1976)	Excluded on date
Olamide and Olawaiye (2013)	Excluded on topic
Olaseboye Olasehinde (1972)	Excluded on date
Page (1980)	Excluded on date
Palmer (1985)	Excluded on date
Purves et al. (2005)	Excluded on topic
Raby (1970)	Excluded on date
Richardson et al. (2007)	Excluded on evidence
Richardson and Watt (2014)	Excluded on evidence
Richardson and Watt (2016)	Excluded on evidence

(Continues)

APPENDIX C (Continued)

References	Reasons
Roberson et al. (1983)	Excluded on date
Schwarzweiler and Lyson (1978)	Excluded on date
Shaw (1996)	Excluded on target group
Soh (1989)	Excluded on date
Stewart (1956)	Excluded on date
Strickland et al. (1987)	Excluded on date
Tabassum and Rahman (2014)	Excluded on topic
Tarawneh (1988)	Excluded on date
Tincher and Brogdon (1986)	Excluded on date
Watt and Richardson (2004)	Excluded on topic
Watt et al. (2017)	Excluded on evidence
Yurchak (1973)	Excluded on date