

Motivational Factors Influencing Teaching as a Career Choice: Development and Validation of the FIT-Choice Scale

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ABSTRACT. The authors apply current influential models from the motivational literature to develop the comprehensive factors influencing teaching choice (FIT-Choice) scale, to measure factors influencing the choice to teach for beginning preservice teacher education candidates. They validate the scale using 2 large cohorts ($N = 488; 652$) and describe the factors that teacher education candidates identified as most important in their decision to teach. Furthermore, the authors examine longitudinal relationships for participants who have now completed their teaching qualification ($N = 294$) to determine how entry motivations relate to exit levels of teaching engagement and professional development aspirations. The study makes several important theoretical contributions: The authors extend the values component of the expectancy–value motivational framework, go beyond high school students to examine career choices of adults, and specifically examine the domain of teaching as a career choice. The new FIT-Choice measure provides a theoretical and analytical framework to help guide future investigations in this area. Understanding teacher candidates' motivations for choosing teaching has implications for teacher education planning and curriculum design, teacher recruitment authorities, and government and intergovernmental planning and policy decisions—especially when many countries

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around the globe are struggling to attract and retain teachers in a climate of escalating teacher shortages.

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RESEARCHERS' INTEREST in what motivates people to take on a teaching career has resulted in a steady flow of studies and reports from countries around the globe since the 1960s. Over the last half decade, education administrators have exerted considerable effort in the United Kingdom, United States, Europe, Australia, and Asia to attract people to and retain them in the teaching profession. Although a lack of reliable empirical evidence exists in Australia, researchers estimate that around 30% of teachers leave the profession within 5 years of graduation. In the Third International Mathematics and Science Study (TIMSS; Lokan, Ford, & Greenwood, 1996), Australian and New Zealand teachers represented the highest percentage that would "prefer to change to another career" (p. 197). In the United States and the United Kingdom, one in five teachers leaves the profession within 3 years of entry (Henke, Chen, & Geis, 2000; Johnson & Birkeland, 2003; Office of Standards in Education [OFSTED], 2001). In recent research in the United States, Liu, Kardos, Kauffman, Preske, and Johnson (2000) suggested that the increasing salary gap between teaching and other professions, combined with the disappointments and hardships of teaching, is influential in why new teachers leave the profession.

Researchers have emphasized similar reasons to choose teaching in various forms, combinations, and rankings over the past four decades. Brookhart and Freeman (1992) highlighted *intrinsic*, *extrinsic*, and *altruistic* motivations as the most important groups of reasons on the basis of studies predominantly using participant rankings of the various reasons. Although many researchers have used surveys and open-ended questions with large samples in their studies (e.g., Alexander, Chant, & Cox, 1994; Bastick, 1999; Hanushek & Pace, 1995; Jantzen, 1981; Joseph & Green, 1986), the methods of analysis and reporting of results have not always been as sophisticated as they could have been, with an overreliance on single-item indicators, raw frequency counts, and the ranking of themes, resulting in a lack of consistency across studies. Researchers have developed and implemented survey instruments with no information regarding reliability or validity, and results have often been reported without inclusion of the survey instruments. This, combined with the absence of an agreed upon analytical and theoretical framework, has meant that researchers have not always concurred on what constitutes intrinsic, altruistic, extrinsic, or various other motivations that are examined by individual researchers.

Various operationalizations of intrinsic, extrinsic, and altruistic motivations have resulted in a lack of definitional precision and overlapping categorizations

from one study to another. For example, the desire to work with children has been frequently nominated as a form of intrinsic motivation (e.g., Young, 1995) and has also often been referred to as a form of altruistic motivation (e.g., Yong, 1995). In a review of the research conducted up until the early 1990s, Brookhart and Freeman (1992) suggested that "altruistic, service-oriented goals and other intrinsic motivations are the source of the primary reasons entering teacher candidates report for why they chose teaching as a career" (p. 46). Identified motivations have frequently included working with children and adolescents, making a social contribution, making a difference, job security, job benefits, enjoyment of teaching, compatibility with other interests and activities, compatibility with family life, and self-education (Organisation for Economic Co-operation and Development [OECD], 2005), although those have been classified variously across different studies.

In this study, we address two major gaps in the existing literature. First, in previous literature, researchers have not systematically applied current motivational models to developing explanations, which has produced a lack of cohesion with no systematic approach to the problem guided by motivation theory. We contend that the expectancy-value motivational model is particularly useful in guiding investigations in the area. This model has been highly influential in the motivation literature, with a wealth of empirical work to support its utility and validity for explaining students' achievement-related choices (for recent reviews see Eccles, 2005a, 2005b). Although the model was initially developed as a framework for explaining students' choices to participate in mathematics in high school (Eccles [Parsons] et al., 1983), it has since been fruitfully applied to other academic school disciplines, such as English and language arts (Jacobs, Lanza, Osgood, Eccles, & Wigfield, 2002; Watt, 2004) and sport (Fredricks & Eccles, 2002), as well as to specific types of careers (e.g., Watt, 2002, 2006). Major influences that researchers have identified within the career choice literature more generally have focused on ability-related beliefs (see Lent, Lopez, & Bieschke, 1993). We can map all of these factors to the main constructs in the expectancy-value theoretical framework, allowing us to locate previously identified motivations within an integrative and comprehensive motivational framework. This provides a strong basis from which to approach the question of teaching as a career choice. In our article, we will outline the development of the Factors Influencing Teaching Choice (FIT-Choice) scale and demonstrate how the expectancy-value framework may be advantageously applied to explaining the specific career choice of teaching. Furthermore, we will establish the usefulness of this framework for future investigations into motivations for choosing teaching as a career.

Second, research into the choice of teaching as a career has typically been exploratory, often involving small or opportune samples that are nonrepresentative of beginning education majors (Joseph & Green, 1986; Kyriacou & Coulthard,

2000; Moran, Kilpatrick, Abbott, Dallatt, & McClune, 2001; Priyadharshini & Robinson-Pant, 2003; Serow & Forrest, 1994). We will complement and extend previous work by incorporating identified themes from a range of studies in the teacher education literature into the development of our new scale, which we validate across two cohorts of preservice teachers at two major universities in Sydney, Australia. The administration of our FIT-Choice scale to two entire cohorts also will permit us to assess the extent to which measured influences on the choice of teaching as a career are relevant across these larger-scale and representative samples.

Expectancy-Value Theory

Expectancy-value theory is one of the major frameworks for achievement motivation, beginning with Atkinson (1957), being further developed by Battle (1965), Crandall et al. (Crandall, 1969; Crandall, Katkovsky, & Preston, 1962), and more recently by Feather (1982, 1988, 1992) and Eccles et al. (Eccles, 1984; Eccles [Parsons] et al., 1983; Eccles, Adler, & Meece, 1984; Wigfield, 1994; Wigfield & Eccles, 1992). In general, expectancy-value theorists have regarded success expectancies and task valuation as major determinants of motivation for academic choices, with more distal influences consisting of socialization and perceptions of previous experience. The most recent statements of the expectancy-value model linked academic choices to expectations of success and to the subjective value of the task (e.g., Eccles, 2005a, 2005b; Wigfield & Eccles, 2000), drawing on the theoretical and empirical work of decision making, achievement, and attribution theorists (Meece, Eccles [Parsons], Kaczala, Goff, & Futterman, 1982).

Eccles et al. (1983) initially developed the expectancy-value model primarily to investigate gendered enrollment patterns in secondary school mathematics. They argued that existing research into academic choices was limited by the lack of an integrative theoretical framework to guide the selection and organization of the variables that influenced achievement-related choices and behaviors, with research proceeding in a piecemeal fashion as individual researchers investigated subsets of the possible causes. We contend that a similar situation exists in the research of the choice of teaching as a career. It too lacks an overarching theoretical framework to guide research in the area and has not articulated strongly with the extant motivation literature. Our study provides an integrative theoretical model to guide research into why individuals choose teaching as a career. We do this by drawing together recurring themes from the teacher education literature outlined earlier, alongside ability-related beliefs emphasized in the career-choice literature more generally, and by locating these themes within the expectancy-value framework—the most comprehensive motivational model for explaining academic and career choices.

In Eccles et al.'s (1983, 2005a) formulation of expectancy–value theory, *values* and *ability beliefs* (or *expectancies for success*) are the most important motivations that predict academic choices and behaviors. Values have emerged as the most powerful predictors of choices, whereas ability/expectancy beliefs have better predicted performance (e.g., Bong, 2001; Eccles [Parsons] et al., 1983; Eccles et al., 1984). For example, Eccles et al. have found that values are the strongest predictors of intentions to keep taking math and the actual decisions to do so (Watt, 2005; Wigfield & Eccles, 2000).

As specified by Wigfield and Eccles (1992), values differentiated into the sub-components of intrinsic value, utility value, attainment value, and cost (Eccles [Parsons] et al., 1983; Eccles, 2005b). *Intrinsic value* refers to the enjoyment one gets from carrying out a given task; *utility value* refers to how a task will be useful to an individual in the future; *attainment value* refers to the subjective importance of doing well on the task; and *cost* is what the individual has to sacrifice to carry it out, as well as the effort required to complete it. Eccles and Wigfield (2000) have conducted most of the empirical work with the first three of these values constructs on which we consequently focus. Researchers define *expectancies for success* as beliefs about how one will perform on upcoming tasks, conceptually distinguished from *ability beliefs*, which are perceptions of one's current competence at a given activity. Eccles et al. (Eccles & Wigfield, 1995; Wigfield & Eccles, 2000) have not been able to distinguish empirically between the ability and expectancies constructs in factor analytic work; and therefore have combined the two in their analyses.

Conclusions regarding the empirical distinctions among the primary constructs in Eccles et al.'s (1983) and Wigfield and Eccles' (2000) formulation of expectancy–value theory, particularly expectancy/ability beliefs, task difficulty, and task value perceptions, rely on factor analytic work (Eccles & Wigfield, 1995). Based on a combination of exploratory and confirmatory factor analyses, Eccles and Wigfield proposed three higher order constructs: (a) expectancy/ability beliefs, (b) subjective task value (i.e., attainment, intrinsic, and utility values), and (c) perceived task difficulty (i.e., effort required and task difficulty). For parsimony, we refer to their three proposed higher order factors as *self*, *value*, and *task perceptions*, which provide a more economical description of the data.

Developing FIT-Choice Factors From Key Expectancy–Value Constructs

Our scale development was guided by consideration of the three major self, value, and task sets of variables that predict choices in Eccles et al.'s (1983; Wigfield & Eccles, 2000) expectancy–value model that have been the focus of much theoretical and empirical work (Covington, 1984; Eccles & Wigfield, 1995). We also developed items for antecedent socialization and perceptions of previous experience identified in the expectancy–value model.

In our context of the choice of a teaching career, our simplest construct mapping was for self perceptions of ability, for which we developed items asking about participants' perceptions of their teaching abilities. For values, we developed constructs relating to each of the expectancy-value components: intrinsic, subjective attainment, and utility values. For intrinsic value, we developed items that assessed individuals' interest in and desire for a teaching career. Subjective attainment value relates to the extent to which individuals consider tasks to be important, in terms of their personal goals. Subjective goals, which may relate to the choice of a teaching career, are provided by research findings that people entering teaching have frequently chosen this career for reasons independent of the career content. Rather, they have chosen the career for reasons relating to quality of life issues, such as permitting more time with family, providing a secure income, or providing opportunities to travel (e.g., Bastick, 1999; Robertson, Keith, & Page, 1983; Yong, 1995). Studies concerning people's reasons for never considering teaching (see Kyriacou & Coulthard, 2000) and for leaving teaching (see Fresko, Kfir, & Nasser, 1997; Liu et al., 2000) also provide insights into how people are directed away from the teaching profession because it does not provide for their personal goals. In prior research, such quality of life reasons have frequently been nominated as extrinsic, although that label obscures the distinction between quality of life issues and other factors that we distinguish as socialization influences and task perceptions. Researchers have previously viewed extrinsic quality of life motivations as detrimental to producing teachers who are fully engaged with and committed to the profession (e.g., Sparkes, 1988; Woods, 1981).

We developed component *subjective attainment value* constructs that we termed *time for family*, *job security*, and *job transferability*. To facilitate greater clarity of interpretation in our context, we named this set of factors *personal utility value*, which we felt was a more intuitively accessible label than subjective attainment value. With time-for-family items, we measured the extent to which participants had selected teaching because a teaching career allows more family time, and teaching hours and school vacations allow for family commitments and desirable quality-of-life issues. In studies conducted in other countries, several researchers have found that extrinsic rewards such as salary, vacations, job security, and job status are important factors in the choice of teaching (Bastick, 2002; Brown, 1992; Yong, 1995). Drawing on a sample of 643 nonuniversity teacher trainees in Great Britain, at the time of World War II, Tudhope (1944) found that job security was the motive for teaching that was rated highest by men and second highest by women. Although the social context in the 21st century differs in important ways from that of World War II (see Cochran-Smith & Fries, 2005), researchers continue to identify job security in the research literature as an enduring motivation for choosing teaching. Our operationalization of this construct asked about choosing teaching on the basis of its being a secure job, providing a reliable income, and offering a steady career path. Last, job transferability items

assessed perceptions of teaching as being useful for overseas employment and traveling and as allowing greater choice of where to live.

We labeled another construct identified in previous studies, which fitted in this broader category, *bludging*. This Australian colloquialism relates to people's adopting the laziest approach possible and choosing what they think will be an easy option. In the context of teaching, bludging could be based on people's perceptions about the length of the teacher's working day, as well as school holidays. Those reasons for occupational choice have been and remain a claim among the general public, popular press, and politicians. And yet, when it has been empirically tested (intermittently since the 1940s), strong support for this assertion has been lacking, and the lukewarm support that does exist needs to be carefully interpreted (see Book & Freeman, 1986; Jantzen, 1981; Olasehinde, 1972; Tudhope, 1944). Bludging conceptually belongs with the other constructs that we designed to comprise personal utility value and refers to the choice of a teaching career on the basis that it will permit low-effort exertion and a lifestyle that privileges individuals' concentration on extramural activities. Items designed for this construct concerned the extent to which individuals had chosen teaching on the basis of lengthy holidays and a short working day.

We renamed utility value as *social utility value*, in view of research findings that entrants to the teaching profession often nominate a strong desire to make a social contribution or to give back to society in a meaningful way as a reason for becoming a teacher (e.g., Book & Freeman, 1986; Brown, 1992; Lortie, 1975; Moran et al., 2001). The extent that teaching is judged to be useful is therefore likely to relate to the extent to which it is regarded as socially useful. We developed component social utility value constructs that we termed *make social contribution*, *enhance social equity*, *shape future of children/adolescents*, and *work with children/adolescents*. Items developed for the make social contribution construct tapped individuals' desire to provide a service to society and make a worthwhile contribution. Enhance social equity items assessed the extent to which participants desired to benefit the socially disadvantaged and raise the ambitions of underprivileged youth. Shape future of children/adolescents items examined whether individuals had chosen teaching for the opportunity to shape child/adolescent values and influence the next generation. Last, work with children/adolescents items focused on participants' desire to engage in a career that involved working with and helping young people. A desire to work with children and adolescents has tended to dominate the reasons that men and women from the United States have given for choosing teaching as a career (see Brookhart & Freeman, 1992), which previous researchers have variously called *intrinsic* and *altruistic*.

We conceived of task perceptions, in the context of choosing teaching as a career, as consisting of task demand and task return components. We expected that high perceptions of task demand would deter people from a teaching career, although this may be moderated by perceptions of high task return. The discrep-

ancy between the two also relates conceptually to the less researched cost value component of Eccles et al.'s (Eccles et al., 1983; Wigfield & Eccles, 2000) expectancy-value model. Task demand contained two constructs that we named *expert career* and *high demand*, which asked about individuals' perceptions of teaching as a highly expert career, requiring high levels of specialized and technical knowledge; as well as their perceptions of teaching as a highly demanding career in terms of entailing a heavy workload, high emotional demand, and generally requiring hard work. A recent study by the European Commission's Study Group on Education and Training (1997) identified the profound impact of socioeconomic and technological changes on the complexity of the teacher's role at the beginning of the 21st century so that it "increasingly incorporates social, behavioral, civic, economic and technological dimensions" (p. 131). The multi-dimensional character of this role definition has increased the complexity of the skills set that teachers now require to be effective in the diverse and complex social and cultural contexts in which they operate as professionals (OECD, 2005). These rapidly changing contexts across countries and systems are also increasingly subject to market forces, privatization of the public sphere, and growing regulation of teacher certification and recertification (Beck, 2000).

We designed task return to contain three constructs that we named *social status*, *teacher morale*, and *salary*. The social status construct items required participants to rate their judgments regarding the extent to which teaching is respected and perceived as a high-status occupation. Teacher morale items involved judgments about teachers' morale and feeling valued by society. Salary items measured perceptions of teachers as earning a good salary. On the basis of findings summarized in a recent review of the status of the teaching profession in Australia (Ramsay, 2000), we expected the ratings for task return constructs to be quite low.

We also developed antecedent socialization constructs. Researchers affiliated with the teacher education literature have emphasized the positive influences of prior teaching and learning experiences (Book, Freeman, & Brousseau, 1985; Fox, 1961; Jantzen, 1981; Lortie, 1975; Richards, 1960; Robertson et al., 1983), as well as the influences of significant others such as family members, friends, and colleagues (Darling-Hammond & Sclan, 1996). We represented those influences through two constructs that we named *prior teaching and learning (T & L) experiences* and *social influences*. In view of the mass media's portrayal of teaching as an undesirable career choice, we also developed a social dissuasion construct that asked about the extent to which others had dissuaded individuals from a teaching career. That characterization of teaching as an undesirable occupation has long been identified in the literature emanating from different countries (see Crow, Levine, & Nager, 1990; Empey, 1984; Liu et al., 2000; OECD, 2005; Priyadharshini & Robinson-Pant, 2003; Ramsay, 2000).

Last, in light of claims in the teacher education literature and the public media regarding teaching as a fallback career, where entrants may have failed to be accept-

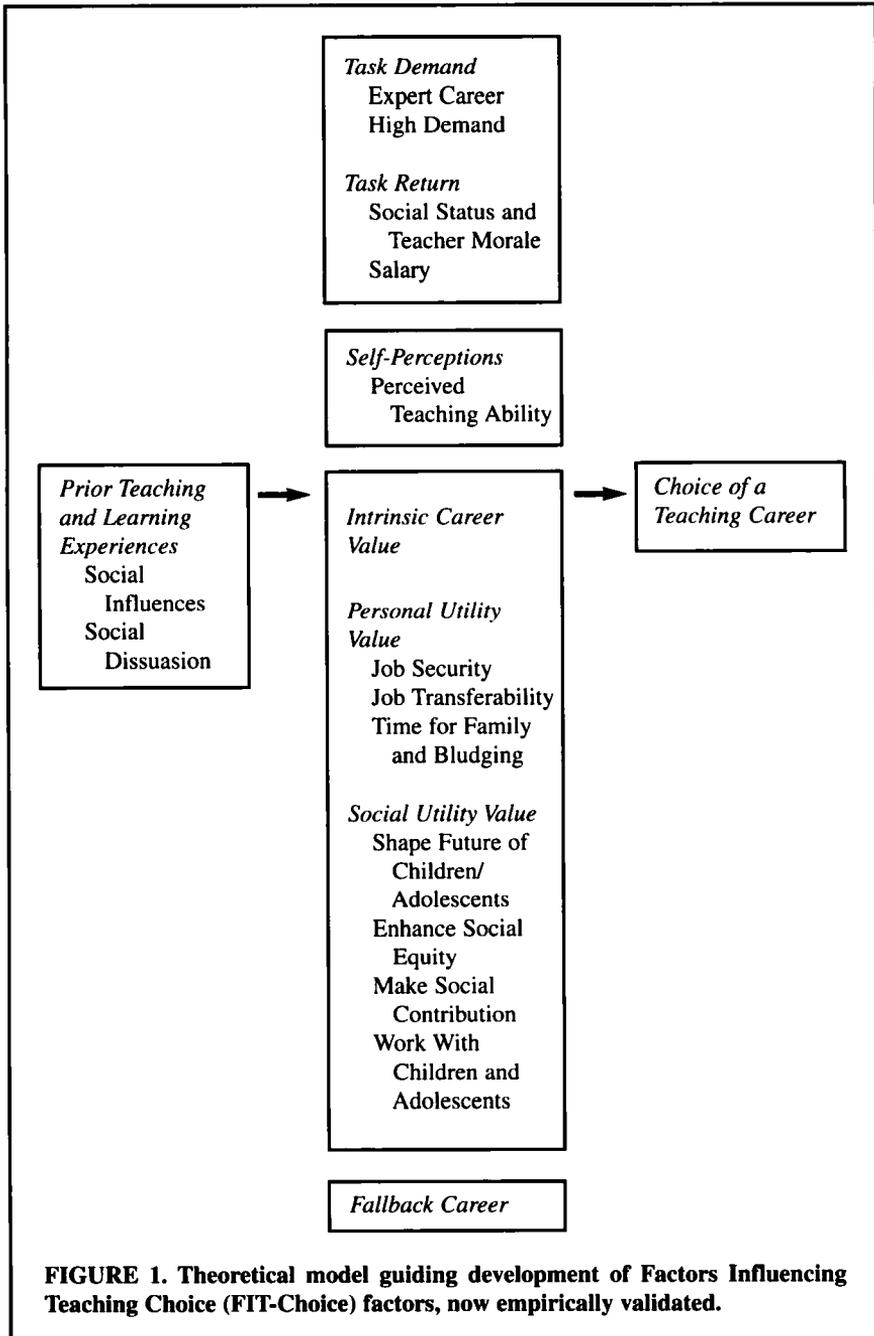
ed into their career of choice or otherwise been unable to pursue their first-choice career (see Book et al., 1985; Haubrich, 1960; Robertson et al., 1983), we developed a fallback career subscale. This construct reflected the possibility of people not so much choosing teaching, but rather defaulting to it. Those items asked whether participants had chosen teaching for reasons relating to not being accepted into their university degree of choice or being unsure what career they wanted.

In Figure 1, we present our theoretical model. We present antecedent socialization influences on the left, followed by more proximal influences of task perceptions, self-perceptions, values, and fallback career. Higher order task demand and return constructs in turn contain first-order constructs: Expertise and difficulty comprise the higher order task demand construct; and social status, teacher morale, and salary comprise the higher order task return construct. In a similar fashion, higher order values constructs contain first-order components. Values constructs in our model are intrinsic value, personal utility value, and social utility value. Job security, time for family, job transferability, and bludging comprise the higher order personal utility value construct; shape future of children/adolescents, enhance social equity, make social contribution, and work with children/adolescents comprise the higher order social utility value construct.

Measured Outcomes for FIT-Choice Motivations

On the far right of our theoretical model (see Figure 1), we present choice of a teaching career as an outcome variable. Because we conducted our study with 1st-year preservice teacher education candidates, it was not possible for us to use an outcome variable that measured whether individuals chose a teaching career. Instead, we developed a *satisfaction with choice subscale*, in which respondents rated how satisfied they were with their choice of a teaching career midway through their 1st year of teacher education.

The satisfaction with choice subscale is limited in its value as an outcome variable, because it may be expected to be high on initial entry to teacher education and to represent participants' emotions, rather than an evaluation of their choice based on course- and fieldwork experience. *Longitudinal* outcome variables are therefore necessary to include. As a result, we developed measures to assess aspects of participants' professional engagement and career development aspirations upon completion of their degrees. Those measures tapped plans for effort exertion, professional development, and persistence, as well as leadership aspirations (see also Watt, Richardson, & Tysvaer, in press), and the readministered initial satisfaction with choice subscale. Longitudinal relationships of entry motivations with exit engagement and development aspirations provide an important extension to assessment of the predictive utility of our FIT-Choice scale against outcome variables that relate to those previously nominated as desirable characteristics for engaged and committed teachers (e.g., Kaufman, 1984; Yong, 1995).



Method

Participants

Participants in the initial scale validation analyses were two cohorts of 1st-year preservice teacher education candidates at a major established urban university in Sydney, Australia, in 2002 (University 1, $N = 488$). The first cohort contained candidates enrolled in the undergraduate bachelor of education degree (BEd), with an 88% response rate ($N = 298$: 229 [77%] women and 69 [23%] men), consisting of preservice degree concentrations: primary ($n = 100$, Grades K–6), secondary ($n = 97$, Grades 7–12), design and technology (D & T; $n = 12$, Grades 7–12), counseling psychology ($n = 12$), and human movement and health education (HMHE; $n = 69$, Grades 7–12). The second cohort contained candidates enrolled in the 2-year graduate master of teaching (MTeach) degree, with a 77% response rate ($N = 190$; 135 [71%] women and 54 [29%] men), 36% of whom were primary, and 64% secondary.

To assess the replicability of scale validation across an independent cohort, we surveyed participants from another urban university in Sydney, Australia, in 2003 (University 2, $N = 652$). Those participants were also in their 1st year of teacher education studies, from undergraduate BEd and graduate BTeach degrees. The undergraduate BEd cohort of 1st-year candidates provided us with an 89% response rate ($N = 368$; 308 [84%] women, and 60 [16%] men) and contained candidates studying early childhood ($n = 82$, preschool settings), primary ($n = 218$, Grades K–6), secondary ($n = 66$, Grades 7–12), and D & T ($n = 22$, Grades 7–12). The second cohort in the 1-year graduate BTeach degree had an 85% response rate ($N = 284$; 191 [67%] women, and 93 [33%] men), of whom 86 were primary, 170 secondary, 13 HMHE, and 15 D & T candidates.

Participants for whom degree exit data became available were graduate-entry teacher education candidates from the MTeach at University 1 and the BTeach at University 2. There was minor attrition from these teaching degrees: Of the total 478 graduate-entry teacher education entrants who participated at Phase 1 (University 1, $N = 190$; University 2, $N = 288$), university records established that 447 or 95.72% completed their teaching qualification (171 at University 1, 276 at University 2, with 11 cases of missing data resulting from unnamed surveys at Phase 1). Retention in the study was sizeable, and sample attrition from the study was not because of attrition from the teaching degree. There were 294 participants (61.51%) who were present for both Phases 1 and 2 surveys ($N = 119$ or 62.63% from University 1, $N = 175$ or 60.76% from University 2). With MANOVA analysis, we established no statistically significant differences on Phase 1 measures for individuals retained in—versus attrited from—the study, except in the one case of fallback career, where there was a statistically but not practically significant difference between the two groups, $F(1,421) = 4.79$, $p = .029$, partial $\eta^2 = .011$, because retained participants were less motivated by

choosing teaching as a fallback career ($M = 1.93$, $SD = 1.07$) than those who attrited from the study ($M = 2.18$, $SD = 1.25$).

Materials

We structured the FIT-Choice scale in three main sections and also collected background and demographic information. We assessed influential factors impacting on participants' choice of a teaching career in the motivations section, which commenced with an open-ended question: "Please state briefly your main reason/s for choosing to become a teacher." We followed this initial question with items in which respondents were asked to rate the importance of each influence on their choice of a teaching career on a scale ranging from 1 (*not at all important*) to 7 (*extremely important*). The prefacing statement to all items in this section was "I chose to become a teacher because . . ." typed in large, bold font at the top of the page. Table 1 shows items grouped under theorized constructs of perceived teaching ability, intrinsic career value, fallback career, job security, time for family, job transferability, bludging, shape future of children/adolescents, enhance social equity, make social contribution, and work with children/adolescents, as well as more distal social influences and positive prior teaching and learning experiences.

We titled the next section "Beliefs About Teaching"; it contained items to which respondents indicated their strength of agreement from 1 (*not at all*) to 7 (*extremely*). Factors related to perceiving teachers as having high social status, high morale, a good salary, and teaching as a career that is highly demanding and requires substantial expertise. We titled the third section "Your Decision to Become a Teacher" with items again rated from 1 (*not at all*) to 7 (*extremely*). This section assessed experiences of social dissuasion along with satisfaction with the choice of teaching as a career. Table 2 shows the items we designed to measure each of the theorized constructs in these two sections.

Demographic data consisted of participants' name, gender, age, teaching degree, number of children, highest academic qualification to date, and language mainly spoken at home; as well as parents' countries of birth, highest academic qualifications, current occupations, and combined annual income.

Longitudinal outcome measures. We assessed teaching engagement by items tapping each of the following constructs—satisfaction with choice (as in Phase 1 but omitting item D1, which cross loaded with the Phase 2 planned persistence factor), planned effort, and planned persistence—with response options ranging from 1 (*not at all*) to 7 (*extremely*). We measured career development aspirations by items tapping professional development aspirations and leadership aspirations. Table 3 shows sample items for each construct (see also Watt, Richardson, & Tysvaer, in press). Cronbach's alpha measures of internal consistency were high (ranging from .90 through .97), and exploratory factor analysis with image

TABLE 1. Items for Theorized Factors Influencing Teaching Choice (FIT-Choice) Motivation Constructs

Factor	Higher order factor (where applicable)	Item "I chose to become a teacher because . . ."
Ability		B5 I have the qualities of a good teacher. B19 I have good teaching skills. B43 Teaching is a career suited to my abilities.
Intrinsic career value		B1 I am interested in teaching. B7 I have always wanted to be a teacher. B12 I like teaching.
Fallback career		B11 I was unsure of what career I wanted. B35 I was not accepted into my first-choice career. B48 I chose teaching as a last-resort career.
Job security	Personal utility value	B14 Teaching will offer a steady career path. B27 Teaching will provide a reliable income. B38 Teaching will be a secure job.
Time for family		B2 Part-time teaching could allow more family time. B16 Teaching hours will fit with the responsibilities of having a family. B29 School holidays will fit in with family commitments.
Job transferability		B8 Teaching will be a useful job for me to have when traveling. B22 A teaching qualification is recognized everywhere. B45 A teaching job will allow me to choose where I wish to live.
Bludging ^a		B4 As a teacher I will have lengthy holidays. B18 As a teacher I will have a short workday.
Shape future of children/adolescents	Social utility value	B9 Teaching will allow me to shape child and adolescent values. B23 Teaching will allow me to influence the next generation.
Enhance social equity		B36 Teaching will allow me to raise the ambitions of under-privileged youth. B49 Teaching will allow me to benefit the socially disadvantaged.

(table continues)

TABLE 1. (continued)

Factor	Higher order factor (where applicable)	Item "I chose to become a teacher because . . ."
Make social contribution		B6 Teaching will allow me to provide a service to society.
		B20 Teachers make a worthwhile social contribution.
		B31 Teaching enables me to give back to society.
Work with children/ adolescents		B13 I want a job that involves working with children and adolescents.
		B26 I want to work in a child and adolescent-centered environment.
		B37 I like working with children and adolescents.
		B10 I want to help children and adolescents learn.
Prior teaching and learning experiences		B17 I have had inspirational teachers.
		B30 I have had good teachers as role models.
		B39 I have had positive learning experiences.
Social influences		B3 My friends think I should become a teacher.
		B24 My family thinks I should become a teacher.
		B40 People I have worked with think I should become a teacher.

*Australian colloquialism that relates to people adopting the laziest approach or choosing an easy option. In the context of teaching, this could be based on their perceptions about the length of the teacher's workday as well as school holidays.

extraction and oblimin rotation ($\Delta = 0$) showed good evidence for convergent and divergent construct validity, with pattern coefficients ranging from .56 through .95 for items on their respective factors ($Mdn = .87$) and no high cross loadings (the highest was .13). The four-factor solution converged in 12 iterations with 70.55% cumulative extraction sums of squared loadings.

Procedure

We conducted Phase 1 surveys early in the academic year and administered them in tutorial class groups to enhance data integrity and allow clarification of respondent queries. We administered the surveys with the assistance of two trained

TABLE 2. Items for Beliefs About Teaching and Your Decision to Become a Teacher Factors Influencing Teaching Choice (FIT-Choice) Constructs

Factor	Higher order factor (where applicable)	Item
Expert career	Task demand	C10 Do you think teaching requires high levels of expert knowledge? C14 Do you think teachers need high levels of technical knowledge?
High demand		C2 Do you think teachers have a heavy workload? C7 Do you think teaching is emotionally demanding? C11 Do you think teaching is hard work?
Social status	Task return	C4 Do you believe teachers are perceived as professionals? C8 Do you believe teaching is perceived as a high-status occupation? C12 Do you believe teaching is a well-respected career?
Teacher morale		C5 Do you think teachers have high morale? C9 Do you think teachers feel valued by society? C13 Do you think teachers feel their occupation has high social status?
Good salary		C1 Do you think teaching is well paid? C3 Do you think teachers earn a good salary?
Social dissuasion		D2 Were you encouraged to pursue careers other than teaching? D4 Did others tell you teaching was not a good career choice? D6 Did others influence you to consider careers other than teaching?
Satisfaction with choice		D1 How carefully have you thought about becoming a teacher? D3 How satisfied are you with your choice of becoming a teacher? D5 How happy are you with your decision to become a teacher?

TABLE 3. Sample Items and Subscale Reliabilities (α) for Phase Two Teaching Engagement and Career Development Aspirations Outcome Variables

Factor	α	Sample item
Engagement		
Planned effort	.90	How much effort do you plan to exert as a teacher?
Planned persistence	.97	How sure are you that you will stay in the teaching profession?
Career development aspirations ("To what extent do you aim to . . .")		
Professional development and aspirations	.91	Continue learning how to improve your teaching skills?
Leadership development and aspirations	.91	Have leadership responsibility in schools?

Note. Items for both factors were rated on a scale of 1 (*not at all*) to 7 (*extremely*).

assistants and with University ethics approval, consent of program coordinators, and informed consent of all participants. The survey took approximately 20 min to complete. We administered Phase 2 outcome surveys similarly, in large-group settings following a regular lecture for the graduate-entry candidates that took place during the last 2 weeks of their degree completion.

Analyses

First, we assessed the factorial structure of the scale for the first-order factors with the undergraduate BEd cohort at University 1, using exploratory factor analysis (EFA), with image extraction and oblimin rotation ($\Delta = 0$). We then applied an EFA specifying the same number of factors derived from those BEd analyses to evaluate whether we obtained the same factor structure with the MTeach cohort at University 1. This staged procedure allowed us to avoid capitalizing on sample characteristics in any modifications to the scale. We performed EFAs first across motivation items and then across beliefs and decisions items combined, with the BEd cohort. We then repeated this procedure with the MTeach cohort. We separated motivations from beliefs and decisions in initial EFAs because all the motivation items had the same prefacing statement: "I chose to become a teacher because . . ." that measurement difference might have

been expected to introduce additional separation. This also made inspection of pattern matrices and potential consequent modifications more manageable, because of the large number of items comprising the scale.

Next, we conducted a confirmatory factor analysis (CFA) across the two combined University 1 cohorts, on the full set of first-order factors established through preceding EFAs. In the CFA, we specified items as indicators for respective first-order constructs, freely estimated measurement variances, and did not permit cross-loadings or error covariances. Through that analysis, we established convergent and divergent construct validity across the set of factors influencing the choice of teaching as a career.

We then conducted a nested CFA across the two combined cohorts from University 1, in which we specified items as indicators for respective first-order constructs and simultaneously specified first-order constructs as indicators for higher order constructs. We applied that analysis to factors comprising theorized higher order constructs of personal utility value, social utility value, task demand, and task return. Again, we freely estimated measurement variances and permitted no cross-loadings or error covariances. Through that nested CFA analysis, we established convergent and divergent construct validity across first-order and higher order factors for those factors theorized to comprise higher order factors.

We subsequently conducted first-order and nested CFAs using the separate University 2 sample to avoid the problem of overcapitalizing on sample characteristics of University 1 and to ascertain whether the scale yielded valid and reliable scores in an independent sample. Following assessment of construct validity and reliability, we formed composite constructs by averaging items to comprise the final scales, using listwise deletion for missing data. We used two criteria to determine the importance of factors influencing participants' choice of teaching: (a) factor means above the scale midpoint and (b) relative strength of factor correlations with the Phase 1 satisfaction-with-choice subscale. We explored longitudinal relationships between initial motivations and beliefs about teaching with Phase 2 teaching engagement and career development aspirations outcome variables by using Pearson bivariate correlations.

Results

Initial Factor Analyses With the University 1 BEd Cohort

We had to implement minor modifications to the theorized 13 latent motivation constructs as a result of the initial EFA with the BEd cohort. An initial exploratory factor analysis using image factoring and oblimin rotation specifying 13 factors produced 1 factor on which item loadings were extremely low and on which no items had their highest loading. That solution also produced several cross loadings

across the other 12 factors. As a result, a 12-factor model was estimated and that solution explained 76.83% of the variance and converged in 34 iterations. We reproduced 11 of the factors influencing teaching choice as theorized, whereas time for family and bludging items combined in the 12th factor. Because the originally theorized time for family and bludging subscales were not factorially distinct, it appears that participants were responding to bludging items ("As a teacher I will have lengthy holidays" and "As a teacher I will have a short working day") in terms of the amount of family time that holidays and hours provide, rather than for opportunities to bludge. Pattern coefficients for items on their assigned factors ranged from .30 to .84 in absolute value ($Mdn = .60$), and there were no concerning cross-loadings (ranging from .00 through .31 for absolute values, $Mdn = .04$). On the basis of factor interpretability, variance explained, pattern matrix item loadings, acceptable measures of reliability, and the clarity of the 12-factor 37-item factor pattern matrix, we took these 12 factors as the set of constructs for further analyses.

Beliefs and decisions items with the BEd cohort supported six rather than the seven theorized underlying dimensions. We reproduced three beliefs about teaching factors as theorized (i.e., salary, expert career, and high demand), with the fourth factor containing the social status and teacher morale items. The combined social status and teacher morale factors made conceptual sense, for which we retained the label *social status*. We confirmed the two theorized constructs of social dissuasion and satisfaction with choice. This six-factor solution converged in eight iterations and explained 72.62% of the variance, with high Cronbach's alpha measures of internal consistency for all factors. Pattern coefficients for items on their assigned factors ranged from .50 to .90 ($Mdn = .65$), and there were no concerning cross loadings (ranging in absolute value from .00 through .10, $Mdn = .03$). Again, on the basis of factor interpretability, variance explained, and high reliabilities, we took this set of six constructs as the set for subsequent analyses.

Initial Factor Analyses With the University 1 MTeach Cohort

To evaluate whether the same factor structure was replicated with our MTeach cohort, we specified a 12-factor EFA solution for motivation items, and a 6-factor EFA solution for beliefs and decisions items. We reproduced the 12 motivation factors almost exactly with the MTeach cohort, with the exception of one work with children/adolescents item (B10: I want to help children/adolescents learn), which here loaded with the intrinsic career value factor. The MTeach 12-factor solution converged in 17 iterations, explaining 57.96% of the variance. Pattern coefficients for items on their assigned factors ranged in absolute value from .22 to .93 ($Mdn = .63$), and there were no concerning cross-loadings other than item B10 (absolute values ranging from .00 to .32, next highest value = .22, $Mdn = .04$).

Although a six-factor solution for MTeach beliefs and decisions items explained 68.77% of the variance and converged in 10 iterations, we did not obtain an identical factor structure for the BEd. We reproduced four factors as theorized (i.e., satisfaction with choice, social status, salary, and social dissuasion), but one expert career item (C10) loaded on the high-demand factor, with the other expert career item (C14) being the sole item loading on the sixth factor. Therefore, we attempted a five-factor solution. That explained 64.06% of the variance and converged in six iterations. In this solution, high demand and expert career combined, and we reproduced the other four factors of satisfaction with choice, social status, salary, and social dissuasion as theorized. Pattern coefficients for items on their assigned factors ranged from .37 to .88 (*Mdn* = .59), and there were no concerning cross-loadings (ranging in absolute value from .00 to .21, *Mdn* = .04).

CFA With University 1 Combined Cohorts

First-order CFA and factor reliabilities. Following exploration of the FIT-Choice scale's factorial structure using BEd data and assessing whether the same solutions were obtained using independent MTeach data, we performed a combined CFA. We did not include item B10 in that analysis because it had not exhibited a stable loading pattern in University 1 BEd and MTeach analyses and had low factor loadings in any case. We performed the combined CFA across the full set of items to enable us to assess divergent, as well as convergent, construct validity across the entire set of constructs. In this final solution, all 18 first-order factors were supported as theorized: perceived ability, intrinsic career value, fall-back career, job security, time for family, job transferability, shape future of children/adolescents, enhance social equity, make social contribution, work with children/adolescents, high demand, expert career, social status, salary, prior teaching and learning experiences, social influences, social dissuasion, and satisfaction with choice. The CFA fitted the data well across a range of frequently emphasized fit indices, normal theory weighted least squares $\chi^2(1277, N = 447) = 2614.72$, *RMSEA* = .049, *NFI* = .922, *NNFI* = .952, *GFI* = .824, *AGFI* = .788. Cronbach's alpha reliabilities demonstrated acceptable internal consistency as shown in Table 4. Table 4 also presents factor loadings (LX) and measurement errors (TD) for the first-order CFA.

Nested higher-order CFA and factor reliabilities. The nested CFA that we used to evaluate the fit of the four proposed personal utility value, social utility value, task demand, and task return higher-order factors fitted the data well, normal theory weighted least squares $\chi^2(510, N = 466) = 1138.67$, *RMSEA* = .052, *NFI* = .929, *NNFI* = .956, *GFI* = .874, *AGFI* = .853, indicating convergent as well as divergent construct validity at both first-order and higher-order levels. Table 5 shows first-order factor loadings (LY) and measurement errors (TE) and the higher order factor loadings (GA) and uniquenesses (PSI).

TABLE 4. First-Order Confirmatory Factor Analysis: Factor Loadings (LX), Measurement Errors (TD; Completely Standardized Solution), and Subscale Reliabilities (α)

Factors	Scale α		Item	LX		TD	
	1	2		1	2	1	2
Ability	.85	.80	B5	.83	.78	.32	.40
			B19	.90	.84	.18	.29
			B43	.74	.68	.46	.54
Intrinsic career value	.68	.62	B1	.80	.70	.36	.51
			B7	.50	.57	.75	.67
			B12	.83	.72	.31	.49
Fallback career	.69	.65	B11	.69	.72	.52	.49
			B35	.60	.50	.64	.75
			B48	.72	.66	.49	.56
Job security	.84	.83	B14	.75	.77	.45	.41
			B27	.78	.75	.40	.45
			B38	.89	.88	.21	.22
Time for family	.84	.82	B2	.60	.61	.64	.63
			B4	.69	.55	.52	.70
			B16	.79	.87	.37	.25
			B18	.62	.50	.61	.75
			B29	.90	.89	.20	.22
Job transferability	.67	.69	B8	.59	.63	.65	.61
			B22	.79	.69	.38	.52
			B45	.53	.66	.72	.57
Shape future of children/ adolescents	.81	.77	B9	.74	.64	.45	.59
			B23	.93	.77	.13	.40
			B53	—	.80	—	.35
Enhance social equity	.84	.86	B36	.81	.83	.34	.31
			B49	.89	.86	.21	.26
			B54	—	.80	—	.37
Make social contribution	.85	.81	B6	.82	.82	.32	.33
			B20	.83	.74	.31	.45
			B31	.81	.78	.34	.39
Work with children and adolescents	.89	.88	B13	.87	.89	.24	.21
			B26	.90	.83	.19	.31
			B37	.81	.81	.34	.34
High demand	.75	.68	C2	.72	.58	.48	.67
			C7	.59	.58	.65	.67
			C11	.84	.85	.29	.27

(table continues)

TABLE 4. (continued)

Factors	Scale α		Item	LX		TD	
	1	2		1	2	1	2
Expert career	.76	.83	C10	.87	.74	.24	.45
			C14	.70	.80	.52	.37
			C15	—	.86	—	.27
Social status	.86	.89	C4	.70	.74	.52	.45
			C5	.57	.52	.67	.73
			C8	.80	.84	.37	.29
			C9	.80	.82	.37	.33
			C12	.73	.80	.46	.37
Salary	.92	.91	C1	.92	.92	.15	.15
			C3	.92	.91	.16	.17
Prior teaching and learning experiences	.90	.87	B17	.91	.88	.16	.23
			B30	.95	.93	.09	.13
			B39	.73	.72	.47	.48
Social influences	.82	.83	B3	.80	.78	.36	.39
			B24	.74	.81	.45	.34
			B40	.79	.78	.37	.39
Social dissuasion	.72	.67	D2	.70	.55	.51	.70
			D4	.59	.54	.65	.71
			D6	.79	.78	.37	.25
Satisfaction with choice	.88	.84	D1	.67	.64	.55	.60
			D3	.94	.90	.12	.19
			D5	.94	.92	.12	.15

Note. 1 = university 1; 2 = university 2.

CFA With University 2 Combined Cohorts

We developed three additional items prior to survey administration to University 2 respondents for the three subscales that had contained fewer than three items. For the subscale shape future of children/adolescents, we developed an additional item, B53: "Teaching will allow me to have an impact on children/adolescents." For the subscale enhance social equity, we added item B54: "Teaching will allow me to work against social disadvantage." For the subscale expert career, item C15 "Do you think teachers need highly specialized knowledge?" was included. We then conducted first-order and nested CFAs with this new item set as we had for University 1.

First-order CFA and factor reliabilities. All 18 first-order factors were again supported as theorized, with good model fit statistics, normal theory weighted

TABLE 5. Nested Confirmatory Factor Analysis: First-Order Factor Loadings (LY) and Measurement Errors (TE), and Higher Order Factor Loadings (GA) Uniqueness (PSI; Completely Standardized Solution) and Subscale Reliabilities (α)

Scale or item	Higher order factor (α = University 1, 2)	LY		TE		GA		PSI	
		1	2	1	2	1	2	1	2
Job security	Personal utility					.85	.95	.28	.09
B14	value	.75	.77	.44	.41				
B27	(α = .72, .68)	.77	.73	.41	.46				
B38		.88	.88	.22	.23				
Time for family						.71	.58	.49	.67
B2		.61	.60	.63	.64				
B4		.66	.54	.56	.71				
B16		.80	.88	.36	.24				
B18		.60	.50	.64	.76				
B29		.91	.89	.17	.21				
Job transferability						.76	.63	.42	.61
B8		.59	.64	.65	.60				
B22		.78	.69	.39	.52				
B45		.54	.65	.71	.58				
Shape future of children/ adolescents	Social utility					.85	.87	.27	.24
B9	value								
B23	(α = .81, .76)	.76	.67	.43	.56				
B53		.91	.80	.18	.36				
		—	.76	—	.43				
Enhance social equity						.78	.81	.39	.35
B36		.80	.83	.36	.31				
B49		.90	.86	.19	.27				
B54		—	.79	—	.38				
Make social contribution						.83	.82	.30	.33
B6		.83	.81	.31	.34				
B20		.82	.84	.33	.45				
B31		.81	.78	.35	.39				
Work with children and adolescents						.66	.49	.56	.76
B13		.86	.89	.25	.20				
B26		.91	.84	.17	.29				
B37		.80	.81	.36	.34				

TABLE 5. (continued)

Scale or item	Higher order factor (α = University 1, 2)	LY		TE		GA		PSI	
		1	2	1	2	1	2	1	2
High demand	Task demand					.78	.50	.39	.75
C2	(α = .64, .44)	.70	.59	.51	.65				
C7		.60	.55	.65	.69				
C11		.85	.87	.28	.25				
Expert career						.78	.88	.39	.22
C10		.90	.84	.19	.44				
C14		.68	.75	.44	.39				
C15		—	.78	—	.29				
Social status	Task return					.86	.75	.27	.43
C4	(α = .66, .56)	.70	.74	.56	.46				
C5		.57	.52	.68	.73				
C8		.79	.84	.38	.29				
C9		.79	.83	.37	.32				
C12		.73	.80	.46	.36				
C13		.75	.83	.44	.30				
Salary						.65	.58	.58	.66
C1		.93	.93	.14	.14				
C3		.91	.90	.17	.19				

Note. 1 = university, 1; 2 = university 2.

least squares $\chi^2(1442, N = 579) = 3250.49$, $RMSEA = .047$, $NFI = .919$, $NNFI = .946$, $GFI = .838$, $AGFI = .807$. Cronbach's alpha reliabilities demonstrated acceptable internal consistency as shown in Table 4, in which we also present factor loadings (LX) and measurement errors (TD) for the first-order CFA.

Nested higher-order CFA and factor reliabilities. The nested CFA again fit the data well—normal theory weighted least squares $\chi^2(612, N = 612) = 1814.52$, $RMSEA = .057$, $NFI = .921$, $NNFI = .942$, $GFI = .862$, $AGFI = .841$ —indicating convergent and divergent construct validity at the first-order and higher-order levels, and supporting the construct validity of higher-order personal utility value, social utility value, task demand, and task return factors. In Table 5, we show first-order factor loadings (LY) and measurement errors (TE), and the higher order factor loadings (GA) and uniquenesses (PSI).

Final FIT-Choice Scale

For both Universities 1 and 2, we examined correlations among all first-order latent constructs as shown in Table 6, having established construct validity and

TABLE 6. Correlations Among Factors Influencing Teaching Choice (FIT-Choice) First-Order Latent Factors

Factor	1	2	3	4	5	6	7
1. Expert career	—	0.42	0.27	0.12	0.26	0.10	0.29
2. High demand	0.63	—	-0.05	-0.05	0.14	0.01	0.13
3. Social status	0.18	-0.05	—	0.44	0.22	0.00	0.33
4. Salary	-0.03	-0.18	0.55	—	0.12	-0.01	0.18
5. Ability	0.27	0.24	0.04	0.02	—	-0.20	0.68
6. Fallback career	0.14	-0.28	0.09	0.07	-0.34	—	-0.59
7. Intrinsic career value	0.34	0.38	0.09	0.04	0.66	-0.56	—
8. Job security	0.07	0.03	0.30	0.27	0.16	0.25	0.01
9. Time for family	-0.14	-0.22	0.22	0.19	0.07	0.28	-0.07
10. Job transfer	0.04	-0.08	0.28	0.19	0.11	0.34	-0.04
11. Shape future of children and adolescents	0.22	0.19	0.13	0.03	0.42	-0.23	0.46
12. Enhance social equity	0.26	0.26	0.01	0.01	0.42	-0.22	0.47
13. Make social contribution	0.36	0.33	0.11	-0.01	0.51	-0.38	0.55
14. Work with children/adolescents	0.18	0.20	0.13	0.08	0.48	-0.44	0.59
15. Social dissuasion	0.01	0.04	-0.23	-0.26	-0.05	0.10	-0.04
16. Prior teaching and learning experiences	0.11	0.10	0.18	0.15	0.25	-0.17	0.30
17. Social influences	0.04	0.02	0.28	0.18	0.16	0.15	0.19
18. Satisfaction with choice	0.21	0.29	0.08	0.05	0.45	-0.68	0.71

Note. Correlations appear below the diagonal for University 1 and above for University 2.

reliability across two independent samples. The final item set has previously been listed in table form elsewhere (Richardson & Watt, 2006, 34–36).

Summary Statistics for FIT-Choice and Beliefs and Decisions About Teaching

The highest rated influences on the choice of a teaching career, with group means above 5 on the 7-point scale, were perceived teaching ability, intrinsic career value, shape future of children/adolescents, make social contribution, work with children/adolescents, and prior teaching and learning experiences. Participants rated enhance social equity above 5 for University 1 and just below 5 for

8	9	10	11	12	13	14	15	16	17	18
0.16	0.08	0.19	0.25	0.33	0.36	0.21	0.04	0.22	0.22	0.26
0.26	0.06	0.16	0.27	0.21	0.20	0.16	0.07	0.12	0.09	0.10
0.26	0.18	0.16	0.22	0.14	0.23	0.26	-0.11	0.22	0.23	0.25
0.29	0.15	0.07	0.11	0.12	0.10	0.10	-0.05	0.13	0.12	0.19
0.22	0.09	0.13	0.44	0.27	0.41	0.38	-0.05	0.27	0.29	0.43
0.29	0.25	0.39	-0.15	0.04	-0.02	-0.27	0.20	0.05	0.17	-0.58
0.05	0.03	0.03	0.47	0.28	0.43	0.67	-0.11	0.30	0.19	0.78
—	0.56	0.59	0.15	0.21	0.21	0.12	0.08	0.23	0.23	0.03
0.61	—	0.37	0.00	0.09	0.07	0.12	0.18	0.13	0.24	-0.02
0.63	0.55	—	0.23	0.26	0.18	0.03	0.16	0.22	0.34	-0.05
0.10	0.04	0.25	—	0.72	0.72	0.53	0.03	0.30	0.27	0.35
0.05	-0.07	0.06	0.67	—	0.67	0.35	0.06	0.25	0.18	0.28
0.15	-0.02	0.10	0.69	0.65	—	0.34	0.00	0.40	0.21	0.33
0.09	0.07	0.03	0.57	0.52	0.54	—	-0.01	0.24	0.21	0.47
-0.10	0.04	-0.10	0.02	0.03	0.08	-0.05	—	0.04	0.03	-0.11
0.12	0.16	0.13	0.22	0.24	0.30	0.23	0.18	—	0.23	0.23
0.27	0.34	0.28	0.18	0.16	0.16	0.20	0.07	0.27	—	0.10
-0.05	-0.13	-0.07	0.43	0.35	0.46	0.51	-0.05	0.25	0.10	—

University 2 and job security above 5 for University 2 but above 4 for University 1. Other factors that participants rated above the scale midpoint of 4 were job transferability and time for family, at University 2. The only factors for which mean ratings were below the scale midpoint were fallback career, social influences, and time for family at University 1, indicating that participants perceived those as less important influences on the decision to teach (see Table 7).

Participant responses to the beliefs about teaching constructs revealed that they perceived a career in teaching as highly demanding and yet providing for low returns. The group as a whole believed teaching was an expert and demanding career, with group means above 5 for expert career and high-demand con-

TABLE 7. Mean Ratings for Factors Influencing Teaching Choice (FIT-Choice)

Factors	High order factor	<i>M</i>		<i>SD</i>		Minimum		Maximum	
		1	2	1	2	1	2	1	2
Motivation factors									
Ability		5.57	5.65	1.04	0.93	1.00	1.67	7.00	7.00
Intrinsic career value		5.33	5.59	1.17	1.10	1.67	2.33	7.00	7.00
Fallback career		2.06	1.96	1.21	1.16	1.00	1.00	6.67	7.00
	Personal utility value								
		4.14	4.46	1.17	1.13	1.00	1.00	7.00	7.00
Job security		4.63	5.21	1.45	1.33	1.00	1.00	7.00	7.00
Time for family		3.70	4.03	1.46	1.44	1.00	1.00	7.00	7.00
Job transferability		4.08	4.17	1.47	1.53	1.00	1.00	7.00	7.00
	Social utility value								
		5.28	5.44	1.07	0.95	1.38	1.25	7.00	7.00
Shape future of children/adolescents		5.40	5.72	1.28	1.08	1.00	1.00	7.00	7.00
Enhance social equity		5.02	4.97	1.42	1.37	1.00	1.00	7.00	7.00
Make social contribution		5.36	5.54	1.31	1.19	1.00	1.00	7.00	7.00
Work with children/adolescents		5.36	5.55	1.34	1.30	1.00	1.00	7.00	7.00
Prior teaching and learning experiences		5.09	5.07	1.54	1.56	1.00	1.00	7.00	7.00
Social influences		3.16	3.45	1.62	1.74	1.00	1.00	7.00	7.00
Beliefs and decisions factors									
Social dissuasion		4.34	3.94	1.54	1.55	1.00	1.00	7.00	7.00
	Task demand								
		5.63	5.76	0.85	0.77	1.42	2.00	7.00	7.00
Expert career		5.30	5.39	1.10	1.10	1.00	1.00	7.00	7.00
High demand		5.95	6.14	0.86	0.80	1.33	2.00	7.00	7.00
	Task return								
		3.30	3.91	1.02	1.08	1.00	1.00	6.50	7.00
Social status		3.64	4.37	1.13	1.23	1.00	1.00	7.00	7.00
Salary		2.94	3.45	1.23	1.35	1.00	1.00	6.00	7.00

Note. 1 = University 1; 2 = University 2.

structs. Social dissuasion was rated above the scale midpoint for University 1 and close to it for University 2, signaling that others discouraged them from teaching as a career. Participants rated salary below the scale midpoint, signifying their belief that teachers do not earn a good salary. They also rated social status below the scale midpoint for University 1, but slightly above it for University 2, indicating relatively low perceptions of teaching as a career high in social status (see Table 7).

We also show means for our higher order factors in Table 7. These were highest for social utility value, rated above 5 on the 7-point scale. Participants rated higher order personal utility value lower, but still above the scale midpoint. For the two higher order factors assessing beliefs about teaching, perceptions of task demand were high (above 5), whereas perceptions of task return were below the scale midpoint.

Mean ratings for respondents' satisfaction with teaching as a career choice were high ($M = 5.87$, $SD = 1.10$, for University 1; $M = 5.96$, $SD = 1.02$, for University 2). Factors that correlated most strongly with this outcome variable across both University samples were intrinsic value ($\Phi = .71$ for University 1, $.78$ for University 2), work with children/adolescents ($\Phi = .51$ for University 1, $.47$ for University 2), perceived teaching ability ($\Phi = .45$ for University 1, $.43$ for University 2), make social contribution ($\Phi = .46$ for University 1, $.33$ for University 2), and shape future of children/adolescents ($\Phi = .43$ for University 1, $.35$ for University 2). It is important to note that these factors were also those rated most highly in terms of mean scores. Participants who chose teaching for these reasons were also those most satisfied with their career choice, providing additional support for the importance of these highly rated motivations.

Longitudinal Relations of Entry Motivations and Beliefs About Teaching With Exit Teaching Engagement and Career Development Aspirations

Participants' motivations for and beliefs about teaching on initial entry to teacher education correlated with their Phase 2 exit teaching engagement and career development aspirations (see Table 8). The initial Phase 1 satisfaction with choice measure correlated substantially and highly statistically significantly with the satisfaction measure at Phase 2, providing evidence that this remained reasonably stable over the period of the teaching degree. Phase 1 satisfaction with choice also correlated highly statistically significantly with all longitudinal Phase 2 outcome variables, providing some support for researchers who may wish to use this as a proxy outcome in studies involving only one time point.

Longitudinal outcomes for teaching motivations. The motivations that correlated most positively and statistically significantly with Phase 2 outcome variables included those motivations that were rated highest by participants on entry to initial teacher education, which had also correlated highest with the initial satisfaction with choice subscale (i.e., intrinsic value, perceived ability, work with

TABLE 8. Longitudinal Relations of Entry Motivations and Beliefs About Teaching With Exit Teaching Engagement and Career Development Aspirations

Entry motivations and beliefs	Exit teaching engagement and career development aspirations				
	Planned effort	Professional development aspirations	Planned persistence	Leadership aspirations	Satisfaction with choice
Entry motivations					
Intrinsic value	.23**	.16*	.37**	.27**	.33**
Job security	-.02	-.01	-.05	-.02	-.11 ⁺
Time for family	-.05	-.09	-.04	-.04	-.08
Job transferability	-.04	-.09	-.16*	-.04	-.08
Shape future	.15*	.10	.20**	.10	.18**
Enhance social equity	.05	.10	.17**	.14*	.09
Make social contribution	.09	.12*	.17**	.10 ⁺	.15*
Work with children/adolescents	.21**	.21**	.31**	.24**	.29**
Perceived ability	.19**	.16*	.30**	.22**	.23**
Prior teaching and learning	.12 ⁺	.16*	.29**	.26**	.18**
Social influence	.05	.07	.09	.19**	.03
Fallback career	-.17**	-.18**	-.29**	-.04	-.38**
Entry beliefs					
Expert career	.14*	.13*	.13*	.12 ⁺	.07
High demand	.10	.08	.03	-.02	-.00
Social status	.12 ⁺	.08	.19**	.04	.08
Salary	.02	-.01	.03	-.07	-.02
Social dissuasion	-.06	-.05	-.05	.08	.03
Satisfaction with choice	.23**	.21**	.45**	.21**	.43**

Note. Listwise $N = 258$.

⁺ $p < .10$. * $p < .05$. ** $p < .01$.

children/adolescents, make social contribution, and shape future of children/adolescents). Although none of the correlations between these motivations and longitudinal outcome variables was high, the pattern of positive relationship was consistent across the set of Phase 2 outcomes. Intrinsic value, perceived ability, and work with children/adolescents constructs exhibited significant positive correla-

tions across the full set of five longitudinal outcome variables, whereas the make social contribution construct correlated significantly with all outcomes but planned effort; and the shape future construct correlated with all outcomes except planned professional development and leadership aspirations. This provides strong support for the importance of these motivational factors in influencing beginning teachers' subsequent commitment and engagement with teaching as a career.

We also identified positive and significant correlations between prior teaching and learning and all five outcome variables; between enhance social equity and each of Phase 2 planned persistence and leadership aspirations; and between social influences and Phase 2 leadership aspirations. These motivations, although not necessarily the highest rated at degree entry, are therefore also important indicators of later teaching commitment and engagement.

In contrast, we observed statistically significant and negative longitudinal relationships between entering teaching as a fallback career and all Phase 2 outcome variables except leadership aspirations. It is intriguing to note that personal utility factors (job security, time for family, and job transferability) all exhibited either negative or nonsignificant correlations with the outcome variables. In the main, these correlations were not statistically significant, although significant negative correlations occurred between job security and Phase 2 satisfaction with choice, as well as between job transferability and Phase 2 planned persistence.

Longitudinal outcomes for beliefs about teaching. We might have expected that task demand factors (expert career and high demand) along with social dissuasion would correlate negatively and that task return factors (social status and salary) would correlate positively with the longitudinal outcomes. In fact, we found no significant correlations between high demand, salary, or social dissuasion and any of the Phase 2 outcome variables. Participants who viewed teaching as higher in social status on degree entry planned to exert greater effort at Phase 2 and to persist longer in the teaching profession. Contrary to expectation, individuals who viewed teaching as a highly expert career on entry to teacher education planned to exert greater effort at Phase 2, undertake more professional development, persist longer, and aspire to leadership positions in schools.

Discussion

The primary purpose of our study was to assess the psychometric properties of our FIT-Choice scale. We found that it displayed sound convergent and divergent construct validity and good reliability across two independent, large-scale, and representative samples. The FIT-Choice scale developed from the basis of the expectancy-value theory, therefore provides a psychometrically and theoretically strong framework to guide future research into the choice of teaching as a career. Use of our empirically validated theoretical framework as represented in our scale provides a theoretically integrated approach to examine

motivations for choosing teaching as a career. The expectancy–value model of Eccles, Wigfield, et al. (e.g., Eccles, et al., 1983; Wigfield & Eccles, 2000) has provided a useful framework for us to understand the question of why people choose to pursue a teaching career—encompassing themes that have been previously identified in the teacher education and general career choice literatures.

Our sampling design and high response rates imply that our findings are likely to be representative of initial teacher education candidates across the two universities sampled. Our continuing research program includes teacher education candidates from additional universities across Australia, the United States, Germany, and Norway, in which we will be able to contrast and contextualize the entry motivations for teaching of candidates across different cultural settings (Watt, Richardson, Klusmann, Kunter, Beyer, & Trautwein, 2007). In our present analysis, motivations appeared quite similar across the two Australian institutions, with intrinsic value, social utility value, and perceived teaching ability emerging as the highest rated influences on the choice of a teaching career, followed by positive prior teaching and learning experiences and personal utility value. Those motivations also correlated positively with longitudinal outcome factors tapping planned teaching engagement and career development aspirations, with the exception of the personal utility factors, which mostly demonstrated no relationship with measured outcomes and in two cases demonstrated negative relationships, supporting previous suggestions of such motivations' being possibly detrimental (e.g., Sparkes, 1988; Woods, 1981; Yong, 1995).

Our social utility value higher order factor resembles altruism as variously described in the teacher education literature (Book & Freeman, 1986; Brown, 1992; Fox, 1961; Joseph & Green, 1986; Serow, Eaker, & Ciecchalski, 1992), which has been identified as an influential factor in choosing a teaching career in previous studies, many of which were smaller and exploratory. Researchers have also linked positive prior teaching and learning experiences, especially in the form of former influential teachers, to choosing a teaching career (Book & Freeman; Fielstra, 1955; Lortie, 1975; Richards, 1960; Robertson et al., 1983; Wright, 1977), as they have linked various quality of life issues, such as having time for family and job security, particularly during times of economic downturn (Jantzen, 1981; Richardson & Watt, 2005; Tudhope, 1944), which we assessed through our personal utility value higher order construct. Teacher education researchers have focused less on intrinsic value and perceived ability, whereas in the motivation literature such constructs are the main focus of several models, including the expectancy–value model; and ability-related beliefs have been the focus in the career choice literature more generally. We have demonstrated that these constructs are also important influences in the context of motivations for teaching as a career choice and furthermore relate positively to a range of longitudinal planned teaching engagement and career development aspiration outcomes.

We were pleased to find that choosing to teach as a fallback career was rated very low as a motivation for entering the profession. It appears that teaching is by and large a career of choice and not something that people fall back on when their other choices are not realized (i.e., the notion canvassed by Tudhope [1944] and identified by Haubrich [1960] as the "mattress" factor or "something to fall back on"). A study of career switchers lends further support to this finding (Richardson & Watt, 2005). Social influences exerted a relatively weak influence on choosing teaching, likely because respondents also reported moderate levels of social dissuasion. This result may not be surprising because of the current low status of the teaching profession in Australia (Ramsay, 2000) and elsewhere (Crow et al., 1990; Liu et al., 2000; OECD, 2005). In a similar vein, teaching was believed to be a highly demanding career that provided low returns in terms of status and salary. It is interesting to note that perceiving teaching as a highly expert career related positively to all but one of our longitudinal outcome variables, supporting notions that individuals may be attracted to teaching as an intellectually demanding and cognitively stimulating career (see Richardson & Watt, 2006). Despite or perhaps because of these perceptions of the teaching profession, participants in both of our samples, across two time points, reported high levels of satisfaction with their choice of a teaching career. It will be of particular interest to monitor participants' career satisfaction as we follow their progress into the teaching profession.

Our empirically validated FIT-Choice model has confirmed the importance of a number of factors previously identified within the teacher education literature. Furthermore, our comprehensive framework has shown the relevance and importance of additional factors not previously focused on. In particular, intrinsic value and ability beliefs, which are emphasized as the major influences in the expectancy-value framework, were among the highest rated motivations for choosing a teaching career. Participants rated those influences similarly highly to the social utility factors that have been the main focus of the teacher education research to date. Our study, incorporating identified themes from that literature within expectancy-value theory and contextualizing these in our new FIT-Choice framework, has thereby extended our understanding of motivational influences on the choice of teaching as a career.

This work is timely now, at a time when governments and employing authorities around the world confront growing teacher shortages and attempt to improve teacher recruitment and supply, restructure teachers' work and careers, and reform initial teacher education and professional development. Although teaching would appear to be an occupation considered central to a country's well-being, Australia, the United States, the United Kingdom, and many European countries are experiencing difficulties in recruiting and retaining teachers (see Johnson & Birkeland, 2003; Liu et al., 2000; OECD, 2005; OFSTED, 2001; Preston, 2000). Countries in Europe are experiencing similar problems in attracting, developing, and retaining

teachers, with teacher policy a high priority among the 25 participating countries of the OECD (2005). At the same time the teaching force in Australia, the United States, and a number of European countries is aging. For instance, in 2001, the median age of teachers in Australia was 43 years, with 44% of teachers over the age of 45 (Australian Bureau of Statistics, 2003). In some European Union countries, half the teaching force is over the age of 40 (European Commission, 2000). Unfortunately, salaries, employment conditions, and the social status of teachers (Committee for the Review of Teaching and Teacher Education, 2003; Ramsey, 2000) continue to make teaching a less-than-attractive career option (Coolahan, 2002; Kyriacou & Coulthard, 2000; Liu et al.).

For some time, employment authorities in the United States, United Kingdom, Australia, and Europe have advertised in an effort to attract people from out of other careers into teaching. Our strong empirical findings regarding those motivations that have attracted people to pursue teaching as a career will be of particular use to such groups. Agencies conducting current and recent recruitment campaigns have tended to focus on a limited subset of motivations, predominantly relating to the opportunity to make a social contribution and the opportunity to work with children, likely limiting their audience and effectiveness. An expanded focus, which includes additional social utility values (opportunities to shape the future and enhance social equity) and introduces intrinsic values and individuals' perceptions regarding their teaching-related abilities, promises to yield more effective results. Furthermore, such an approach promises to attract individuals to the profession who will enter their teaching career both committed and engaged.

In this article, we have described the development and validation of the FIT-Choice scale, for which we have provided sound evidence of reliability and convergent and divergent construct validity. In addition, we have presented findings that summarize the most important influences for two large cohorts in selecting teaching as a career. Moreover, we have presented evidence for the predictive utility of our FIT-Choice factors through examining longitudinal relations with a range of teaching engagement and career development aspiration factors at participants' degree exit. These findings, from two large-scale representative samples of prospective teachers, are applicable both to guiding teacher recruitment, through the targeted marketing of teaching degrees and careers, and to tailoring teacher education to the goals and interests of enrolled candidates. Our FIT-Choice scale, developed through framing suggestions from prior studies in teacher education and the general career choice literature within an expectancy-value motivational framework, provides an integrative and robust measure to guide future investigators of teaching as a career choice.

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