Teaching and Teacher Education 114 (2022) 103704

Contents lists available at ScienceDirect

Teaching and Teacher Education

journal homepage: www.elsevier.com/locate/tate

Research paper

Retention intention and job satisfaction of alternatively certified teachers in their first year of teaching

Eric Richter [a, *], Christin Lucksnat [a], Christopher Redding [b], Dirk Richter [a]

[a] University of Potsdam, Department of Education, Potsdam, Germany
[b] University of Florida, College of Education, Gainesville, USA

HIGHLIGHTS

- Quantitative study of AC teachers' retention intention grounded in organizational socialization theory using SEM approach.
- Perceived social support is positively related to both AC teachers' retention intentions and job satisfaction.
- Extraversion is positively related to AC teachers' retention intentions and job satisfaction.
- Extraversion is positively related to AC teachers' self-efficacy.
- Self-efficacy explains job satisfaction and retention intention of AC teachers.

ARTICLE INFO

Article history:
Received 4 October 2021
Received in revised form
1 March 2022
Accepted 16 March 2022
Available online 31 March 2022

Keywords:
Second-career teachers
Self-efficacy
Job satisfaction
Personality
Support
Teacher well-being
Turnover
Attrition
Onboarding

ABSTRACT

In this study, we investigated retention intention and job satisfaction of 238 first-year alternatively certified (AC) teachers. Drawing on Organizational Socialization Theory, we tested the hypothesis that AC teacher extraversion and perceived school support are positively related to the two variables and mediated by self-efficacy. To test our hypothesis, we applied structural equation modeling. Our results demonstrate that extraversion and perceived social support are positively related to retention intentions and job satisfaction. In addition, self-efficacy serves as a mediator. The findings could help school administrators to better understand how to support and retain AC teachers and thus address teacher shortages.

© 2022 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY license (http://creativecommons.org/licenses/by/4.0/).

1. Introduction

High teacher attrition rates are one of the main reasons for international teacher shortages (e.g., Hanushek et al., 2004; Sutcher et al., 2019). Every year, millions of new teachers need to be hired worldwide to ensure classrooms are adequately staffed (Craig, 2017). The demand for teachers is so large that teachers trained in traditional, university-based preparation programs cannot meet it (Sutcher et al., 2016), and schools are turning increasingly to alternatively certified (AC) teachers, who earn their teaching license through alternative programs rather than traditional teacher training (Paniagua & Sánchez-Martí, 2018). Overcoming the teacher shortage also requires high retention of new teachers. Research suggests, however, that teacher retention is lowest among beginning teachers (Fantilli & McDougall, 2009; Ingersoll, 2001, 2002, 2003; Redding & Nguyen, 2020), including AC teachers (Carver-Thomas & Darling-Hammond, 2019; Redding & Henry, 2019). School administrators in many countries are currently seeking to better understand how to meet the professional needs of AC teachers to increase new teacher retention and overcome acute staffing shortages.

The question of how to increase teacher retention rates through

* Corresponding author. University of Potsdam, Department of Education, Karl-Liebknecht-Straße 24-25, 14476 Potsdam, Germany.
E-mail address: eric.richter@uni-potsdam.de (E. Richter).

https://doi.org/10.1016/j.tate.2022.103704
0742-051X/© 2022 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY license (http://creativecommons.org/licenses/by/4.0/).

improved job satisfaction is already the subject of a vast body of literature. Studies have focused on predicting teacher retention and job satisfaction from teacher characteristics (e.g., demographic characteristics or formal certifications), teacher motivations (e.g., career choice motivation), and organizational factors (e.g., school organizational characteristics or resources) (e.g., Borman & Dowling, 2008; Nguyen et al., 2020). However, this line of research has neglected AC teachers (Kwok & Cain, 2021; Redding & Smith, 2019). This omission is concerning, as an increasing share of new teachers earn their teaching license outside of traditional teacher preparation programs. In the United States, a quarter of beginning teachers enter the teaching profession through AC programs (Redding & Smith, 2016). In Germany, the setting for this study, the situation is quite similar. Here, the proportion of newly hired teachers without a traditional teaching license is 10.2% (KMK, 2021).

The current study aims to fill this gap and contributes to the existing literature on teacher retention and job satisfaction in three ways: First, we focus on beginning AC teachers immediately after they enter the teaching profession, a period in which they are at risk of exiting teaching given the lack of preservice preparation. Second, we predict retention intentions and job satisfaction based on social support at school, but also extend the existing research by adding personality traits as a predictor. Third, we investigate the mediating role of self-efficacy in the relationship between social support at school and personality on the one hand, and retention intention and job satisfaction on the other. The results of this study provide a better understanding of what school systems and administrators need to do to retain first-year AC teachers.

1.1. Socialization into the profession

Successful job socialization helps teachers feel comfortable in their job and stay in their profession for a long time. Research has consistently shown that teacher retention and job satisfaction are related (e.g., Madigan & Kim, 2021; Perrachione et al., 2008), and several studies have examined factors that influence retention and satisfaction simultaneously (Bouckenooghe et al., 2013; Worth & van den Brande, 2020). Research in organizational psychology defines retention intention as the employee's intention to remain within an organization (Allen et al., 2005; Rezwan & Takahashi, 2021). In the context of education, teacher retention intention is broadly defined as the teacher's intention to stay at their current school (Jones & Watson, 2017; van den Borre et al., 2021). Weiss (2002) defines job satisfaction as the positive or negative evaluations employees develop in relation to their work, and within the education context, Skaalvik and Skaalvik (2010) define teacher job satisfaction as teachers' affective reaction to their work or their role (see also Skaalvik & Skaalvik, 2011).

Retention intention and job satisfaction are two important outcomes of employee socialization in the workplace that can be linked to other characteristics and behaviors of employees. In general, research shows that the intention to stay in or leave a position is a moderate predictor of actual turnover (e.g., Bluedorn, 1982; Lee & Mowday, 1987; Sun & Wang, 2017). In the teaching profession, according to Skaalvik and Skaalvik (2011, 2017), job satisfaction is positively associated with job retention. In addition, there is a positive association between job satisfaction and teachers' commitment to their school's goals and values (Caprara et al., 2003), as well as several indicators of positive job performance and effectiveness, such as higher student test scores and satisfaction and lower student dropout rates (e.g., Banerjee et al., 2017; Judge et al., 2001; Ostroff, 1992).

The research base on new teacher turnover has grown over the years, as researchers have worked to understand why beginning teachers turn over at higher rates than more experienced teachers (Johnson & Birkeland, 2003; Ingersoll & Smith, 2004; Redding & Henry, 2019). Our study builds on this evidence base by focusing on first-year AC teachers and investigates their job satisfaction and early intentions to leave the profession. To understand what factors might play a role, we draw on Organizational Socialization Theory (OST; Bauer & Erdogan, 2011) (see Fig. 1). Organizational socialization refers to "a process through which new employees move from being organizational outsiders to becoming organizational insiders" and is also commonly known as "onboarding" (Bauer & Erdogan, 2011, p. 51). Successful organizational socialization can result in effective employees with positive work attitudes, high job satisfaction, and the intention to stay in the organization for a longer period of time.

Successful organizational socialization is complex and depends on a number of antecedents, which include employee characteristics (e.g., personality traits); employee behavior (e.g., information and feedback seeking); and organizational efforts to support new employees (e.g., socialization tactics; Bauer & Erdogan, 2011). Socialization tactics are measures designed to provide work-related information to new employees through means such as formal training or feedback with the aim of facilitating integration into the organization (Bauer et al., 2007; Saks et al., 2007).

Bauer and Erdogan (2011) postulate that these antecedents do not affect outcomes directly but that they first influence other factors, which in turn affect outcomes, thus forming a mediator relationship. In the context of OST, this first step is referred to as adjustment. It indicates how well a new employee makes the transition from an organizational outsider to an organizational insider (Bauer & Erdogan, 2011; Bauer et al., 2007). According to Fisher (1986), adjustment encompasses at least three aspects: understanding work tasks and priorities (role clarity), learning how to perform a task and gaining self-confidence (self-efficacy), and feeling accepted by colleagues (social acceptance).

OST provides a solid empirical foundation for examining two aspects central to teacher research (retention intention and job satisfaction). The theory is widely used in the social sciences (e.g., Jiang et al., 2021; Traeger et al., 2021) and has been successfully applied in the context of teacher research (e.g., Bengtson et al., 2013). We therefore use this theory as a framework to examine the model shown in Fig. 1. We focus on teacher personality traits and school socialization tactics as antecedents in predicting teachers' retention intention and job satisfaction, and examine the mediating effect of self-efficacy as an indicator of newly hired teachers' adjustment to their new tasks.

1.2. Relation between personality traits and socialization tactics and retention intentions and job satisfaction

New employees play a vital role in their own organizational socialization (Bauer & Erdogan, 2014). They hold personal capital—human capital (e.g., knowledge) or psychological capital (e.g., resiliency)—which can be applied in the socialization process (Luthans & Youssef, 2004; Fang et al., 2011). Personality traits represent one facet of this personal capital. Certain personality traits enable people to adjust to an organization more quickly (Saks & Ashforth, 1996). A proactive personality, for instance, is associated with higher job retention (Rezwan & Takahashi, 2021) and higher job satisfaction (Liao, 2021). According to Parker and Collins (2010), individuals with a proactive personality tend to engage more often in proactive behaviors, such as getting in touch with new colleagues, which might facilitate their socialization into the organization. Moreover, studies have shown that a proactive personality is positively linked to extraversion, one of the traits in the Big Five framework (e.g., Bateman & Crant, 1993; Crant, 2000;

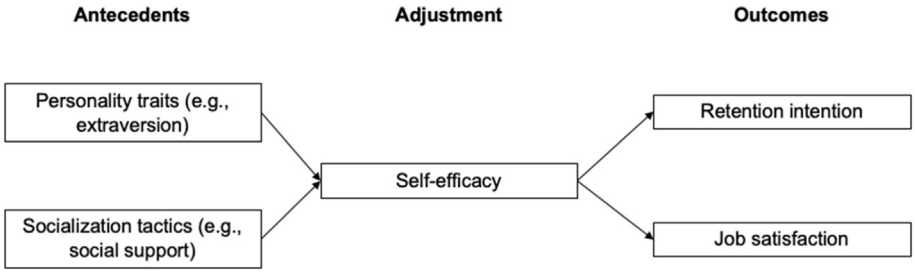

Fig. 1. A process model of new teacher organizational socialization according to Bauer and Erdogan (2011).

Major et al., 2006). There are similar findings showing that new employees with higher levels of extraversion also show higher levels of adjustment to their new jobs and higher levels of job satisfaction (Harari et al., 2018; Judge et al., 2002; Kammeyer-Mueller & Wanberg, 2003).

Comparing findings from organizational psychology on multiple professions with findings from the field of teacher education, Kim et al. (2019) identified differences between the two research fields and concluded that findings from organizational psychology cannot easily be applied to the field of teacher research. Compared to other professions, teachers showed a stronger association between extraversion and job-related outcomes such as teacher effectiveness measured in terms of student achievement (Kim et al., 2019). In contrast, research from a cohort of beginning teachers in North Carolina showed that conscientiousness was the only factor from the five-factor model of personality to be associated with retention (Bastian et al., 2017). In addition, self-efficacy, was found to be related to new teachers' value-added scores and evaluation ratings, but not retention.

With regard to job satisfaction, Perera et al. (2018) examined teacher personality profiles and their relationships to job satisfaction, and found that higher levels of extraversion were associated with higher levels of job satisfaction. In a similar vein, Li et al. (2017) showed that a proactive personality was positively related to teachers' job satisfaction. However, studies linking psychological characteristics to retention outcomes are scarce (Bardach et al., 2021; Kell, 2019, p. 7).

A second antecedent for the socialization of new employees in an organization is the way in which the organization offers support. In principle, these support activities are independent of the new employee's personal capital. In other words, they are offers of support that are made available to all new employees, independent of their personality characteristics. However, previous studies have shown that more extroverted individuals use such supports more intensively (Kakhnovets, 2011; Amirkhan et al., 1995). After experiencing socialization tactics from their organization, new employees tend to report increased job satisfaction and higher retention intentions (e.g., mentoring or feedback) (Bauer et al., 2007; Bauer & Erdogan, 2011). In the teaching profession, collegial relationships with peers are an important factor, independent of a combination of other factors that influence the decision of beginning teachers to leave or stay (Kelly et al., 2019; Newberry & Allsop, 2017; Simon & Johnson, 2015; van den Borre et al., 2021). This is consistent with studies showing that robust social support and social networks may be important for reducing turnover among beginning teachers (Johnson & Birkeland, 2003; Brok et al., 2017; Ingersoll & Strong, 2011; Sass et al., 2011). Importantly, research suggests the importance of formal social supports, such as those provided through new teacher induction and mentoring programs (Ronfeldt & McQueen, 2017), and a supportive administrator (Boyd et al., 2011; Redding et al., 2019). Aspects of organizational socialization are also related to teachers' job satisfaction. Johnson et al. (2012) examined the effects of teachers' working conditions on their satisfaction and career intentions using a statewide survey of school working conditions in Massachusetts. Characteristics such as the principal's leadership and relationships among colleagues explained nearly 29% of the variance in individual teacher satisfaction (Johnson et al., 2012). Novice teachers in particular seem to benefit greatly from the support of their colleagues (Chaaban & Du, 2017).

1.3. The mediating role of self-efficacy

OST conceptualizes self-efficacy as a variable that mediates the relationship between antecedents and positive work outcomes such as retention intention and job satisfaction of new employees. Self-efficacy refers to the evaluation of one's own ability to conduct a specific activity with success (Bandura, 1977, 1997). It is considered an important determinant of human performance in a wide range of fields (Bandura, 1997). In the educational context, Schwarzer and Hallum (2008) define teacher self-efficacy as the perceived ability of a teacher to handle the complex demands of the teaching profession. A large body of research has shown that self-efficacy is a powerful predictor of success in teaching, as measured, for instance, in terms of student achievement growth (Bardach et al., 2021; Zee & Koomen, 2016).

Self-efficacy also plays an important role in teacher retention and job satisfaction. Higher levels of self-efficacy are associated with higher job satisfaction (Saks et al., 2021; Klassen & Chiu, 2010; Peng & Mao, 2015; Skaalvik & Skaalvik, 2007, 2010, 2017; Vieluf et al., 2013; Wang et al., 2015). New teachers with lower self-efficacy scores are less likely to report the intention to stay in the teaching profession (Tschannen-Moran et al., 1998).

Research shows that self-efficacy is not stable, but changeable over time (Klassen & Chiu, 2010). The literature points to several factors that influence self-efficacy, some of which are grounded in OST. Fay and Frese (2001) report that a proactive personality can increase a person's self-efficacy (see also Lin et al., 2014). This is consistent with findings from the field of teacher research: Regular mid-career teachers who exhibit strong proactive personalities have higher levels of self-efficacy, which in turn has a positive impact on their job satisfaction (Li et al., 2017). Moreover, Perera et al. (2018) found in their study on teacher personality profiles that teachers with higher-than-average extraversion also exhibited higher levels of self-efficacy. It should be noted, however, that Li et al. (2017) and Perera et al. (2018) focused on regular mid-career teachers, whereas our focus is on beginning AC teachers.

In addition to personality traits, the organizational socialization process can also foster self-efficacy. In a meta-analysis on organizational adjustment, Bauer et al. (2007) found that organizational efforts to integrate new employees correlated with newcomer self-efficacy. In more in-depth analyses, the authors examined which

types of socialization tactics had the strongest association with self-efficacy, and found a strong relationship for mentoring and feedback (Bauer et al., 2007; see also Saks et al., 2007). This is partly in line with research on teacher self-efficacy. Sass et al. (2011) found that teachers who experienced greater administrative support were more likely to believe they could make a difference in their students' academic development. However, the results on this relationship are not consistent, as Skaalvik and Skaalvik (2010) found no relationship between supervisory support and teacher-self-efficacy. However, Tschannen-Moran and Woolfolk Hoy (2007) claim that novice and experienced teachers differ in the antecedents of their self-efficacy. They found that support from colleagues and community made a substantial contribution to explaining differences in self-efficacy among beginning teachers, but only a small contribution among more experienced teachers. Support for new teachers at the peer level can be provided, for example, through mentors, who are a potential source of self-efficacy (LoCasale-Crouch et al., 2012).

1.4. AC teachers: a special case?

AC teachers enter the profession through alternative rather than traditional teacher training programs (Kwok & Cain, 2021). They represent a vulnerable group of teachers, who often feel less prepared than their traditionally certified counterparts (Kee, 2012; Redding & Smith, 2019) and are also more likely to leave the profession (Brok et al., 2017; Carver-Thomas & Darling-Hammond, 2019; Redding & Smith, 2016). Kwok and Cain (2021) have underscored the need for more research to better understand how to support this high-risk group of teachers.

Redding and Smith (2019) report that although in-service organizational support has the potential to positively impact AC teacher retention, AC teachers generally receive little additional organizational support to facilitate their entry into the profession. However, there is no evidence to date on the relationship between teacher personality traits and retention intention or job satisfaction. Regarding the role of self-efficacy of AC teachers, however, Troesch and Bauer (2017) found that second-career teachers show higher levels of job satisfaction than first-career teachers, and that the higher job satisfaction of second-career teachers was mainly related to their higher self-efficacy. Yet, their study focuses on career switchers who completed a traditional teacher preparation program. Feelings of self-efficacy might be depressed for AC teachers who lack requisite training before entering the classroom, particularly when these teachers don't receive the necessary social supports to foster a successful organizational socialization.

This look at the existing research shows that even though AC teachers are an important recruitment pool for the teaching workforce, we still know very little about their socialization into the teaching profession and how it affects retention intentions and job satisfaction.

1.5. Aims and hypotheses

AC teachers are key to overcoming teacher shortages, yet they are an at-risk group because they feel less prepared and have higher turnover rates than traditionally trained teachers. To support them adequately, it is important to understand what influences their retention intentions and job satisfaction. Research on teacher retention and job satisfaction has highlighted the importance of personality traits and organizational socialization as well as self-efficacy. However, research on newly hired teachers has either been qualitative or used administrative and survey data that leave important constructs unmeasured (i.e., personality traits; self-efficacy). Despite comprising a growing fraction of beginning teachers in many countries, AC teachers are often overlooked from this research. To close this gap, we address the following three questions.

Research Question 1: To what extent are extraversion and perceived social support associated with AC teachers' retention intentions and job satisfaction?

Prior research has shown positive relationships between teacher extraversion and job satisfaction (Li et al., 2017; Perera et al., 2018). Thus, we expect that the greater AC teachers' extraversion, the higher their job satisfaction (H1). There is a lack of evidence regarding extraversion and retention intention, as Bardach et al. (2021) have pointed out. Since retention intention and job satisfaction are positively related (Perrachione et al., 2008), we also expect that the higher the extraversion of AC teachers, the higher their intention to continue in the teaching profession (H2). Based on the literature review and the theoretical propositions presented in the introduction, we also hypothesized that AC teachers' job satisfaction and their retention intentions are positively related to perceived social support (H3, H4) (Kelly et al., 2019; Newberry & Allsop, 2017).

Research Question 2: How are extraversion and perceived social support related to self-efficacy in AC teachers?

Self-efficacy has several determinants (Zee & Koomen, 2016). Previous findings suggest that extraversion and self-efficacy are related (Li et al., 2017; Perera et al., 2018). Thus, we expect that the greater AC teachers' extraversion, the higher their self-efficacy (H5). The same applies to organizational socialization processes, which can also support the development of self-efficacy in novice teachers (LoCasale-Crouch et al., 2012; Tschannen-Moran & Woolfolk Hoy, 2007). We hypothesized that the greater the perceived social support, the higher the self-efficacy (H6).

Research Question 3: Are the effects of extraversion and perceived social support on retention intentions and job satisfaction mediated by self-efficacy in AC teachers?

As outlined in the literature review, OST conceptualizes self-efficacy as a variable that mediates the relationship between extraversion and perceived social support and job retention intentions and job satisfaction among new employees. In examining this relationship, we look for evidence of OST in the teaching profession for the first time. The approach is further supported by the fact that empirical studies based on other conceptual frameworks have been able to use self-efficacy as a mediator for predicting retention intentions and job satisfaction (e.g., Burić & Moe, 2020; Moé et al., 2010). We therefore hypothesize that extraversion and social support positively influence self-efficacy, which in turn is positively related to retention intention and job satisfaction (H7).

2. Methods

2.1. Procedure and participants

The present study uses a cross-sectional design to examine retention intentions and job satisfaction in first-year AC teachers. The study was conducted in a large federal state in Germany. Due to the severe shortage of trained teachers, the state has been hiring people without teaching qualifications to an increasing degree over the last several years. All employees hired through this measure must complete a mandatory standardized training program within their first year, parallel to their teaching duties at the school (Driesner & Arndt, 2020). During this training program, which is conducted by experienced teacher educators, the first-year AC teachers learn about lesson planning, classroom management, as well as school legislation. The training program is seminar-based and takes place every two weeks. Due to the high number of new AC teachers recruited each year, several seminars are conducted simultaneously at different locations throughout the same federal

state.

The study was conducted in close collaboration with the ministry of education in the federal state. We mailed the questionnaires and instructions for conducting the survey to all teacher educators who were responsible for at least one training program. The teacher educators were also instructed by the ministry to allow the survey to take place during regularly scheduled classes. In this way, we ensured that all first-year AC teachers were able to participate in our survey. Participation was voluntary.

In total, 238 of 422 AC teachers agreed to participate in the study. We therefore obtained responses from 56.4% the population of all first-year AC teachers in the academic year 2020/2021. A total of 1,608 new teachers were hired at the beginning of this academic year from the state in which we conducted the study. Participants in the study were 39.9 years old on average ($SD = 9.1$ years), and 57.4% of them were female. The sample included first-year AC teachers from primary and secondary schools and from all school districts in the federal state. The vast majority—82.8%—of the participants reported teaching at least two subjects. The most frequently taught subjects are mathematics (41.2%), German (31.5%), science (21.4%), physical education (21.0%), English (18.9%) and art (18.5%).

2.2. Measures

The survey instrument included questions about teachers' demographic characteristics, personality traits, career choice motives, perceived social support in the schools, self-efficacy, retention intention, and job satisfaction (see Table 1). We measured teachers' extraversion as one aspect of personality with a short form of the personality inventory NEO-FFI (Borkenau & Ostendorf, 1991). The scale included a total of six items. We measured social support to teachers with a newly developed instrument in which AC teachers assessed the acceptance and support they had received from the principal and colleagues at their school. The instrument included five items (the full instrument is provided in the appendix, Table A). We assessed teachers' self-efficacy with an established instrument for this construct in Germany (Schwarzer & Jerusalem, 1995). This scale included six items. Respondents were asked to rate all items on a four-point Likert scale ranging from 1 (*completely disagree*) to 4 (*completely agree*). To evaluate the reliability of the scales, we calculated McDonald's omega (Hayes & Coutts, 2020), which can be interpreted in the same way as Cronbach's alpha. All instruments showed satisfactory reliability scores. All descriptive statistics can be found in Table 1.

The outcome measures included retention intention and job satisfaction, which were measured with one item each (see Table 1). Retention intention was measured by the question: "How sure are you that you want to continue in the teaching profession for the next three years?". Teachers were asked to provide an answer on a 6-point scale ranging from 1 (*not sure at all*) to 6 (*very confident*). Teachers' job satisfaction was assessed with the question "How satisfied are you with your work as a teacher?". This question was rated from 1 (*not at all satisfied*) to 6 (*very satisfied*). Both questions were translated from the English version of the FIT-Choice questionnaire by Watt and Richardson (2007). The methodological literature indicates that measuring job satisfaction with one item is possible. Moreover, Klassen and Chiu (2010, p. 749) point out that "results of recent studies have supported the inclusion of single-item measures of job-related beliefs because of high levels of face validity and convenience for data collection in busy workplace settings". Regarding the measurement of retention intention, our methodological approach also draws on recent studies that have measured this construct in a comparable manner (Rezwan & Takahashi, 2021; van den Borre et al., 2021; Troesch & Bauer, 2020). As we used single item measures for both outcomes, we were not able to compute reliability scores for them.

2.3. Data analysis

To answer our research questions, we conducted structural equation modeling (SEM). SEM is a widely used statistical tool in the social sciences that allows for the modeling of multiple predictor and multiple outcome variables simultaneously and also for the inclusion of mediator variables (Kline, 2011; Tarka, 2018).

We first analyzed a model with AC teacher extraversion and perceived quality of social support as independent variables and AC teacher retention intentions and job satisfaction as dependent variables (Research Question 1). Second, we tested a model with AC teacher extraversion and perceived social support as independent variables and AC teacher self-efficacy as the dependent variable (Research Question 2). Third, we regressed AC teacher self-efficacy on teacher extraversion and perceived social support, and we introduced AC teacher self-efficacy as a predictor of teacher retention intentions and job satisfaction (Research Question 3). This third model represents the mediation model. Since we introduced all predictors into this mediation model simultaneously, all significant predictors make a unique contribution to both dependent variables over and above the others. We evaluated model fit using the recommendations of Hu and Bentler (1999) for comparative fit index (CFI >0.95), root mean squared error of approximation (RMSEA <0.06), and standardized root mean squared residual (SRMR <0.08).

We estimated all SEM in Mplus 8.3 (Muthén & Muthén, 1998–2019). We estimated parameters using the maximum likelihood (ML) estimation method. We tested the indirect effects of extraversion and social support on retention intentions and job satisfaction via self-efficacy using the model indirect command implemented in Mplus (Muthén & Muthén, 1998–2019), which uses the delta method (MacKinnon et al., 2012). Regarding missing data, we checked the proportion of missing data for each variable. Missing data ranged from 4.6% for extraversion to 7.6% for social support. Therefore, we carried out missing value analysis by performing Little's (1988) MCAR test (using IBM SPPS Statistics 26) in order to identify potential patterns in missing data that might bias the analysis. In case of a non-significant Little's MCAR test, we considered data to be missing completely at random (MCAR) and therefore eligible for full information maximum likelihood (FIML) estimation. FIML methods produced unbiased estimates even in the presence of missing data if the missing process was considered

Table 1
Descriptive statistics of all variables.

Variables	Example Item	*N* (Items)	Range	*M*	*SD*	Omega
Extraversion	I like to have many people around me.	6	1–4	2.99	0.47	72
Social Support	The principal provided substantial support when I arrived at the school.	5	1–4	2.96	0.86	.88
Self-efficacy	I know that I will be able to teach even the most problematic students the material that is relevant to the exam.	6	1–4	3.26	0.40	.71
Retention Intention	How sure are you that you will be a teacher for the next three years?	1	1–6	5.31	1.22	–
Job Satisfaction	How satisfied are you with your work as a teacher?	1	1–6	4.74	1.11	–

missing at random (Schafer & Graham, 2002). For all variables, Little's MCAR test was not significant ($\chi^2 = 630.01$, $df = 683$, $p = 0.53$). For this reason, we concluded that the data for all parameters were MCAR. We therefore considered FIML safe and applied this method (Enders, 2010).

3. Results

3.1. Extraversion and perceived quality of organizational socialization in schools

To evaluate the relationship of AC teacher extraversion and perceived quality of social support on teacher retention intentions and job satisfaction (Research Question 1), we estimated a SEM that included teacher extraversion and perceived quality of social support as independent variables and teacher retention intentions and job satisfaction as dependent variables (see Fig. 2, Table 2). The results show that extraversion is positively related to retention intentions and job satisfaction, which is consistent with H1 and H2. Furthermore, perceived social support was also positively related to both dependent variables, which is in line with H3 and H4. Both independent variables predicted 15.9% of the variance of retention intention and 35.3% of the variance in teachers' job satisfaction. In addition, there is a small positive, statistically significant relationship between extraversion and social support ($r = 0.16$; $p = 0.04$) as well as a large positive, statistically significant relationship between retention intention and job satisfaction ($r = .63$; $p = 0.04$).

To answer Research Question 2, we examined the relationships between AC teacher extraversion and perceived social support on the one hand, and teacher self-efficacy on the other. Therefore, we estimated a model that included teacher extraversion and perceived social support as independent variables and teacher self-efficacy as the dependent variable (see Fig. 3, Table 2). The results reveal a significantly positive effect of teacher extraversion on teacher self-efficacy, which corresponds with H5. We did not find a significant relationship between perceived social support and teacher self-efficacy and therefore cannot support H6. Both independent variables predicted 18.5% of the variance of teacher self-efficacy. Again, there is a small positive, statistically significant relationship between extraversion and social support ($r = 0.16$; $p = 0.04$).

Table 2
Results of the direct effect models and of the complete mediation model.

	Mediator Variable	Dependent Variables	
Direct Effects	**Self-efficacy**	**Retention Intention**	**Job Satisfaction**
Extraversion	–	0.17 (0.07)*	0.31 (0.07)**
Social Support	–	0.33 (0.06)**	0.46 (0.06)**
Extraversion	0.38 (0.08)**	–	–
Social Support	0.15 (0.08)	–	–
R^2	18.5%	15.9%	35.3%
Complete Mediation			
Extraversion	0.37 (0.08)**	0.02 (0.08)	0.20 (0.07)**
Social Support	0.16 (0.08)*	0.27 (0.06)**	0.41 (0.06)**
Self-efficacy	–	0.40 (0.08)**	0.31 (0.08)**
R^2	18.5%	29.1%	43.0%

Note. Standardized regression weights; standard errors are in parentheses. *$p < 0.05$, ** $p < 0.01$.

3.2. The mediating role of self-efficacy

To investigate Research Question 3, we specified a mediation model represented in Fig. 4. The detailed results in Table 2 show small changes in the relationships between the independent and dependent variables when self-efficacy was introduced as a mediator. First, the total main effect of teacher extraversion on teacher retention intention was significant ($\hat{\beta}_{total} = 0.17$, $p = 0.02$). However, the direct effect of extraversion on retention intentions was no longer significant when controlling for self-efficacy ($\hat{\beta}_{direct} = 0.02$, $p = 0.84$), whereas the indirect effect mediated by self-efficacy was significant ($\hat{\beta}_{indirect} = 0.15$, $p < 0.01$). Therefore, the proportion of the relationship between teacher extraversion and teacher retention intention that was mediated by teacher self-efficacy was 88.2%. The result differs for the relationship between perceived social support and teacher retention intention. The total main effect was also significant ($\hat{\beta}_{total} = 0.34$, $p < 0.01$). This was also true for the direct effect of the perceived social support on teacher retention intention ($\hat{\beta}_{direct} = 0.27$, $p < 0.01$), whereas the indirect effect mediated by self-efficacy was not significant ($\hat{\beta}_{indirect} = 0.07$, $p = 0.06$). Therefore, the relationship between the

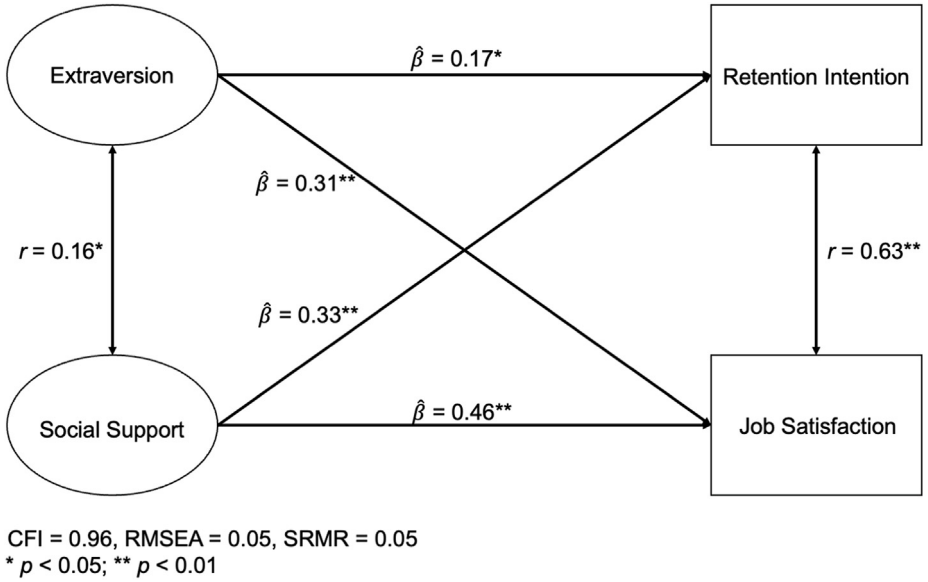

Fig. 2. Direct effect model: Impact of extraversion and social support on retention intention and satisfaction.

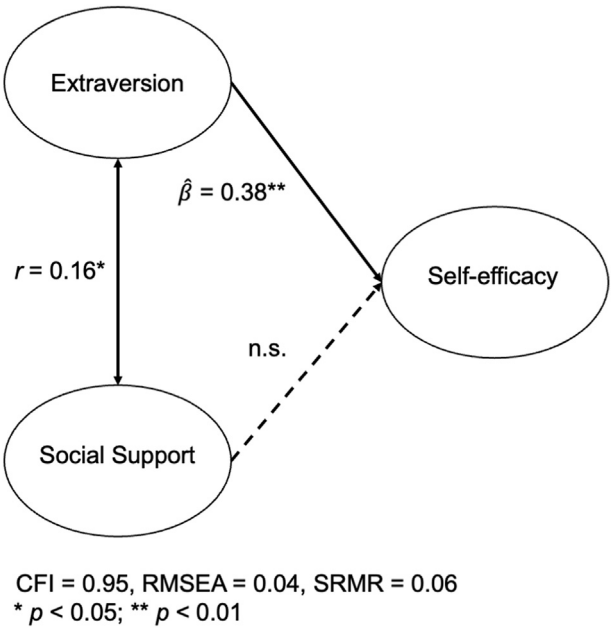

Fig. 3. Direct effect model: Impact of extraversion and social support on self-efficacy.

perceived quality of social support and teacher retention intention was not mediated by self-efficacy.

Regarding job satisfaction as the independent variable, results show a significant main effect of teacher extraversion ($\hat{\beta}_{total} = 0.31$, $p < 0.01$). Both the direct effect of teacher extraversion on job satisfaction ($\hat{\beta}_{direct} = 0.20$, $p < 0.01$) as well as the indirect effect mediated by self-efficacy were significant ($\hat{\beta}_{indirect} = 0.11, p < 0.01$). This means that the proportion of the relationship between teacher extraversion and job satisfaction mediated by self-efficacy was 35.4%. For the relationship between the perceived quality of social support and job satisfaction, there was also a significant main effect ($\hat{\beta}_{total} = 0.46, p < 0.01$) with a significant direct effect ($\hat{\beta}_{direct} = 0.41$, $p < 0.01$). However, the indirect effect mediated by self-efficacy was not significant ($\hat{\beta}_{indirect} = 0.05, p = 0.07$). Therefore, the relationship between the perceived quality of social support and job satisfaction was not mediated by self-efficacy. Therefore, our hypothesis H7 can only be partially supported.

4. Discussion

The main purpose of this study was to examine the interplay between first-year AC teachers' extraversion, their perceived social support, their self-efficacy, their job satisfaction, and their intention to stay in the teaching profession. Retention intention and job satisfaction represent important outcome variables in the OST (Bauer & Erdogan, 2011) and can be considered strong indicators of teachers' motivation to stay in the profession (e.g., Skaalvik & Skaalvik, 2011, 2017). Moreover, as proposed in OST, we also examined the mediating role of self-efficacy in the relationship between social support at school and personality on the one hand, and retention and job satisfaction on the other. In the following, we summarize all of the findings of the present study and discuss both limitations and implications.

4.1. First-year AC teachers benefit from both extraversion and social support

Consistent with our hypotheses H1–H4, the study showed that both extraversion and perceived social support are positively related to teachers' retention intentions and job satisfaction. With regard to extraversion, this result supported findings from Li et al. (2017) and Perera et al. (2018), who also found a positive relationship between proactive personality and job satisfaction. In addition, our study provides new insights into the relationship between teachers' personality traits and their intention to stay in the profession, which researchers have only begun to study (Bardach et al., 2021; Bastian et al., 2017). However, we must keep in mind that the mechanism for explaining the relationship between extraversion with job retention intention and job satisfaction remains to some extent undiscovered. It could also be, for example, that the trait of being extroverted helps teachers to be

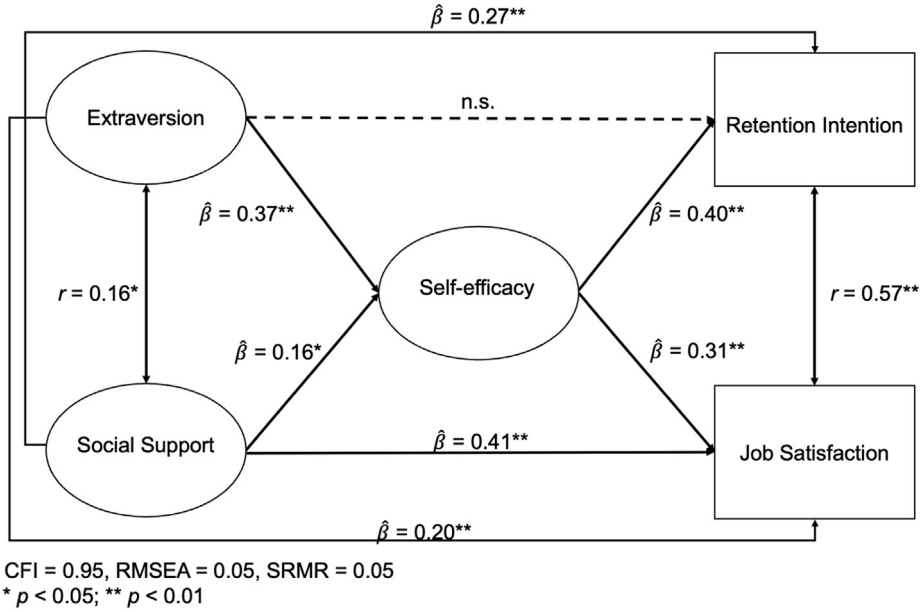

Fig. 4. Complete mediation model: Impact of extraversion and social support on retention intention and satisfaction mediated by self-efficacy.

more successful in their job, which in turn can increase retention intentions and job satisfaction. In a meta-analysis of teacher personality and teacher effectiveness, Kim et al. (2019) showed that extraversion positively correlated with measures of teacher effectiveness, such as student ratings of teaching.

Regarding perceived social support, our findings also confirm other studies that point to a positive relationship between the social support first-year teachers receive at their school and their motivation to stay in the profession (Kelly et al., 2019; Newberry & Allsop, 2017; Simon & Johnson, 2015; van den Borre et al., 2021). Consistent with other studies (e.g., Li et al., 2017; LoCasale-Crouch et al., 2012), our study also showed that extraversion and social support are positively related to first-year AC teachers' self-efficacy in the complete mediation model, which is consistent with H5 and H6. In addition, we also find a positive relationship between extraversion and social support. AC teachers who report higher extraversion perceive higher social support. One explanation for this finding could be that extroverts show increased help-seeking behavior (Kakhnovets, 2011; Amirkhan et al., 1995). Specifically, they might be more likely to ask questions and seek support or feedback, which in turn leads to higher feelings of support. We also found a positive correlation between retention intention and job satisfaction. This is consistent with previous research (e.g., Madigan & Kim, 2021; Perrachione et al., 2008) finding that teachers who feel their work meeting their expectations are more likely to stay in their profession. This relationship can be attributed in part to the fact that satisfied teachers tend to enjoy their professional roles more, are more self-efficacious, and are more enthusiastic (Burić & Moe, 2020).

4.2. Self-efficacy affects first-year AC teachers' socialization

Our results on the mediating role of self-efficacy are partially consistent with our expectation that self-efficacy partially mediates the relationship between extraversion and social support on the one hand, and retention intentions and job satisfaction on the other (H7). While this was true for extraversion as a predictor, self-efficacy did not mediate the relationship between social support and the two dependent variables. Regarding the mediated model pathway from extraversions to job satisfaction, our finding is in line with Li et al. (2017). One possible explanation for this finding could be that more extraverted AC teachers tend to engage in more proactive behaviors, such as connecting with their new colleagues (Parker & Collins, 2010). Reaching out to and working with new colleagues can be understood as an informal learning opportunity that can have a positive impact on self-efficacy (Yoon et al., 2018). Regarding the nonsignificant mediation between social support and the two outcome variables, one explanation may be that social support at school measures the extent to which school staff members, such as the principal or fellow teachers, provide information about the school and are responsive to first-year AC teachers. This type of relationship can be understood as a type of social support and is primarily associated with aspects of well-being, such as job satisfaction (Kinman et al., 2011). However, social support as measured in our study did not involve a one-on-one mentoring relationship and therefore does not represent a learning opportunity in the strictest sense. With this in mind, it is plausible that perceived social support influences retention intentions and job satisfaction but not AC teachers' individual perceptions of their own teaching abilities.

4.3. Limitations and further research

Although these findings provide evidence that contributes to a better understanding of the relationship between extraversion and social support to job retention intention and job satisfaction in first-year AC teachers, a number of limitations of the current study should be kept in mind. First, this study was based on a cross-sectional design that did not allow for identification of cause and effect. For this reason, we cannot make any causal interpretation. Longitudinal research would be needed to describe, for example, the development of retention intentions and job satisfaction over time. Second, we relied on a sample from one federal state in Germany. Both national and international replications of our study are needed to prove the generalizability of our results. Third, retention intention was measured using a single item that asked teachers about their intention to stay in the profession for the next three years. This may not necessarily be the same as actually staying on. However, as noted above, research shows that the intention to stay in or leave a position is a moderate predictor of actual turnover (e.g., Bluedorn, 1982; Lee & Mowday, 1987; Sun & Wang, 2017), and from a methodological point of view, our single-item approach corresponds to methodologies used in other recently published research (Rezwan & Takahashi, 2021; van den Borre et al., 2021; Troesch & Bauer, 2020). Finally, the mediation model may have omitted other factors related to the socialization of beginning AC teacher. For instance, Fisher (1986) indicates that adjustment relates to feelings of self-efficacy, social acceptance, and role clarity. These latter two factors could be measured more explicitly in future research examining this question.

4.4. Practical implications

In addition to potential directions for future research, our findings also imply practical recommendations. We found evidence that both extraversion and perceived social support relate to beginning AC teachers' job retention and job satisfaction. Selecting extroverted teachers and providing sufficient social support may increase the likelihood of building a stable faculty of teachers who want to stay for the long term and who are satisfied with their work. However, we would not argue for applying pre-employment personality tests to AC teachers and weeding out individuals who do not exhibit a favorable personality profile (Kim et al., 2019). However, it might be beneficial to conduct brief staff surveys to learn more about new teachers who have entered the teaching profession through alternative certification programs. This could allow school administrators to develop individual onboarding strategies and set individual development priorities, such as self-awareness and communication, to prevent and counteract potential difficulties in the socialization process of the new teachers. Furthermore, our results also do not imply that individuals who consider switching to teaching but rate themselves as introverts should necessarily refrain from this career option. Firstly, there is some evidence that personality can be changed through intervention (Roberts et al., 2017). Secondly, it is possible that there are differences between how a person is perceived by others and how he or she perceives him or herself, including personality assessments (Vazire & Carlson, 2011). In light of these findings, Kim et al. (2019) suggested providing new employees with feedback from multiple sources, which could be considered a social support measure.

With regard to social support, the literature offers a number of different measures that can help facilitate the integration of new AC teachers. These include providing a mentor, giving regular feedback, and offering seminars for beginning teachers (LoCasale-Crouch et al., 2012; Ronfeldt & McQueen, 2017). Providing such support is particularly important for AC teachers as they are often placed in low socio-economic status schools with a disadvantaged student population (Richter & Marx, 2019; Lankford et al., 2002) which create particular challenges for teachers (Toropova et al., 2021; Gaikhorst et al., 2017). In addition, schools must also have the necessary resources to ensure successful integration. For example, mentors need time as well as professional skills to work

with new AC teachers on lesson plans and to provide useful feedback on the quality of their lessons. Unfortunately, AC teachers often begin their careers in higher ends schools that can pose barriers to this socialization process.

5. Conclusion

This is, to the best of our knowledge, the first study to investigate retention intention and job satisfaction of first-year AC teachers. Building on a foundation of theoretical and empirical research, our results demonstrate that extraversion and perceived social support are positively related to retention intentions and job satisfaction. In addition, self-efficacy serves as a mediator. The findings could help school administrators to better understand how to retain AC teachers and thus address teacher shortages.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Declaration of competing interest

No potential conflict of interest was reported by the authors.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.tate.2022.103704.

References

Allen, D. G., Weeks, K. P., & Moffitt, K. R. (2005). Turnover intentions and voluntary turnover: The moderating roles of self-monitoring, locus of control, proactive personality, and risk aversion. *Journal of Applied Psychology, 90*(5), 980–990. https://doi.org/10.1037/0021-9010.90.5.980

Amirkhan, J. H., Risinger, R. T., & Swickert, R. J. (1995). Extraversion: A "hidden" personality factor in coping? *Journal of Personality, 63*(2), 189–212. https://doi.org/10.1111/j.1467-6494.1995.tb00807.x

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191–215. https://doi.org/10.1037/0033-295X.84.2.191

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

Banerjee, N., Stearns, E., Moller, S., & Mickelson, R. A. (2017). Teacher job satisfaction and student achievement: The roles of teacher professional community and teacher collaboration in schools. *American Journal of Education, 123*(2), 203–241. https://doi.org/10.1086/689932

Bardach, L., Klassen, R. M., & Perry, N. E. (2021). Teachers' psychological characteristics: Do they matter for teacher effectiveness, teachers' well-being, retention, and interpersonal relations? An integrative review. *Educational Psychology Review*. https://doi.org/10.1007/s10648-021-09614-9. Advance online publication.

Bastian, K. C., McCord, D. M., Marks, J. T., & Carpenter, D. (2017). A temperament for teaching? Associations between personality traits and beginning teacher performance and retention. *AERA Open, 3*, 1–17. https://doi.org/10.1177/2332858416684764

Bateman, T. S., & Crant, J. M. (1993). The proactive component of organizational behavior: A measure and correlates. *Journal of Organizational Behavior, 14*(2), 103–118. https://doi.org/10.1002/job.4030140202

Bauer, T. N., Bodner, T., Erdogan, B., Truxillo, D. M., & Tucker, J. S. (2007). Newcomer adjustment during organizational socialization: A meta-analytic review of antecedents, outcomes, and methods. *Journal of Applied Psychology, 92*(3), 707–721. https://doi.org/10.1037/0021-9010.92.3.707

Bauer, T. N., & Erdogan, B. (2011). Organizational socialization: The effective onboarding of new employees. In S. Zedeck (Ed.), *APA handbook of industrial and organizational psychology, vol 3: Maintaining, expanding, and contracting the organization* (pp. 51–64). American Psychological Association. https://doi.org/10.1037/12171-002.

Bauer, T. N., & Erdogan, B. (2014). Delineating and reviewing the role of newcomer capital in organizational socialization. *Annual Review of Organizational Psychology and Organizational Behavior, 1*(1), 439–457. https://doi.org/10.1146/annurev-orgpsych-031413-091251

Bengtson, E., Zepeda, S. J., & Parylo, O. (2013). School systems' practices of controlling socialization during principal succession. *Educational Management Administration & Leadership, 41*(2), 143–164. https://doi.org/10.1177/1741143212468344

Bluedorn, A. C. (1982). A unified model of turnover from organizations. *Human Relations, 35*(2), 135–153. https://doi.org/10.1177/001872678203500204

Borkenau, P., & Ostendorf, F. (1991). Ein fragebogen zur erfassung fünf robuster persönlichkeitsfaktoren. *Diagnostica, 37*, 29–41.

Borman, G. D., & Dowling, N. M. (2008). Teacher attrition and retention: A meta-analytic and narrative review of the research. *Review of Educational Research, 78*(3), 367–409. https://doi.org/10.3102/0034654308321455

van den Borre, L., Spruyt, B., & van Droogenbroeck, F. (2021). Early career teacher retention intention: Individual, school and country characteristics. *Teaching and Teacher Education, 105*, 103427. https://doi.org/10.1016/j.tate.2021.103427

Bouckenooghe, D., Raja, U., & Butt, A. N. (2013). Combined effects of positive and negative affectivity and job satisfaction on job performance and turnover intentions. *Journal of Psychology, 147*(2), 105–123. https://doi.org/10.1080/00223980.2012.678411

Boyd, D., Grossman, P. L., Ing, M., Lankford, R. H., Loeb, S., & Wyckoff, J. (2011). The influence of school administrators on teacher retention decisions. *American Educational Research Journal, 48*(2), 303–333. https://doi.org/10.3102/0002831210380788

Brok, P.den, Wubbels, T., & van Tartwijk, J. (2017). Exploring beginning teachers' attrition in The Netherlands. *Teachers and Teaching, 23*(8), 881–895. https://doi.org/10.1080/13540602.2017.1360859

Burić, I., & Moe, A. (2020). What makes teachers enthusiastic: The interplay of positive affect, self-efficacy and job satisfaction. *Teaching and Teacher Education, 89*, 103008. https://doi.org/10.1016/j.tate.2019.103008

Caprara, G. V., Barbaranelli, C., Borgogni, L., Petitta, L., & Rubinacci, A. (2003). Teachers', school staff's and parents' efficacy beliefs as determinants of attitudes toward school. *European Journal of Psychology of Education, 18*(1), 15–31. https://doi.org/10.1007/BF03173601

Carver-Thomas, D., & Darling-Hammond, L. (2019). The trouble with teacher turnover: How teacher attrition affects students and schools. *Education Policy Analysis Archives, 27*, 36. https://doi.org/10.14507/epaa.27.3699

Chaaban, Y., & Du, X. (2017). Novice teachers' job satisfaction and coping strategies: Overcoming contextual challenges at qatari government schools. *Teaching and Teacher Education, 67*, 340–350. https://doi.org/10.1016/j.tate.2017.07.002

Craig, C. J. (2017). International teacher attrition: Multiperspective views. *Teachers and Teaching, 23*(8), 859–862. https://doi.org/10.1080/13540602.2017.1360860

Crant, J. M. (2000). Proactive behavior in organizations. *Journal of Management, 26*(3), 435–462. https://doi.org/10.1177/014920630002600304

Driesner, I., & Arndt, M. (2020). Die Qualifizierung von Quer- und Seiteneinsteiger*innen. Konzepte und Lerngelegenheiten im bundesweiten Überblick (the qualification of teachers without a teaching license. A nationwide overview of concepts and learning opportunities). *DDS – Die Deutsche Schule, 112*(4), 414–427. https://doi.org/10.31244/dds.2020.04.05

Enders, C. K. (2010). *Applied missing data analysis*. Guilford Press.

Fang, R., Duffy, M. K., & Shaw, J. D. (2011). The organizational socialization process: Review and development of a social capital model. *Journal of Management, 37*(1), 127–152. https://doi.org/10.1177/0149206310384630

Fantilli, R. D., & McDougall, D. E. (2009). A study of novice teachers: Challenges and supports in the first years. *Teaching and Teacher Education, 25*(6), 814–825. https://doi.org/10.1016/j.tate.2009.02.021

Fay, D., & Frese, M. (2001). The concept of personal initiative: An overview of validity studies. *Human Performance, 14*(1), 97–124. https://doi.org/10.1207/S15327043HUP1401_06

Fisher, C. D. (1986). Organizational socialization: An integrative review. In K. M. Rowland, & G. R. Ferris (Eds.), *Research in personnel and human resources management*. JAI Press.

Gaikhorst, L., Beishuizen, J., Roosenboom, B., & Volman, M. (2017). The challenges of beginning teachers in urban primary schools. *European Journal of Teacher Education, 40*(1), 46–61. https://doi.org/10.1080/02619768.2016.1251900.

Hanushek, E. A., Kain, J. F., & Rivkin, S. G. (2004). Why public schools lose teachers. *Journal of Human Resources, 39*(2), 326. https://doi.org/10.2307/3559017

Harari, M. B., Thompson, A. H., & Viswesvaran, C. (2018). Extraversion and job satisfaction: The role of trait bandwidth and the moderating effect of status goal attainment. *Personality and Individual Differences, 123*, 14–16. https://doi.org/10.1016/j.paid.2017.10.041

Hayes, A. F., & Coutts, J. J. (2020). Use omega rather than cronbach's alpha for estimating reliability. But…. *Communication Methods And Measures, 14*(1), 1–24. https://doi.org/10.1080/19312458.2020.1718629

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Ingersoll, R. M. (2001). Teacher turnover and teacher shortages: An organizational analysis. *American Educational Research Journal, 38*(3), 499–534. https://doi.org/10.3102/00028312038003499

Ingersoll, R. M. (2002). The teacher shortage: A case of wrong diagnosis and wrong prescription. *NASSP Bulletin, 86*(631), 16–31. https://doi.org/10.1177/019263650208663103

Ingersoll, R. M. (2003). *Is there really a teacher shortage*. Seattle: University of Washington, Center for the Study of Teaching and Policy. https://www.gse.upenn.edu/pdf/rmi/Shortage-RMI-09-2003.pdf.

Ingersoll, R. M., & Smith, T. M. (2004). Do Teacher Induction and Mentoring Matter? *NASSP Bulletin, 88*(638), 28–40. https://doi.org/10.1177/019263650408863803

Ingersoll, R. M., & Strong, M. (2011). The impact of induction and mentoring

programs for beginning teachers. *Review of Educational Research, 81*(2), 201–233. https://doi.org/10.3102/0034654311403323
Jiang, W., An, Y., Wang, L., & Zheng, C. (2021). Newcomers' reaction to the abusive supervision toward peers during organizational socialization. *Journal of Vocational Behavior, 128*, 103586. https://doi.org/10.1016/j.jvb.2021.103586
Johnson, S. M., & Birkeland, S. E. (2003). Pursuing a "sense of success": New teachers explain their career decisions. *American Educational Research Journal, 40*(3), 581–617. https://doi.org/10.3102/00028312040003581
Johnson, S. M., Kraft, M. A., & Papay, J. P. (2012). How context matters in high-need schools: The effects of teachers' working conditions on their professional satisfaction and their students' achievement. *Teachers College Record, 114*(10), 1–39. http://www.tcrecord.org/content.asp?contentid=16685.
Jones, D., & Watson, S. B. (2017). The relationship between administrative leadership behaviors and teacher retention in christian schools. *Journal of Research on Christian Education, 26*(1), 44–55. https://doi.org/10.1080/10656219.2017.1282903
Judge, T. A., Heller, D., & Mount, M. K. (2002). Five-factor model of personality and job satisfaction: A meta-analysis. *Journal of Applied Psychology, 87*(3), 530–541. https://doi.org/10.1037/0021-9010.87.3.530
Judge, T. A., Thoresen, C. J., Bono, J. E., & Patton, G. K. (2001). The job satisfaction-job performance relationship: A qualitative and quantitative review. *Psychological Bulletin, 127*(3), 376–407. https://doi.org/10.1037/0033-2909.127.3.376
Kakhnovets, R. (2011). Relationships among personality, expectations about counseling, and help-seeking attitudes. *Journal of Counseling and Development, 89*, 11–19. https://doi.org/10.1002/j.1556-6678.2011.tb00056.x
Kammeyer-Mueller, J. D., & Wanberg, C. R. (2003). Unwrapping the organizational entry process: Disentangling multiple antecedents and their pathways to adjustment. *Journal of Applied Psychology, 88*(5), 779–794. https://doi.org/10.1037/0021-9010.88.5.779
Kee, A. N. (2012). Feelings of preparedness among alternatively certified teachers. *Journal of Teacher Education, 63*(1), 23–38. https://doi.org/10.1177/0022487111421933
Kell, H. J. (2019). *Do teachers' personality traits predict their performance? A comprehensive review of the empirical literature from 1990 to 2018*. ETS Research Report Series. https://doi.org/10.1002/ets2.12241
Kelly, N., Cespedes, M., Clara, M., & Hanaher, P. (2019). Early career teachers' intentions to leave the profession: The complex relationships among preservice education, early career support, and job satisfaction. *Austral. J. Teacher Edu., 44*(3), 93–113. https://doi.org/10.14221/ajte.2018v44n3.6
Kim, L. E., Jörg, V., & Klassen, R. M. (2019). A meta-analysis of the effects of teacher personality on teacher effectiveness and burnout. *Educational Psychology Review, 31*(1), 163–195. https://doi.org/10.1007/s10648-018-9458-2
Kinman, G., Wray, S., & Strange, C. (2011). Emotional labour, burnout and job satisfaction in UK teachers: The role of workplace social support. *Educational Psychology, 31*(7), 843–856. https://doi.org/10.1080/01443410.2011.608650
Klassen, R. M., & Chiu, M. M. (2010). Effects on teachers' self-efficacy and job satisfaction: Teacher gender, years of experience, and job stress. *Journal of Educational Psychology, 102*(3), 741–756. https://doi.org/10.1037/a0019237
Kline, R. B. (Ed.). (2011). *Principles and practice of structural equation modeling*. The Guilford Press.
KMK. (2021). *Einstellung von Lehrkräften 2020 (teacher recruitment 2020)*. Sekretariat der Ständigen Konferenz der Kultusminister der Länder in der Bundesrepublik Deutschland. https://www.kmk.org/fileadmin/Dateien/pdf/Statistik/Dokumentationen/Dok_228_EvL_2020.pdf.
Kwok, A., & Cain, C. (2021). Alternatively certified teachers' perceptions of new teacher induction. *Professional Development in Education*, 1–13. https://doi.org/10.1080/19415257.2021.1879226
Lankford, H., Loeb, S., & Wyckoff, J. (2002). Teacher sorting and the plight of urban schools: A descriptive analysis. *Educational Evaluation and Policy Analysis, 24*(1), 37–62. https://doi.org/10.3102/01623737024001037
Lee, T. W., & Mowday, R. T. (1987). Voluntarily leaving an organization: An empirical investigation of steers and mowday's model of turnover. *Academy of Management Journal, 30*(4), 721–743. https://doi.org/10.5465/256157
Liao, P.-Y. (2021). Linking proactive personality to well-being: The mediating role of person-environment fit. *Sage Open, 11*(3). https://doi.org/10.1177/21582440211040118, 215824402110401.
Lin, S.-H., Lu, W. C., Chen, M.-Y., & Chen, L. H. (2014). Association between proactive personality and academic self–efficacy. *Current Psychology, 33*(4), 600–609. https://doi.org/10.1007/s12144-014-9231-8
Little, R. J. A. (1988). A test of missing completely at random for multivariate data with missing values. *Journal of the American Statistical Association, 83*(404), 1198–1202. https://doi.org/10.1080/01621459.1988.10478722
Li, M., Wang, Z., Gao, J., & You, X. (2017). Proactive personality and job satisfaction: The mediating effects of self-efficacy and work engagement in teachers. *Current Psychology, 36*(1), 48–55. https://doi.org/10.1007/s12144-015-9383-1
LoCasale-Crouch, J., Davis, E., Wiens, P., & Pianta, R. (2012). The role of the mentor in supporting new teachers: Associations with self-efficacy, reflection, and quality. *Mentoring & Tutoring: Partnership Learn., 20*(3), 303–323. https://doi.org/10.1080/13611267.2012.701959
Luthans, F., & Youssef, C. M. (2004). Human, social, and now positive psychological capital management. *Organizational Dynamics, 33*, 143–160. https://doi.org/10.1016/j.orgdyn.2004.01.003
MacKinnon, D. P., Cheong, J., & Pirlott, A. G. (2012). Statistical mediation analysis. In C. E. Hill (Ed.), *Consensual qualitative research: A practical resource for investigating social science phenomena* (pp. 313–331). American Psychological Association. https://doi.org/10.1037/13620-018.
Madigan, D. J., & Kim, L. E. (2021). Towards an understanding of teacher attrition: A meta-analysis of burnout, job satisfaction, and teachers' intentions to quit. *Teaching and Teacher Education, 105*, 103425. https://doi.org/10.1016/j.tate.2021.103425
Major, D. A., Turner, J. E., & Fletcher, T. D. (2006). Linking proactive personality and the big five to motivation to learn and development activity. *Journal of Applied Psychology, 91*(4), 927–935. https://doi.org/10.1037/0021-9010.91.4.927
Moè, A., Pazzaglia, F., & Ronconi, L. (2010). When being able is not enough. The combined value of positive affect and self-efficacy for job satisfaction in teaching. *Teaching and Teacher Education, 26*(5), 1145–1153. https://doi.org/10.1016/j.tate.2010.02.010
Muthén, L. K., & Muthén, B. O. (1998-2019). *Mplus user's guide* (8th ed.). Muthén & Muthén https://www.statmodel.com/download/usersguide/Mplus%20Users%20Guide%20v6.pdf.
Newberry, M., & Allsop, Y. (2017). Teacher attrition in the USA: The relational elements in a Utah case study. *Teachers Teach., 23*(8), 863–880. https://doi.org/10.1080/13540602.2017.1358705
Nguyen, T. D., Pham, L. D., Crouch, M., & Springer, M. G. (2020). The correlates of teacher turnover: An updated and expanded meta-analysis of the literature. *Educational Research Review, 31*, 1–17. https://doi.org/10.1016/j.edurev.2020.100355
Ostroff, C. (1992). The relationship between satisfaction, attitudes, and performance: An organizational level analysis. *Journal of Applied Psychology, 77*(6), 963–974. https://doi.org/10.1037/0021-9010.77.6.963
Paniagua, A., & Sánchez-Martí, A. (2018). *Early career teachers: Pioneers triggering innovation or compliant professionals?*. OECD Education Working Papers, No. 190. Paris: OECD. https://doi.org/10.1787/4a7043f9-en.
Parker, S. K., & Collins, C. G. (2010). Taking stock: Integrating and differentiating multiple proactive behaviors. *Journal of Management, 36*(3), 633–662. https://doi.org/10.1177/0149206308321554
Peng, Y., & Mao, C. (2015). The impact of person–job fit on job satisfaction: The mediator role of self efficacy. *Social Indicators Research, 121*(3), 805–813. https://doi.org/10.1007/s11205-014-0659-x
Perera, H. N., Granziera, H., & McIlveen, P. (2018). Profiles of teacher personality and relations with teacher self-efficacy, work engagement, and job satisfaction. *Personality and Individual Differences, 120*, 171–178. https://doi.org/10.1016/j.paid.2017.08.034
Perrachione, B. A., Rosser, V. J., & Petersen, G. (2008). Why do they stay? Elementary teachers' perceptions of job satisfaction and retention. *Professional Educator, 32*(2).
Redding, C., Booker, L., Smith, T. M., & Desimone, L. (2019). School administrators' direct and indirect influences on middle school math teachers' turnover. *Journal of Educational Administration, 57*(6), 708–730. https://doi.org/10.1108/JEA-10-2018-0190
Redding, C., & Henry, G. T. (2019). Leaving school early: An examination of novice teachers' within- and end-of-year turnover. *American Educational Research Journal, 56*(1), 204–236. https://doi.org/10.3102/0002831218790542
Redding, C., & Nguyen, T. (2020). Recent trends in the characteristics of new teachers, the schools in which they teach, and their turnover rates. *Teachers College Record, 122*(7).
Redding, C., & Smith, T. M. (2016). Easy in, easy out. *American Educational Research Journal, 53*(4), 1086–1125. https://doi.org/10.3102/0002831216653206
Redding, C., & Smith, T. M. (2019). Supporting early career alternatively certified teachers: Evidence from the beginning teacher longitudinal survey. *Teachers College Record, 121*(11), 1–32.
Rezwan, R. B., & Takahashi, Y. (2021). *Retention intention: Does having a proactive personality matter? Personnel review*. Advance online publication. https://doi.org/10.1108/PR-02-2020-0073
Richter, D., & Marx, A. (2019). Quereinsteigende und grundständig ausgebildete Lehrkräfte im Vorbereitungsdienst in Berlin: Eine vergleichende Analyse ihres Einsatzortes (second career teachers and regularly trained teachers during induction phase in berlin: A comparison of the schools they are assigned to). *Zeitschrift für Erziehungswissenschaft, 22*, 1385–1395. https://doi.org/10.1007/s11618-019-00915-y
Roberts, B. W., Luo, J., Briley, D. A., Chow, P. I., Su, R., & Hill, P. L. (2017). A systematic review of personality trait change through intervention. *Psychological Bulletin, 143*(2), 117–141. https://doi.org/10.1037/bul0000088
Ronfeldt, M., & McQueen, K. (2017). Does new teacher induction really improve retention? *Journal of Teacher Education, 68*(4), 394–410. https://doi.org/10.1177/0022487117702583
Saks, A. M., & Ashforth, B. E. (1996). Proactive socialization and behavioral self-management. *Journal of Vocational Behavior, 48*(3), 301–323. https://doi.org/10.1006/jvbe.1996.0026
Saks, K., Hunt, P., Leijen, Ä., & Lepp, L. (2021). To stay or not to stay: An empirical model for predicting teacher persistence-. *British Journal of Educational Studies*, 1–25. https://doi.org/10.1080/00071005.2021.2004995
Saks, A. M., Uggerslev, K. L., & Fassina, N. E. (2007). Socialization tactics and newcomer adjustment: A meta-analytic review and test of a model. *Journal of Vocational Behavior, 70*(3), 413–446. https://doi.org/10.1016/j.jvb.2006.12.004
Sass, D. A., Seal, A. K., & Martin, N. K. (2011). Predicting teacher retention using stress and support variables. *Journal of Educational Administration, 49*(2), 200–215. https://doi.org/10.1108/09578231111116734
Schafer, J. L., & Graham, J. W. (2002). Missing data: Our view of the state of the art. *Psychological Methods, 7*(2), 147–177. https://doi.org/10.1037/1082-989X.7.2.147

Schwarzer, R., & Hallum, S. (2008). Perceived teacher self-efficacy as a predictor of job stress and burnout: Mediation analyses. *Applied Psychology, 57*(s1), 152–171. https://doi.org/10.1111/j.1464-0597.2008.00359.x

Schwarzer, R., & Jerusalem, M. (1995). Generalized self-efficacy scale. In J. Weinman, S. Wright, & M. Johnston (Eds.), *Measures in health psychology: A user's portfolio. Causal and control beliefs*. NFER NELSON.

Simon, N., & Johnson, S. M. (2015). Teacher turnover in high poverty schools: What we know and can do. *Teachers College Record, 117*(3), 1–36.

Skaalvik, E. M., & Skaalvik, S. (2007). Dimensions of teacher self-efficacy and relations with strain factors, perceived collective teacher efficacy, and teacher burnout. *Journal of Educational Psychology, 99*(3), 611–625. https://doi.org/10.1037/0022-0663.99.3.611

Skaalvik, E. M., & Skaalvik, S. (2010). Teacher self-efficacy and teacher burnout: A study of relations. *Teaching and Teacher Education, 26*(4), 1059–1069. https://doi.org/10.1016/j.tate.2009.11.001

Skaalvik, E. M., & Skaalvik, S. (2011). Teacher job satisfaction and motivation to leave the teaching profession: Relations with school context, feeling of belonging, and emotional exhaustion. *Teaching and Teacher Education, 27*(6), 1029–1038. https://doi.org/10.1016/j.tate.2011.04.001

Skaalvik, E. M., & Skaalvik, S. (2017). Motivated for teaching? Associations with school goal structure, teacher self-efficacy, job satisfaction and emotional exhaustion. *Teaching and Teacher Education, 67*, 152–160. https://doi.org/10.1016/j.tate.2017.06.006

Sun, R., & Wang, W. (2017). Transformational leadership, employee turnover intention, and actual voluntary turnover in public organizations. *Public Management Review, 19*(8), 1124–1141. https://doi.org/10.1080/14719037.2016.1257063

Sutcher, L., Darling-Hammond, L., & Carver-Thomas, D. (2016). *A coming crisis in teaching? Teacher supply, demand, and shortages in the U.S*. Palo Alto, CA: Learning Policy Institute. https://learningpolicyinstitute.org/product/coming-crisis-teaching.

Sutcher, L., Darling-Hammond, L., & Carver-Thomas, D. (2019). Understanding teacher shortages: An analysis of teacher supply and demand in the United States. *Education Policy Analysis Archives, 27*(35). https://doi.org/10.14507/epaa.27.3696

Tarka, P. (2018). An overview of structural equation modeling: Its beginnings, historical development, usefulness and controversies in the social sciences. *Quality and Quantity, 52*(1), 313–354. https://doi.org/10.1007/s11135-017-0469-8

Toropova, A., Myrberg, E., & Johansson, S. (2021). Teacher job satisfaction: The importance of school working conditions and teacher characteristics. *Educational Review, 73*(1), 71–97. https://10.1080/00131911.2019.1705247.

Traeger, C., Haski-Leventhal, D., & Alfes, K. (2021). Extending organizational socialization theory: Empirical evidence from volunteer work for refugees in France and Australia. *Human Relations*. https://doi.org/10.1177/00187267211006451, 001872672110064.

Troesch, L. M., & Bauer, C. E. (2017). Second career teachers: Job satisfaction, job stress, and the role of self-efficacy. *Teaching and Teacher Education, 67*, 389–398. https://doi.org/10.1016/j.tate.2017.07.006

Troesch, L. M., & Bauer, C. E. (2020). Is teaching less challenging for career switchers? First and second career teachers' appraisal of professional challenges and their intention to leave teaching. *Frontiers in Psychology, 10*, 3067. https://doi.org/10.3389/fpsyg.2019.03067

Tschannen-Moran, M., & Woolfolk Hoy, A. (2007). The differential antecedents of self-efficacy beliefs of novice and experienced teachers. *Teaching and Teacher Education, 23*(6), 944–956. https://doi.org/10.1016/j.tate.2006.05.003

Tschannen-Moran, M., Woolfolk Hoy, A., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research, 68*(2), 202–248. https://doi.org/10.3102/00346543068002202

Vazire, S., & Carlson, E. N. (2011). Others sometimes know us better than we know ourselves. *Current Directions in Psychological Science, 20*(2), 104–108. https://doi.org/10.1177/0963721411402478

Vieluf, S., Kunter, M., & van de Vijver, F. J. (2013). Teacher self-efficacy in cross-national perspective. *Teaching and Teacher Education, 35*, 92–103. https://doi.org/10.1016/j.tate.2013.05.006

Wang, H., Hall, N. C., & Rahimi, S. (2015). Self-efficacy and causal attributions in teachers: Effects on burnout, job satisfaction, illness, and quitting intentions. *Teaching and Teacher Education, 47*, 120–130. https://doi.org/10.1016/j.tate.2014.12.005

Watt, H. M. G., & Richardson, P. W. (2007). Motivational factors influencing teaching as a career choice: Development and validation of the fit-choice scale. *The Journal of Experimental Education, 75*(3), 167–202. https://doi.org/10.3200/JEXE.75.3.167-202

Weiss, H. M. (2002). Deconstructing job satisfaction. *Human Resource Management Review, 12*(2), 173–194. https://doi.org/10.1016/S1053-4822(02)00045-1

Worth, J., & van den Brande, J. (2020). *Teacher autonomy: How does it relate to job satisfaction and retention? Slough*. National Foundation for Educational Research. https://tdtrust.org/wp-content/uploads/2020/08/teacher_autonomy_how_does_it_relate_to_job_satisfaction_and_retention-1.pdf.

Yoon, D.-Y., Han, S., Sung, M., & Cho, J. (2018). Informal learning, organizational commitment and self-efficacy. *Journal of Workplace Learning, 30*(8), 640–657. https://doi.org/10.1108/JWL-02-2018-0034

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