Motivations, perceptions, and aspirations concerning teaching as a career for different types of beginning teachers

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Abstract

The professional plans, satisfaction levels, demographic characteristics, perceptions and motivations of different teacher types distinguished by cluster analysis were investigated among graduate-entry primary and secondary teacher education candidates ($N = 510$) from three Australian universities in an ongoing longitudinal study. Participants provided quantitative and qualitative survey data at two time-points: at their entry to teacher education, and immediately prior to completion of their qualification. Teacher types were classified via cluster analysis on the basis of their exit levels of planned effort and persistence within the teaching profession, and their professional development and leadership aspirations. Three distinct types were identified: ''highly engaged persisters'', ''highly engaged switchers'', and ''lower engaged desisters''. Differences in motivations for having chosen teaching as a career, perceptions about the profession, and career intentions were contrasted for the three types, and demographic characteristics compared.
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1. Introduction

Teachers' motivations, aspirations, and early career development have increasingly been the focus of research attention in the climate of escalating teacher shortages and concerns regarding teacher quality—in Australia, the United States, and among many country members of the Organization for Economic Cooperation and Development (OECD). Intrinsic, extrinsic and altruistic motivations have been highlighted as the most important groups of reasons for deciding to teach (Brookhart & Freeman, 1992), and recent work has developed an integrated and empirically validated framework to examine motivations for the choice of a teaching career founded on expectancy-value theory (see Richardson & Watt, 2006; Watt & Richardson, 2007). Identifying which motivations relate to teacher engagement, commitment and persistence is a critical next step in light of workforce issues and pressures to understand the factors and processes underlying teacher quality.

We adopted a multidimensional and person-centred approach to investigate whether different types of beginning teachers could be identified, in terms of their foreseen professional engagement and career development aspirations— specifically, their planned effort and persistence, and professional development and leadership aspirations.

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Historically, teachers have been expected to look upon teaching more as a vocation than as strictly a job, but over recent decades there have been significant changes to the labour market which potentially impact on how those undertaking teacher education programs look upon teaching as a career (Miles & Snow, 1996). It is reasonable to expect that prospective teachers would have different career trajectories in mind, even at the outset.

We contrasted career intentions, motivations for having chosen a teaching career, perceptions regarding the teaching profession, levels of satisfaction with teaching as a career choice, and demographic characteristics, to determine which of them characterised each of the beginning teacher types. Teacher educators, policy-makers, and employing authorities have for too long overlooked the values, beliefs and motivations of those entering teacher education programs and insufficiently explored how they shape beginning teachers' aspirations for professional engagement and the trajectory of their career development (Feiman-Nemser, 2001). Within our perspective, beginning teachers' perceptions impact their subsequent professional engagement, development, and quality of their work.

1.1. Motivations for teaching and perceptions of the profession

At a time when other careers offer higher salaries, clearer pathways for career development, greater social prestige, and more agreeable working conditions (OECD, 2005; Ramsay, 2000), teaching would seem to be less attractive as a career than it was 30 years ago when large numbers of what is now often referred to as the "baby boomer" generation were drawn into teaching. With increasing shortages of teachers there has been renewed interest in the U.K., the United States, Europe, Australia, and Asia in understanding what motivates people to choose teaching as a career and what motivates them to persist, particularly since the actual work experience of teachers has become more complex and demanding (OECD, 2005). Over the last five decades there has been a steady flow of studies and reports from many countries, with some of the earliest investigations occurring in Britain during the Great Depression (Valentine, 1934) and at the close of the Second World War (Tudhope, 1944), when teachers were in desperately short supply. By far the largest number of studies of teacher motivations has been conducted in the United States, mostly founded on surveys, with some studies incorporating a qualitative component, resulting in the identification of motivations variously categorised as intrinsic, extrinsic, and altruistic. A review of this body of research conducted up until the early 1990s 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" (Brookhart & Freeman, 1992, p. 46).

As might be anticipated, teacher candidates report that a desire to work with children and adolescents is highly influential in attracting people into a teaching career (Alexander, Chant, & Cox, 1994; Joseph & Green, 1986; Kyriacou & Coulthard, 2000; Moran, Kilpatrick, Abbott, Dallatt, & McClune, 2001; Richardson & Watt, 2006; Tudhope, 1944; Valentine, 1934). Equally, a report of studies conducted with practising teachers from France, Australia, Belgium (French Community), Canada (Québec), the Netherlands, the Slovak Republic, and the U.K. confirmed that the most frequently nominated reasons for career choice among teachers was a desire to work with children and adolescents, together with the potential for the job to provide for intellectual fulfilment, and a means by which to make a social contribution (OECD, 2005). On the other hand, studies conducted in very different sociocultural contexts such as in Brunei (Yong, 1995), Zimbabwe (Chivore, 1988), Cameroon (Abangma, 1981), and Jamaica (Bastick, 1999), have found that more extrinsic motivations such as salary, job security, and career status are important motivations for choosing a career in teaching. It seems clear that different sociocultural contexts potentially frame and shape motivations for career choice, satisfaction and persistence. Researchers who have examined the phenomenon of the career switcher into teaching in various countries have suggested that the rewards of salary and career prestige are not a high priority for this group who decide later on a career change (Crow, Levine, & Nager, 1990; Mayotte, 2003; Priyadharshini & Robinson-Pant, 2003; Richardson & Watt, 2005). In societies in which career success is measured by salary, career prestige, and social status, the decision to switch to a job that provides for personal satisfaction, the rewards of making a social contribution, and a desire to keep learning, is often seen as an "implausible choice" (Crow et al., 1990, p. 197).

Negative representations of teachers' work in the mass media, changes in political ideology, and shifts in public opinion all impact on the popularity and reputation of teaching as a career choice. Although in surveys across different countries teachers are valued by parents and the community more generally, Australia, the United States, the U.K., and many European countries are increasingly experiencing difficulties recruiting and retaining teachers in the profession (OECD, 2005). Salaries, employment conditions and the social status of teachers (Department of Education, Science and Training [DEST], 2003; Ramsay, 2000) make teaching a less than attractive career option for potential applicants

(Kyriacou & Coulthard, 2000; Ramsay, 2000). For those already teaching, the demands and rewards are not necessarily sufficient to sustain them in the profession, and a mismatch between initial expectations vs. rewards and demands may lead to early attrition. Evidence from the U.K. indicates that 40% of those who enter teaching are no longer there after five years (Kyriacou & Kunc, 2006; Purcell, Wilton, Davies, & Elias, 2005); and in the United States, it is claimed that up to 40% of new teachers in some school districts resign during their first two years (Weiss, 1999). Other calculations from these countries predict that one in five teachers will leave the profession within three years of entry (Henke, Chen, & Geis, 2000; Johnson & Birkeland, 2003; Office for Standards in Education [Ofsted], 2001). Although there is a lack of reliable empirical evidence from Australia, of all the teachers who participated in the Third International Mathematics and Science Study (TIMSS; Lokan, Ford, & Greenwood, 1996), the highest proportion of teachers indicating that they would "prefer to change to another career" (p. 197) was from Australia and New Zealand.

The composition of the present and potential labour force in relation to teaching ranges from those who are aged in their 50s ("baby boomers") through to those who are in their 30s ("Generation X") and a younger group in their 20s ("Generation Y") (Edgar, 2001). This heuristic of age groupings is useful for thinking about the composition of the labour market and how differing career expectations and aspirations may significantly impact on the supply of teachers. The Australian teaching force like that of countries in Europe, the United States and U.K. is aging rapidly (OECD, 2002; Santiago, 2002). As this older age group retires, and it is doing so at the earliest possible retirement age, then people from the younger age groupings will need to be attracted into teaching. While this is what policy planners and recruitment agencies might expect to happen, younger people may not be as attracted into a teaching career as those from the so-called baby boomer generation were three decades ago. Among younger workers there is now an embedded assumption that they will change their career several times over the course of their working lives. Changes in the nature of work and employment practices, and a labour market hungry for tertiary educated people, have ensured that generations X and Y have very different options and are not likely to "fallback" on teaching (Haubrich, 1960) due to a lack of career options to suit their talents and skills (Birrell & Rapson, 2006).

In the large-scale "Factors Influencing Teaching Choice" (FIT-Choice) study of which the present study forms a part (see Richardson & Watt, 2006), 1653 prospective Australian teachers indicated their motivations for having chosen teaching as a career and their perceptions regarding the teaching profession at their entry to teacher education, via the FIT-Choice Scale (Watt & Richardson, 2007). This scale was developed by Watt and Richardson to provide a comprehensive and coherent framework to guide systematic investigation into the question of why people choose a teaching career. It is grounded in expectancy-value theory (Eccles (Parsons) et al., 1983; Wigfield & Eccles, 2000), which argues that individuals' choices and behaviours are shaped by their expectancies and their values. We have elsewhere detailed the development and validation of this framework for the context of teaching as a career choice (Watt & Richardson, 2007).

The sample from the FIT-Choice study was representative of commencing teacher candidates across two Australian universities in Sydney and one in Melbourne, all major teacher education providers. Participants included secondary, primary and early childhood strands, as well as undergraduate Bachelor and graduate-entry candidates (full details are reported in Richardson & Watt, 2006). Measured motivation factors included social influences, positive prior teaching and learning experiences, perceived teaching abilities, intrinsic value, personal utility values (job security, time for family, job transferability), social utility values (shape future of children/adolescents, enhance social equity, make social contribution, work with children/adolescents), and the negative motivation of having chosen teaching as a "fallback" career. Measured perceptions of the profession included perceived task demand (expertise and difficulty) and return (social status and salary); also assessed were experiences of social dissuasion, and satisfaction with the choice of teaching as a career. Background characteristics painted a portrait of these beginning teacher education candidates as typically female, young, from less than affluent family backgrounds, English language background, and born of Australian parents. A sizeable proportion (about one-third) of graduate-entry teacher education candidates had come from previous careers into teaching, most often of similar occupational status.

Across the general sample (Richardson & Watt, 2006), highest rated motivations for having chosen teaching included perceived teaching abilities, the intrinsic value of teaching, the desire to make a social contribution, shape the future, and work with children/adolescents. The lowest rated motivation was choosing teaching as a "fallback" career, followed by social influences of others' encouragement to undertake teaching. Other motivations were rated in between for the desire to enhance social equity, having had positive prior teaching and learning experiences, the desire for job security, job transferability, and time for family. Teacher candidates perceived teaching as a highly demanding career having a heavy workload, high emotional demand, and generally requiring hard work; and a highly

expert career requiring specialised and technical knowledge. At the same time, they perceived teaching as relatively low in social status, paying a low salary, and reported experiences of quite strong social dissuasion from a teaching career. Despite this, mean satisfaction ratings for having chosen a teaching career were high on commencing teacher education.

1.2. The typological approach

The present study is the first to apply a typological approach to the study of beginning teachers' professional engagement and career development aspirations. We examine whether there are empirically identifiable types among qualifying teachers at the outset of their career; develop profiles based on professional engagement and career development aspirations; compare teaching motivations and perceptions for different teacher types; and track relational pathways for identified types within a methodologically sophisticated, large-scale and longitudinal design. Such a typological approach derives from a system perspective on human development and moves beyond normative trends to focus on substantively interesting subgroups whose functioning may not be represented at all by the average. It also allows for examining configurations from a range of quantitative and qualitative sources in an integrated fashion (Richardson & Watt, 2005). Most importantly, the focus is on the individual, consistent with modern developmental theory in which the individual is regarded as the organising unit of her/his development (Magnussen, 2000; Roeser & Galloway, 2002). Person-centred analyses provide a good methodological fit with an holistic view on human development, and further, speak to the "case-like" reasoning of practitioners in educational and clinical settings (Roeser & Galloway, 2002).

There has been another major large-scale typological study involving teachers in Germany. That study examined a typology among different kinds of professionals based on their coping behaviours, including a substantial sample of teachers, as well as police, fire-fighters, aged-care workers, nurses, entrepreneurs, social workers, childcare professionals, and penitentiary workers (Kieschke & Schaarschmidt, 2008; Schaarschmidt, 2004). Key dimensions along which their work is distinguished from ours include that their study was based in health and occupational psychology, involved practising teachers having varying lengths of professional experience, with the typology developed as a diagnostic tool to determine preventive measures for people possessing personal preconditions which relate to professional success or failure (see Kieschke & Schaarschmidt, 2003; Schaarschmidt & Fischer, 2001). These researchers identified four coping behaviour types: "healthy ambitious" (type G), "unambitious" (type S), "excessively ambitious" (type A), and "resigned" (type B; see Kieschke & Schaarschmidt, 2003, 2008; Schaarschmidt & Fischer, 1997; Schaarschmidt, Kieschke, & Fischer, 1999).

1.3. The present study

Our study is concerned with profiling beginning teacher types based on their professional engagement and career development aspirations as they relate to persistence and development in the teaching profession. For people who have decided to teach at a later point, perhaps following a previous career, there are flexible pathways into qualifying as a teacher in Australia. It is also possible to discontinue teaching for a time (e.g., to raise a family) and later return to the profession. Given the diversity among entrants to teacher education and in career options following the teaching qualification, we considered it likely that there are different types of beginning teachers even at the very start of their teaching careers. This is in contrast to a country like Germany, where because of the way the career is structured as a lifelong commitment, it is more difficult to switch either in or out of the teaching profession (Watt et al., in preparation).

1.3.1. Aims—hypotheses

In the present study, we utilised data from graduate-entry participants who formed part of the full sample of commencing Australian teacher education candidates (Richardson & Watt, 2006), and collected follow-up data immediately prior to the end of their teaching qualification, at which time we examined their professional engagement and career development aspirations and re-administered the initial satisfaction with the choice of a teaching career subscale. We sought to explore an empirical typology among qualifying teachers based on their exit levels of professional engagement and career development aspirations, examining background demographics which may characterise identified clusters, contrasting motivations for having chosen a teaching career and perceptions regarding the profession

for the differing teacher types, along with changes in levels of satisfaction with teaching as a career choice. Further, we aimed at providing rich descriptions concerning career intentions for each identified type based on their open-ended responses included as part of the exit survey. The multiple measures, two time-points, and combination of quantitative and qualitative data together provide a strong basis from which to approach the question of whether there are different types of beginning teachers and how and why this might matter.

Our expectation was that we would be able to identify a typology of beginning teachers based on their planned effort and persistence, and professional development and leadership aspirations. Since the present study is exploratory in nature no precise hypotheses could be stated. Nevertheless, based on the extant research, we predicted a highly engaged and a less engaged group, and potentially additional group(s) having other profile patterns across their professional engagement and career development aspirations (Hypothesis 1).

We also expected that the types of beginning teachers would differ in demographic composition related to age, having children or not, socioeconomic background, non-English speaking background, prior qualifications, career experience, primary vs. secondary teacher education specialisation, and gender (Hypothesis 2). We expected younger participants to score lower on planned persistence in the teaching profession, although not necessarily lower on other engagement factors (Hypothesis 2a). This hypothesis was founded on the premise that young adults today have different expectations about career mobility and job security compared to previous generations for whom choosing a life-long career was the norm (Mayer, 2006; Peske, Liu, Johnson, Kauffman, & Kardos, 2001). We also expected this to apply to those from high socioeconomic backgrounds, who are likely to be able to more readily access a range of career options (Hypothesis 2b). We expected the highly engaged type of beginning teachers to be more likely to have children, as a corollary to our hypothesis that they would be older (Hypothesis 2c). We anticipated that the highly engaged type would be more likely to come from lower socioeconomic backgrounds for whom teaching may appear a stable and higher-status career, providing opportunities for social mobility (Hypothesis 2d) (Jamrozik, Boland, & Urquhart, 1995). In light of Australia's multicultural population profile, in which non-English speaking background (NESB) relates to lower socioeconomic status, we expected NESB individuals to be more highly represented in the high engagement type (Hypothesis 2e).

We did not expect having previously considered or pursued another career to necessarily differentiate cluster membership. We did, however, expect that the type of other career would be relevant. Thus, we hypothesised that the lower engagement type may be more likely to hold higher levels of prior qualification and higher-status previous careers, indicative of a range of readily available alternative career options. Our reasoning was that people from such backgrounds may experience disappointment with the working conditions experienced by most teachers—a situation heightened by contrast with their prior professional preparation, experiences, and alternative career possibilities. Even those without prior career experiences but holding higher levels of qualifications may be aware of the opportunities available to them in other fields and, therefore, be less wedded to a whole career in teaching (Webster, Wooden, & Marks, 2005, p. 93) (Hypothesis 2f). Following this logic, the lower engagement type might contain a greater proportion of secondary than primary teacher graduates. We anticipated differences between these beginning teachers on the basis of their depth of disciplinary expertise and consequent comparative ease of accessibility to alternative career options. That is, secondary teacher graduates are required to have a disciplinary major directly related to their teaching discipline/s, while this is not a requirement for primary teachers. Secondary teachers, particularly those who major in high demand fields such as science, mathematics, and technology, may therefore perceive a greater range of alternative career possibilities. In fact, once qualified, more highly skilled maths and science graduates have been shown to persist for the least time in teaching, because they can earn higher salaries in other occupations (Milanowski, 2003) (Hypothesis 2g). Given the feminised nature of the teaching profession, we speculated that those males who chose a teaching career would consequently be over-represented among the high engagement type (Hypothesis 2h).

We expected the different types of beginning teachers to vary in their motivations for having chosen a teaching career in the first place, their career intentions, and perceptions of the profession (Hypothesis 3). We expected that the highly engaged type would score higher on intrinsic and social utility value motivations for teaching, and lower on having chosen teaching as a ''fallback'' career, and conversely for the low engagement type (Hypothesis 3a). We were not sure what to expect regarding differences in personal utility value motivations and perceptions of the teaching profession—a high engagement type might be less motivated by personal values, and rate the demands of teaching lower and the rewards higher than a lower engagement type (Hypothesis 3b). However, we expected that highly engaged individuals would report greater satisfaction with their choice of a teaching career than a lower engagement type (Hypothesis 3c).

2. Method

2.1. Design–participants

Our investigation was based on longitudinal data from 510 graduating teachers who completed a graduate-entry primary or secondary teacher education degree at one of three Australian universities in Sydney and Melbourne. They formed part of our larger FIT-Choice Australian sample, and included 67% of the 758 graduate-entry participants who participated in the study at the first time-point. Sample attrition was accounted for by 27 participants having chosen to discontinue their teaching studies before their degree completion, 11 cases of missing data as a consequence of unnamed surveys at Time 1, and 210 absences at the Time 2 survey administrations. Previous attrition analyses demonstrated similar background characteristics for those remaining in vs. those who left the study (see Watt & Richardson, 2007). For further details about the universities and the teacher education degrees they provided, refer to Richardson and Watt (2006).

For the demographic characteristics of the sample and the number of participants per type see Table 4. The age of the participants per type when entering teacher education is given in Fig. 2.

2.2. Procedure

Participants provided data at their entry to teacher education, and just prior to completion of their qualification. Surveys were administered in tutorial class groups to enhance data integrity and allow for clarification of respondent queries. Ethical approval, consent of program coordinators, and informed consent of all participants were obtained prior to data gathering. It took approximately 20 minutes for participants to complete the surveys.

2.3. Materials

2.3.1. Demographic characteristics (Time 1)

Participants indicated their gender, undergraduate or graduate enrolment, degree (primary or secondary teacher education), age in years, language mainly spoken at home, and parents' countries of birth. Parental combined income was assessed as an indicative measure for background socioeconomic status (SES), collected in nine increments of $30,000, that is, from 1 ($0–30,000) to 9 ($240,000 or higher). For individuals who nominated having previously pursued or seriously considered another career, we coded its occupational status using O*NET.[1]

2.3.2. Motivations for teaching (Time 1)

Participants' motivations towards teaching were assessed utilising the Factors Influencing Teaching Choice Scale (FIT-Choice Scale; Watt & Richardson, 2007). It contains 57 items, which comprise 12 motivation factors, 5 factors for perceptions about the profession, and 1 factor for career choice satisfaction (see Table 1). Motivations for teaching factors include intrinsic value, job security, time for family, job transferability, shape future of children/adolescents, enhance social equity, make social contribution, work with children/adolescents, self-perceptions of individuals' own teaching abilities, the extent to which teaching had been a "fallback" career choice, social influences, and prior positive teaching and learning experiences. Each factor was measured by multiple-item indicators, and possible responses ranged from 1 (not at all important) to 7 (extremely important). In turn, job security, time for family, and job transferability factors comprise a higher-order personal utility values factor; and shape future of children/adolescents, enhance social equity, make social contribution, and work with children/adolescents comprise a higher-order social utility values factor. All motivation items were prefaced by "I chose to become a teacher because…" typed in large bold font at the top of each page. Full scale details and good construct reliability and validity are reported in Watt and Richardson (2007). Sample items and subscale alphas among the present sample are shown in Table 1.

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[1] O*NET is a comprehensive database of occupational information provided by the United States Department of Labour (U.S. Department of Labour Employment and Training Administration, 1998) based on factors including average salary and amount of educational preparation and training required (for additional details see Richardson & Watt, 2006).

Table 1
FIT-Choice subscale alphas, number of items, and sample items

Higher-order factor (where applicable)	First-order factor (Cronbach's α)	N of items	Sample item
Motivations for teaching "I chose to become a teacher because…"			
N/A	Ability ($\alpha = 0.82$)	3	teaching is a career suited to my abilities.
N/A	Intrinsic career value ($\alpha = 0.59$)	3	I am interested in teaching.
N/A	Fallback career ($\alpha = 0.65$)	3	I chose teaching as a last-resort career.
Personal utility value	Job security ($\alpha = 0.84$)	3	teaching will be a secure job.
	Time for family ($\alpha = 0.80$)	5	teaching hours will fit with the responsibilities of having a family.
	Job transferability ($\alpha = 0.69$)	3	
Social utility value	Shape future of children/adolescents ($\alpha = 0.79$)	3	teaching will allow me to have an impact on children/adolescents.
	Enhance social equity ($\alpha = 0.83$)	3	teaching will allow me to work against social disadvantage.
	Make social contribution ($\alpha = 0.82$)	3	teachers make a worthwhile social contribution.
	Work with children/adolescents ($\alpha = 0.88$)	3	I want a job that involves working with children/adolescents.
N/A	Prior teaching and learning experiences ($\alpha = 0.87$)	3	I have had inspirational teachers.
N/A	Social influences ($\alpha = 0.82$)	3	my family think I should become a teacher.
Perceptions about teaching			
Task demand	Expertise ($\alpha = 0.73$)	3	Do you think teaching requires high levels of expert knowledge?
	Difficulty ($\alpha = 0.73$)	3	Do you think teaching is hard work?
Task return	Social status ($\alpha = 0.90$)	6	Do you believe teaching is a well-respected career?
	Salary ($\alpha = 0.94$)	2	Do you think teachers earn a good salary?
N/A	Social dissuasion ($\alpha = 0.60$)	3	Did others influence you to consider careers other than teaching?
N/A	Satisfaction with choice ($\alpha = 0.92$)	2	How satisfied are you with your choice of becoming a teacher?

2.3.3. Perceptions about the profession (Time 1)

As part of the FIT-Choice Scale, participants rated their agreement with 17 propositions about the teaching profession, together comprising five factors: expert career, high demand, social status, salary, and social dissuasion. Each factor was measured by multiple-item indicators, for which possible responses ranged from 1 (not at all) to 7 (extremely). Higher-order task demand and task return factors contained expert career and high demand factors, and social status and salary factors, respectively. Sample items and subscale alphas among the present sample are shown in Table 1.

2.3.4. Professional engagement and career development aspirations (Time 2)

Professional engagement and career development aspirations were assessed at the second time-point, with 17 questionnaire items. Specifically, planned effort, planned persistence, professional development, and leadership aspirations were measured. The exploratory factor analysis using image extraction and oblimin rotation (delta = 0) converged in 12 iterations, with 70.55% cumulative extraction sums of squared loadings, and no cross-loading pattern coefficients. The four scores were averaged composites of the scale items listed in Table 2 loading on the four respective factors. The factors demonstrated good reliability ($\alpha > 0.90$) and construct validity.

2.3.5. Professional plans (Time 2)

Professional plans were explored through a question on the Time 2 survey which asked participants to select one of the following options: "I do not want a teaching career"; "I want to teach in the short-term but later want to pursue a different profession"; or "I want my whole career to be in the teaching profession". Those who did not want a teaching career wrote about why, and nominated their desired career in open-ended qualitative responses. Those who wanted to teach in the short-term but then wanted to pursue a different profession wrote about why, what career they subsequently planned to pursue, and how many years until they planned pursuing it. Those who wanted their whole career to be in the teaching profession indicated why this was the case.

Table 2
Items, pattern coefficients, and Cronbach's α subscale reliabilities for measures of career choice satisfaction, professional engagement, and career development aspirations

No.	Item	Factors				
		1	2	3	4	5
Career choice satisfaction ($\alpha = 0.92$)						
12	How happy are you with your decision to become a teacher?				0.70	
9	How satisfied are you with your decision to become a teacher?				0.68	
Planned effort ($\alpha = 0.91$)						
11	How much effort will you put into your teaching?					0.85
8	How much will you work at being a good teacher?					0.81
14	How much effort do you plan to exert as a teacher?					0.80
5	How hard will you strive to be an effective teacher?					0.72
Planned persistence ($\alpha = 0.96$)						
16	How sure are you that you will stay in the teaching profession?	0.90				
7	How certain are you that you will remain in teaching?	0.86				
10	How confident are you that you will stick with teaching?	0.86				
13	How sure are you that you will persist in a teaching career?	0.79				
Professional development aspirations ($\alpha = 0.91$)						
"To what extent do you aim to…"						
7	…participate in professional development courses?		0.85			
3	…undertake further professional development?		0.84			
9	…learn about current educational developments?		0.67			
5	…continue to acquire curriculum knowledge?		0.59			
1	…continue learning how to improve your teaching skills?		0.53			
Leadership aspirations ($\alpha = 0.91$)						
"To what extent do you aim to…"						
4	…reach a position of management in schools?			0.85		
8	…take up a leadership role in schools?			0.84		
6	…seek a staff supervision role in schools?			0.80		
2	…have leadership responsibilities in schools?			0.67		

Only loadings over 0.40 are shown.

2.3.6. Career choice satisfaction (Times 1 and 2)

Participants' satisfaction with the choice of teaching as a career was measured at both time-points by two items (see Table 2) with response options ranging from 1 (not at all) to 7 (extremely). Participants who had previously pursued or seriously considered pursuing another career than teaching designated that career, and also indicated their satisfaction regarding the choice of it via a single item again rated from 1 (not at all) to 7 (extremely).

2.3.7. Analyses

Hierarchical cluster analysis using Ward's method was used to identify different types of beginning teachers, based on their scores for Time 2 planned effort, planned persistence, professional development aspirations, and leadership aspirations. The decision regarding the final number of clusters was based on the cluster dendrogram, number of "steps" in the scree-type plot of fusion coefficients relative to number of clusters, and on the basis of substantive interpretability. MANOVA tested for significant effects of cluster membership on variables employed in the cluster analysis, and differences between cluster pairs were identified using Tukey post hoc tests.

Within identified profiles we framed subsequent analysis of participants' open-ended qualitative responses concerning their professional plans, an approach that was found informative with previous samples of beginning teachers (see Richardson & Watt, 2005). Themes from participants' unrestricted open-ended reasons regarding their professional plans were developed within each cluster, to illustrate and elucidate within-cluster patterns and between-cluster differences.

One MANOVA compared derived clusters on their motivations for having chosen teaching as a career, and another contrasted their perceptions regarding the teaching profession. ANOVA compared career intentions to not teach at all,

teach in the short-term and then switch to another career, or teach for one's whole career. Repeated-measures ANOVA tested for differences in teaching career choice satisfaction, and differential changes in this satisfaction between the beginning and the end of their teacher education studies.

Chi-square tests compared beginning teacher types on background demographic characteristics measured as categorical variables (i.e., gender, ethnicity, primary vs. secondary enrolment, and having children or not), and one-way ANOVAs tested for cluster differences on the other background factors of age, socioeconomic background, level of prior qualifications, the timing of how many years ago they had first seriously considered teaching as a career, having previously pursued or seriously considered another career to teaching ($0 =$ not, $1 =$ seriously considered, $2 =$ pursued), the occupational statuses for each of previously pursued and seriously considered careers, and levels of satisfaction with previously pursued and seriously considered careers. In all analyses, statistical significance was denoted by $p < 0.05$, adjusted to the appropriate value according to Bonferroni correction.

3. Results

Three clusters of beginning teachers were statistically and theoretically supported based on the participants' planned effort, planned persistence, professional development aspirations, and leadership aspirations. There were significant main effects of cluster on each variable included in the clustering algorithm, that is, $F(2, 490) = 45.09$, $p < 0.001$, partial $\eta^2 = 0.16$, for effort, $F(2, 490) = 71.80$, $p < 0.001$, partial $\eta^2 = 0.23$ for professional development, $F(2, 490) = 399.96$, $p < 0.001$, partial $\eta^2 = 0.62$ for persistence, $F(2, 490) = 217.14$, $p < 0.001$, partial $\eta^2 = 0.47$, for leadership (see Fig. 1). Cluster 1 contained 225 participants who gave the highest ratings for all four factors, and so we named this group the "highly engaged persisters". Cluster 2 contained 132 participants whose responses were similar to Cluster 1 except for *persistence*, on which Cluster 2 scored significantly lower. We named this group the "highly engaged switchers". Cluster 3 contained 136 participants, and exhibited significantly lower scores on all four subscales. Although their mean scores on planned effort and professional development aspirations were quite high relative to the 7-point scale, they were lower than those for the other two clusters, and their mean scores for planned persistence and leadership aspirations were low relative to both the 7-point scale and the other clusters. We consequently named Cluster 3 the "lower engaged desisters".[2]

3.1. Beginning teacher types and professional plans

The overwhelming majority of highly engaged persisters (87.3%) planned to teach for their whole career, in contrast to lower proportions of highly engaged switchers (53.5%), and lower engaged desisters were the lowest (40.9%). The pattern was reversed for proportions of participants within each cluster who planned to teach in the short-term and then switch to another career: lower engaged desisters had the highest proportion (52.3%), followed by highly engaged switchers (45.7%), and then highly engaged persisters (12.2%). Only small numbers of participants planned to not teach at all across the whole sample (2.8%): lower engaged desisters had the highest proportion (6.8%), followed by negligible proportions within highly engaged switchers (one person) and highly engaged persisters (one person). The ANOVA demonstrated that these cluster differences in professional plans were statistically significant, $F(2, 477) = 54.86$, $p < 0.001$, partial $\eta^2 = 0.19$; all Tukey post hoc paired comparisons were significant at $p < 0.01$. To explore the reasons *why* individuals from each cluster held such different plans, we turned to participants' open-ended qualitative responses.

Having formed the clusters we proceeded to group their open-ended responses. We drew on grounded theory techniques to identify themes and patterns, and to derive categories of reasons for the professional plans nominated by participants in each of the three clusters (Auerbach & Silverstein, 2003; Patton, 2002). The authors undertook the coding and categorization of the responses. Inter-rater agreement of 87% was achieved after each author independently categorised 20% of the responses. Discrepancies were examined and resolved before the second author carried out the coding of the remaining responses.

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[2] Totals add to 493 rather than 510 because 17 people did not have full data across the four factors from which cluster groups were formed.
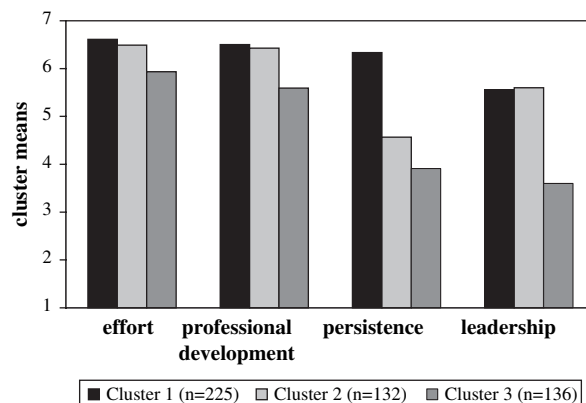
Fig. 1. Mean professional engagement and career development aspiration scores for "highly engaged persisters" (Cluster 1), "highly engaged switchers" (Cluster 2), and "lower engaged desisters" (Cluster 3).

3.1.1. Cluster 1: highly engaged persisters

Most highly engaged persisters intended to spend their whole career in teaching, and their open-ended comments foregrounded salient reasons for career choice. The most frequently nominated reason for wanting to teach was a passion for teaching which was for them satisfying, varied, and interesting. A related theme saw teaching as a "Dream ambition", a vocation or calling, and something they were "Supposed to do". Their enthusiasm for the intrinsic rewards of teaching was captured in a sample of their comments: "Intrinsic satisfaction", "I love teaching students", "Because it is interesting and has varied tasks", "It's my calling", and "I am passionate about teaching and know I can be beneficial to students". A desire to work with children and adolescents to influence their learning and to make a difference in their lives was reassuringly central to the reasons people gave for wanting their whole career in teaching: "I enjoy teaching and I love working with kids to further their learning", "Because I enjoy working with children and find it rewarding", "I love kids and like to learn 'how' they learn − general interest", "Because I want to make a difference in the lives of kids", and "Because I like to share my knowledge with others and make a difference."

This cluster also included people who had chosen teaching because it offered them a satisfying career and supported their family life including caring for their own children. Teaching allowed them the means by which to meet their career goals without sacrificing a quality family life, for example: "It is a career that is satisfying, fulfilling and suits family situation", "Fits in with family as well as career goals", and "Family reasons and my relationship with children".

An emphasis on lifestyle change was evident with some who were seeking a combination of "Lifestyle and personal satisfaction", or a better balance of work with other aspects of their life. As one participant observed, "I've worked for corporates for a long time and now I want a lifestyle improvement." Others who were making a career change similarly expressed their hope that teaching would meet their expectations and they would not need to move on to yet another career path: "I have tried other careers and hope to settle", "I've made a major change late in life and intend to stick it out". Moreover, there were those who were sure that on making a career switch in favour of teaching they had finally found an occupation that fitted more comfortably with their goals and ambitions than the previous careers they had pursued: "This is my fourth career choice and this is what I really want to do", "I have come to it as a second career and now know it's what I want to do", "I have worked a few years in industry and believe teaching is where I really belong", and "I have already had a design career and wish to have a stable and rewarding career in teaching".

While the career switchers had tried other careers and arrived at teaching by a more circuitous route, others looked equally approvingly on the possibilities of a long career in the profession. Their comments focused on teaching as being enjoyable, allowing one to make a contribution to the lives of others, while also being personally rewarding and a morally good career: "It's a positive thing to do with my life", "I consider it a rewarding career", "Most real/rewarding profession available to me", and "We contribute to something worthwhile". Highly engaged persisters were enthusiastic about their career choice but they were also very aware that the financial rewards were not very great; as one participant said: "It is a stable career and reward is OK".

3.1.2. Cluster 2: highly engaged switchers

Highly engaged switchers were more likely to indicate they had career plans other than spending their whole career in teaching, despite their similarly high planned effort, professional development, and leadership aspirations to the highly engaged persisters cluster. Their desire for variety and diversity was captured in these comments: "I like diversity and want to grow as a person always", "I will outgrow it and like new challenges", "I want to experience more than one career", and "I feel that there are more things I want to try".

A further theme was the identification of a "five-year plan" for their career development—a plan that would see them teach for about five years, by which time they hoped to have positioned themselves to exit. Sample comments (with nominated careers in parentheses) included: "Teaching is my back up plan" (Entertainment); "I enjoy teaching, and cannot as yet survive as an artist (prefer Art)"; "I never saw teaching as the only thing I wanted to do (Art-related, self-employed)"; "Stability, build foundations (Photographer)"; "Money and broaden my life experience (Art/ Design small business)"; and "Want my own business (Interior Decorating)".

For others, simply keeping their options open was more important than foreclosing on teaching as a career for life. The following comments revealed their hesitation and commitment only to the short-term: "Not sure and don't know if I really want to [teach]"; "It all depends on the experience I will have in first couple of years"; "I am not going to stay in teaching if I do not like it"; "Unsure as to how I'll enjoy teaching in a few years"; and "Not sure if it's for me".

3.1.3. Cluster 3: lower engaged desisters

Cluster 3 which we identified as the "lower engaged desisters" contrasted with both the other clusters. They were the least likely to plan to persist, and offered many reasons why they were not planning on a long career in the teaching profession. They had become disaffected with the choice of a teaching career and the sources of their disaffection were varied, stemming in some cases from unpleasant experiences at university and "Bad practicum experiences". Others reported that teaching proved to be too demanding—it was "Too much work", demanded "Too much work preparation", and schools provided "Too little administrative support". As a result, members of this cluster felt they would "Not have enough energy when older", that they would become "Jaded", and quickly suffer from career burnout. Comments such as "Children don't value education", "It does not suit my needs—the preparation and class management issues", and "Don't want to work in a high school—will teach overseas to get money", point to experiences during the course of their teacher education program that took on a negative valence in relation to their tenure in teaching.

While the first themed set of comments from this cluster concentrated on the demands of the career, a second theme focused on the paucity of career prospects and rewards, with comments such as: "Takes too long to get a full time job" and "Teaching is not very stable". A number of people in this second set made the observation that they would receive more "Pay and respect" and better "Career progression" by working in other fields such as Information Technology (I.T.), business management, and consulting. For some in this cluster, teaching was not their "First option". Careers as research scientists and in the academy, together with further education and eventual careers in psychology and sports psychology, were more attractive options. Having other options as a journalist, in human resource management, or as an engineer perhaps made it possible for members of this cluster to evaluate their decision to undertake a one- to two-year teacher education program differently.

As with the cluster of highly engaged switchers, this cluster also contained a group of people who looked upon teaching as a "Stepping stone" into other careers such as working in art galleries, being a theatre director/actor, working in conservation, and educational tourism; as well as those who wanted to combine part-time teaching with careers including tourism, environmental consulting, the fine arts, and photography. Lower engaged desisters observed that they needed change and variety in their life and as a consequence did not "Want to be stuck" in a career that from their perspective lacked "Flexibility". As one participant wrote, "I can't see myself doing anything for 40 years. I'll get bored!" while another contended that "Nothing is forever". These sentiments paralleled those of others who preferred "Not to map out future", were "Still uncertain whether to take up teaching—I don't have a plan", and those who were generally "Not sure what to do—want to look after child".

3.2. Where do career switchers plan to go?

The finding that a substantial proportion of Clusters 2 and 3 only wanted to teach in the short-term and that their long-term career plans were not going to be in teaching, begs the question of what these people intend to pursue

Table 3a
Means (and SD) of teaching motivations for different teacher types

Teacher type	Time for family	Job security	Job transfer	Shape future[a]	Social equity[b]	Work with children/ adolescents[a]	Social contribution[b]	Perceived ability[c]	Prior teaching and learning[b]	Social influence	Intrinsic value[a]	Fallback career[c]
Highly engaged persisters	3.79	4.84	3.98	5.81	5.25	5.69	5.84	5.99	5.24	3.39	5.74	1.82
	(1.39)	(1.54)	(1.58)	(1.07)	(1.29)	(1.19)	(1.02)	(0.84)	(1.44)	(1.69)	(0.92)	(1.02)
Highly engaged switchers	3.61	5.04	4.48	5.48	5.00	5.24	5.59	5.71	5.07	3.05	5.21	2.30
	(1.38)	(1.29)	(1.44)	(1.19)	(1.25)	(1.21)	(1.12)	(0.84)	(1.56)	(1.62)	(1.08)	(1.23)
Lower engaged desisters	3.98	5.00	4.24	5.05	4.40	4.53	5.11	5.48	4.25	2.93	4.80	2.38
	(1.65)	(1.30)	(1.61)	(1.30)	(1.56)	(1.44)	(1.39)	(1.05)	(1.62)	(1.60)	(1.10)	(1.34)
F^{a}	1.98	0.88	4.32	16.57	15.72	33.53	15.72	13.25	17.82	3.69	35.72	11.26
p	0.14	0.41	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00
partial η^{2}	0.01	0.00	0.02	0.07	0.06	0.13	0.06	0.05	0.07	0.02	0.13	0.05

Letters in superscript parenthesis denote significant differences with Tukey post hoc comparisons as follows: [a] all paired comparisons; [b] Cluster 1 vs. 3 and Cluster 2 vs. 3; [c] Cluster 1 vs. 2 and Cluster 1 vs. 3.
  [a] df = 2, 463, $p < 0.004$.

Table 3b
Means (and SD) of perceptions about teaching for different teacher types

Teacher type	Difficulty	Expertise	Social status[c]	Salary	Social dissuasion
Highly engaged persisters	6.31 (0.73)	5.52 (1.08)	4.05 (1.29)	3.24 (1.45)	4.00 (1.51)
Highly engaged switchers	6.28 (0.66)	5.39 (1.05)	3.65 (1.19)	3.21 (1.37)	4.29 (1.56)
Lower engaged desisters	6.19 (0.81)	5.32 (1.13)	3.60 (1.19)	3.33 (1.44)	4.13 (1.30)
F^a	1.02	1.64	7.23	0.28	1.51
p	0.36	0.20	0.00	0.76	0.22
partial η^2	0.00	0.01	0.03	0.00	0.01

Letter in superscript parenthesis denotes significant differences with Tukey post hoc comparisons as follows: [c] Cluster 1 vs. 2 and Cluster 1 vs. 3.
  [a] df = 2, 479, $p < 0.01$.

instead of teaching. While highly engaged switchers identified non-education related careers in business, I.T. consulting, management, the arts, and health-related occupations; lower engaged desisters were more intent on non-education related careers. Of the 77 people from Clusters 2 and 3 who were able to identify their long-term career plan, 34 saw themselves moving into careers that were broadly related to education or training. These people were seeking long-term careers in curriculum design and development, religious ministry to children and adolescents, youth counsellors, educational psychologists, research and academic careers, trainers in business organisational contexts, education officers at public art galleries, nutritional and health promotion officers, educational development officers in the police force, and music therapists. While they intended leaving teaching, these people, nonetheless, hoped to move into education-related careers where the emphasis was on broader public educational activities than work in classrooms and schools.

3.3. Changing satisfaction levels through teacher education

Highly engaged persisters started out with and retained the highest levels of satisfaction with the choice of a teaching career, and similarly lower engaged desisters started out and remained the lowest in satisfaction, $F(2, 483) = 105.06$, $p < 0.001$, partial $\eta^2 = 0.30$; all paired Tukey post hoc tests were significant, $p < 0.001$. Moreover, and consistent with the themes identified in participants' open-ended comments, there was a significant interaction effect between cluster and time, $F(2, 483) = 4.83$, $p = 0.008$, partial $\eta^2 = 0.02$, where highly engaged persisters *increased* in satisfaction, $F(1, 220) = 10.78$, $p = 0.001$, partial $\eta^2 = 0.05$, highly engaged switchers maintained *stable* satisfaction $F(1, 130) = 0.07$, $p = 0.79$, partial $\eta^2 = 0.001$, and lower engaged desisters showed a trend to decrease in satisfaction, $F(1, 133) = 2.76$ $p < 0.10$, partial $\eta^2 = 0.02$.

3.4. Differences in motivations and perceptions for different teacher types

The MANOVA with teacher type as the between subjects factor and motivation scores for having chosen teaching as a career from the FIT-Choice Scale as dependent variables showed significant effects of teacher type, Pillai's trace = 0.26, $F(24, 906) = 5.74$, $p < 0.001$, partial $\eta^2 = 0.13$, on all motivation variables apart from time for family and job security, which were rated similarly (see Tables 3a and b). As anticipated, the "highly engaged persisters" (Cluster 1) scored significantly higher on the intrinsic value factor and all four social utility value factors (shape future of children/adolescents, enhance social equity, make social contribution, work with children/adolescents), while the "lower engaged desisters" (Cluster 3) scored significantly the lowest. The "highly engaged switchers" (Cluster 2) scored in between the other clusters for intrinsic value, shape future of children/adolescents, and work with children/adolescents; and similarly high to the highly engaged persisters for enhance social equity and make social contribution. Also as expected, highly engaged persisters were the least motivated to teach as a "fallback" career, and the other two clusters were significantly more motivated by this negative factor, although with ratings still well below the scale midpoint.

We had made no predictions regarding differences between teacher types on the personal utility value motivation factors for teaching (job security, time for family, job transferability). As it turned out (see Table 3a), there were no significant cluster differences on any of these motivations, and no significant cluster effects at all for either job security

or time for family. Highly engaged switchers' higher scores than highly engaged persisters on the motivation to teach as a transferable job were no longer significant following Bonferroni corrections.

Highly engaged persisters were significantly more highly motivated to teach on the basis of their perceived teaching abilities than either of the other clusters. Their higher motivations from social influences, that is, of others' encouragement to pursue a teaching career, did not remain significant following Bonferroni corrections. Highly engaged persisters and switchers were equally more motivated by having experienced positive teaching and learning experiences than lower engaged desisters.

The MANOVA with teacher type as the between subjects factor and perceptions regarding the teaching profession as dependent variables showed a significant main effect of teacher type, Pillai's trace $= 0.05$, $F(10, 944) = 2.56$, $p < 0.01$, partial $\eta^2 = 0.03$. The multivariate effect was accounted for by highly engaged persisters perceiving the social status of teaching significantly higher than either of the other teacher types, $F(2, 475) = 7.23$, $p = 0.001$, partial $\eta^2 = 0.03$; paired comparisons using Tukey post hoc tests were significant at $p < 0.01$. The three teacher types held similar perceptions regarding perceptions of difficulty, expertise, salary, and experiences of social dissuasion (see Table 3b).

3.5. Demographic characteristics within clusters

3.5.1. Cluster composition
Gender was not a relevant factor in cluster composition, $\chi^2(2, N = 493) = 1.18$, $p = 0.55$, while language spoken at home (English vs. other) was significant, $\chi^2(2, N = 492) = 10.88$, $p = 0.004$, that is, a greater proportion of highly engaged persisters came from non-English speaking backgrounds compared with the other clusters (see Table 4). Whether people had children also differed across clusters, $\chi^2(2, N = 493) = 15.65$, $p < 0.001$, with almost one-third of highly engaged persisters and lower engaged desisters having children, compared with 13% of highly engaged switchers (Table 4). Undertaking primary vs. secondary level teacher education had no relationship with cluster membership, $\chi^2(2, N = 493) = 2.74$, $p = 0.26$.

Table 4
Cluster composition as a function of demographic characteristics

Demographic characteristics	Cluster 1 ($N = 225$) n (%)	Cluster 2 ($N = 132$) n (%)	Cluster 3 ($N = 136$) n (%)	Total
Gender				
Male	65 (28.9)	39 (29.5)	33 (24.3)	137
Female	160 (71.1)	93 (70.5)	103 (75.7)	356
Language at home[a]				
English home language	177 (79.0)	121 (91.7)	118 (86.8)	416
Other home language	47 (21.0)	11 (8.3)	18 (13.2)	76
Level of teaching				
Primary	70 (31.1)	41 (31.1)	32 (23.5)	143
Secondary	155 (68.9)	91 (68.9)	104 (76.5)	350
Having children				
No children	156 (69.3)	115 (87.1)	95 (69.9)	366
Children	69 (30.7)	17 (12.9)	41 (30.1)	127
Other job				
Other job not considered	77 (34.2)	42 (31.8)	31 (22.8)	150
Considered other job	61 (27.1)	41 (31.1)	47 (34.6)	149
Pursued other job	87 (38.7)	49 (37.1)	58 (42.6)	194
Level of prior qualification[b]				
Undergraduate degree	160 (72.7)	95 (73.1)	85 (63.0)	340
Undergraduate honours	37 (16.8)	21 (16.2)	27 (20.0)	85
Postgraduate degree	23 (10.5)	14 (10.7)	23 (17.0)	60

Totals add to 493 rather than 510 because 17 people did not have full data across the four factors from which cluster groups were formed.
[a] One person did not nominate a home language.
[b] Eight people did not specify their level of prior qualification.

Highly engaged switchers tended to be the youngest, while highly engaged persisters and lower engaged desisters were older, $F(2, 482) = 6.40$, $p < 0.01$, overall $M = 29.21$ years, SD = 8.25, partial $\eta^2 = 0.03$; paired comparisons using Tukey post hoc tests were significant for Clusters 1 vs. 2, and 3 vs. 2, at $p < 0.001$ and $p < 0.05$, respectively. Fig. 2 shows the age profiles within each cluster—in addition to highly engaged switchers having younger mean and median ages than the other teacher types (Cluster 1: $M = 30.10$ years, SD = 8.86; Cluster 2: $M = 26.94$ years, SD = 6.41; Cluster 3: $M = 29.42$ years, SD = 8.42; median ages denoted by solid bars), their ages were more tightly clustered.

Highly engaged switchers came from higher parental income backgrounds than highly engaged persisters, $F(2, 415) = 3.82$, $p = 0.02$, partial $\eta^2 = 0.02$; summary statistics for income categories: for Cluster 1, $M = 2.94$, SD = 1.64; for Cluster 2, $M = 3.49$, SD = 1.68; for Cluster 3, $M = 3.24$, SD = 1.87; Tukey post hoc analyses showed $p = 0.02$ for Cluster 1 vs. 2, while Cluster 3 fell in between and did not differ statistically significantly from either of the other two clusters. Participants were generally not from affluent family backgrounds and the modal combined parent annual income category was \$60,001–\$90,000.

3.5.2. Career history, prior education, and career decision

Although the clusters did not significantly differ in terms of whether individuals had seriously considered or pursued a different career prior to enrolling in teacher education, $F(2, 490) = 1.63$, $p > 0.05$, interesting differences were found in relation to the *types* of careers individuals from each cluster had pursued. Of the 188 individuals who reported a career prior to enrolling in teacher education (Cluster 1: $n = 85$, Cluster 2: $n = 46$, Cluster 3: $n = 57$), lower engaged desisters tended to have had careers highest in occupational status, highly engaged switchers lower, and highly engaged persisters in between, $F(2, 185) = 2.98$, $p = 0.05$, partial $\eta^2 = 0.03$; Tukey post hoc comparisons showed $p = 0.04$ between Clusters 3 and 2, with Cluster 1 falling in between and not differing statistically significantly from either of the other groups ($p = 0.28$ vs. Cluster 2, $p = 0.46$ vs. Cluster 3); summary statistics on the 5-point scale for the status of the career: for Cluster 1, $M = 3.95$, SD = 0.91; for Cluster 2, $M = 3.70$, SD = 0.99; for Cluster 3, $M = 4.14$, SD = 0.88. There were no significant cluster differences in the occupational statuses of jobs previously seriously *considered*. The relationship between level of prior qualification and teacher type did not quite achieve statistical significance, $F(2, 482) = 2.67$, $p = 0.07$, partial $\eta^2 = 0.01$, and reflected a trend for lower engaged desisters to be more highly qualified than highly engaged persisters ($p = 0.08$ for Clusters 3 vs. 1 by Tukey post hoc comparisons) (see Table 4).

Of the 146 individuals who reported having *seriously considered* a career other than teaching prior to enrolling in teacher education (Cluster 1: $n = 59$, Cluster 2: $n = 41$, Cluster 3: $n = 46$), lower engaged desisters reported higher levels of satisfaction with those other career choices, $F(2, 139) = 3.09$, $p < 0.05$, partial $\eta^2 = 0.04$; Tukey post hoc analyses showed $p = 0.04$ between Clusters 3 and 1, with Cluster 2 falling in between; summary statistics on the
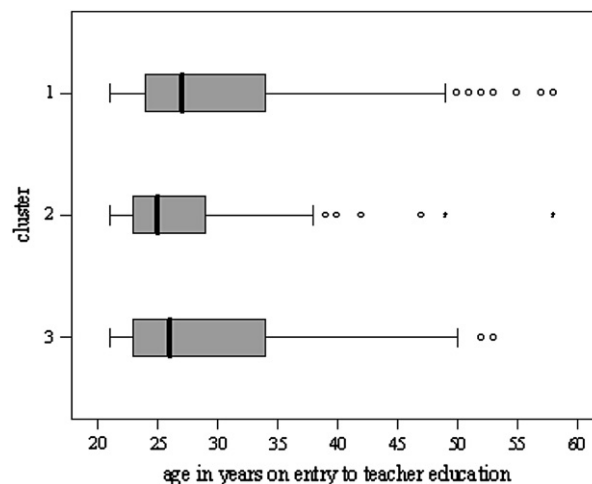

Fig. 2. Cluster profiles for age of beginning teacher education. The box length is the interquartile range and the solid bar represents the median value. 'o' Denotes outliers with values between 1.5 and 3 box lengths from the upper or lower edge of the box, '*' Denotes extreme cases with values more than 3 box lengths from the upper or lower edge of the box.

7-point scale for satisfaction with other considered careers: for Cluster 1, $M = 3.93$, SD = 2.08; for Cluster 2, $M = 4.38$, SD = 1.50; for Cluster 3, $M = 4.35$, SD = 1.73. There were no significant cluster differences in satisfaction with previously *pursued* jobs.

The *timing* of when each cluster had chosen teaching as a career differed significantly, $F(2, 472) = 6.84$, $p < 0.001$, partial $\eta^2 = 0.03$. Highly engaged persisters had decided to become teachers earlier than lower engaged desisters, while highly engaged switchers fell in between and did not differ statistically significantly from either of the other two clusters; Tukey post hoc comparisons showed $p = 0.001$ between Clusters 1 and 3, while Cluster 2 fell between and did not differ statistically significantly from the other two. On average, highly engaged persisters had decided to teach 2.83 years ago (SD = 1.76), highly engaged switchers 2.50 years ago (SD = 1.78), and lower engaged desisters the most recently at 2.11 years ago (SD = 1.73).

4. Discussion

In the present study we set out to investigate whether there were empirically identifiable types of beginning teachers, and how they differed in career intentions, motivations for having chosen a teaching career, perceptions regarding the teaching profession, and demographic composition. As predicted in Hypothesis 1, three robust and distinct profiles were supported: "highly engaged persisters" (Cluster 1) were high on all of planned effort, planned persistence, professional development aspirations, and leadership aspirations; "highly engaged switchers" (Cluster 2) reported similar planned effort, professional development, and leadership aspirations, but significantly lower planned persistence; and "lower engaged desisters" (Cluster 3) were the lowest across the set of professional engagement and career development aspiration factors. These types provide a powerful heuristic to examine how *configurations* of individuals' professional engagement and career development aspirations predict to indicators of teacher quality such as career motivations, perceptions and aspirations. In the following sections we interpret key findings in relation to our stated hypotheses, all of which were confirmed except Hypotheses 2g, 2h and 3b.

4.1. Professional plans of differing teacher types

The majority of highly engaged persisters planned to teach for their whole career, while proportions of participants who planned to teach only in the short-term were highest for lower engaged desisters, and next highest for the highly engaged switchers. Participants' open-ended qualitative responses allowed us to elaborate in greater detail the reasons for their professional plans.

Highly engaged persisters reported an interest in teaching due to its intrinsic rewards, and also expressed strong enthusiasm for working with children and adolescents. Teaching reportedly also provided a satisfying career that supported family life, consistent with our findings from another study (Richardson & Watt, 2005). Several participants in that study gave up highly paid yet demanding, inflexible, and time-hungry careers in business and accounting for the opportunity to combine career with a lifestyle change focused on securing more time for family and the care of children. Other "highly engaged persisters" emphasised the personal and moral dimensions of the reward structure provided by the career; however, it remains to be determined if those less tangible rewards remain sufficient to compensate for the comparatively modest financial returns that a teaching career provides.

Interestingly, highly engaged switchers were already contemplating another career path as they completed their teacher education program, which they may have been contemplating prior to entering teacher education, in view of the stability of their satisfaction levels through teacher education. Many were able to clearly nominate their reason for not wanting to stay in teaching, as well as when they planned to leave, and what their subsequent career would be. These people knew they needed new challenges over the course of their career and would perhaps best be described as *restless spirits*. Many looked upon teaching as a "back-up plan" with which to build their personal and financial resources in preparation for another career. It was not surprising that people who in the long-term were seeking careers in the entertainment industry and as visual artists (painters, photographers and designers) were also looking to secure a reliable income while attempting to establish themselves. For others, simply keeping their options open was important and teaching would afford them with skills and experiences that may be applied in other domains and contexts outside of school classrooms, and as such would function as a stepping stone into other professions.

Lower engaged desisters commented on the minimal career prospects and rewards of teaching. This seems to point to the frustrations recent graduates often experience in shuffling between a wide range of schools, eking out

a sometimes very insecure living by undertaking substitute and relief teaching work before they can secure full-time employment. In addition, poor working conditions in schools which have accompanied the education reform agenda have included the exertion of greater control over teacher decision-making and erosion of autonomy, and increasing time and effort required for administrative activities and compliance paperwork. Given that this cluster generally had higher qualifications and had experienced a range of previous occupations, they may have been easily attracted into other careers where their teaching qualification would be viewed as a marketable asset.

4.2. Changing satisfaction levels for differing teacher types

Because changes in satisfaction related to individuals' professional engagement and career development aspirations, we need to question why lower engaged desisters became disaffected during their teacher education experiences, particularly since this group accounted for more than a quarter (28%) of the cohort. From our large-scale ongoing longitudinal study, we know much about what factors shape teacher education entrants' satisfaction with their choice of teaching as a career. Not too surprisingly, commencing teacher education candidates' satisfaction relates to their *motivations* for having chosen teaching as a career. The motivations which relate most strongly to high initial satisfaction levels include the altruistic-type motivations (reflected in our social utility value constructs) most frequently emphasised in the teacher education literature, the intrinsic value individuals attach to teaching, and self-evaluations of their teaching-related skills (Watt & Richardson, 2007)—on all of which the highly engaged persisters scored highest and lower engaged desisters lowest. We know less about what factors may alter teacher education candidates' career choice satisfaction during the course of their teacher preparation degree. Why would it be that some people's satisfaction levels increase, some remain the same, and others decrease? Is this something that we could predict from candidates' background characteristics, or is it intimately and idiosyncratically bound up with individuals' experiences during teacher education?

The practicum experience is central to teacher education programs and requires candidates to spend extended periods of time in schools and to begin teaching in classrooms. These experiences are often the first time that a teacher education candidate assumes some of the roles of a teacher. It is also their first real contact with the actual job demands, constraints and tensions of meeting student needs, employer requirements and parent and community expectations. Not surprisingly, the different types of teachers in our study gave differing responses to these demands. The open-ended responses suggested that the experiences of the highly engaged persisters during the course of their teacher education program (including the practicum in schools) had dovetailed with their expectations, values and beliefs; and that there was a matching of the person with the workplace environment they experienced during their teacher education and teaching practicum in schools. Such a fit resulted in increased levels of satisfaction with their career choice, fostering expectations of planned effort, planned professional development, persistence, and a desire for leadership roles (see also Elton & Smart, 1998; Holland, 1997). Lower engaged desisters were less comfortable with the fit between themselves and teaching as career path. Their experiences during teacher education, including the practicum experiences in schools, had not confirmed their expectations, beliefs, and values. This implies that highly engaged persisters may well have become more "turned on" to teaching while lower engaged desisters were more "turned off", through teacher education. In contrast, highly engaged switchers maintained stable levels of satisfaction, suggesting they had not become turned off from teaching, but already had another plan at the outset of their teacher education.

4.3. Different teaching motivations, perceptions, and background characteristics for beginning teacher types

An examination of background indicators revealed which conditions were more related to "highly engaged persisters", "highly engaged switchers", and "lower engaged desisters". Lower engaged desisters who had pursued previous careers were more likely to have had careers of higher occupational status than those from the other clusters, and showed a trend to be also more highly qualified than highly engaged persisters. They therefore likely had higher-status and diverse career opportunities with which to compare teaching, which might have contributed to them having "switched off" as they progressed through teacher education. Those who had not pursued but had seriously considered another career expressed the highest levels of satisfaction with careers other than teaching, consistent with their higher motivations for choosing teaching the most recently, and as a "fallback" career.

Conversely, the highly engaged persisters showed a trend to be the least highly qualified, which might have given them fewer opportunities for pursuing alternative higher-status careers; however, it might also have made them more work-oriented, perhaps in having role models who were passionate about their jobs and needed to work hard in order to make ends meet. Concordantly, they were the most motivated by social influences, intrinsic values, and social utility values. They also perceived teaching to be of higher social status, consistent with their lower SES background. They were more likely to have children, to be older, and to come from non-English speaking backgrounds (NESB). They had chosen a teaching career the earliest, and for those who had previously seriously considered another career they expressed the lowest levels of satisfaction with career choices other than teaching. This cluster would likely be those perceived by teacher educators and school employers as holding the most desirable professional goals.

The highly engaged switchers reported the highest levels of parental income, were the youngest of the three clusters, least likely to have children, and tended to have the lowest NESB concentration. Their relative advantages may be what rendered them less committed to persist in the teaching profession. Although they reported significantly lower intrinsic motivations than the highly engaged persisters, this was higher than for the lower engaged desisters. This resonates with the notion that young and advantaged individuals having chosen teaching must be intrinsically motivated to a certain extent or otherwise would attempt another profession. Their previously pursued careers were of lower occupational status, although this may relate to their relative youth. This cluster appeared very similar to the highly engaged persisters except for not planning to persist for long in the profession. We need to question whether this is necessarily a bad thing. Although there is a problem of teacher shortages at this point in time in Australia and elsewhere, for the time these commencing teachers plan to remain in the profession they aim to exert high effort, undertake professional development, and aspire to school leadership positions. In the modern world of career consumerism, where few professions expect to attract employees for the entirety of their working lives (Miles & Snow, 1996), it may be unrealistic to expect that teaching will be quarantined from the effects of labour market forces. Adequate succession planning and staff management will depend on teacher education providers and employing authorities acknowledging this beginning teacher type, a profile that represents more than a quarter (26.8%) of our sample.

4.4. Policy implications and challenges

We recognise that a limitation of our study is that it was conducted with a graduate sample where the teaching qualification takes just one or two years, and that as a consequence there may be a lower level of commitment required to complete the program. Would we find the same profiles across an undergraduate sample? Perhaps not, since the lower engaged desisters may well have discontinued from a longer program, resulting in a higher proportion of people committed to a career in teaching completing the teaching qualification. An interesting philosophical question is whether this might be a good or a bad outcome of a shorter teaching qualification, in weighing up the benefits of *more* teachers, vs. *less engaged and committed* teachers. Another open question we aim to address in our continuing program of research is whether these identified profiles will generalise across other cultural settings, where contextual differences particularly relating to status, salary and accountability may be expected to produce a different typology of beginning teachers.

Our findings invite re-examination of recruitment efforts, aspects of teacher education programs, and current models of career induction and mentoring. We have demonstrated there are distinct types of beginning teachers showing considerable variation in their predicted persistence in the profession. Highly engaged persisters clearly exhibited the profile of people who are highly committed to a career in teaching, who will exert high levels of effort and commitment, and who see themselves as having the potential for educational leadership. These people were highly positive about their choice of a teaching career, and exhibit the profile of aspirations for professional engagement and career development that the majority of teacher education programs would hope for in their graduates.

Lower engaged desisters, by no means a small or marginal group, had a profile that would not be anticipated as a desirable outcome of most teacher education programs. While most would acknowledge there will always be a small number of people who do not seek employment in teaching at the end of their program because they have realised that teaching is not a career for them, the robust size of this cluster is challenging. Attention to factors including confronting practicum experiences in schools, lack of school structural support, and discussion of the demandingness of teachers' work alongside further exploration of other reasons for these individuals'

declining satisfaction levels may provide ''levers for change'' for teacher educators to devise ways to redress this pattern. An earlier understanding of the realities of teaching may result in those who are going to leave doing so earlier in their preparation, but in combination with case studies and evidence of the rewards of teaching may engage those who might be socialised into one of the other types. Fruitful emphases may include sustained supportive interactions through practicum periods, and explicit investigation during teacher education of teachers' multidimensional role in- and outside the classroom and in broader community contexts. At the same time, employing authorities and policy-makers need to attend to conditions in schools including early mentoring of beginning teachers, school−university partnerships, and levels of structural and administrative support in schools which may overburden teachers with unnecessary work.

On the other hand, highly engaged switchers planned to be effortful and highly engaged and to seek leadership roles during the period they will teach, but had another plan and a desire for new challenges which will take them away from teaching. It is important that employing authorities and policy-makers be aware of this sizeable group in succession planning during the present teacher shortage. If this group's career aspirations can be realised in the context of a teaching career, it may be possible to sustain them for a longer period. If within their five-year plan they can achieve leadership roles and have their desire for new challenges and opportunities, as well as their engagement and effort appropriately rewarded, then their time in teaching might be extended.

Of course it is not only persistence that we are concerned with, although that is an important outcome in the current climate of teacher shortages. Also important is how teachers will develop in the profession, and which teachers will become and remain committed, engaged, and effortful. Based on our findings, we might expect that in their early career stage highly engaged persisters will resemble the ''healthy ambitious'' (type G) group identified in the German study of practising teachers and other professionals' coping styles (Kieschke & Schaarschmidt, 2008; Schaarschmidt, 2004), although later on they may come to resemble other types depending on their early career experiences. Lower engaged desisters may come to resemble their ''resigned'' (type B) if they remain in the teaching profession, although it seems more likely that they will leave. Highly engaged switchers tap a qualitatively different kind of group, in the sense that they do not plan to stay in teaching despite high levels of engagement and development aspirations for the time in which they will teach. Perhaps they might also relate to the ''healthy ambitious'' type, and their future career orientation may serve as a protective mechanism to buffer any negative early career experiences. It will be of interest in our ongoing research to examine longitudinal relationships among initial motivations and perceptions, profiles of professional engagement and career development aspirations on the conclusion of teacher education, early career experiences, and psychological and mental health outcomes.

In light of our findings, teacher education and teacher employing authorities need to take seriously the different types of beginning teachers having different levels of engagement and planned career trajectories. Educators and employers must go beyond the assumption that a person coming into teacher education and into a career in teaching will hold a traditional lifetime career model of job security founded on incremental age-related advancement and loyalty to the profession. Teaching as a career has been influenced by the changing nature of work and shifts in assumptions about the nature of career structures, loyalty, and the psychological meaning of work. Employees have learned a new work order characterised by performance, flexibility, and multiple changes of employers, with career advancement based on individual learning-related portable skills (Miles & Snow, 1996). For beginning teachers, their different profiles of goals, commitments, plans, and aspirations will inevitably lead to different pathways of professional identity and development. In our ongoing longitudinal study we will subsequently follow these and other beginning teachers through their early professional experiences to better understand how, in the cauldron of professional practice in schools across a range of sociocultural contexts, initial motivations are confirmed or disconfirmed, and how these experiences begin to shape different professional identities—particularly those who are committed to and effective in the teaching profession.

Acknowledgments

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