The Influence of Pre-service Teachers' Motivations and Perceptions on Career Trajectories

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Abstract

Teacher shortages are being experienced in Australia and in many OECD countries and predicted to increase in the future. Understanding beginning teachers' motivations and perceptions is important in understanding any differing teacher career trajectories; for instance, those who qualified and currently teach, those who qualified but never taught or quit teaching, and those who never qualified. This study will utilise longitudinal Australian "FIT-Choice" data (www.fitchoice.org) to identify the motivations and perceptions that distinguish between these three groups.

At entry to teacher education ($N = 1651$), the FIT-Choice scale (Factors Influencing Teaching Choice; Watt & Richardson, 2007) was used to measure 12 teaching motivations and 5 perceptions by multiple items rated on 7-point Likert-type scales (Richardson & Watt, 2006). 2-5 years after the scheduled degree completion, surveys assessed different career trajectories ($N = 776$). 2 MANOVAs compared motivations and perceptions for three trajectory groups (those who qualified and currently teach $N = 452$; those who qualified but never taught or quit teaching $N = 60$; those who did not qualify $N = 264$). A discriminant analysis revealed that student outcomes can be predicted based on entry motivations and perceptions.

Initial motivations and perceptions significantly differed according to the career trajectories. Those who never qualified differed from teachers on several motivations (ability and intrinsic value were lower, fallback career higher), and perceptions (social status was higher, satisfaction with choice lower). There were few differences found between those who were currently teaching and those who qualified but never taught or quit teaching; teachers' perceived social status, and satisfaction with choice were higher. Distinguishing motivations and perceptions were identifiable for beginning teachers' different career trajectories; as highlighted within expectancy-value theory, ability and intrinsic value motivations were critical as key drivers. Making a social contribution, perceived professional status and initial satisfaction with the choice of a teaching career were also important discriminators. Implications relate to recruitment targeting perceived ability and intrinsic motivations, alongside career choice satisfaction.

Introduction

This study explores motivations and perceptions of teachers, in the context of a worldwide shortage of teachers; which is predicted to increase in the near future. According to government figures, in the United Kingdom there are hundreds of thousands of qualified teachers who are not working in the profession. The Conservatives have claimed at least 25,000 of those who have qualified since 2000 have left full-time teaching in State schools without even entering the classroom (Williams, 2010). In neighbouring Germany, there is a similar problem concerning the supply of teachers. Research conducted by Germany's largest education unions, 'Gewerkschaft Erziehung und Wissenschaft' and 'Verband Bildung and Erziehung', estimates that almost 45,000 posts are unfilled, with acute shortages in subjects such as mathematics and science (Education International, 2010).

Other continents are also struggling; e.g. in the United States teacher turnover is an enduring problem. At the end of the 2007–2008 school year, 9.0 % of the elementary and secondary teacher workforce left teaching (347,905 teachers; National Center for Education Statistics, 2010). Similar problems can be seen in Australia where there is a shortage affecting the teaching profession. Each year, the DEECD publishes a report into teacher supply and demand in Victoria. The 2008 and 2009 Teacher Supply and Demand Reports (DEECD, 2008, 2009) highlight an ageing teacher workforce, indicating that more than a quarter of teachers in the country will reach retirement age in the next four years, and that there is already a teacher shortage in some subject and geographic areas. In addition a shortfall of secondary graduate teachers has been projected for the next four years (DEECD, 2009). Australia could reach the stage where school teachers are leaving in higher numbers than new graduates are arriving.

In Australia, longitudinal research examining the motivation of teachers began in 2002. The FIT-Choice Project (Factors Influencing Teaching Choice; see www.fitchoice.org) is a longitudinal study that is tracking 1,651 Australian participants (as well as several international samples) over time, from the beginning of their teacher education, at the point of exit from their professional program, and transition into teaching as a career.

The present study focuses on differences between motivations and perceptions among three groups of FIT-Choice teacher education students. It is important to understand the motivations of those who start teacher education and the perceptions they have of the job in order to distinguish different trajectory groups: 'those who did not qualify to teach', 'those who did qualify but never taught or quit teaching', and 'those who did qualify and are teaching'. Understanding the

differences between these groups will make it possible to recommend more effective recruitment strategies to attract and sustain people in the teaching profession.

"The word motivation is derived from the Latin verb 'movere' which means to move" (Pintrich, 2003, p. 669). The dictionary defines motivation as 'The psychological feature that arouses an organism to action towards a desired goal, the reason for that action.' Various motivational theories have been developed; in this study the focus is on the expectancy-value theory which forms the base for the FIT-Choice framework and on which this study draws.

Motivation is affected by several factors, including reinforcement for behaviour, and also goals, interests, a sense of self-efficacy and self-determination. The factors combine to create two proximal sources of motivation: expectation of success and the value that is placed on a goal. "Expectancies refer to beliefs about how one will do on different tasks or activities, and values have to do with incentives or reasons for doing the activity" (Eccles & Wigfield, 2002, p. 110). Viewing motivation in this way is called the expectancy-value model of motivation (Eccles et al., 1983, Wigfield & Eccles, 2002). If a person has high expectations of success but does not value a task, then he or she will not feel motivated to pursue it. Likewise, if a person values a task highly but has no expectation of succeeding at it, then he or she will not feel motivated.

Since the 1980s, Eccles and her colleagues have studied the motivational and social factors influencing short and long-range goals and behaviours such as school grades, course selection, and high school graduation among adolescents. They have elaborated a comprehensive theoretical model linking achievement-related choices to two sets of beliefs: the individual's expectations for success and the importance or value the individual attaches to the various options perceived by the individual as available (see Eccles, Wigfield, & Schiefele, 1998). This has resulted in a comprehensive motivational model for explaining academic and career choices. Watt and Richardson based the development of their FIT-Choice framework in the expectancy-value framework developed by Eccles et al. (1983).

> Although it was initially developed as a framework for explaining students' choices for mathematics participation (Eccles et al., 1983), the Eccles et al. expectancy-value model has since been fruitfully applied to other academic school disciplines, as well as to choices to participate in specific types of careers (e.g. Watt, 2002), and is valuable for guiding investigations into teaching as a career choice (Richardson & Watt, 2006, p. 31).

The FIT-Choice framework (Watt & Richardson, 2007) represents different psychological mechanisms that are involved in the choice of teaching as a career, and all parts of the model work together in an explanation of individuals' decision-making. Individuals are likely to pursue choices for which they expect to have the requisite abilities, to which they attach value and which do not demand too great a cost (Watt et al., in review). The choice of these motivations and perceptions was based upon a comprehensive review of the teacher education literature; motivations and perceptions were mapped to the component expectancy-value theoretical constructs (Watt & Richardson, 2008; see Figure 1).
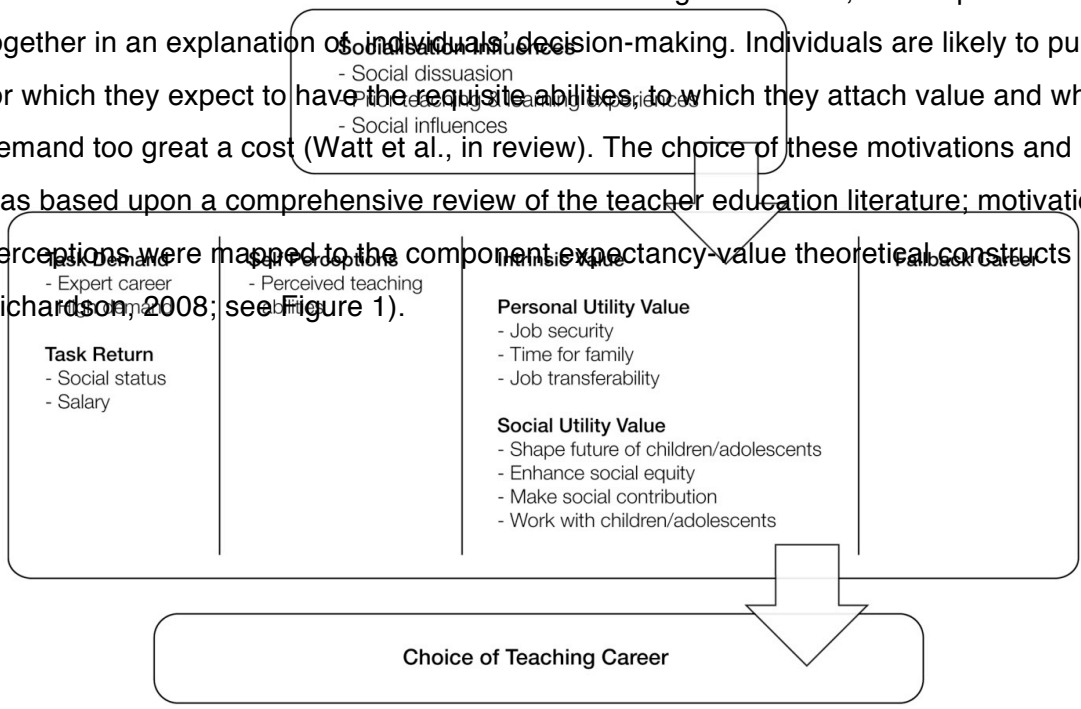

Figure 1. FIT-Choice framework developed by Watt and Richardson.
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Based upon this framework two research questions shape this study. First, how do motivations and perceptions at the start of teacher education differ, for the three trajectory groups? It was hypothesised that there would be significant differences between the three trajectory groups according their motivations and perceptions, especially between people who did not complete their teaching qualification and those who did, and also between people who qualified and currently teach and people who qualified but never taught or quit teaching. It is proposed that people who qualified and teach may have a more realistic view of the teaching profession than those who did not qualify, or those who qualified but never taught or quit teaching.

Next, we further explored the predictive abilities of motivations and perceptions to distinguish group membership, employing discriminant analysis. The second research question was, to what extent do motivations and perceptions correctly predict membership of each of the three trajectory groups? It was hypothesised that if students place emphasis on the social utility values (*shape future of children/adolescents, make a social contribution, enhance social equity* and *work with children/adolescents),* they would be in the group of students who were teaching. People who scored low on perceived *salary* and *social status* were expected to be in the groups that completed their teacher training but never taught, or quit teaching (Hayes, 1990). Haubrich noted in 1960 that job security was a major motive for choosing teaching as a career, or, as he called it "the mattress philosophy - teaching is something to fall back on" (p. 382). Also Lortie (1975) supported this notion in his study, and concluded that besides interpersonal ("the desire to work with people"), service ("teaching is a valuable service of morale worth"), and continuation ("fondness for the school setting"), that "job security" and "preference for hours and vacation" were two additional important motivators. Joseph and Green performed an exploratory research in 1986 and also said that "time compatibility" was an important reason why people choose to become a teacher.

Method

Participants and Procedure

The sample came from the ongoing FIT-Choice data collection (see www.fitchoice.org); Phase 1 data were collected at entry to teacher education, and Phase 3 data after 2 – 5 years from graduation. Since this is a longitudinal project, data from Phase 3 are still being collected, but for this research, data collected up until May 2010 were used. This resulted in a sample of 529 participants. Data from university records were also used for those people for whom it was known they had attrited their teacher education degree. This information enlarged the sample with 247 more participants for analysis. The total participants ($N = 776$) were divided in the three trajectory groups: those who did not qualify ($N = 264$), those who did qualify but never taught or quit teaching ($N = 60$), and those who did qualify and currently teach ($N = 452$). Motivations and perceptions were asked during the survey in Phase 1, trajectories were identified from Phase 3 responses and university records.

Measures

In the FIT-Choice model (see Figure 1) 'motivations' consisted of a group of five single factors and two higher-order factors. The single factors were: *intrinsic value, fallback career, ability, prior teaching and learning experiences* and *social influences*. Other motivational factors were grouped into higher-order factors, namely *personal utility value* and *social utility value*. Personal utility value consisted of *job security, time for family* and *job transferability*. Social utility value consisted of *shape future of children/adolescents, enhance social equity, make social contribution* and *work with children/adolescents.* All motivational items were preceded by "I chose to become a teacher because...", participants rated those items on a 7-point Likert scale where 1 stood for "not at all important" and 7 for "extremely important". The 'perceptions' consisted of a group of 6 single factors. These single factors are *difficulty, expertise, social status, salary, social dissuasion* and *satisfaction with choice.* For the perceptions, a number of propositions about the teaching profession were given with response options ranging from 1 ("not at all") through 7 ("extremely") (full details in Richardson & Watt, 2006).

Results

How do motivations and perceptions at the start of teacher education differ for the three trajectory groups?

The parts of the FIT-Choice survey used to investigate the first research question were: state of employment, motivations and perceptions. The 'state of employment' consisted of three groups: people who did not qualify, people who did qualify and currently teach, and people who did qualify but never taught or quit teaching. Motivational comparisons were conducted using 3 MANOVAs with follow-up analyses of variance (ANOVA) and Tukey post-hoc tests, separating the dependent motivational variables based on the FIT-Choice theoretical model (Figure 1); for perceptions 1 MANOVA was conducted. In all analyses statistical significance was denoted by $p < 0.05$, adjusted to the appropriate value according to Bonferroni corrections for the follow-up ANOVAs (Tabachnick & Fidell, 2007).
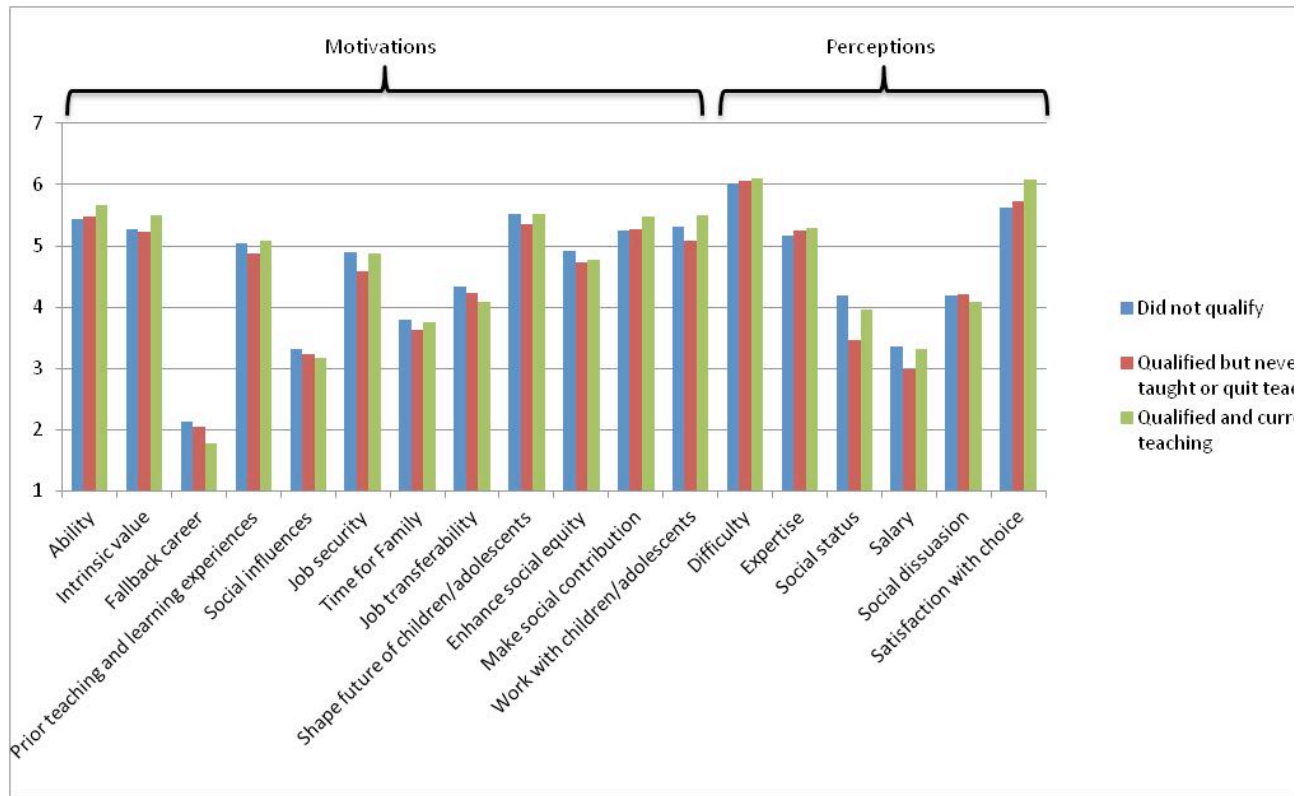
Figure 2. Means of motivations and perceptions per trajectory group.

In general all three trajectory groups scored *perceived abilities, intrinsic value, shape future of children/adolescents, make social contribution, work with children/adolescents, difficulty, expertise,* and *satisfaction with choice* high on the 7-point scales. Thus, those who commenced teacher education thought teaching suited their abilities, enjoyed teaching, wanted to work with and influence children and adolescents, wanted to make a worthwhile social contribution, but acknowledged it was hard work that required high levels of expert knowledge. Overall, they were happy with the choice they had made to become a teacher at the point of entering their teaching degree. On the other hand, all three groups scored *fallback career*, *social influences,* and *salary* below the mid-point, indicating they had not chosen a teaching career because they did not know what else to study. They were also not particularly influenced much by friends and family, and they did not perceive a high salary to come along with the job of teaching.

Single motivational factors. MANOVA showed a significant multivariate effect of trajectory group on the combined set of five dependent variables*: intrinsic value, fallback career, perceived ability, prior teaching and learning experiences* and *social influences* (Pillai's $F_{(10,1486)}$ = 2.593, p = .004, partial η^2 = .017). For *perceived ability, intrinsic value* and *fallback career*, there were

significant univariate effects (perceived ability, $F_{(2,746)} = 4.991$; intrinsic value, $F_{(2,746)} = 4.570$; fallback career, $F_{(2,746)} = 9.004$). Although there were significant differences, the effect sizes were small. There were no significant differences on *prior teaching and learning experiences* and *social influences,* rated similarly across the three groups (see Table 1).

Table 1

Means, Standard Deviations, Effect Sizes and Probabilities for Single Motivational Factors

	Did not qualify		Qualified but never taught or quit teaching		Qualified and currently teaching		Effect Size*	p^*
	M	SD	M	SD	M	SD	η^2	
Perceived ability	5.43	1.08	5.47	1.26	5.67	0.94	.013	.007[a]
Intrinsic value	5.23	1.22	5.23	1.11	5.51	1.07	.012	.011[a]
Fallback career	2.14	1.29	2.04	1.15	1.78	0.97	.024	.000[a]
Prior teaching and learning experiences	5.04	1.52	4.87	1.62	5.09	1.55	.001	.582
Social influences	3.32	1.73	3.30	1.63	3.18	1.63	.002	.522

Note. Range = 1 to 7.
*Effect size and probability associated with univariate ANOVA.
[a]Significant according to Bonferroni adjustment ($p < .01$).

Post-hoc comparisons using Tukey indicated that the mean scores for people who did not qualify were significantly different from the people who qualified and currently teach, for *perceived ability*, *intrinsic value,* and *fallback career*. People who completed their training and currently teach scored their abilities and intrinsic value significantly higher, and did not consider teaching a fallback career as much, as the group of people who did not complete their teacher education. Those who qualified but never taught or quit teaching were in between and did not differ significantly from either of the other two groups.

Personal utility value. The higher-order factor *personal utility value* contains three single factors: *job security*, *time for family* and *job transferability*. MANOVA showed no significant multivariate effect of trajectory group (Pillai's $F_{(6,1508)} = 1.448$, $p = .193$, partial $\eta^2 = .006$). All the dependent variables failed to reach statistical significance (see Table 2). Follow-up ANOVAs showed no significant differences on either of the three component factors.

Table 2

Means, Standard Deviations, Effect Sizes and Probabilities for Personal Utility Values

	Did not qualify		Qualified but never taught or quit teaching		Qualified and currently teaching		Effect Size*	p*
	M	SD	M	SD	M	SD	η^2	
Job security	4.90	1.49	4.58	1.51	4.88	1.40	.003	.273
Time for Family	3.79	1.51	3.63	1.45	3.76	1.41	.001	.765
Job transferability	4.33	1.52	4.24	1.60	4.09	1.50	.005	.137

Note. Range = 1 to 7.
*Effect size and probability associated with univariate ANOVA.
No significant effects according to Bonferroni adjustment ($p <$ .017).

Social utility value. The higher-order factor *social utility value* contains four single factors: *shape future of children/adolescents*, *enhance social equity*, *make social contribution* and *work with children/adolescents*. MANOVA showed a significant multivariate effect of trajectory group. (Pillai's $F_{(8,1506)}$ = 2.869, p =.004, partial η^2 = .015). However, the follow-up ANOVAs did not show any significant differences (see Table 3).

Table 3

Means, Standard Deviations, Effect Sizes and Probabilities for Social Utility Values

	Did not qualify		Qualified but never taught or quit teaching		Qualified and currently teaching		Effect Size*	p*
	M	SD	M	SD	M	SD	η^2	
Shape future of children/adolescents	5.52	1.20	5.35	1.23	5.53	1.19	.001	.590
Enhance social equity	4.92	1.44	4.73	1.50	4.77	1.43	.003	.342
Make social contribution	5.26	1.39	5.27	1.40	5.48	1.18	.007	.080
Work with children/adolescents	5.32	1.42	5.08	1.37	5.51	1.29	.009	.029

Note. Range = 1 to 7
*Effect size and probability associated with univariate ANOVA
No significant effects according to Bonferroni adjustment ($p <$ .013)

Perceptions. The perceptions contain six factors: *difficulty, expertise, social status, salary, social dissuasion and satisfaction with choice*. MANOVA showed a significant multivariate effect of

trajectory group (Pillai's $F_{(12,1498)}$ = 5.170, $p < .001$, partial η^2 = .040). For *social status* and *satisfaction with choice* ANOVA showed significant differences (social status, $F_{(2,753)}$ = 10.061; satisfaction with choice, $F_{(2,753)}$ = 15.628; see Table 4).

Table 4

Means, Standard Deviations, Effect Sizes and Probabilities for Perceptions

	Did not qualify		Qualified but never taught or quit teaching		Qualified and currently teaching		Effect Size*	p*
	M	*SD*	*M*	*SD*	*M*	*SD*	η^2	
Difficulty	6.01	0.82	6.06	0.92	6.10	0.78	.002	.414
Expertise	5.16	1.14	5.25	1.17	5.30	1.05	.003	.280
Social status	4.20	1.20	3.46	1.09	3.96	1.21	.026	.000[a]
Salary	3.36	1.28	2.98	1.47	3.32	1.33	.005	.139
Social dissuasion	4.19	1.28	2.98	1.47	3.32	1.33	.001	.610
Satisfaction with choice	5.62	1.21	5.72	1.05	6.08	0.98	.040	.000[a]

Note. Range = 1 to 7.
*Effect size and probability associated with univariate ANOVA.
[a]Significant according to Bonferroni adjustment ($p < .008$).

Post-hoc comparisons using Tukey indicated that there was a significant difference between people who did not qualify, and people who qualified and currently teach for *social status* and for *satisfaction with choice*. Those who did not qualify thought the social status of a teacher was higher, but they were less satisfied with their choice to become a teacher. There was a similar significant difference between people who did not qualify and people who qualified but never taught or quit teaching on *social status.* Between people who qualified and currently teach, and people who qualified but never taught or quit teaching, there was also a significant difference for *social status* and for *satisfaction with choice;* people who were currently teaching scored both factors higher.

Summary. Trajectory groups differed significantly for their initial *ability, intrinsic value* and *fallback career*, motivations*; social status* and *satisfaction with choice,* perceptions. Those who did not qualify were significantly different from those who qualified and currently teach for *perceived ability, intrinsic value, fallback career, social status* and *satisfaction with choice*. Those who did not qualify scored *social status* significantly higher than those who did qualify, but never taught or quit

teaching; and those who qualified and currently teach scored *social status* and *satisfaction with choice* significantly higher than those who did qualify, but never taught or quit teaching.

To what extent do motivations and perceptions correctly predict membership of each of the three trajectory groups?

In order to investigate the second research question, 3 discriminant analyses for the motivations and 1 discriminant analysis for the perceptions were undertaken, to identify the combination of score variables which distinguish the three trajectory groups.

Single motivational aspects. Two discriminant functions differentiated membership of the single motivational aspects effectively and accounted for 95.8 % (canonical R^2 = .03) and 4.2 % (canonical R^2 = .00) of the variance each. In combination these significantly differentiated the groups of participants (Willks' λ = .966, $\chi^2(10)$ = 25.925, p = .004), but removing the first function indicated that the second function did not significantly differentiate the groups (Willks' λ = .999, $\chi^2(4)$ = 1.113, p = .892). The structure (loading) matrix of correlations between predictors and discriminant functions suggested that the best predictors for distinguishing the group of students that did qualify and were currently teaching, from the other two groups (first function), were *fallback career, perceived ability, intrinsic value* and *social influences*. These factors explained 95.8% of the variance in the prediction. People who scored *intrinsic value* and their *perceived abilities* higher, and *fallback career* and *social influences* lower, were most likely to qualify to teach and enter the profession. Table 5 shows the exact number of the loadings and Table 6 shows how the discrimination happened for each function.

Table 5

Structure Matrix of Correlations Between Predictors and Discriminant Functions for Single Motivational Aspects

	Function	
	1	2
Fallback career	.843*	.192
Perceived ability	-.628*	.054
Intrinsic value	-.591*	.514
Social influences	.227*	-.044
Prior teaching and learning experiences	-.133	.754*

Note. *Largest absolute correlation between each variable and each discriminant function.

Table 6

Functions at Group Centroids for Single Motivational factors

	Function	
	1	2
Did not qualify	.231	.024
Qualified and currently teaching	-.154	.003
Qualified but never taught or quit teaching	.155	-.131

45.7 % of original grouped cases were correctly classified. People who qualified and were currently teaching were the group most accurately predicted (53.2 %), people who did not qualify were slightly less accurately predicted (36.6 %), and people who did qualify but were not currently teaching were the least accurately predicted (28.1 %) which is less than the chance level of 33.3 %.

Personal utility value. Two discriminant functions differentiated membership of personal utility values effectively and accounted for 77.2 % (canonical R^2 = .094) and 22.8 % (canonical R^2 = .051) of the variance respectively. Nevertheless none of these discriminant functions significantly differentiated the three groups (in combination, Willks' λ = .989, χ²(6) = 8.673, p = .193; the second function, Willks' λ = .997, χ²(2) = 1.982, p = .371). This outcome is not surprising since the MANOVA performed on the personal utility values was not significant.

Social utility value. Two discriminant functions differentiated membership of social utility values effectively and accounted for 88.5 % (canonical R^2 = .03) and 11.5 % (canonical R^2 = .00) of the variance each. In combination these discriminant functions significantly differentiated the three

groups (Willks' λ = .970, χ²(8) = 22.900, *p* = .003), but removing the first function indicated that the second function did not significantly differentiate them (Willks' λ = .996, χ²(3) = 2.653, *p* = .448). The structure (loading) matrix of correlations between predictors and discriminant functions suggested the best predictor for distinguishing those who did qualify and were currently teaching from the other two groups (first function) was *make social contribution*. This explained 88.5% of the variance in the prediction on its own. People who scored *make social contribution* higher were most likely to qualify and teach afterwards. Table 7 shows the exact number of the loadings and Table 8 shows how the discrimination happened for each function.

Table 7

Structure Matrix of Correlations Between Predictors and Discriminant Functions for Social Utility Values

	Function	
	1	2
Make social contribution	.496*	.086
Work with children/adolescents	.502	.850*
Shape future of children/adolescents	.077	.592*
Enhance social equity	-.264	.518*

Note. *Largest absolute correlation between each variable and each discriminant function.

Table 8

Functions at Group Centroids for Social Utility Values

	Function	
	1	2
Did not qualify	-.205	.038
Qualified and currently teaching	.137	.004
Qualified but never taught or quit teaching	-.156	-.200

44.6 % of original grouped cases were correctly classified. People who qualified and were currently teaching was the group most accurately predicted (51.8 %), people who did qualify but never taught or quit teaching were slightly less accurately predicted (36.8 %), and the people who

did not qualify were least accurately predicted (33.7 %) which is close to the chance level of 33.3 %.

Perceptions. Two discriminant functions differentiated membership of the perceptions effectively and accounted for 79.5 % (canonical R^2 = .06) and 20.5 % (canonical R^2 = .02) of the variance each. In combination these discriminant functions significantly differentiated the three trajectory groups (Willks' λ = .922, χ²(12) = 61.335, p < .001). After removing the first function, the second function also significantly differentiated the groups (Willks' λ = .983, χ²(5) = 12.889, p = .025). The structure (loading) matrix of correlations between predictors and discriminant functions suggested that the best predictors for distinguishing those who did not qualify from the other two groups (first function) were *satisfaction with choice, expertise* and *difficulty*. These three factors explained 79.5% of the variance in the prediction. People who scored these factors lower were less likely to complete their teacher training. The other three predictors, *social status, salary* and *social dissuasion* had the biggest influence on the second discriminant function, which separated the people who did qualify but never taught or quit teaching, from the other two groups. These three factors explained 20.5% of the variance; people who scored these factors lower, would most likely qualify but not teach for long. Table 9 shows the exact number of loadings and Table 10 shows how the discrimination happened for each function.

Table 9

Structure Matrix of Correlations Between Predictors and Discriminant Functions for Perceptions

	Function	
	1	2
Satisfaction with choice	.718*	.641
Expertise	.221*	.089
Difficulty	.184*	.076
Social status	-.461	.852*
Salary	-.103	.513*
Social dissuasion	-.114	-.162*

Note. *Largest absolute correlation between each variable and each discriminant function.

Table 10

Functions at Group Centroids for Perceptions

	Function

	1	2
Did not qualification	-.362	.005
Qualified and currently teaching	.186	.057
Qualified but never taught or quit teaching	.162	-.439

43.8 % of original grouped cases were correctly classified. People who did qualify but never taught or quit teaching were the most accurately predicted (46.7 %). People who did not qualify were slightly less accurately predicted (45.7 %), as were people who qualified and were currently teaching (42.3 %).

Summary. The best motivational predictors for distinguishing the group of participants who did qualify and teach, from the other two groups, were *make social contribution, fallback career, perceived ability, intrinsic value* and *social influences.* For the group who did not qualify, *satisfaction with choice, expertise* and *difficulty* predicted presence. Finally, the group of participants who qualified, but never taught or quit teaching, was best predicted by *social status, salary* and *social dissuasion*.

Conclusion and Discussion

This study was timely as it provided insights into the factors that were significant for distinguishing teacher education students into the three trajectory groups (those who qualified and currently teach, those who qualified but never taught or quit teaching, and those who did not qualify). In this final part we provide a conclusion of the outcomes and discuss possible consequences of this study.

Did not qualify vs. Qualified and currently teaching

Those participants who did not qualify differed significantly for *ability, intrinsic value, fallback career, social status* and *satisfaction with choice* from those who did qualify and were currently teaching. People who did not qualify to teach scored all the factors lower except *fallback career* and *social status*, which were scored higher. This means that at the beginning of their teacher education they were less motivated by their teaching abilities, interest in teaching, and were less

satisfied with their choice. By scoring *fallback career* and *social status* higher than the people who did qualify and were currently teaching, they indicated they were less sure about their choice to become a teacher at the beginning of their teacher education and that teaching as a career offered higher social status. It is likely that this group of participants wanted to be a teacher because in part they thought that teaching would bestow greater prestige. Overall this group seemed less intrinsically motivated, and more extrinsically motivated resulting in less satisfaction with their choice and earlier drop out from teacher education.

Did not qualify vs. Qualified but never taught or quit teaching

Social status was also important for people who did not qualify to teach and also differed significantly from the group who did but never taught or quit teaching. Those who did not qualify scored this factor higher indicating that they thought more of the social status of a teacher than the people who did qualify but never taught or quit teaching; maybe they were disillusioned by their experiences during teacher education program. It may also be that those who qualified, but never taught or quit teaching had a more realistic view of the social status of teaching.

Qualified but never taught or quit teaching vs. Qualified and currently teaching

Finally participants who did qualify but never taught or quit teaching, differed significantly from the group who did qualify and were currently teaching, on *social status* and *satisfaction with choice*. Those not teaching scored these two factors lower than the people who were teaching. They developed a more negative view of the teaching profession, and it may be that they were not 100% sure of their future job, and that the lower social status of a teacher may have been a reason for not being entirely satisfied with their career choice.

Predicting teaching career outcomes based on initial motivations and perceptions was possible; those currently teaching scored *make social contribution, ability* and *intrinsic value* higher and *fallback career* and *social influences* lower, *Make social contribution* alone explained 88.5 % of the variance; while together with *ability, intrinsic value, fallback career* and *social influence*s 95.8% got explained. Those who scored *social dissuasion, social status* and *salary* lower, were more likely to qualify, but not to be teaching. Finally, if a student scored *satisfaction with choice, expertise* and *difficulty* lower, he/she was less likely to complete teacher education.

These results make an important contribution to the field of teacher education research. Personal utility values of *job security, time for family* and *job transferability* only had a moderate value for the beginning teacher education students, and, they did not predict the career trajectory. Previous research by Haubrich (1960), Lortie (1975), and Joseph and Green (1986) marked these motivations as important motivators for teachers. By including people who did not go into teaching, this study has been able to show those motivations, while relevant, do not distinguish those who teach from those who drop out.

Looking at the two research questions which frame this study, there are distinguishing initial motivations and perceptions for the three career trajectory groups. It is therefore possible to predict career outcomes based on the motivations and perceptions of teacher education students from the beginning of their training. Understanding the differences between these groups makes it possible to recommend effective recruitment strategies to attract and sustain people in the teaching profession.

By concentrating and working on the 'task-demand' factors (*difficulty* and *expertise*), which were scored high by all participants at the beginning of their teacher education and the 'task return' factors (*salary* and *social status*), which were scored low by all participants, the Government can try to attract more students into a teacher education program and therefore also enlarge the group of students who eventually enter the teacher profession. For those participants who qualified and were currently teaching *making a social contribution* was of great importance. The importance of this factor is something that policy makers and those seeking to recruit candidates into teaching, might well emphasise in their recruitment campaign.

References

DEECD. (2008). 2008 *Teacher Supply and Demand Report.* Retrieved from: http:// www. eduweb. vic.gov.au/edulibrary/public/hr/recruit/Teach/2008_Teacher_and_Demand_Report.pdf

DEECD. (2009). *2009 Teacher Supply and Demand Report*. Retrieved from: http://www.eduweb.vic.gov.au/edulibrary/public/hr/recruit/Teach/teacher-Supply-and- Demand -Report.pdf

Eccles (Parsons), J., Adler, T. F., Futterman, R., Goff, S. B. Kaczala, C. M., & Meece, J. L., et.al. (1983). Expectancies, values and academic behaviours. In J. T. Spence (Ed.), *Achievement and achievement motivation, San Francisco* (pp. 75-146). CA: W. H. Freeman.

Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology, 53*, 109-132.

Eccles, J. S., Wigfield, A., & Schiefele, U. (1998). Motivation. In N. Eisenberg (Ed.), *Handbook of Child Psychology*. 3 (5). New York: Wiley.

Education international (2010). Germany: Unions deplore teacher shortage. Retrieved from: http://www.ei-ie.org/en/news/news_details/1529

Hayes, S. (1990). *Students' reasons for entering the educational profession.*Research report. Oklahoma, Northwestern Oklahoma State University.

Haubrich, V. F. (1960). The motives of prospective teachers. *Journal of Teacher Education, 11*(3), 381-386.

Higgins, E. T., & Kruglanski, A. (2000). Motivational science: The nature and functions of wanting. In E.T. Higgins & A. Kruglanski (Eds.).*Motivational Science: Social and personality perspectives* (pp. 1-20), Philadelphia: Psychology Press.

Joseph, P. B., & Green, N. (1986). Perspectives on reasons for becoming teachers. *Journal of Teacher Education, 37*(6), 28-33.

Lortie, D. C. (1975). *School-teacher: A sociological study*. Chicago: University of Chicago Press.

Pintrich, P. R. (2003). A motivational science perspective on the role of student motivation in learning and teaching context. *Journal of Educational Psychology*, *95*(4), 667-686.

Richardson, P.W., & Watt, H. M. G. (2006). Who chooses teaching and why? Profiling characteristics and motivations across three Australian Universities. *Asia-Pacific Journal of Teacher Education, 34*(1), 27-56.

Tabachnick, B. G., & Fidell, L.S. (2007). *Using multivariate statistics.* Boston: Pearson education, Inc.

U.S. Department of Education, National Center for Education Statistics (2010). *Teacher Attrition and Mobility: Results from the 2008-09 Teacher Follow-up Survey* (NCES 2010-353). Retrieved from: http://nces.ed.gov/pubs2010/2010353.pdf

Watt, H. M. G. (2002). *Gendered achievement-related choices and behaviours in mathematics and English: The nature and influence of self-, task, and value perceptions.* Unpublished PhD thesis, University of Sydney.

Watt, H. M. G., & Richardson, P. W. (2007). Motivational factors influencing teaching as a career choice: development and validation of the FIT-Choice scale. *Journal of Experimental Education*, *75*(3), 167-202.

Watt, H. M. G., & P. W. Richardson (2008). Motivations, perceptions, and aspirations concerning teaching as a career for different types of beginning teachers. *Learning and Instruction, 18*, 408-428.

Watt, H. M. G., Richarson, P. W., Klusmann, U., Kunter, M., Beyer B., & Trautwein U. (in review). Motivations for choosing teaching as a career: An international comparison using the FIT-Choice scale.

Wigfield, A. & Eccles, J. (2002). *The development of achievement motivation.* San Diego, CA: Academic Press.

Wigfield, A., Tonks, S., & Eccles, J. (2004). Expectancy-value theory in cross-cultural perspective. In D. McInerney & S. van Etten (Eds.), *Research on Socio-cultural Influences on Motivation and Learning. Greenwich*, CT: Information Age Publishers.

Williams, R. (2010, January 1). Hundreds of thousands of qualified teachers 'not working in profession'. *The Guardian.* Retrieved from: http:// www.guardian.co.uk/education/2010/ jan/01/teachers-leaving-profession-shortages