

PRE-SERVICE TEACHERS' CAREER CHOICE MOTIVES: A SCALE DEVELOPMENT STUDY

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Abstract

In the present study, it is aimed to develop a valid and reliable scale to examine the factors playing a role in the career choices of pre-service teachers. Accordingly, the data is gathered from 360 pre-service teachers studying in different departments of the education faculty of a state university in the Central Anatolian Region in Turkey in the 2018-2019 academic year. Only freshmen students were included in the sample and thereby their motives for choosing the teaching profession were examined in the period when they had just started their teacher education programs. The scale development process started with the generation of the item pool based on a literature review, and studies of validity and reliability followed this phase. Specialists' opinions were resorted to for content validity and the construct validity was tested through exploratory factor analysis. Internal consistency was analysed using Cronbach's alpha. As a result of the validity and reliability studies, it is put forth that the 26-item scale consisted of five factors which are advantages of profession, pedagogic interest, belief in talent, social effects and lesser difficulty level of teaching programs. As a result of the analyses, it was seen that the scale had significant relations with the dimensions of the five-dimensional structure and the items had high factor loadings. The validity and reliability values of the scale suggest that it is a valid and reliable instrument to be used in studies related to pre-service teachers' motives in career choices.

Keywords: career choice, teaching profession, validity, reliability, pre-service teachers

Introduction

Considering that teaching-learning practice started with human history, it is not hard to argue that the teaching profession is one of the oldest professions in the world (Oktay, 1991). The selection of teacher candidates to teacher training institutions has been

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carried out in accordance with various criteria over the years and these criteria have varied in the course of time (Çelikten et al., 2005). The selection of teachers to be employed by the Ministry of National Education (MoNE) in Turkey was practiced in line with supply and demand through exams such as the “Teacher Proficiency Exam”, “Civil Service Exam” and “Public Profession Exam”, and since 2002 it has been practiced through the “Public Personnel Selection Exam” (PPSE) (Deryakulu, 2011; Dilekmen et al., 2005). There have also been some variations in the specification of this current exam. Until 2013, the weights of the General Aptitude Test (GAT), General Knowledge Test (GKT), and Educational Sciences Test (EST) on the total score were 30%, 30% and 40%, respectively. With the regulation introduced in August 2013, these weights changed to 15% for GAT, 15% for GKT and 20% for EST. The remaining 50% belonged to a new test called Teaching Content Knowledge Test (Student Selection and Placement Center, 2012). The purpose of these exam practices has been to select and employ qualified teachers.

As well as how the institutions select teacher candidates, why pre-service teachers choose teaching profession is another issue which is an ongoing effort. Why teacher candidates choose teaching profession has been an area of research across the world. Examining pre-service teachers’ reasons of choosing the teaching profession, the researchers have concluded that preference of teaching profession is a multi-dimensional issue including various factors (Brookhart & Freeman, 1992). The factors playing role in the profession preferences are discussed in the literature using the concepts of personal characteristics, interest in the profession, social status of teaching profession, will to contribute to society, past experiences, interpersonal communication skills, reputation of the profession, economic reasons and some obligations pertaining to individuals.

One of the main studies classifying these titles, in a previous study conducted with 556 pre-service teachers at the University of Michigan, motivation to be a teacher was determined by five communities - Economic, Social, Interpersonal, Intellectual and Ethical (Mori, 1965). Brookhart and Freeman (1992) conducted a meta-analysis study by considering 44 different studies in this field. The research classified the main reasons for choosing teaching as a career under the headings of “altruistic (serving the public, contributing to children’s future and so on), service-oriented goals (will to work in the related field, loving the target age group children and so on) and other intrinsic sources of motivation (job security, working hours and holidays and so on). It is seen that this classification is accepted as the basis in different studies carried out in the literature (Atav & Altunoğlu, 2013; Bastick, 2000; Bruinsma & Jansen, 2010; Saban, 2003; Watt & Richardson, 2008; Yu & Bieger, 2013).

The motives for career choice also vary due to different social, cultural and economic structures of societies. For instance, in a study held in the U.S.A. and Cyprus on elementary level teacher candidates, Papanastasiou and Papanastasiou (1997) revealed that extrinsic motivation was the most effective motive in Cyprus while intrinsic motives were more effective in the U.S.A. Broadly, it is observed that intrinsic and altruistic motives are more prominent in developed and prosperous societies while extrinsic motives are more prominent in developing societies (Bastick, 2000). In another study by Papanastasiou and Papanastasiou, (1998) held in Cyprus, it was found out that the most prominent motive was quick employment opportunity after graduation which was an extrinsic motive. In the same vein, Bastick (2000) reported that the most effective motives were extrinsic factors with Jamaican teacher candidates, followed by altruistic and intrinsic motives and these findings were in line with the trends in the developing countries.

The studies on this issue held in Turkey reveal that the most important motives in pre-service teachers’, studying in the education faculties, selection of teaching profession are intrinsic motives and they are followed by service-oriented goals (Bozdoğan et al., 2007; Bursal & Buldur, 2013; Çetin, 2012; Gürbüz & Kışoğlu, 2007;

Gürbüz & Sülün, 2004; Gürbüztürk & Genç 2004; Hacıömeroğlu & Şahin-Taşkın, 2010; Karadağ, 2012; Kılcan et al., 2014; Kocabaş, 2000; Korkut-Owen et al., 2012; Şara & Kocabaş, 2012; Taş, 2012; Tataroğlu et al., 2011; Övet, 2006; Özbek, 2007; Özsoy et al., 2010; Saban, 2003; Yılmaz & Doğan, 2015). There are also studies indicating that extrinsic motives are more effective in the career choice (Boz & Boz, 2008; Çermik et al., 2010; Doğan, 2003; Ubuz & Sarı, 2009). Boz and Boz (2008) examined the career choice motives of secondary level chemistry and mathematics pre-service teachers studying in two different universities in Ankara, Turkey and highlighted that the extrinsic motives were the most effective ones and intrinsic motives and motives related to devotion followed them. On the other hand, other studies carried out in different contexts and times report different results. While the study by Saban (2003) pointed that devotion and extrinsic motives were more dominant than intrinsic motives, Özbek (2007) revealed that motives related to personal choices were more dominant than economic and social motives.

Another factor affecting career choice is gender. In some studies, dwelling on gender, it was identified that female teacher candidates were more idealist than males and they had chosen the profession more consciously (Acat & Yenilmez, 2004; Çermik et al., 2010; Dağ, 2010; Korkut-Owen et al., 2012; Manuel & Hughes, 2006; Övet, 2006; Özbek, 2007; Özsoy et al., 2010). A study carried out in England (Johnston et al., 1999) put forth that female teacher candidates had intrinsic motives and male teacher candidates had extrinsic motives in career choice and there was a significant difference between males and females regarding “working with children” and “salary factor”. In other words, female candidates cared more about working with children than male candidates while males cared more about salary factor. In another study held in Australia examining the factors affecting males in their preference of teaching profession (Mulholland & Hansen, 2003), it was revealed that the participants would prefer teaching profession with the condition of having a good working environment. It was highlighted in the study that parents were an important factor for males in their preference of teaching profession. Heinz (2015) drew attention to both the existence of perceptions regarding gender in different countries and the decisiveness of societies in this sense. This study, carried out in 5 different continents, also emphasizes many different qualities that have decisive effects on cultures.

Although research studies investigating teachers' and teacher candidates' motives for choosing teaching profession are extant in the literature, identifying pre-service teachers' motives for choosing teaching profession each year when they enroll at the faculties is significant in indicating the variations of motives for teaching profession over the years. With this perspective, the purpose of the current study is to develop a valid and reliable scale to identify freshmen pre-service teachers' motives for choosing the teaching profession. Knowing about pre-service teachers' motives for career choice may provide significant data in taking measures for improving the quality of education that future generations will receive.

The previous studies on pre-service teachers' career choice motives were mostly held with pre-service teachers studying in a particular department at the faculties of education. In the present study, it is aimed to develop a valid and reliable scale to examine the factors playing role in the career choices of pre-service teachers in different teacher education programs which the literature lacks.

Method

Participants

The participants of this study consisted of 360 pre-service teachers studying at the education faculty of a state university in the Central Anatolian Region in Turkey in the 2018-2019 academic year. 29% of the participants (103) were male while 71% were female (257). Of the participants, 15% studied in Foreign Language Education (55), 7% studied

in Secondary Science and Mathematics Education (25), 55% studied in Elementary Education (198), 9% studied in Special Education (32) and 14% studied in Fine Arts Education (50) departments. The ages of the participants varied between 18 and 23 and their average age was 20.1. Only freshmen students were included in the study group and thereby pre-service teachers' motives for preference of teaching profession were investigated in the period when they just started to the faculty.

The size of the sample was determined in line with the literature. In the literature, it is highlighted that a sample of 200 is needed for factor analysis (Pallant, 2007) and a sample of 300 is preferred at a greater extent (Field, 2013). Besides, MacCallum, Widaman, Zhang and Hong (1999) argue that number of items is also important and a study group which is five or ten times of the number of items is an ideal study group. Since scale development studies consider the correlations among the items, the sample size matters. In line with the literature, the sample in the current study conforms to the sample size standards in the literature.

Instrument

The scale was developed in three phases. The first phase was literature review, the second phase was generating an item pool and the last phase included evaluation of specialists' views.

In the literature review regarding pre-service teachers' motives for choosing teaching profession, the theoretical bases of the issue and previous scales were reviewed. Generating the items was based on the grouping for the motives for choosing teaching profession. These groups included the factors of advantages of profession, pedagogic interest, belief in talent, social effects and lesser difficulty level of teaching programs. After determining the factors of the scale, item pool was generated in line with the factors.

The items were read by 49 pre-service teachers taking the Educational Psychology course and revisions were made on the items with regard to intelligibility and responding. Then, about the validity of the scale items, it was presented to three educational science experts, a psychological counselling and guidance expert, an instructional technology expert and a Turkish expert, and the scale form was revised based on the feedback. The first form of the scale is composed of five factors which are *advantages of profession (8 items)*, *pedagogic interest (7 items)*, *belief in talent (6 items)*, *social effects (5 items)* and *lesser difficulty level of teaching programs (4 items)* and includes 30 items. The implementation of the scale takes 15-20 minutes. The responses to the items vary between completely disagree (1) and completely agree (5) options designed in 5-point Likert scaling type. Paragraph: use this for the first paragraph in a section, or to continue after an extract.

Data Collection and Data Analysis

The data were obtained from the students by applying written forms in the classroom environment (face to face). Before implementation, the purpose of the study was told to the participants and they were informed about the importance of their sincere responses for the study. In addition, they were reminded that participation to the study was voluntary and they could quit the study if they wished.

The scale also included a part for the demographic information such as age, gender and grades as well as the part for the items. The scale was comprised of 28 items and implementation period was 15-20 minutes. The data were transferred to the computer.

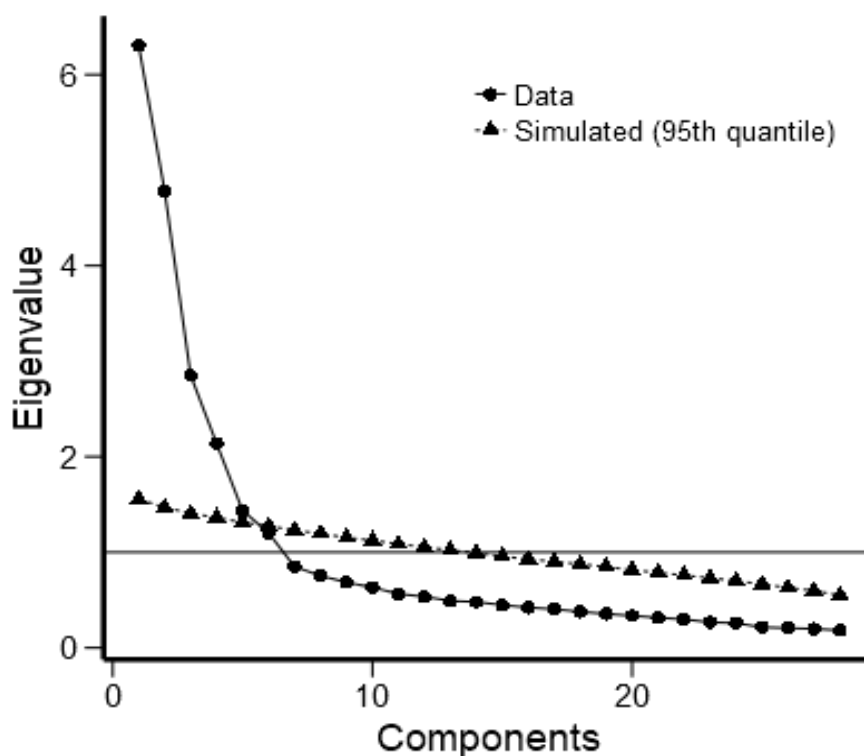
Before the analysis of the data, the The program used was stated in the last paragraph before the findings., missing values and outliers were examined. The frequency tables were examined and there were not any missing values. Multivariate outliers were examined with Mahalanobis distance values. The critical value for the Mahalanobis distance regarding the scale was found as $\chi^2(28) = 50.993$, ($p < .005$). Since there were not any values above this value, no data were excluded.

Exploratory factor analysis (EFA) was used to identify the factor structure of the scale. EFA is used to piece together numerous variables, which were put together in relation to each other, as meaningful new variables that are fewer in number (Çokluk et al., 2010). Netemeyer et al. (2003) recommend considering Eigen values, scree plot and parallel analysis results in deciding the factor structure of the scale in EFA.

Parallel analysis is based on a random serial correlation matrix including the same number of participants and variables as the real data. This matrix is obtained with Monte Carlo simulation. Random correlation matrices are subjected to basic components analysis and the means of the obtained Eigen values are calculated. The Eigen value means which are based on random correlation matrix are compared with Eigen values obtained from real data. As a criterion for deciding the number of factors, the point where the eigenvalues calculated from the real data are greater than the eigenvalues calculated from the random data is accepted as the cut-off point (O'Connor, 2000). It is stated that the values obtained by parallel analysis emerge by simulating the real data, thus achieving robust results and therefore it is the healthiest factor extraction method (Erkuş, 2012; Henson & Roberts, 2006). In this study, the parallel analysis calculations were performed with the help of JASP (0.8.1) program. The results are presented together in the scree plot. In the extraction of the factors, it was paid attention that the factor loading values were .32 or above (Comrey & Lee, 1992) and the same item was not included in more than one factor (cross-loading).

Figure 1.

Scree plot regarding real and simulated data Eigen values



Findings

Findings regarding Construct Validity

Before the factor analysis, the results of the Kaiser-Meyer-Olkin (KMO) coefficient and Bartlett's sphericity tests were examined regarding the adequacy of the sample to which the scale was applied. KMO coefficient was .87. This value means that the study group meets the sufficient sample size, in other words, sample data conformity is ensured.

In the Sphericity test ($\chi^2 = 5331.89$, $df=378$, $p<0.001$), it was understood that the values regarding the data distribution were suitable for exploratory factor analysis.

Table 1.

Factor loadings regarding the items in the final scale form

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
AP1	.	0.773	.	.	.
AP2	.	0.592	.	.	.
AP3	.	0.766	.	.	.
AP5	.	0.594	.	.	.
AP6	.	0.893	.	.	.
AP7	.	0.805	.	.	.
AP8	.	0.588	.	.	.
PI1	0.774	.	.	.	.
PI2	0.908	.	.	.	.
PI3	0.820	.	.	.	.
PI4	0.909	.	.	.	.
PI5	0.914	.	.	.	.
PI6	0.653	.	.	.	.
SE1	.	.	0.863	.	.
SE2	.	.	0.886	.	.
SE3	.	.	0.863	.	.
SE4	.	.	0.854	.	.
SE5	.	.	0.691	.	.
BT1	.	.	.	0.847	.
BT2	.	.	.	0.819	.
BT3	.	.	.	0.660	.
BT4	.	.	.	0.829	.
BT5	.	.	.	0.456	.
LD1	.	.	.	.	0.900
LD2	.	.	.	.	0.903
LD4	.	.	.	.	0.714

AP: advantages of profession, PI: pedagogic interest, SE: social effects, BT: belief in talent, LD: lesser difficulty of teaching programs

Values below $\pm 0,20$ are not included in the table.

In the final form of the scale, the factor loadings were between .46-.91 and the scale was composed of 26 items. The final scale explained 62.56% of the total variance.

The Eigen values regarding data that were simulated based on the parallel analysis results and the Eigen values regarding real data are located together in the scree plot, which is examined for the factor structure of the scale. This graphic, used for the interpretation of parallel analysis results, gives the point where real data Eigen values and random data Eigen values intersect, revealing the number of the factors (O'Connor, 2000).

An examination of the figure above involving Eigen values and the factors reveals that real data Eigen values are greater than random data Eigen values in the beginning; however, they become closer to each other in the fifth factor and random data Eigen values are greater in the sixth factor. This means that the scale has five factors.

The scale was rotated in order to be able to make sense of the five-factor structure

of the scale and examine loadings of the items. After the rotation, the communalities values varied between .33-.78. The five-factor structure of the scale explains 62.56% of the total variance. Regarding the variances in the factors, the highest variance belongs to pedagogic interest (22.53%) and other factors follow it in the order of advantages of profession (17.08%), social effects (10.19%), belief in talent (7.64%) and lesser difficulty level of teaching programs (5.13%). Erkuş (2016) states that these values are related to the structure before the rotation, and these values do not have a determining role in the factorization.

In the examination of the factor loadings after the rotation, the cut-off point of .32 was considered and cross loadings were examined carefully. The loadings of the items were above .50. In addition, the items AP4 and LD3 were excluded from the final scale due to their cross loadings and the rotation was repeated.

Findings regarding Reliability

Regarding the reliability of the scale, the mean, standard deviation, correlation coefficients and Cronbach Alpha values of the factors were examined. These values are presented in Table 2.

Table 2.

Mean, standard deviation, correlation coefficients and Cronbach Alpha values regarding scale reliability

	Mean	SD	<i>AP</i>	<i>PI</i>	<i>BT</i>	<i>SE</i>	<i>LD</i>	Cronbach Alpha
AP	26.08	6.03	1					.84
PI	22.64	5.50	.058	1				.91
BT	18.93	3.73	.144**	.404**	1			.78
SE	13.67	5.83	.236**	.047	.086	1		.90
LD	8.17	3.26	.422**	.035	.182**	.384**	1	.80

**p<0.001

The Cronbach Alpha values suggest that the scale has a reliable structure. On the other hand, in the correlation table results, the relationships between some factors were not significant. In these types of studies in which basic components are identified, these weak relationships means the basic components are independent of each other. This fact should be considered when using the scale. Regarding all the findings, it can be suggested that this measurement tool, which was developed with regard to pre-service teachers' motives for preference of teaching profession, is a valid and reliable instrument in explaining the related variable.

Conclusion, Discussion and Recommendations

Profession is the most prominent source of one's personality and it is an area of activity facilitating getting respect from the social circle, forming relationships with other, earning a place in the community and feeling of service for other people (Kuzgun, 2000). Although the relationship between personality and professional predisposition is valid for all professions, it is more apparent for teaching profession which requires "self-devotion" regarding the working area and conditions (Püsküllüoğlu, 1986 as cited in Hotaman, 2011). One aspect of teaching profession is related to loving and heart (Kızıltaş et al., 2012) and it has a critical role in the development and countries and societies (Bishay, 1996; Ekici, 2015). Therefore, the motives for choosing teaching profession are significant.

In a number of studies carried out in Turkey on the choice of teaching as a career, it is observed that teaching profession is not among the primary preferences as a profession in the university preference period, and moreover, an important part of the students studying in teacher training programs at universities do not see teaching profession as an ideal job (Aksu et al., 2010; Anılan & Anılan, 2014; Bursal & Buldur, 2013; Çermik et al., 2010; Ekiz, 2006; Murray, 1988; Şahin, 2011). On the other hand, the previous studies on pre-service teachers' motives for career choice were mostly held with pre-service teachers studying in a particular department at the faculties of education (Akkaya, 2009; Akpınar et al., 2006; Aydın & Sağlam, 2012; Baykara-Pehlivan, 2008; Beşoluk & Horzum, 2011; Bozdoğan et al., 2007; Camadan & Duysak, 2010; Çağlar, 2013; Çapri & Çelikkaleli, 2008; Çetinkaya, 2009; Dönmez & Uslu, 2013; Eret-Orhan & Ok, 2014; Gökçe & Sezer, 2012; Gür-Erdoğan & Zafer-Güneş, 2012; İpek et al., 2015; Kayan-Fadlilmula, 2013; Kızıldaş et al., 2012; Kocaarslan, 2014; Köğçe et al., 2010; Özsoy et al., 2010; Pektaş & Kamer, 2011; Şahin, 2009; Terzi & Tezci, 2007; Uğurlu & Polat, 2011; Ünal & Şimşek, 2008; Üstüner et al., 2009; Yüce et al., 2013). In these studies making comparison at the department level, the samples were limited to some departments at elementary level rather than all departments. In the current study, it is aimed to develop a valid and reliable scale and examine the factors playing role in the career choices of pre-service teachers in different teacher education programs which the literature lacks.

In the light of the statistical data provided in the findings section, the parallel analysis results used in testing the factor structure of the scale developed within the study point to a five-factor structure. This structure explains 63% of the total variance. The factors were named as advantages of profession, pedagogic interest, belief in talent, social effects and lesser difficulty level of teaching programs. The scale includes 26 items and factor loading values are between .46 and .91. In addition, the correlation values of the factors reveal that there is a medium level correlation between the factors. The validity and reliability values of the scale suggest that it is a valid and reliable instrument to be used in studies related to pre-service teachers' motives in career choices.

The literature in Turkey lacked a scale to identify career choice motives of pre-service teachers studying in the first year of different departments at the faculties of education, to the researchers' best knowledge, and therefore it is thought that this scale may meet a significant gap and it may contribute to other scale studies in the future.

Additionally, the study was carried out with pre-service teachers at the first grade who had just started teacher education programs. As well as similar large scaled studies, motives for choosing teaching profession can be researched through studies involving all levels of undergraduate teacher education.

Although it is put forth in the study that the scale developed in the study which facilitates measuring career choice motives for teaching profession quantitatively is a scientifically valid and reliable instrument, the available values reveal the need for qualitative data to be able to make more solid and sound interpretations. This quantitative study cannot provide a thorough examination of the factors playing role in choosing teaching profession and future expectations, and cannot provide a cause-and-effect relationship due to the limitations stemming from the nature of quantitative research methods. Therefore, in the future studies, mixed method research studies can be designed to provide qualitative data as well as quantitative data from this scale, and based on more valid and reliable results obtained with data triangulation, this significant problem of education systems can be enlightened to a greater degree.

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