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Research paper

Finnish teacher students' career choice motivations: A mixed methods study

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ABSTRACT

This mixed-methods study analysed motivations to teach among Finnish first-year teacher students ($N = 946$) from early childhood, primary and special education programs, to discern potential additional motivations in a context where teaching is highly regarded and any differences between programs. Responses to an open-ended question revealed complementary motivational nuances to enrich the FIT-Choice scale in this context, such as 'perceived social status', highlighting the value of a mixed-methods approach. Highest-rated motivations on the FIT-Choice scale were social and intrinsic values, ability, and positive prior teaching and learning experiences; these were also most frequently mentioned of the FIT-Choice factors in open-ended responses, although correspondence at the individual level was modest. Minor differences occurred in career motivations between students from different programs.

1. Introduction

The motivations for choosing a teaching career have long been an important area of educational research. During the last two decades researchers have begun to adapt theories of student motivation, such as expectancy-value theory (Watt & Richardson, 2007, based on Eccles Parsons et al., 1983) to improve understanding of the motivations for choosing to teach. A burgeoning research literature is underway to trace how teachers' motivations to teach are connected to teaching behaviour, commitment to the profession, wellbeing at work and student learning (for a review, see Watt & Richardson, 2023, 2024). Longitudinal findings in Australia (Richardson & Watt, 2014) established that beginning teachers who planned to persist longer in the profession, were those who on entry to teacher education endorsed stronger ability, social and intrinsic value motivations.

Understanding teacher students' motivations can assist teacher educators to develop instructional methods and activities to promote and sustain adaptive motivations. Watt et al. (2012) suggest that initial teacher education should consider teacher students' motivations in teacher education instruction and activities to avoid their motivation losses. Research on the motivations for choosing a teaching career has implications also for policy decisions, especially amid escalating teacher shortages. A study in Finland (Virtanen & Laine, 2021), where the current research takes place, showed that 30 percent of teacher students in a master's primary program were seriously pondering whether they wanted to work as a teacher. It is important for teacher educators to be aware of students' motivations for becoming teachers, allowing them to discuss, challenge and, if necessary, transform students' unrealistic ideas of a teaching career, which can reinforce their career choice or, conversely, has been found to predict dropout from teacher education

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(Virtanen & Laine, 2021).

Our study is situated in the context of Finland, where teacher education is organised in universities, entry is competitive, studies include education science and research-based teacher education, which supports pedagogical thinking and critical reflection. The school education system is decentralised using the national core curriculum. Finnish teachers are autonomous and agentic and are allowed to make their own pedagogical decisions (Chung, 2023). The teaching profession has traditionally been regarded as high-status (Sahlberg, 2015). Recently, Giersch et al. (2021) showed that Finnish teacher students, in a program for primary or middle grades, on average expressed more agreement that teachers are accorded high status and value than did teacher students in Sweden and the U.S. Motivations to choose a teaching career have previously been studied in other contexts where the teaching profession is highly respected, such as Korea and Japan. A comparison of Finnish and Korean secondary science teacher students found the Finnish cohort scored more positively on most motivations assessed by the Factors Influencing Teaching Choice (FIT-Choice; Richardson & Watt, 2006; Watt & Richardson, 2007) scale (Kang et al., 2023). In Japan (Saito, 2024), primary and secondary teacher students' motivations measured by the FIT-Choice scale appeared lower than those reported by Finnish students in the other studies (Goller et al., 2019; Kang et al., 2023). Finnish teacher students appear to score much higher on Ability and Intrinsic career value motivations when compared with Japanese (Saito, 2024) and Korean (Kang et al., 2023) teacher students.

The central aim of our study was to discern potential additional motivations in the Finnish context, than those already measured by the FIT-Choice framework (Richardson & Watt, 2006; Watt & Richardson, 2007). We included the FIT-Choice initial open-ended question regarding motivations to teach, to supplement the quantitative ratings. Personal narratives and experiences of teacher students can reveal insights that quantitative data alone may not capture (Trent, 2018; Ye et al., 2021). In a data-driven content analysis of Finnish teacher students' open-ended responses to investigate why they applied to undertake teacher education, Takala et al. (2024) found seven narratives among primary school teachers, early childhood education and care, and special education teacher students. These highlighted Intrinsic career value, Ability and Social utility values including altruistic helping, from the FIT-Choice framework, and extrinsic motivation such as changing career. Recently interviews of Finnish preservice primary school teachers revealed three career motives additional to factors assessed by the FIT-Choice framework, namely 'Family member working as a teacher', 'Ability to work in other occupations as well', and 'Desire for an active and social occupation' (Lehtinen et al., 2025).

Unlike most earlier studies, our study compares motivations between teacher students in primary school teacher, early childhood and special education programs. Previous research (e.g. Goller et al., 2019; Takala et al., 2024) showed that early childhood education students' motivations differ from others. Even though the teaching profession in Finnish society is consistently rated as one of the most esteemed professions overall (Sahlberg, 2015), primary school, early childhood education and special education teachers are valued differently. These differences are reflected in salaries and affect the attractiveness of the study programs (Kantonen et al., 2020). Goller et al. (2019) found that Finnish early childhood education students were significantly less motivated to teach by the social status and salary of the profession than primary school teacher students. Special education teachers' work differs from early childhood and primary school teachers, and they are expected to have specific knowledge of learning difficulties and have a significant impact by working with pupils with special needs; they are often considered to play an active role in developing schools and supporting inclusive education (Fisher et al., 2003). Special education teacher students are commonly motivated to work with children (Takala et al., 2024). However, opposite findings also exist in contexts such as Sweden, where a notable 15 percent of special education teacher students' career motivations were oriented to interact more with adults and avoid stressful classroom work (Lindqvist et al., 2020). In Sweden, special education students may qualify as special education teachers who work with integrated or separated classes, or instead as special education coordinators who work more with adults and school development. In Finland, students of special education qualify to work as teachers. However, as the work contents and environments are different for primary school, early childhood education and special education teachers, it could be important to disaggregate career motivations of teacher students in different programs.

Our study extends previous research in three important ways. First, by studying teacher students' career motivations in the context of Finland, where the teaching profession is held in high regard and entry to teacher education is competitive, we explore potential differences in motivations compared to other studied contexts. Second, we combined responses to the FIT-Choice scale items with responses to the open-ended question, to discern potential additional motivations for choosing teaching as a career in the Finnish context. This allowed students to express their authentic salient motivations to obtain nuanced findings, rather than predetermined categories that would not allow the detection of new factors (Bergmark et al., 2018; Klassen et al., 2011). Although the FIT-Choice scale (Watt & Richardson, 2007) includes an initial open-ended question, few previous studies have included or reported this (for notable exceptions, see Fray & Gore, 2018; Heinz, 2015; Takala et al., 2024). Third, we compare teacher students' rated importance versus salience for corresponding motivations, to determine whether those motivations most endorsed, were also those most salient from open-ended responses.

1.1. Motivations for a teaching career

More than three decades ago, Brookhart and Freeman (1992) synthesised research on motivations for choosing the teaching profession within a broad taxonomy of altruistic, intrinsic, and extrinsic motivations, which has been widely drawn upon (for reviews, see Fray & Gore, 2018; Heinz, 2015). Individuals with altruistic motivations want to contribute to society (Flores & Niklasson, 2014; Fray & Gore, 2018; Richardson & Watt, 2006) by helping children and adolescents (Struyven et al., 2013). Intrinsic motivations include interest and enjoyment of teaching (Heinz, 2013), and interest in (Watt, Richardson, & Morris, 2017a,b) or feeling accomplished in a specific subject (Gao & Trent, 2009). The desire to work with children has been variously classified as intrinsic or altruistic by researchers drawing on this taxonomy (see Richardson & Watt, 2006). Extrinsic motivations within this framework are conceptualised as aspects related to lifestyle choices, such as the option to balance work and family commitments (Struyven et al., 2013), flexible working hours (Jungert et al., 2014), holidays (Struyven et al., 2013) or conditions of work (Flores & Niklasson, 2014; Jungert et al., 2014). However, these broad motivation categories lacked precise definition, included overlaps, and were not systematically guided by motivation theory. The absence of a common measure led to inconsistent findings across studies that could not be readily compared or synthesised. To address these gaps, Watt and Richardson (2007) developed their comprehensive FIT-Choice framework to provide a theoretically grounded measure for assessing motivations to teach.

1.2. The FIT-choice theoretical framework and scale

The FIT-Choice theoretical framework is grounded in the Eccles et al. expectancy-value theory (EVT; Eccles et al., 1983; Eccles & Wigfield, 2020), adapted to investigate the motivations to choose a teaching career. Watt and Richardson mapped findings in the empirical literature to key constructs in EVT which, in turn, suggested others, to develop the FIT-Choice theoretical framework and psychometric scale. The FIT-Choice scale serves as a tool to assess and measure the various factors that play a role in individuals' choices to teach; its psychometric properties have been tested in the Australian context (Watt &

Richardson, 2007), in cross-cultural studies (e.g., Watt et al., 2012), other diverse samples and settings (for edited collections, see Watt & Richardson, 2012; Watt, Richardson, & Smith, 2017a,b), and has been translated into approximately 30 languages. Three validations of Finnish translations and cultural adaptations of the scale have been published (Goller et al., 2019; Kang et al., 2023; Taimalu et al., 2021).

The FIT-Choice scale goes beyond the Brookhart and Freeman (1992) classic triad taxonomy by further differentiating factors and specifying additional ones informed by an expectancy-value theory lens. The scale includes two parts: motivations to teach and perceptions of the teaching profession. The motivation part was composed initially of 12 factors: Ability, Intrinsic value, Social utility values (Shape the future of children/adolescents, Enhance social equity, Make social contribution, Work with children/adolescents), Personal utility values (Job security, Time for family, Job transferability), Prior teaching and learning experiences, Social influences, and Fallback career (Richardson & Watt, 2006; Watt & Richardson, 2007). Since then, the authors added two further factors of Subject interest (Watt, Richardson, & Morris, 2017a,b) and Autonomy (Watt & Richardson, 2024). The second part of the scale measures six perceptions of the teaching profession: experiences of Social dissuasion, Task demand (difficulty, expertise) and Task return (social status, salary) – the difference between which is conceptualised as a motivational 'cost', and Satisfaction with the choice of teaching as a career (Watt & Richardson, 2007). For the present study the motivation factors were measured, excluding the newer factors Subject interest (Watt, Richardson, & Morris, 2017a,b) and Autonomy (Watt & Richardson, 2024), because the Autonomy factor was published after our data collection and Subject interest was not relevant in the context of our study. Those factors were also not included in the Finnish translations of the FIT-Choice scale we used (Kang et al., 2023; Taimalu et al., 2021).

Highly endorsed motivations for choosing teaching across different countries reflect a combination of ability, intrinsic and social values, as well as prior teaching and learning experiences (Watt & Richardson, 2012). The results of a recent study (Lehtinen et al., 2025) confirm this finding among Finnish primary school teacher students. Motivations to teach appeared more similar than different in a comparative study across samples from Australia, Germany, Norway and the U.S. (Watt et al., 2012) where the highest rated motivations were consistently intrinsic value, ability, social utility values (the desire to make a social contribution, work with children/adolescents) and having prior positive teaching and learning experiences. In contrast, personal values such as job security or family time, were consistently lower in these four contexts. In Norway, where the school system is united and focused on equity alike Finland, teacher students scored significantly lower on social utility values than the other samples. Watt et al. (2012) interpreted this as due to future teachers feeling less drive to promote equitable opportunities for pupils in an already egalitarian country context.

Variations in motivations have been found across more diverse cultural contexts. In studies from Australia, Croatia, Germany and the U.S., fewer youth 'fallback' into teaching because they were not selected into their first choice (Watt & Richardson, 2012; Watt, Richardson, & Smith, 2017a,b). In contrast, higher fallback motivations were identified in China, where teachers are highly respected (Lin et al., 2012) but students may enter teacher education programs because of the waived tuition payment (Mei, 2010); and in Turkey (Kılınç et al., 2012), where entry to teacher education is less competitive and qualified teachers are not held in high regard. In cultures that emphasise collectivist values (e.g., China, Indonesia and Turkey), personal utility values (e.g., job security, time for family) and social influence motivations (e.g., "Others think I should teach") were more influential (for reviews see Watt & Richardson, 2012; Watt, Richardson, & Smith, 2017a,b).

Other comparisons of Finnish with other teacher students reflect the earlier finding that Finns appear less motivated to teach by social values (Watt et al., 2012). A comparison of Finnish, Swedish and U.S. teacher students' motivations using the FIT-Choice scale (Giersch et al., 2021) found that intrinsic, social and personal values were most endorsed, but Finnish teacher students scored significantly lower on the social value to 'make social contribution'. Another study found fewer Finns than Estonians chose to teach due to social values (Taimalu et al., 2021), and fewer Finnish than German teacher students were motivated by social values (Goller et al., 2019). Counter to Giersch et al. (2021), Goller et al. (2019) found Finnish teacher students were less motivated by personal values (e.g. job security), which they interpreted as due to greater respect in Finland for the teaching profession, and the less secure Finnish mixed-term contracts often offered to beginning teachers compared with a usually tenured civil servant status in Germany which offers long-term job security.

1.3. Differences in career choice motivations among teacher students in different programs

Despite the exponentially growing body of research on motivations to teach, few studies have compared the motivations of students in different teacher education programs (Fray & Gore, 2018). One study in The Netherlands (Fokkens-Bruinsma & Canrinus, 2014) found that primary school teacher students rated the FIT-Choice social value 'Shape future of children/adolescents' as more important than secondary teacher students. In an Australian study using the FIT-Choice scale, early childhood education teacher students' strongest career choice motivations were work with children (on which they scored noticeably higher than primary school teacher students), a passion for teaching, to shape children's futures, and self-perceived abilities (Richardson et al., 2012).

In the context of Finland, early childhood education teacher students scored significantly lower than primary and secondary teacher students on the Time for family factor (Goller et al., 2019). Yet, using qualitative data, other researchers found that Finnish primary school, early childhood and special education teacher students were strongly motivated by working with children (Takala et al., 2024). Minor differences showed that early childhood education and primary school teacher students emphasised teaching aspects, for instance, while special education teacher students focused on helping and supporting children with special needs. Additionally, early childhood education teacher students emphasised professional development, and primary school teacher students emphasised social utility values and a meaningful job. In the same vein, studies using different measures than FIT-Choice have shown that early years' education teacher students emphasised interest, pedagogical work with children, and social values such as the desire to make a difference to children's lives, help children grow, and make a contribution to society (Cornali, 2019 in Italy; Liu & Boyd, 2018 in Australia; McGarr & Gavaldon, 2021 in Spain; Weiss et al., 2018 in Germany, Sweden, Switzerland and Romania).

Cultural differences were apparent in comparing early childhood education teacher students' motivations. Australian teacher students of early childhood education were more strongly motivated by their teaching abilities, good working conditions, enjoying children, and good fit with having a family (Liu & Boyd, 2018). In Spain, early childhood education teacher students indicated others' opinions about their suitability to teach motivated their choice (McGarr & Gavaldon, 2021). Italian teacher students of early childhood education emphasised job opportunities and an easy training program (Cornali, 2019). Finnish early childhood education teacher students who were certain of their career choice rated the opportunity to have creative and independent work higher and held a belief that early years' teachers' appreciation would rise soon, while 'hesitant' students of the same program preferred to work more independently and considered early childhood education had a negative image (Kantonen et al., 2020).

2. Aim of the study

The core aims of this study were threefold. First, to discover whether additional motivations to teach than those measured by the FIT-Choice scale could be discerned by using the open-ended question at the

beginning of the survey, "I chose to become a teacher because …", and compare frequencies of open-ended responses with the rated extent of factors measured by the FIT-Choice scale. Second, because teachers are held in high regard in the Finnish context, to find whether any additional motivations discerned would include responses relating to the esteem and high-status of the teaching profession in Finland (Sahlberg, 2015). Third, we wished to compare potential motivational differences from rated quantitative scores and open-ended responses, between teacher students from primary, early childhood and special education teacher programs, given identified differences in previous studies (e.g., Goller et al., 2019; Lindqvist et al., 2020; Takala et al., 2024).

We investigated the following research questions:

RQ1. Overall, which factors measured by the FIT-Choice scale, motivated the career choice of Finnish teacher students?

RQ2. Would the analysis of open-ended responses, where respondents freely describe their motivations for pursuing a teaching career, reveal additional motivations?

RQ3. Are the rated FIT-Choice factors also the most *salient* motivational factors (i.e., most frequently mentioned) in open ended responses?

RQ4. Do teacher students enrolled in primary, early childhood and special education programs differ, in terms of their motivations to teach?

3. Method

3.1. Research context

In Finland, both primary school teacher and special education programs offer a three-year bachelor's and a two-year master's degree. In our study, special education students studied special education as the main subject to get a special education teacher qualification. Early childhood education teachers study at the bachelor's or the master's degree level at a university, or a bachelor's degree at a university of applied sciences. Entry to each of primary school and special education teachers' programs has traditionally been especially competitive. In 2020, the national acceptance rate for the primary school teacher program was 15.0 %, 8.5 % for special education, and 35.5 % for early childhood education (University of Helsinki, 2021). The popularity of primary school teacher and special education programs may be based on a conception of teaching as an autonomous profession, without inspections or yearly standardised tests to monitor teachers (Niemi et al., 2018). This contrasts with many countries where the teaching profession is more externally structured and regulated. Special education teachers are globally valued for their commitment to teaching students with special educational needs (Payne, 2005). In Finland, the perceived status of early childhood education teachers is often considered lower than primary and secondary teachers' (Vlasov et al., 2016). This is similar to other countries such as the U.S. (Vlasov et al., 2016), Australia and China (Liu & Boyd, 2018), and Spain (McGarr & Gavaldon, 2021).

3.2. Mixed methods design

This mixed-methods study was conducted using *convergent design*, in which the purpose is to obtain diverse but complementary data on the same phenomenon to gain multiple perspectives and a more complete understanding of the research problem (Morse, 1991). We applied a questionnaire variant of the convergent design, which can be used when a researcher includes closed and open-ended questions within one survey. Qualitative items provide interesting and illustrative information to confirm or expand on findings from the quantitative survey items (Creswell & Plano Clark, 2018).

3.3. Participants

Data were collected using an online survey, during the first three months of first-year teacher students entering their initial teacher education programs in 2020 at eight universities in Finland. Participation was voluntary and participants were assured their data would be pseudonymised before analyses and only accessible to the researchers. A total of 946 electronic survey responses was received: early childhood education program ($n = 439$ with 48.9 % response rate), primary school teacher program ($n = 428$ with 44.5 % response rate) and special education program ($n = 79$ with 49.4 % response rate). Respondents' ages ranged between 19 and 54 years ($M = 25.5$, SD 7.8). Altogether 89 % of respondents studied in Finnish-language and 11 % in Swedish-language programs.

3.4. Data collection

The FIT-Choice scale (Watt & Richardson, 2007) measured Finnish teacher students' motivations for choosing a teaching career. We included 11 of the 12 original motivation subscales: Intrinsic value, Social utility values (Make social contribution, Enhance social equity, Shape future of youth, Work with children/adolescents), Personal utility values (Job security, Time for family), Ability, Prior teaching and learning experiences, Social influences, and Fallback career. We excluded the Personal utility value 'Job transferability', which is not applicable in the Finnish context. Subsequently added Subject interest (e.g., "I really enjoy the topics I will teach"; see Watt, Richardson, & Morris, 2017a,b) and Autonomy (e.g., "I want a job in which I can exercise autonomy"; Watt & Richardson, 2024) were not included in the present study as outlined earlier.

The scale version used in the present study was translated and culturally adapted to the Finnish context by Kantelinen in 2020 as part of a comparative study undertaken with Estonian and Finnish student teachers (Taimalu et al., 2021). In 2023 this same translation was subsequently applied in a study conducted by Kang et al. (2023).[1] The translations by Kantelinen and Goller et al. (2019) were compared, minor differences were found and the scale version of Kantelinen was chosen for the present study due to linguistic preferences. We made minor changes to the scale: two items were removed from the factor Time for family, namely, "Part-time teaching could allow more family time" and "As a teacher I will have a short working day", not applicable in the Finnish context. We applied the original 7-point Likert scale ranging from 1 = 'not at all important' to 7 = 'extremely important', for each of the remaining 33 included items. The scale was introduced by sentences modified from the Finnish translation (Taimalu et al., 2021): "To what extent did the factors mentioned below influence your decision to apply to undertake teacher education? Choose the option that best describes you, using the scale 1 to 7". The items, listed in a single block, then followed the stem from the original FIT-Choice scale, "I chose to become a teacher because …".

To first assess the factor structure of the FIT-Choice scale in our setting and between teacher students from the three programs, we conducted multigroup confirmatory factor analyses (MG-CFAs) to test measurement invariance. This is a necessary pre-step to ascertain whether the scale functioned well and similarly across the three program groups; it is only justifiable to compare between-group ratings when the group differences have not differentially affected constructs' underlying measurement characteristics. The sequence of analyses involves first, a combined multiple-group model with no cross-group equality constraints (configural model); second, constraining loadings to be invariant across groups (metric model); and third, additionally constraining item intercepts to be equivalent across groups (scalar model). MG-CFAs were estimated using robust maximum likelihood to accommodate non-normality in the data with Mplus version 8.11. Items were specified as indicators for only their assigned latent constructs and all loadings freely estimated, with no cross-loading items or estimated error covariances, together with correlations among latent constructs whose variances were set to 1.

The initial three-group MG-CFA configural model yielded

unacceptable fit. We traced the problem to differences between the special education versus other program teacher students. In order to proceed, the special education group was excluded from quantitative comparisons, but, retained for their qualitative information. A configural MG-CFA including only early childhood and primary school teacher students similarly specified all items to load only on their assigned factor and freely estimated loadings, intercepts and measurement error variances (but no covariances), together with correlations among latent constructs whose variances were set to 1. Marginal model fit was improved by omitting item B7 "I've always wanted to be a teacher", which showed a relatively low (0.399) loading and R^2 (0.159) on intrinsic value and correspondingly, low internal consistency for intrinsic value, $\alpha = .594$.

The two-group MG-CFA configural model was re-estimated omitting item B7 by constraining the two item indicators for intrinsic value to load equally, resulting in acceptable model fit: χ^2 (df = 820) = 1697.716 (with similar contributions by early childhood education 46.680 %/primary school teacher at 53.320 %), CFI = 0.918, TLI = 0.891, RMSEA = 0.050. Changes in emphasised fit indices supported metric invariance when item loadings were constrained across groups (ΔCFI = 0.006, ΔTLI = 0.002, ΔRMSEA = 0.000; see Chen, 2007; Cheung & Rensvold, 2002). Additionally constraining item intercepts across groups produced negligible change in the RMSEA (0.004), but changes in CFI and TLI that exceeded the 0.010 threshold (ΔCFI = 0.017, ΔTLI = 0.016), thus not supporting scalar invariance.

However, inspecting item intercepts from the metric versus scalar models across both groups suggested freeing the intercept constraints for two 'Time for family' items (B4: "as a teacher I will have lengthy holidays", and B29: "school holidays will fit in with family commitments"), both seemingly less applicable to the work of early childhood educators who frequently work extended hours which are less family friendly, whose item intercepts were lower than primary school teacher students. Freeing these two item intercepts, differences from the metric model in emphasised fit indices were acceptable, thus achieving partial scalar invariance (ΔCFI = 0.009, ΔTLI = 0.007, ΔRMSEA = 0.002) and enabling us to proceed to compare factor means, with a caveat about the meaning of the 'Time for family' factor for early childhood educators. Table 1 presents MG-CFA statistics for the final partial scalar invariance model for PST and ECE teacher students together with subscale reliabilities.

The tested FIT-Choice scale structure (with the exclusion of item B7) was therefore supported in our data, as was recently found in four other studies using Finnish data (Goller et al., 2019; Kang et al., 2023; Lehtinen et al., 2025; Taimalu et al., 2021). In line with the original scale and the Finnish translation, our 11 FIT-Choice motivation factors were calculated as the mean of component items.

We additionally included the open-ended question, to investigate in more detail teacher students' motivations for a teaching career: "Please briefly state your main reason(s) for choosing to become a teacher". Participants responded to the open-ended question before filling in the structured FIT-Choice scale items, to elicit spontaneous descriptions in their own words of their motivation. Responses to the open-ended question were obtained from 877 teacher students (97.2 % of survey respondents). Responses ranged from a couple of words to one or two sentences, each consisting of between 1 and 8 ($M = 2.7$, $SD = 1.24$) motivations to teach.

3.5. Data analyses

Descriptive statistics summarise motivational factors influencing teacher students' career choice in their first study year. Differences between primary and early childhood teacher education programs were compared using one-way MANOVA, adjusting the criterion for statistical significance according to Bonferroni corrected p-values, calculated at $p < .005$ in view of the 11 dependent variables. Accompanying effect sizes are reported using η_p^2 denoting how much of the variance in motivations was explained by differences between the two programs.

Directed content analysis (Hsieh & Shannon, 2005) was used to categorise teacher students' open-ended responses according to the FIT-Choice factors initially. FIT-Choice factors were entered in separate columns of a spreadsheet, and participants' responses recorded on separate rows. All expressions found in each participant's responses were marked in the corresponding columns of the FIT-Choice scale factors. If a response expressed a motivation that did not directly correspond to any factor, it was highlighted. A total of 19 additional motivations was found, and these responses were coded into thematic categories. After this initial deductive analysis conducted by the fourth author, the first author independently examined the categorisation of the responses; interrater agreement was 99 %. Next the first author's categorisation was used to reanalyse whether the additional categories could be combined either with each other, or the FIT-Choice scale factors. This was accomplished by identifying thematic similarities in the expressions and combining them into broader themes, resulting in four social utility values, and two personal utility values. Three additional nuances were identified for intrinsic value, and one for perceived social status.

To compare the quantitative and qualitative findings Pearson point-biserial correlations were calculated pairwise to analyse relationships between our 11 FIT-Choice scale factor scores, and responses to the open-ended question categorised into the 11 corresponding themes. In addition, the frequencies of the complementary motivational nuances in the qualitative data were separately compared to the means from quantitative data.

4. Results

4.1. Teacher students' motivations to choose a teaching career

Highest rated FIT-Choice motivations in the combined sample were Work with children/adolescents and Intrinsic value (see Table 2 and Fig. 1). Ability and other Social utility values were also highly rated: Shape future of children/adolescents, Enhance social equity and Make social contribution. Next were Prior teaching and learning experiences. Personal utility values (Time for family, Job security) were moderately endorsed; lowest rated motivations were Social influences and especially Fallback career. These findings indicate that typically Finnish teacher students considered the social impact of a teacher's work, interest and enjoyment in the work of teaching, and self-perceived favourable abilities, as most influential in their decision to become a teacher.

The 877 responses to the open-ended question generally supported findings from the quantitative data. Teacher students' responses covered all the motivation factors, including the later added 'Autonomy' factor, and the perceived 'Social status' of teaching factor from the perceptions set of factors in the FIT-Choice scale. Two factors were not identified in the open-ended student responses, 'Job transferability' and 'Subject interest'. This is likely the result of no secondary teacher students being included in the study. The open-ended responses added nuances to the factors measured by the FIT-Choice scale which were coded to each of social utility, intrinsic, and personal utility values.

The open-ended responses reflected the quantitative ratings for correspondingly coded factors. A high total of 1371 (out of 2407) motivations were categorised into the FIT-Choice scale's Social utility values (Table 3). Most frequent was 'Work with children/adolescents' (465 responses), then 'Shape future of children' (234 responses), 'Make social contribution' (89 responses), and 'Enhance social equity' (59 responses). Intrinsic career value was mentioned by 309 teacher students, including the original viewpoint 'interest to teach' and additional viewpoints of interest in the career, fostering learning of children, and considering the profession as a 'calling'. 'Ability' was mentioned by 148 responses, and 'Prior teaching and learning experiences' by 94. Seven respondents mentioned that 'Social influences' motivated their choice of

Table 1
Multigroup confirmatory factor analysis for primary school teacher (PST) and early childhood education (ECE) students: unstandardised factor loadings (λ), measurement errors (δ), item intercepts (τ) from partial scalar invariance model, and subscale reliabilities (α).

Motivation factors	α	Item	Original English	Finnish translation	λ	τ	δ_{PST}/ δ_{ECE}
			"I chose to become a teacher because."	"Haluan opettajaksi, koska."			
Ability	0.762	B5	I have the qualities of a good teacher.	minulla on hyvät opettajan ominaisuudet.	0.657	5.780	0.592/ 0.496
		B19	I have good teaching skills.	minulla on hyvät opettamisen taidot.	0.906	5.415	0.599/ 0.584
		B43	teaching is a career suited to my abilities.	opettajan ura vastaa kykyjäni.	0.788	5.621	0.728/ 0.840
Intrinsic career value	0.812	B1	I am interested in teaching.	olen kiinnostunut opettamisesta.	0.868	6.162	0.342/ 0.472
		B12	I like teaching	pidän opettamisesta.	0.868	6.102	0.265/ 0.326
Fallback career	0.706	B11	I was unsure of what career I wanted.	olin epävarma siitä, minkä uran haluan.	0.801	2.177	4.269/ 3.649
		B35	I was not accepted into my first-choice career.	en päässyt alalle, johon ensisijaisesti hain.	1.323	1.602	0.754/ 1.318
		B48	I chose teaching as a last-resort career.	valitsin opettajan ammatin viimeisenä uravaihtoehtona (en päässyt ensisijaiseen hakuvaihtoehtooni).	0.959	1.285	0.503/ 0.528
Prior teaching and learning experiences	0.851	B17	I have had inspirational teachers.	minulla on ollut innoittavia opettajia.	1.805	4.828	0.793/ 1.429
		B30	I have had good teachers as role models.	minulla on ollut hyviä opettajia roolimalleina.	1.911	4.812	0.341/ 0.937
		B39	I have had positive learning experiences.	minulla on ollut positiivisia oppimiskokemuksia.	0.964	5.413	1.334/ 1.742
Social influences	0.838	B3	my friends think I should become a teacher.	ystävien mielestä minusta pitäisi tulla opettaja.	1.750	3.173	2.209/ 1.928
		B24	my family thinks I should become a teacher.	perheeni mielestä minusta pitäisi tulla opettaja.	1.750	2.995	2.171/ 1.768
		B40	people I have worked with think I should become a teacher.	ihmiset, joiden kanssa olen työskennellyt, ovat sitä mieltä, että minusta pitäisi tulla opettaja.	1.833	3.652	1.790/ 2.017
Personal utility values							
Job security	0.870	B14	teaching will offer a steady career path.	opettaminen tarjoaa vakaan urapolun (opettajille on aina töitä).	1.530	4.849	1.210/ 1.417
		B27	teaching will provide a reliable income.	opetustyö tarjoaa varmat tulot.	1.636	3.826	1.883/ 2.058
		B38	teaching will be a secure job.	opettajan työ on turvattu ammatti (työn jatkuvuus on taattu).	1.793	4.645	0.799/ 0.893
Time for family	0.794	B4[a]	as a teacher I will have lengthy holidays.	opettajana minulla tulee olemaan pitkät lomat.	0.986	3.069_{PST}/ 1.873_{ECE}	3.878/ 2.747
		B16	teaching hours will fit with the responsibilities of having a family.	opettajan työaika sopii hyvin perheelliselle.	1.929	4.291	1.191/ 2.350
		B29[a]	school holidays will fit in with family commitments.	koulun lomat sopivat yhteen perhe-elämän kanssa.	2.008	3.926_{PST}/ 3.316_{ECE}	0.753/ 1.433
Social utility values							
Shape future of children/ adolescents	0.766	B9	teaching will allow me to shape child/adolescent values.	opettajan työssä minulla on mahdollisuus muokata lapsen/nuoren arvoja.	0.959	5.259	2.182/ 1.882
		B23	teaching will allow me to influence the next generation.	opettaminen antaa minulle mahdollisuuden vaikuttaa tulevaan sukupolveen.	1.003	5.986	0.427/ 0.535
		B53	teaching will allow me to have an impact on children/adolescents.	opettajan työssä saan mahdollisuuden vaikuttaa lapsiin/nuoriin.	0.825	5.908	0.665/ 0.717
Enhance social equity	0.863	B36	teaching will allow me to raise the ambitions of under-privileged youth.	opetustyö antaa minulle mahdollisuuden tukea huono-osaisia nuoria pääsemään eteenpäin.	1.234	5.611	0.363/ 0.995
		B49	teaching will allow me to benefit the socially disadvantaged.	opetustyössä voin olla hyödyksi sosiaalisesti vähäosaisille.	1.336	5.372	0.483/ 0.925
		B54	teaching will allow me to work against social inequality.	työskennellä sosiaalista epätasa-arvoa vastaan.	1.066	5.882	0.897/ 0.717
Make social contribution	0.848	B6, B20 and B31	teaching will allow me to provide a service to society.	opettajana voin olla hyödyksi yhteiskunnalle.	0.969	5.952	0.656/ 0.565
			teachers make a worthwhile social contribution.	opettajat antavat työllään merkittävän yhteiskunnallisen panoksen.	1.260	5.793	0.419/ 0.441
			teaching enables me to give back to society.	opetustyössä voin tehdä palveluksen yhteiskunnalle.	1.408	5.000	1.077/ 1.374
Work with children/ adolescents	0.895	B13	I want a job that involves working with children and adolescents.	haluan ammatin, jossa voin työskennellä lasten/ nuorten kanssa.	0.846	6.435	0.322/ 0.097
		B26	I want to work in a child/adolescent-centred environment.	haluan työskennellä lapsi-/nuorisokeskeisessä ympäristössä.	1.082	6.043	0.433/ 0.456
		B37	I like working with children/ adolescents.	minusta on mukava työskennellä lasten/nuorten parissa.	0.750	6.454	0.346/ 0.168

(*continued on next page*)

[1] The first and fifth authors had access and permission to use the Finnish FIT-Choice scale translations (Kang et al., 2023; Taimalu et al., 2021) by personal communication, in 2020 before they were published.

Table 1 (*continued*)

Motivation factors	α	Item	Original English	Finnish translation	λ	τ	δ_{PST}/ δ_{ECE}
			"I chose to become a teacher because."	"Haluan opettajaksi, koska."			
OMITTED ITEMS		B7	I've always wanted to be a teacher. (Intrinsic interest)	olen aina halunnut opettajaksi.			
		B10	I want to help children and adolescents to learn. (Work with children/adolescents)				
		B2	part-time teaching could allow more family time. (Time for family				
		B18	as a teacher I will have a short working day. (Time for family)				
		B8	teaching will be a useful job for me to have when travelling. (Job transferability)				
		B22	a teaching qualification is recognised everywhere. (Job transferability)				
		B45	a teaching job will allow me to choose where I wish to live. (Job transferability)				

Note. The original item codes used by Watt and Richardson (2007) were used. 2-tailed *p*-values <0.001 for all λ, *δ*, τ parameter estimates.
[a] Unconstrained intercepts for items B4 and B29.

teaching; and the responses of four students who were uncertain if they would work as a teacher were coded into 'Fallback career'.

However, 'Personal utility values' were very frequently mentioned (462 responses), despite being only moderately rated on the FIT-Choice scale items. It is important to point out that the high frequency in open-ended responses included also the additional nuances. When only matched factors were counted, the 10 responses for primary and early childhood teacher students appear more balanced with the moderate scale ratings on Job security and Time for family.

4.2. Additional motivational factors to the FIT-Choice scale from open-ended responses

Analysis of responses to the open-ended question discerned whether freely describing one's motivations for pursuing teaching would reveal additional motivational factors or nuances to the FIT-Choice scale motivations, in the Finnish context. One additional motivation was identified: Perceived social status, which was mentioned by 12 respondents. These respondents directly stated that their career choice was due to the high social status and high value of the teaching profession in Finland. This resonates strongly with the FIT-Choice perception factor 'Social status' (e.g., "Do you think teaching is perceived as a high-status occupation?"), thus, we labelled this motivation identically.

In addition, the data revealed complementary nuances to Personal utility value, Social utility value and Intrinsic value (see Table 3). The original factors of Personal utility values in the FIT-Choice scale (Job security and Time for family) were very seldom mentioned in the open-ended responses, but 452 mentions were coded to this category from the complementary nuances, such as Features of teaching job that suit me, and Nice working hours. A total of 441 responses we categorised to 'Features of the teaching job that suit me', which included qualities of a teacher's career that the respondents considered as attractive and

Table 2
FIT-Choice motivations for Finnish teacher students overall, and between primary school teacher (PST) and early childhood education (ECE) programs.

Motivational factors	PST $n = 428$	ECE $n = 439$	F (1, 865)	η_p^2	p	direction of effect
	M (SD)	*M (SD)*				
Work with children/adolescents	6.13 (0.97)	6.49 (0.68)	39.206	0.043	<0.001*	PST < ECE
Intrinsic value	6.27 (0.82)	6.05 (0.88)	14.359	0.016	<0.001*	ECE < PST
Shape future of children/adolescents	5.80 (0.95)	5.79 (0.97)	0.004	0.000	0.950	
Enhance social equity	5.75 (1.10)	5.66 (1.10)	1.392	0.002	0.238	
Make social contribution	5.76 (1.11)	5.60 (1.10)	4.434	0.005	0.036	
Ability	5.69 (0.79)	5.61 (0.84)	2.016	0.002	0.156	
Prior teaching and learning experiences	5.40 (1.28)	5.11 (1.36)	10.636	0.012	0.001*	ECE < PST
Job security	4.78 (1.26)	4.75 (1.45)	0.086	0.000	0.769	
Time for family	4.14 (1.54)	3.61 (1.49)	26.667	0.030	<0.001*	ECE < PST
Social influences	3.64 (1.46)	3.85 (1.60)	4.014	0.005	0.045	
Fallback career	2.08 (1.27)	2.01 (1.18)	0.725	0.001	0.395	

Note. *$p < .005$ using Bonferroni-corrected *p*-values for 11 dependent variables. Ratings were from 1 = 'not at all' to 7 = 'extremely important'.

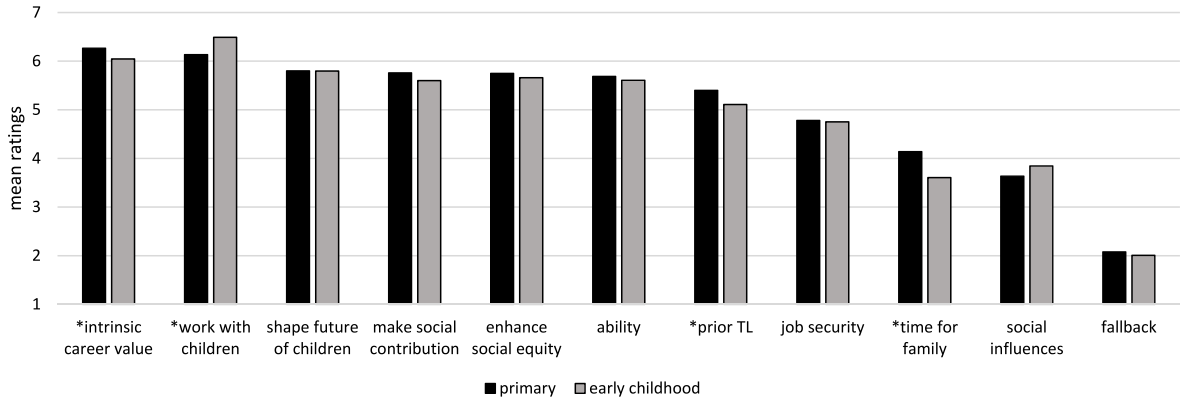


Fig. 1. FIT-Choice motivations between Finnish teacher students in primary school teacher (PST) and early childhood education (ECE) programs.
Note. *denotes statistically significant differences (see Table 2).

Table 3
Motivational factors for the teaching profession that emerged in teacher students' responses to the open-ended question and examples of responses.

Motivational factors in responses	n	Examples of responses to open-ended questions (respondent's teacher education program)
Social utility value	**1307**	
Work with children/adolescents	465	*"I want to become a teacher, because I want to work with children in the future" (SE)*
Shape future of children	234	*"I want to be involved and have an effect on the future by giving the best possible tools for the young and create a good foundation for their lives" (SE)*
Social contribution	89	*"I want to get to influence future society as widely as possible" (PST)*
Enhance social equity	59	*"I feel that a teacher is well positioned to make a societal impact, and help children have equal starting points for growth and development" (PST)*
* Altruistic motivation to help	249	*"I have a strong will to help, and I think in this profession I have the opportunity to help children." (ECE)*
* Help children learn and develop	170	*"I want to be involved in children's growing and developing process" (PST)*
* Importance of teachers to society	41	*"I find the teaching profession to be very valuable and important" (SE)*
* Development of education system	39	*"I want to play my part in developing society's education system" (ECE)*
Intrinsic value	**309**	
Wanting to teach	179	*"Teaching itself is close to my heart" (ECE)*
* Interest in the career	73	*"I want to see and study how humans develop" (ECE)*
* Foster learning of children	36	*"I want to increase meaningful learning experiences for pupils" (ECE)*
* Profession is a calling	21	*"It is a calling for me, which I have dreamt of since childhood" (PST)*
Ability	**148**	*"I am good at teaching new things to my loved ones and I keep calm, and I hear I am not annoying when I teach, but I am nice to listen to" (PST)*
Prior teaching and learning experiences	**94**	
Prior teaching experiences	62	*"I worked my two gap years at school with children and became interested in becoming a teacher" (ECE)*
Prior learning experiences	32	*"My teachers have inspired me and I see them as role models in my life" (PST)*
Personal utility value	**462**	
Job security	8	*"I want a profession with regular income" (ECE)*
Time for family	2	*"Holidays that coincide with your own children's holidays" (PST)*
*Nice working hours	11	*"I have a number of hobbies that take time and I feel that as a teacher there would be time to engage in them" (ECE); "Daytime work" (PST)*
* Features of teaching job that suit me	441	
Human-oriented, interactive	106	*"My willingness to interact and desire to act together with other people" (ECE)*
Meaningful and important	86	*"I want a meaningful job, which has importance" (PST)*
Versatile and changeable	84	*"The diverse and varied work of a teacher attracts me" (PST)*
Self-development	72	*"I want to develop my professional skills" (ECE) "I want to work in a profession in which I can endlessly develop myself" (PST)*
Creativity	40	*"It's a creative profession, what I like" (PST)*
Challenging and responsible	22	*"Teaching profession is very multifaceted and offers many challenges" (ECE)*
Autonomy	13	*"Possibility to do autonomous work" (PST)*
Active working community, teams	11	*"I want to work with people and be a member of a team, not just toil on my own work" (ECE)*
Practical	7	*"Teachers' work is very practical" (PST)*
Social influences	**7**	*"My friends and family have also found my character appropriate to be a teacher" (ECE)*
Fallback career	**4**	*"I am not sure if I want a teaching career, I am more interested in research" (SE)*
* **Perceived social status**	**12**	*"A teacher's good social position" (PST)*
Total	**2407**	

Note. The complementary factors and additional viewpoints to factors of the FIT-Choice scale identified in this study are marked with an asterisk. ECE = early childhood education students, PST = primary school teacher students and SE = special education students.

suitable for themselves. These qualities were: human-orientated and interactive job, meaningful and important, versatile, changeable, creative, challenging, responsible and practical job; offering possibility for self-development, acting in an active working community and possibility to work in teams, and the autonomy of the profession. The Features of the teaching job that suit me motivation reflects a perceived compatibility between an individual's self-assessed characteristics and those of teaching work. The complementary nuance 'Self-development' (72 responses) within this motivation, emphasised the opportunity for lifelong development beginning in teacher education and continuing when working as a teacher. These responses underlined the teacher's dynamic role and attitude towards developing skills and knowledge needed in a teaching career. In addition, these responses stressed teachers' freedom to develop their professional special know-how according to their interest. Motivations coded to 'Teachers' autonomy' (13 responses) emphasised freedom to use one's own ideas in planning and implementing learning activities. In addition, 11 participants mentioned factors underlining nice working hours (e.g., daytime work, not working in shifts, having enough time for hobbies) not related to family life or lengthy holidays, nor to the items we omitted from the original Time for family factor in the FIT-Choice scale ("Part-time teaching could allow more family time", "As a teacher I will have a short working day"). Finnish primary, special or early years teachers, as a rule, do not work part-time and their working day is not shorter than other employees.

Additional nuances of the Social utility value in the FIT-Choice framework were discerned in terms of Altruistic motivation, Help children learn and develop, Development of the education system, and Importance of teachers to society. The 249 responses in the 'Altruistic' motivation category did not mention a societal viewpoint, but simply a desire to support and help other people and be a safe and caring adult for children. The 170 responses reporting the motivation to 'Help children learn and develop', stressed the teacher's guiding and supporting role for children's learning and comprehensive development, but did not mention teaching as such. The 41 respondents who regarded teachers as important for society, did not specify their motivation in more detail. Finally, the 39 respondents mentioning their motivation was to develop education or teaching, considered the teacher's role as a developer. These teacher students regarded it as important to promote positive pedagogy, use meaningful learning strategies, promote equality and safety, prevent bullying, meet children's individual needs, and develop the education system in general. These responses reflect the active and responsible characteristic of teachers in the Finnish education system.

Besides interest in teaching, in the category Intrinsic value, we identified new viewpoints in 130 responses reflecting interest in other qualities of the career than teaching, such as wanting to foster learning of children and mentions of a 'calling' to the profession, which we consider as very close to the original intrinsic value factor.

Table 4
Pearson correlation coefficients for FIT-Choice scores and open-ended responses of motivational factors for early childhood and primary school teacher students.

Motivation factors	$r_{pb}(867)$	p
Work with children/adolescents	0.228	<0.001
Intrinsic value	0.191	<0.001
Shape future of children/adolescents	0.227	<0.001
Enhance social equity	0.152	<0.001
Social contribution	0.193	<0.001
Ability	0.204	<0.001
Prior teaching and learning experiences	0.003	0.924
Job security	0.097	0.004
Time for family	0.082	0.016
Social influences	0.047	0.164
Fallback career	0.137	<0.001

r_{pb} are point-biserial correlations.

4.3. Consistency in career choice motivation between quantitative and qualitative measures

Our third research question asked whether the motivations mentioned most often in open-ended responses were those rated highest by respondents on the FIT-Choice scale. Although at the mean level this was the case, as reported above, point-biserial correlations analysed relationships between early childhood and primary teacher students' motivations to become a teacher as quantitatively measured by the FIT-Choice scale, and responses to the open-ended question (not mentioned = 0, mentioned = 1) in corresponding categories (i.e., responses that were coded into the FIT-Choice categories). The pairwise analysis showed significant positive but rather low relationships between the quantitative subscale scores and frequency of open-ended responses for the factors Work with children, Intrinsic value, Shape future of children/adolescents, Enhance social equity, Make social contribution, Ability, Fallback career, Job security, and Time for family (see Table 4). The relationship between subscale scores and open-ended responses was not significant for the factors Social influences and Prior teaching and learning experiences.

To explore whether there were additional important nuances of motivations from the open-ended responses, we compared these with the means of FIT-Choice factors (marked with an asterisk in Table 3). The comparison showed that the highest-rated ($M = 6.31$) factor Work with children, was coherently mentioned by as many as 465 respondents out of 877. Of the other social utility value factors, Shape future of children showed consonant results ($M = 5.89$; 234 mentions), but Enhance social equity and Make social contribution were less salient for the respondents than their rated importance may have suggested.

Second highest rated ($M = 6.14$) was Intrinsic value, whose items describing the desire to teach were mentioned in 179 of the open-ended responses. When counting the additional nuances we categorised into Intrinsic value, the number of mentions rose to 309, which matched the correspondingly high mean score. The comparison showed consonant results for low endorsed factors of Social influences ($M = 3.74$; 7 mentions) and Fallback career ($M = 2.03$; 4 mentions). Further, the results showed that the Personal utility value factors of Job security ($M = 4.78$; 8 mentions) and Time for family ($M = 3.88$; 2 mentions) were less salient motivations for students' career choices – even when the additional Personal utility value nuance 'Nice working hours' (11 mentions) was taken into account.

4.4. Differences in career choice motivations between primary school and early childhood education teacher students

To answer our fourth research question concerning potential differences among teacher students' motivations, we conducted one-way MANOVA to examine mean differences in teaching motivations measured by the FIT-Choice scale, between teacher students in primary school teacher and early childhood education programs. Four statistically significant differences were found (see Table 2), however, effect sizes of η_p^2 between 0.012 and 0.043 showed that only a small amount of variance was explained by differences between the two programs. The analysis of open-ended responses (see Table 5) mainly paralleled the results of quantitative analysis.

Table 5
Frequencies and percentages of career choice motivations in open-ended responses for teacher students from early childhood education (ECE), primary school teacher (PST) and special education (SE) programs.

	ECE		PST		SE		All	
	409	46.6 %	397	45.3 %	71	8.1 %	877	100 %
FIT-Choice motivation factors	n	%	n	%	n	%	n	%
Work with children/ adolescents	232	56.7	205	55.9	28	39.4	465	53.0
Intrinsic value	133	32.5	147	37.0	29	40.8	309	35.2
Shape the future of children/ adolescents	102	24.9	115	29.0	17	23.9	234	26.7
Ability	63	15.4	76	20.7	9	12.7	148	16.9
Prior teaching and learning experiences	48	11.7	41	10.3	5	7.0	94	10.7
Social contribution	35	8.6	45	11.3	7	9.9	89	10.1
Enhance social equity	23	5.6	27	6.8	9	12.7	59	6.7
Job security	5	1.2	3	0.8	0	0.0	8	0.9
Social influences	6	1.5	1	0.3	0	0.0	7	0.8
Fallback career	0	0.0	2	0.5	2	2.8	4	0.5
Time for family	0	0.0	2	0.5	0	0.0	2	0.2
Complementary motivations								
Additional social utility value nuances								
* Altruistic motivation to help	101	24.7	118	29.7	30	42.3	249	28.4
* Help children learn and develop	75	18.3	62	15.6	4	5.6	170	13.7
* Importance of teachers to society	21	5.1	20	5.0	0	0.0	41	4.7
* Development of the education system	20	4.9	18	4.5	1	1.4	39	4.4
Additional personal utility value nuances								
* Features of a teaching job that suit me	195	47.7	219	55.2	27	38.0	441	50.3
* Nice working hours	2	0.5	8	2.0	1	1.4	11	1.3
* Perceived social status	3	0.7	8	2.0	1	1.4	12	1.4

Note. Percentages can sum to >100 % because an individual student could report multiple motivations.

Early childhood education students scored higher on the quantitative FIT-Choice factor Work with children/adolescents; they mentioned this most often in their open-ended responses, and also mentioned the complementary factor Help children learn and develop more often. Primary school teacher students scored higher than early childhood education students on Intrinsic value, Time for family, and Prior teaching and learning experiences.

Open-ended responses showed both primary and early childhood teacher students were more often motivated than those in special education by the complementary factors Features of the teaching job that suit me, and Importance of teachers to society. Special education teacher students' open-ended responses were more often categorised to Enhance social equity (12.7 %) than primary (6.8 %) or early childhood

education teacher students (5.6 %). In addition, the added nuanced dimension of an Altruistic motivation to help was a reason for teaching as a career choice especially among special education students, where pupils need more individual guidance.

5. Discussion

Our examination of first-year Finnish teacher students' motivations to choose a teaching career using the FIT-Choice scale in tandem with open-ended responses, revealed one additional factor in the Finnish context, 'Perceived social status'. Several additional nuances were found for social utility value, personal utility value, and intrinsic value, such as 'Self-development', and 'Autonomy' which was a later addition to the FIT-Choice scale. The qualitative responses thereby revealed additional motivations for Finnish teacher students to pursue a teaching career beyond those captured by the FIT-Choice scale to provide a fuller picture.

Measured FIT-Choice motivations could only be formally compared between primary and early childhood teacher students, as the scale structure was not invariant for special education teacher students, perhaps due to the different nature of their work. Descriptive statistics showed Intrinsic and Social utility values (especially a desire to work with children), Ability and Prior teaching and learning motivations were the main reasons for primary and early childhood teacher students choosing a teaching career. These factors have been typically found to be the most influential in Western countries (e.g., Fokkens-Bruinsma & Canrinus, 2012, 2014 in The Netherlands; Goller et al., 2019 in Finland and Germany; König & Rothland, 2012 in German-speaking countries; Lehtinen et al., 2025 in Finland; Richardson & Watt, 2006 in Australia; Watt et al., 2012 in Australia, the U.S., Germany and Finland). Open-ended and quantitatively measured motivations correlated positively, and statistically significantly on most of the motivational factors. However, their strength of associations was not strong, revealing that rated *importance* is not equivalent to *salience* in open-ended responses.

A strong passion for teaching and desire to work with children characteristics commonly found among those who intend to dedicate their entire careers to teaching (Watt & Richardson, 2008). In addition, our results show that for Finnish teacher students, alike studies in other settings, the teaching profession really is a choice and very seldom a fallback career. Entry to Finnish primary school teacher education (and especially special education) is highly competitive. That is why we were surprised that a few students mentioned they were not certain that they would work as teachers. However, fallback career endorsement may not be negative if it serves for example as a pathway to a research career, mentioned by one respondent. Minor differences were identified in career motivation between teacher students in primary school teacher and early childhood education programs. Our discussion is structured around three themes: rated importance versus salient open-ended motivations of teacher students; differences between teacher education programs; and practical implications, limitations of the study and future directions.

5.1. 'Salient' versus measured motivation responses

A previous U.S. study (Moss, 2020) compared quantitative FIT-Choice factor scores and frequencies of qualitative responses and found them to be well-aligned. Similarly, our study identified similar mean ratings and open-ended frequences on FIT-Choice factors in the Finnish context. In addition, there were statistically significant positive correlations between nearly all FIT-Choice factors and participants' authentic expressions of their salient motivations, which were categorised according to these factors. However, students' most salient motivations were not identical to their quantitatively rated motivations, reflected by modest correlation coefficients. It may be that personal qualities and experiences are more immediately salient than societal factors. One may ask whether the salient motivations students expressed in their open-ended responses are thus more important, or whether their higher-rated factors in the FIT-Choice scale might matter more in terms of entry, progress and outcomes for teacher students. In our survey, the open-ended question was posed before the ratings of FIT-Choice scale items. Therefore, in this study the open-ended responses offer important added knowledge of teacher students' motivation to a teaching career.

The additional motivation of 'Perceived social status' and social utility value nuance 'Importance of teachers to society' are understandable, considering recent research showing that Finnish teacher students were more likely to view teaching as a high-status and valued profession compared to their peers in Sweden and the U.S. (Giersch et al., 2021) or South Korea (Kang et al., 2023). This highlights how the esteemed role of education and teachers in Finnish society attracts entrants to pursue a teaching career. In addition, the complementary motivation nuances of 'Self-development', 'Development of education system', and 'Autonomy' reflect values of the Finnish teaching context. 'Self-development' emphasises the importance of lifelong personal and professional growth. While professional development is often associated with formal participation in continuing education and development programs (as measured by scales like the 'PECDA'; Watt & Richardson, 2008), participants in this study also showed a strong interest in informal learning and demonstrated a greater sense of agency over their personal and professional growth. 'Development of education system' highlights Finnish teachers' responsible and wide professional duties. The factor of 'Autonomy' was associated with the opportunity to apply one's own ideas when planning and implementing learning activities. However, the relatively low number of respondents (13) who mentioned this motivation suggests that autonomy, traditionally associated with Finnish teachers' work and found to increase the attractiveness of the profession (Leijen & Pedaste, 2018), might be perceived by beginning teacher students as an inherent and self-evident aspect of the profession. Also, first-year teacher students' efficacy is only developing, and they might later come to value autonomous work more. The additional personal utility values nuance 'Features of teaching job that suit me', included two similar motivations as Lehtinen et al. (2025) found in interviews among Finnish teacher students: desire for an active and social occupation.

In qualitative analysis, categorisation of the responses can be challenging. A few responses to the open-ended question were short and ambiguous, thus not easy to categorise. In addition, responses categorised into 'Features of the teaching job that suit me' could be considered to reflect personal utility value if the motivation satisfied a teacher student's own needs. But, responses of this category could also reflect intrinsic value, if the respondent referred to their own capability, for example response "*Working with people is important for me and I think I am good in it*". As a rule, the ambiguous responses were categorised into Social utility values if they stressed society's or students' benefit, and to Personal utility values if the response reflected self-interest of the teacher student.

5.2. Motivation similarity between programs and implications for practice

Only minor differences in mean-level motivations for choosing a teaching career were observed between teacher students from different programs. For the quantitative mean ratings on which primary and early childhood educations students' scores were compared, in each of the four statistically significant differences, primary school teacher students scored higher than early childhood teacher students, except the factor 'Work with children/adolescents' on which early childhood teacher students scored higher than primary school teacher students consistent with earlier studies (Fokkens-Bruinsma & Canrinus, 2014; Richardson et al., 2012). In terms of the open-ended responses, where responses of students from all three programs were compared, early childhood education students were concordantly more frequently motivated by the desire to 'Work with children', and 'Help children learn and develop'. In addition, primary school teacher and early childhood education students

more often emphasised motivations that highlighted personal utility values compared to special education students. Meanwhile, special education students stressed social utility values such as 'Altruistic motivation to help' and 'Enhance social equity'. This finding is consistent with Takala et al. (2024), who reported that Finnish special education teacher students' main career motivations included a desire to help, support, and work with children, as well as to recognize and address children's special needs.

The results of our study highlight the diversity of motivations among teacher students and have practical implications. They underscore the importance of understanding the varied reasons teacher students choose to enter the teaching profession. Although there are differences between the characteristics of primary and early childhood education programs, such as in the curricula and practicums and number of applicants, our findings revealed only minor differences in their motivations. Early childhood education students scored significantly lower on Intrinsic value, Prior teaching and learning experiences and Time for family suggesting that attention to interestingness and enjoyment, providing positive role models, and attending to family flexibility, may serve to attract more entrants to early childhood education where there is a shortage in Finland.

The fact that most motivations showed no program differences suggests that assumptions about teacher students should not be based on the program in which they are enrolled. Instead, it is beneficial to take a more individualized approach to understanding teacher students' motivations, particularly early in their studies. Sometimes, teacher students' motivations may be based on unrealistic expectations about a teaching career, which can lead to dropout (Virtanen & Laine, 2021). By identifying teacher students' motivations in the beginning of their studies, teacher educators can help them reflect and adjust their perceptions to be more realistic to better prepare them for early career experiences and challenges. In addition, teacher students' career motivations should be considered in their teacher education studies. The teacher students in the current study were strongly motivated by working with children and teaching. To keep their motivation high, they should be allowed to interact with children and to use and develop their teaching skills. This means that teaching practice hours should not be diminished and new ways to cultivate active collaboration with schools and early childhood education and care centres should be created.

In Finland, graduated teacher students begin teaching in a school or early childhood education and care centre without any in-service training. The literature in this field generally characterises the first years in teaching practice as challenging and psychologically demanding (e.g., Clandinin et al., 2015). In Finland, teacher students may feel all the more anxious and uncertain of their capabilities to undertake independent teaching (Tynjälä & Heikkinen, 2011). School based mentoring practices that give novice teachers enough independence best support their wellbeing (Burger et al., 2021). Such mentoring is considered as important; for example, The Trade Union of Education in Finland (2021) has been pressing for teacher mentoring to be written into law. Teacher educators could introduce programs to teacher students and encourage them to participate in mentoring once they are employed as teachers.

From the perspective of admissions, it can be asked whether it is appropriate that teacher students in different programs are similarly motivated or should they be more differently motivated toward their teaching careers. For example, should early childhood education students be most strongly motivated to work with children? And, should special education students' reasons be more strongly based on social utility values? On the other hand, although policy stakeholders have expressed interest to select future teachers based on their initial motivations to teach, it has been repeatedly argued that because motivations can change through teacher education (e.g., Canrinus & Fokkens-Bruinsma, 2013; Fokkens-Bruinsma & Canrinus, 2012; Watt, Richardson, & Morris, 2017a,b) and during early career teaching dependent on school working contexts (e.g., Watt & Richardson, 2023), and may be amenable to intervention (see Watt, Richardson, & Morris, 2017a,b), that such a process would be at best premature.

5.3. Limitations and future directions

Collecting data at the beginning of teacher education, rather than during high-stakes entrance examinations, likely resulted in valid responses reflecting participants' genuine motivations for choosing a teaching career. However, the electronic survey was quite lengthy including the open-ended question, the FIT-Choice motivation items, and several other questionnaires on different themes. As a result, it is unclear how thoroughly students would reflect on their career motivations. Their open-ended responses were generally brief, indicating that we may not have captured deeply reflective or in-depth insights. Further research is needed to better understand teacher students' career motivations by connecting their rated and more reflective open-ended responses, perhaps utilising interviews together with survey data. This would help identify in which contexts additional motivations may be important, to ensure they also are measured in those contexts and determine how they develop and may influence valued outcomes (see Watt, Richardson, & Smith, 2017a,b).

Another limitation was that our introductory text to the FIT-Choice scale had a mixed stem, mentioning both motivations for choosing teacher education and motivations for choosing teaching as a career, which may differ. Additionally, we only included items for the motivation factors of the FIT-Choice scale, not the perception factors, nor the motivation factors 'autonomy' and 'subject interest' later added to the scale. This was somewhat problematic when analysing the open-ended responses as some reasons were related to these. Future studies should use the full FIT-Choice scale to provide a more comprehensive picture. Unfortunately, we were not able to compare special education teacher students' FIT-Choice factor scores with scores of teacher students from the other programs, due to measurement non invariance for the special education group. This may relate to their smaller sample size, but also their different role than classroom teachers, such as not necessarily working in classrooms, and working with school administration and parents.

Moreover, in the future a longitudinal approach, which was beyond the scope of this cross-sectional study, could track changes in motivations and motivational outcomes among teacher students in different programs over time. Overall, it is crucial to sustain young people's engagement with the teaching profession and ensure that their motivations to teach can be sustained through teacher education and beyond.

CRediT authorship contribution statement

Päivi Virtanen: Writing – review & editing, Writing – original draft, Methodology, Conceptualization. **Helen M.G. Watt:** Writing – review & editing, Conceptualization. **Paul W. Richardson:** Writing – review & editing, Conceptualization. **Niina Linnanmäki:** Formal analysis. **Ville Mankki:** Writing – review & editing, Writing – original draft, Methodology, Conceptualization. **Riitta-Leena Metsäpelto:** Writing – review & editing, Writing – original draft, Project administration, Funding acquisition, Conceptualization. **Kirsi Wallinheimo:** Writing – review & editing, Conceptualization.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence

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Data availability

Data will be made available within the EU and the European Economic Area on request.

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