

The Relationship between Professional Matching Degree and Willingness to Teach among Undergraduate Students in Primary Education: A Case Study of a University in Guangzhou

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Abstract: Teachers are a critical resource for educational development. In recent years, an increasing number of higher education institutions have established education-related majors, yet the "enthusiasm for enrollment" has not translated into a "enthusiasm for teaching." To explore the relationship between education-related majors and students' willingness to teach, this study employed a questionnaire survey to investigate 750 undergraduate students majoring in primary education (from freshman to junior year) at a university in Guangzhou. The findings revealed that: (1) There were significant gender differences in the dimensions of self-identity, professional knowledge, and professional emotional attitude, with male students showing stronger identification with their major. (2) There were no significant grade-level differences in professional matching degree or willingness to teach. Only-child students scored significantly higher than non-only-child students on self-identity, professional knowledge, professional emotional attitude, and total professional matching degree. (3) Self-identity, professional identity, professional knowledge, and professional emotional attitude were all significantly and positively correlated with willingness to teach. Based on these results, the study proposes recommendations such as enhancing students' learning interest, strengthening professional commitment, and offering more effective career planning courses to improve professional identification and thereby promote the willingness to teach among primary education undergraduates.

1. Introduction

Education serves as the driving force and foundation for human social development, exerting a profound influence on national prosperity, ethnic revitalization, social progress, and individual well-being. Teachers are the cornerstone of educational development, and the CPC and the state have attached great importance to teacher cultivation and development. A series of policies have been successively promulgated, including the < Opinions of the Central Committee of the CPC and the State Council on Comprehensively Deepening the Reform of the Construction of the Teacher Workforce in the New Era >, the <Strong Teacher Plan for Basic Education in the New Era>, and the

<Opinions of the Ministry of Education on Implementing the National Excellent Primary and Secondary School Teacher Training Program>. These policies provide institutional guarantees for enhancing teachers' professional competence and increasing their willingness to teach. Currently, teacher training models are becoming more specialized and diversified, with normal universities and education colleges in comprehensive universities jointly serving as the main bases for teacher cultivation. In 1999, China formally enrolled the first cohort of full-time undergraduate students majoring in primary education. Since then, academic qualifications have gradually become a mandatory requirement for primary school teachers, and an increasing number of universities have established primary education majors. Students in this major are the reserve force for future primary school teachers, and their professional identification significantly affects their academic performance, pre-service preparation, and subsequent professional behaviors [1].

However, research on college students' willingness to teach reveals a less optimistic picture. Song et al. found that although most normal students are willing to teach, many do not regard teaching as their first career choice [2]. Jiang Guohua investigated the willingness to teach among primary education majors at a university and found that 44.4% of senior students were unwilling to teach or held indifferent attitudes, while the proportion was as high as 56.3% among junior students [3]. Investigating the professional identification and willingness to teach of primary education undergraduates not only has significant implications for students' career planning but also holds important theoretical and practical value for the development of primary education.

2. Literature Review

2.1 Research on Professional Matching Degree

Matching generally refers to fit or compatibility. In this study, professional matching degree is defined as the consistency between the curriculum content students study and the professional training objectives. Existing research has primarily investigated interest-major matching and its impact on career development. For example, studies have found that students with high matching degrees have broader career choices and higher career decision-making self-efficacy, whereas those with low matching degrees face greater career decision-making difficulties at graduation. In traditional career theories, individuals choose majors and careers that best match their interests. However, not every student can clearly understand their own interests. Therefore, this study incorporates interest as one dimension of professional matching degree, combined with self-cognition, professional knowledge, and professional emotional attitudes, to explore the influence mechanisms of various dimensions of professional matching degree using primary education as an example, with the aim of providing recommendations for major construction and talent cultivation.

2.2 Research on Willingness to Teach

Based on a review of relevant literature and the context of this study, willingness to teach refers to the comprehensive manifestation of primary education undergraduates' cognition of their major and their identification with the teaching profession. Existing research has primarily focused on normal students and found that the main factors influencing their willingness to teach include family, individual, social, and school factors [4]. Among social factors, welfare benefits are a widely noted concern; low teacher remuneration is a key reason why free normal students do not consider teaching as a career upon graduation [5]. Whether family members are engaged in teaching, family economic conditions, and parental occupations are also important factors influencing whether normal students choose to teach [6]. Personal factors are equally important in career choice. Research has found that personality traits affect the decision to teach [7], and reports indicate that whether one enjoys

interacting with children and young people influences normal students' teaching intentions [8]. Campus environment is also a significant factor; studies have shown that the quality of teacher-student relationships and the influence of professional instructors or mentors can affect normal students' teaching intentions [7]. In addition to normal students, the establishment of undergraduate primary education majors has injected fresh vitality into the primary school teacher workforce. However, it remains unclear whether the factors influencing primary education majors are the same as those for normal students, and whether research findings on normal students can be directly applied to primary education majors. Currently, there is relatively little research on the willingness to teach among primary education undergraduates. Therefore, this study adopts an empirical approach to investigate the willingness to teach among primary education undergraduates, aiming to identify its influencing factors and provide recommendations for enhancing their willingness to teach.

2.3 Research on the Relationship between Professional Matching Degree and Willingness to Teach

Existing studies have conducted surveys on the relationship between free normal students and their willingness to teach, finding that influencing factors can be categorized into internal and external aspects. Internal factors include personal cognition and personal emotions, while external factors include family background and teaching environment [9]. Although numerous studies have examined self-identity, professional identity, cognition, professional emotional attitudes, and willingness to teach among education majors [4], few have explored the relationships among these factors. Based on this gap, drawing upon Schein's Career Anchor Theory and Holland's Person-Environment Fit Theory, this study takes a university in Guangdong as an example to investigate the relationship between professional matching degree and willingness to teach among primary education undergraduates, with the goal of promoting the healthy development of primary education majors and providing measures to enhance students' willingness to teach.

3. Research Design

3.1 Research Method

Questionnaire survey: This study administered a self-designed "Questionnaire on Professional Matching Degree and Willingness to Teach among Primary Education Undergraduates" to students in the 2021, 2022, and 2023 cohorts of the primary education major at a university in Guangdong Province. The collected data were statistically analyzed using SPSS 27.0.

3.2 Research Participants

Using random sampling, undergraduate students majoring in primary education from the 2021, 2022, and 2023 cohorts at a university in Guangzhou were selected as participants. A total of 759 questionnaires were distributed, and 750 valid responses were collected, yielding an effective response rate of 99%. Among them, 96 were male (12.8%) and 654 were female (87.2%); 147 were freshmen (19.6%), 505 were sophomores (67.33%), and 98 were juniors (13.07%); 113 were only children (15.07%) and 637 were non-only children (84.93%); 389 came from urban areas (51.87%) and 361 from rural areas (48.13%).

3.3 Research Instrument

Based on previous literature, the self-designed <Questionnaire on Professional Matching Degree

and Willingness to Teach among Primary Education Undergraduates> was developed. Prior to formal testing, a pilot test was conducted with 192 primary education undergraduates. The collected data were subjected to reliability and validity testing using SPSS 27.0, yielding a Cronbach's alpha of 0.916 and a validity coefficient of 0.921, indicating good reliability and validity.

The formal questionnaire contained 29 items and consisted of two parts:

Part I comprised demographic variables, including gender, grade level, and place of origin.

Part II constituted the main body of the questionnaire, covering two sections: Professional Matching Degree and Willingness to Teach. Professional Matching Degree was divided into four dimensions: Self-Identity (items 1–4), Professional Identity (items 5–10), Professional Knowledge (items 11–15), and Professional Emotional Attitude (items 16–18). Willingness to Teach corresponded to items 19–23.

4. Research Results

This study examined differences in professional matching degree dimensions and willingness to teach across six demographic variables: gender, grade level, only-child status, family location, annual household income, and whether any family member is engaged in teaching. Independent samples t-tests and one-way ANOVAs were conducted, followed by correlation analyses between professional matching degree dimensions and willingness to teach.

4.1 Gender Differences in Professional Matching Degree and Willingness to Teach

Table 1 Testing Gender Differences in Major-Matching Degree and Teaching Willingness among Undergraduates Majoring in Primary Education

Factor	Gender		t	p
	Male (M±SD)	Female (M±SD)		
Self-Identity	3.685 ±0.646	3.531 ±0.615	2.275	0.023
Professional Identity	3.609 ±0.585	3.533 ±0.591	1.177	0.239
Professional Knowledge	3.306 ±0.527	3.188 ±0.512	2.091	0.037
Professional Emotional Attitude	3.597 ±0.598	3.424 ±0.687	2.596	0.010
Total Professional Matching	3.549 ±0.486	3.419 ±0.505	2.368	0.018
Willingness to Teach	3.458 ±0.762	3.375 ±0.718	1.050	0.294

Note: Significant differences ($p < 0.05$) were found in Self-Identity, Professional Knowledge, Professional Emotional Attitude, and Total Professional Matching, with males scoring higher than females. No significant differences were found in Professional Identity or Willingness to Teach (See Table 1).

4.2 Grade-Level Differences in Professional Matching Degree and Willingness to Teach

Table 2 Testing Grade Differences in Major-Matching Degree and Teaching Willingness among Undergraduates Majoring in Primary Education

Grade								
Factor	Freshman		Sophomore		Junior		F	p
	M	SD	M	SD	M	SD		
Self-Identity	3.471	0.633	3.572	0.582	3.559	0.776	1.534	0.219
Professional Identity	3.479	0.637	3.562	0.546	3.542	0.725	1.141	0.320
Professional Knowledge	3.300	0.588	3.183	0.493	3.173	0.051	2.909	0.055
Professional Emotional Attitude	3.417	0.730	3.471	0.638	3.360	0.793	1.260	0.284
Total Professional Matching	3.416	0.549	3.447	0.466	3.409	0.617	0.386	0.680
Willingness to Teach	3.351	0.767	3.387	0.693	3.431	0.816	0.358	0.699

Note: No significant grade-level differences were found in any dimension or in willingness to teach (See Table 2).

4.3 Differences by Only-Child Status in Professional Matching Degree and Willingness to Teach

Table 3 Testing Only-Child Differences in Major-Matching Degree and Teaching Willingness among Undergraduates Majoring in Primary Education

Factor	Only-Child Differences		t	p
	Only Child (M±SD)	Non-Only Child (M±SD)		
Self-Identity	3.685 ±0.646	3.531 ±0.615	2.275	0.023
Professional Identity	3.609 ±0.585	3.533 ±0.591	1.177	0.239
Professional Knowledge	3.306 ±0.527	3.188 ±0.512	2.091	0.037
Professional Emotional Attitude	3.597 ±0.598	3.424 ±0.687	2.596	0.010
Total Professional Matching	3.549 ±0.486	3.419 ±0.505	2.368	0.018
Willingness to Teach	3.458 ±0.762	3.375 ±0.718	1.050	0.294

Note: Only-child students scored significantly higher ($p<0.05$) on Self-Identity, Professional Knowledge, Professional Emotional Attitude, and Total Professional Matching. No significant differences were found in Professional Identity or Willingness to Teach (See Table 3).

4.4 Differences by Family Location (Urban vs. Rural)

Table 4 Testing Family Location Differences in Major-Matching Degree and Teaching Willingness among Undergraduates Majoring in Primary Education

Factor	Family Location		t	p
	Urban (M±SD)	Rural (M±SD)		
Self-Identity	3.537 ±0.648	3.566 ±0.590	-0.642	0.521
Professional Identity	3.524 ±0.631	3.564 ±0.544	-0.920	0.358
Professional Knowledge	3.246 ±0.521	3.158 ±0.506	2.353	0.019
Professional Emotional Attitude	3.446 ±0.702	3.447 ±0.653	-0.027	0.979
Total Professional Matching	3.438 ±0.534	3.434 ±0.472	0.124	0.902
Willingness to Teach	3.357 ±0.778	3.417 ±0.660	-1.148	0.251

Note: Urban students scored significantly higher ($p<0.05$) on Professional Knowledge. No significant differences were found in other dimensions or willingness to teach (See Table 4).

4.5 Differences by Whether Any Family Member is Engaged in Teaching

Table 5 Testing Family Teaching Background Differences in Major-Matching Degree and Teaching Willingness among Undergraduates Majoring in Primary Education

Factor	Family Teaching Background		t	p
	Yes (M±SD)	No (M±SD)		
Self-Identity	3.556 ±0.663	3.548 ±0.602	0.166	0.868
Professional Identity	3.526 ±0.608	3.551 ±0.583	-0.527	0.599
Professional Knowledge	3.174 ±0.513	3.216 ±0.517	-1.026	0.305
Professional Emotional Attitude	3.395 ±0.697	3.468 ±0.670	-1.351	0.177
Total Professional Matching	3.413 ±0.521	3.446 ±0.498	-0.819	0.413
Willingness to Teach	3.339 ±0.763	3.406 ±0.706	-1.166	0.244

Note: No significant differences were found (See Table 5).

4.6 Correlation Analysis between Professional Matching Degree Dimensions and Willingness to Teach

Table 6: Correlations between Dimensions of Major-Matching Degree and Teaching Willingness (N=750)

	1	2	3	4		
1.Self-Identity	1					
2.Professional Identity	0.640**	1				
3.Professional Knowledge	0.418**	0.550**	1			
4.Professional Emotional Attitude	0.675**	0.724**	0.559**	1		
5.Total Professional Matching	0.829**	0.873**	0.733**	0.899**	1	
6. Willingness to Teach	0.709**	0.757**	0.479**	0.784**	0.826**	1

Note: $p < 0.01$ (all correlations significant at the 0.01 level). All dimensions and total professional matching degree were significantly and positively correlated with willingness to teach ($p < 0.01$) (See Table 6).

5. Conclusions and Recommendations

5.1 Conclusions

The following conclusions were drawn:

(1) In terms of demographic variables, male students scored significantly higher than female students on Self-Identity, Professional Knowledge, Professional Emotional Attitude, and Total Professional Matching. Only-child students scored significantly higher than non-only-child students on the same dimensions. Urban students scored significantly higher than rural students on Professional Knowledge.

(2) Professional matching degree and its dimensions were significantly positively correlated with willingness to teach among primary education undergraduates.

5.2 Recommendations

Based on the findings, the following recommendations are proposed:

(1) Strengthen the cultivation of professional thinking and professional awareness among undergraduates. At the cognitive level, it is essential to deepen students' understanding of their major—not only learning disciplinary knowledge but also developing disciplinary thinking. Students should complement classroom learning with extracurricular reading and actively participate in major-related activities, such as school-organized practicum opportunities. By carefully observing and deeply reflecting in practice schools, students can integrate theory with practice and gain a more comprehensive and objective understanding of their profession.

(2) Offer career planning courses specifically designed for primary education majors. Universities should design more scientifically grounded and practically effective career planning curricula. Interviews with students at several institutions revealed that current career courses are often too theoretical and lack practical utility, with students forgetting most content after class. To address this, universities could invite in-service primary school teachers to share their experiences in job hunting and teaching. Given the heavy predominance of female teachers in primary education and the finding in this study that female students scored significantly lower on certain professional identification dimensions, it would be beneficial to include special topics related to female teachers' career development.

(3) Update career choice concepts and enhance students' teaching competence. At the student level, it is necessary to establish correct career choice values—avoiding unrealistic expectations and

actively seeking information through communication with others. Moreover, primary education majors typically hold professional showcases and lesson presentation competitions; students should actively participate in such events to continuously enhance their professional capabilities.

6. Limitations and Future Directions

(1) This study's sample was limited to primary education undergraduates from a single university. Future research should expand the sample size and include multiple institutions to improve the generalizability of the findings.

(2) The study focused solely on professional matching degree and willingness to teach; future research should also investigate factors such as students' interests and professional commitment to provide a more comprehensive understanding.

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