Exploring Pre-Service Teachers' Perceptions about Professional Ethics in Teaching: Do Gender, Major, and Academic Achievement Matter?

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Abstract

This study aims to explore whether there is a statistically significant difference in pre-service teachers' perceptions of professional ethics in teaching according to gender, major and academic achievement. The data was collected from 541 conveniently sampled pre-service teachers from seven different majors and four state universities using a 43-item scale developed by the researchers. The data was analyzed using Linear Regression Analysis in *R*. The results indicated that gender was a significant predictor of pre-service teachers' perceptions of professional ethics in teaching, and that females held significantly more ethical perceptions about the teaching profession compared to the males. The results also indicated that pre-service teachers' majors did not seem to have a significant effect on their ethical perceptions about the teaching profession with the sole exception of classroom teaching. The results further revealed that academic achievement was not a significant predictor of pre-service teachers' perceptions about their profession. However, when gender was used as a covariate, the analysis indicated that teachers' majors were a significant predictor of pre-service teachers' perceptions of professional ethics in teaching. The results further indicated that academic achievement was not a significant predictor of pre-service teachers' perceptions about their profession even when the pre-service teachers' gender and major were controlled.

Key words: Teaching Ethics, Codes Of Ethics, Teacher Education, Pre-Service Teachers, Ethics, Gender

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INTRODUCTION

The concept of ethics has long been a question of great interest in almost all disciplines. Focusing on the universal nature of right or wrong, ethics has received considerable critical attention in the teaching profession as well. Teachers as "moral agents in the classroom" (Bernstein, 1996; p.881) are expected to possess "pedagogical fitness" (Wescombe-Down, 2009; p.20) in order to enhance a well-designed learning environment for their students. Maintaining a well-designed learning environment includes moral elements such as understanding the students and respecting them as individuals as well as providing a safe, warm, and student-friendly context in the classroom, all of which point to issues of professional ethics. The vitality of ethics education in teacher education programs is highlighted in Burant, Chubbuck and Whipp's (2007) work as follows:

(...) the moral is always in play in classrooms in teachers' actions, whether intentionally or not, and the complexity of the classroom environment--its immediacy and ever-changing activities-- makes demands on teachers that reveal their orientation to their work in a myriad of daily acts. Because of that seamless connection, explicit attention to the moral formation of pre-service teachers is crucial (p.408).

Research has postulated that teachers who are new to the profession have more negative ethical perceptions than the senior ones (Şişman & Acat, 2003). This finding highlights the critical importance of instilling ethical behaviors in pre-service teachers. For this reason, since the 1970s, ethics has received considerable attention in teacher education programs in Europe, Australia and in the USA (Boon & Maxwell, 2016). However, there still exists a lack of an established code of ethics in teacher education in different countries.

Based on the above, it would appear important to conduct studies on teaching professional ethics among pre-service teachers. However, limited research has been conducted on pre-service teachers' perceptions of professional ethics (Authors, 2018; Boon, 2011). With this in mind, the following major research question guided the study: Is there a statistically significant difference on teachers' perceptions about professional ethics in teaching according to gender, major and academic achievement as measured by their grade point average (GPA)?

CONCEPTUAL FRAMEWORK

A Brief Look at Ethics: Definitions and Conceptions

The etymology and origin of the word 'ethics' belongs to the Greek language and refers to 'existence style' and seeking a path of wise action, as well as a principle that judges subjects' practices (Badiou, 2004). In a sense, judgments of ethics generally consist of what is right and wrong, what makes an individual good, and what sort of a life is good. To clarify the concept, it is useful to differentiate ethical claims from factual ones and appraisals or 'values' (Kuçuradi, 2007; Strike & Soltis, 2015). First, ethical claims do not mean facts like 'Water is liquid', which are statements that prescribe what is effectively true. Ethical claims such as 'Killing is evil' do not present the world as exactly as facts (Strike & Soltis, 2015), meaning that ethics can be violated but not falsified.

Secondly, differentiating ethics from cultural values and moral judgements may lead to a better understanding of ethics. Morality is a research topic in ethics, and morality includes unwritten standards in determining how to act in accordance with cultural values and ideals whilst ethics is related to more abstract concepts and is expected to include obvious, clear written rules and standards for a discipline such as political ethics, medical ethics, ethics in psychology and so on (Aydın, 2012). Moreover, human being are not born with moral character, it comes into existence by experiences and choices that are influenced by several external factors (George, 2017). Therefore, moral norms and attitudes may show changes over time (Inglehart & Baker, 2000) and across different cultures

(Kuçuradi, 1988; Vauclair & Fischer, 2011), whereas ethics, especially professional ethics, are generally universal and resistant to change (Aydın, 2012).

Despite the apparent universality of ethics, cultural variables in divergent countries are found to have an impact on ethical standards due to differences in societal goals for reaching a desired society (Alas, 2006). For example, business-related ethical issues vary among different countries, so culture is a predictor in explaining country differences (Christie, Kwon, Stoeberi, & Baumhart, 2003; Scholtens & Dam, 2007). Moreover,even ethical understanding and implications may change over time, from one generation to another (Martinsons & Ma, 2009). Nevertheless, it can be said that standards of ethics are exposed to much less evolution than values and preferences, and this represents a potentially significant difference. As a result, it is hard to find consensus on definitions of ethics, but common points from several definitions show that ethics is adding value to society we live in (Kaufman, 2008), an expression of professional values (APA, n.d.), well-established standards about norms of conduct for acceptable actions (Resnik, 2011), rights and wrongs that people should follow (Velasquez et al., 2010) and includes values like fairness and virtue (Strike & Soltis, 2015).

Professional Ethics and Ethics in Teacher Education

Questions and answers in daily life arise from evaluation of a person and his/her specific situations and behavior, and they also arise from how others or the self should take a stance or action in any given situation. On the other hand, questions in professional ethics arise from ethical and law-based norms such as what to do or not to do in a certain work situation, and answers to these questions are generally provided in occupational moral codes, declarations and contracts (Kuçuradi, 2000). However, what kinds of occupations may actually be called a 'profession' where the people working inside it are known as 'professionals' is arguably the real question. Within this scope, people like physicians, lawyers, psychologists and teachers are called 'professionals' as they already meet requirements of a special field of occupation compared to sportspeople, joiners etc. who can be separated in terms of being 'amateur' and 'professional' (Carr, 2005). As Carr (2005) mentioned, one of the necessities or criterions of professionalism is having ethical aspects that are stated within a code practice, and without these ethical dimensions, teaching could not call itself a profession.

Ethics is important in every area of human life, and even the requirement of ethical dimensions by an occupation to call its employees 'professionals' explains a great deal about why ethics are so crucial. Completing university education only with a great deal of knowledge is not sufficient because making right and healthy decisions for the self and society and to be a good-natured person requires professional teaching ethics (Gülcan, 2015). In that sense, developing as a teacher with ethical sensitivity and knowledge becomes much more important because teachers are the ones who enable transition of knowledge, skills and ethical dimensions to upcoming generations which represent the future of a society. In addition, in order to have improved practice and increased professionalism, it is necessary to raise awareness of educators about the responsibilities and ethical aspects of their profession (Eryaman; 2007; Campbell, 2000). For instance, ethical codes and standards help to protect the prestige and development of an occupation, and also contribute to its recognition, legalization and maintenance of legality (Koçyiğit, Tekel & Karadağ, 2018). Moreover, professional ethics serve as a guide for teachers in ethical dilemmas to both protect themselves and other stakeholders around them, provide responsibility to the teachers for helping students to make desirable changes in their behavior, and facilitate the teachers in approaching their students with more commitment, care and intimacy (Sherpa, 2018). Therefore, it is much more than a need to simply equip pre-service teachers with professional ethic codes and standards.

Based on all the above, it would appear clear why there are many reasons for embedding ethics into teacher training. This is why several countries in Europe, North America and Australia give importance to training their pre-service teachers in ethics so that they can be moral models for their future students (Boon & Maxwell, 2016). There is currently a gap in the literature on how to prepare prospective teachers in confronting ethical challenges in their professions (Maxwell et al.,

2016), but research on this study has been expanding. For instance, in Australia, the Australian Institute for Teaching and School Leadership (AITSL) requires the teacher education curriculum to have minimum pedagogical and related content, and a pre-service teacher must have and exhibit ethical qualities and dimensions in both class and other social environments (Boon and Maxwell, 2016). Furthermore, Maxwell et al. (2016) investigated the ethical content of the curricula of some OECD (Organization for Economic Co-Operation and Development) countries including the U.S., the U.K., Australia, the Netherlands and Canada, and they stated that twenty-four percent of teacher education programs in these countries possess at least one obligatory ethics course.

It seems therefore that there is an effort to teach ethics in prospective teacher education, but there is still discussion about its quality and sufficiency. Survey results by Boon (2011) revealed that pre-service teachers lack ethical training and instruction and that the field of education is far behind other scientific disciplines considering training in ethics in Australia and the United States. Similarly, in a comparative study, Galanzer and Ream (2007) concluded that educational programs in Christian universities have the poorest curriculum with regards to ethics courses among many majors like engineering, business, law and so on. Many research findings emphasize the inadequacy and crucial need for more and better involvement of ethics training in teacher education rather than simply focusing on the teaching of knowledge and skills (Burant, Chubbuck & Whipp, 2007; Boon, 2011; Boon & Maxwell, 2016; Glanzer & Ream, 2007; Langenderfer & Rockness, 2006).

Ethical sensitivity and reasoning is not only attained by rules or laws (Strike & Soltis (2015); a code of ethics may provide guidance to a professional in emerging situations (Flite & Harman, 2013). In that sense, Lieberman (1963) underlined the importance of having a code of ethics for the educational field in order to gain strong professional status and regulate teacher behavior, and then expressed his belief in the U.S.'s National Education Association (NEA)'s Committee on Professional ethics to reach this goal. Then, in 1975, codes of professional teaching were accepted by the NEA, which included a preamble addressing responsibilities, virtues, and qualities and so on that an educator must have, and there are two principles forming the skeleton of ethical codes, which are: (a) commitment to student, and (b) commitment to profession (National Education Association, n.d.). Moreover, in Europe, Golubeva and Kanins (2017) conducted case studies of 11 European countries about their code of ethics for teachers, and they stated that while ethical codes of teachers in some countries were developed by governments, others have private unions of educators which developed these codes. For example, in the U.K., the 'Code of Conduct and Practice for Registered Teachers' was developed and accepted by the General Teaching Council for England in 2004, and it provides fundamental principles mostly focusing on serious misconduct by educators (i.e., misuse of their professional position) through consideration of core ethical principles such as integrity, honesty, confidentiality and so on (General Teaching Council for the UK, 2004).

In addition to the code of ethics, another way of contributing towards highly ethical professionalism is based on the training of pre-service teachers because the educational environment in teacher education acts as an important support for teachers in becoming professionals (Puhan, Malla & Behera, 2014). Education in ethics is available in numerous professions worldwide, but less importance is given in teacher education, and it is often completely neglected (Walters, Heilbronn & Daly, 2017; Warnick & Silverman, 2011; Boon, 2011). For example, in a study within UK universities, the outstanding finding was that there is no ethics course in the curriculum due to various reasons" such as insufficient time, student resistance and certain external demands. However, ethics related topics are integrated into the curriculum. (Walters, Heilbronn & Daly, 2017). On the other hand, in Thailand, Bachelor courses in teacher education last for 5 years, and in the third year, pre-service teachers have to obtain the Ethics and Codes for Teachers Course including the topics of ethics and morals for teachers, the personality of effective teachers, the responsibilities of teachers and so on (Kruea-In & Kruea-In, 2015). Moreover, many of the teacher candidates who took this ethics course produced sound and correct explanations for several ethical situations as confirmed by the study results (Kruea-In & Kruea-In, 2015). Although it is common for scholars to embed independent ethics courses focusing on analyses and discussions of ethical dilemmas in teacher education, the implications of ethics education for pre-service teachers vary greatly and can take many

forms such as teaching it through an independent course or embedding it into different courses (Maxwell & Schwimmer, 2016).

In addition to educational laws and regulations, it would appear essential to include moral educational principles because in order for teachers to be objective and get rid of their own stereotypes and personal values, the existence of professional ethical codes of education is required (Öztürk-Aynal, Kumandas & Ersanli, 2013). In Turkey, when talking about professional ethical codes, attributions are generally directed toward ethical codes of certain foreign countries like the United States (Aydin, 2018). The Turkish Ministry of Education published 'Professional Ethics Principles for Educators' in 2015, and these principles are accepted as codes of ethics for teachers in the Turkish national education system (Aydin, 2018; Koçyigit, Tekel & Karadag, 2018).

These ethical codes consist of (a) ethical principles regarding relationships with students, (b) ethical principles in areas such as occupational competency and providing a healthy and safe learning environment, (c) principles related to relationships with other educators, (d) relationships with parents and caregivers, (e) relationships with school principals and society, and (f) school principals' relationships with other stakeholders (Turkish Ministry of Education, 2015). Moreover, the Council of Higher Education of Turkey made new regulations in Bachelor degree teacher education programs in 2018, and added a mandatory 'Morality and Ethics in Education' course to the curriculum due to be applied in the 2018-2019 academic year. Thus, pre-service teacher education includes an independent obligatory course of education in professional ethics for teachers.

There are several studies which have been conducted across various countries about professional ethics in educational settings, and interest in this topic initiated during the 1980s (Shapira-Lishchinsky, 2009). Many of these studies address the effectiveness and need for ethical codes and education of ethics for pre-service teachers by underlining the general lack of knowledge and skills related to this issue (Duran, 2014; Erdem & Şimşek, 2013; Warnick & Silverman, 2011). To illustrate this point, in a study on environmental ethics, Turkish pre-service teachers who took the environmental course reported more ecocentric concern than the ones who did not attend this course (Saka et al., 2009). Puhan, Malla and Behera (2014) studied prospective teachers' understanding of ethical education and looked at a college's curriculum for ethics-related subjects. They highlighted the exigency for ethical subjects in teacher education programs, and a need for a code of ethics for teachers in India. Moreover, Shapira-Lishchinsky (2010) studied 50 teachers from 50 Israeli secondary schools to test how serious ethical dilemmas affect teachers. They found out that ethical dilemmas caused by incompetency and self-confidence make teachers experience negative emotions and memories, and an urgent need for ethical guidelines and appropriate pre-service education of ethics is emphasized. Within this scope, it can be said that the insufficiency of both preservice and in-service teachers' professional ethics dispositions is highlighted in numerous studies.

In addition, there are research findings touching upon demographic differences in the professional ethics dispositions of educators. A study of Turkish pre-school teachers' perceptions of professional teaching ethics and ethical dilemmas showed that a high level of participants perceive ethical conduct without any significant age or professional seniority differences, but this perception varied significantly according to the department people graduated in and whether they held a graduate degree or not (Duran, 2014). Starting from their Bachelor's degree years, female university students are more sensitive to ethical issues, and they are less likely to carry out unethical activities compared to males (Ameen, Guffey & McMillan, 1996). For instance, researchers examined the effectiveness of embedding case-based moral development implementations into the bachelor's degree of an education department in Ireland, and results showed that teacher candidates (n=123) who went through this intervention process had higher levels of moral reasoning, and females demonstrated higher levels of moral reasoning both in pre- and post-intervention (O'Flaherty & McGarr, 2014). On the other hand, Altınkurt and Yılmaz (2011) also discovered gender differences regarding pre-service teachers' views about unethical professional behavior; male teachers are found to be more sensitive towards unethical professional conduct than females. To this end, although a great number of studies revealed that

females are more sensitive to ethical processes, still more studies are needed to enlighten gender differences in ethics.

Furthermore, the relationship between gender and ethics can also change according to the gender of the students themselves. In a study, it was found that teachers acting in accordance with ethical values significantly differed for the benefit of female students (Yeşilyurt & Kılıç, 2014). Similarly, despite the fact that fairness is a core ethical principle without discriminating on the basis of gender, race etc., male teachers, either unconsciously or consciously, pay more attention towards female students while female teachers do the same thing to boys, as an observational study discovered (Einarsson & Granström, 2002). However, these gender differences may sometimes not be significant. Vogt (2002) investigated the ethic of care, which is mostly known as a moral perspective belonging to females, by studying 32 primary school teachers from Sweden and the UK and the study results surprisingly revealed that the majority of participant teachers hold the ethic of care toward their students without any significant gender differences. Overall, there is limited study data in the literature about the association between professional teaching ethics and basic demographic information such as gender, educational background/department, age and so on.

Importance of the Study

In view of all that has been mentioned so far, it seems evident that professional teaching ethics is necessary for educators to be professional and to choose the right paths in cases of decision-making (Campbell, 2000; Carr, 2005; Gülcan, 2015). The importance of educating pre-service teachers in ethical concerns is also emphasized by various scholars (Boon, 2011; Boon & Maxwell, 2016; Chubbuck & Whipp; 2007; Glanzer & Ream, 2007) who also highlight the lack of such forms of education in training programs.

As Kaufman (2008) underlined, without striving for achievement of ethics in educational settings, it is hard to achieve adding value to society. Although higher education is expected to be the center of ethics and moral standards for raising competent individuals with good ethical judgements and commitment to the society, it may not meet these standards, and adequate importance is not given to research on ethics in higher education (Prisacariu & Shah, 2016). Assigning adequate importance to ethics and moral standards becomes much more crucial when future's teachers, agents of change, are considered.. With this in background, examining ethical perceptions and predispositions of pre-service teachers about professional ethics in teaching is important for researchers in improving self-insight into professional teaching ethics and in devising strategies and education programs within teacher education programs. This highlights the utmost importance of enlightening the underlying factors that influence the ethical development of pre-service teachers. . However, despite the increasing attention on ethics , few empirical research exists in the related literature about ethical perceptions of pre-service teachers (Cummings, Harlow, & Maddux, 2007). Expectedly, there is a need for more studies to enlighten basic characteristics that affect the differences in ethical perceptions of educators when considering that populations are changing and that there may be cultural factors impacting prospective teachers' perceptions about professional teaching ethics. Furthermore, despite the existing studies about changes in ethical perceptions of teacher candidates regarding some demographic variables like gender, major and age, the related literature includes findings that are either not cross-culturally representative or outdated. Moreover, there are also controversial study findings, especially on gender differences in ethical predispositions as mentioned earlier above (Rodzalan & Saat, 2016; Vogt, 2002; O'Flaherty & McGarr, 2014). In that sense, the present study also contributes to a gap and a controversial issue in the literature regarding the link between demographic factors (e.g, gender, student major and academic achievement) and ethical predispositions. In line with this, this study is also expected to shed light on understanding pre-service teachers' perceptions about professional teaching ethics in a non-Western country that is Turkey. To this end, the following research question guided the study: Is there a statistically significant difference in teachers' perceptions about teaching professional ethics according to pre-service teachers' gender,

major and academic achievement as measured by their grade point average? The sub - questions are as follows:

(1) Is there a difference in the pre-service teachers' perceptions about teaching professional ethics in terms of their gender, majors, and academic achievement as measured by their Grade Point Average (GPA)?

(2) Is there a difference in the pre-service teachers' perceptions about teaching professional ethics in terms of their majors after controlling for the effects of their gender?

(3) Is there a difference in the pre-service teachers' perceptions about teaching professional ethics in terms of their GPA after controlling for the effects of their majors?

(4) Is there a difference in the pre-service teachers' perceptions about teaching professional ethics in terms of their GPA after controlling for the effects of their gender and major?

METHOD

Participants

Data was compiled from 541 senior pre-service teachers (434 Female, 107 Male) at four large public universities in Ankara, Turkey. Pre-service teachers in their last years have typically completed education courses, and have more awareness, knowledge and skills regarding being a teacher compared to their peers in the lower grades. We therefore included senior pre-service teachers in the study using convenience sampling. Table 1 shows the demographics. The students were majoring in English language teaching (n=174), science and technology teaching (n=93), classroom teaching (n=83), mathematics teaching (n=63), computer and instructional technology education (n=63), Turkish language teaching (n=34), and primary school mathematics teaching (n=30).

Table 1. Distribution of the Participants by Gender and the Department

	N	%
Gender*		
Male	106	19.7
Female	433	80.3
Department*		
English Language Teaching	174	30.7
Science and Technology Teaching	93	16.4
Classroom Teaching	83	14.7
Mathematics Teaching	63	11.1
Computer and Instructional Technology Education	63	11.1
Turkish Language Teaching	34	6.0
Primary School Mathematics Teaching	30	5.3
	540	100

Instrument

A self-developed instrument by the researchers was used to explore the pre-service teachers' perceptions of professional ethics in teaching. The scale had 43 items and a uni-dimensional structure. The validity and reliability of the scale was tested using an exploratory factor analysis (EFA) and a confirmatory factor analysis (CFA) with 220 and 724 senior pre-service teachers respectively in another study (see authors, 2018). With reference to this study (see Authors, 2018), Exploratory Factor Analysis produced a single factor scale that accounted for 39.36 % of the variance with an eigenvalue that was 5 times larger than the eigenvalue of the second factor. Confirmatory Factor Analysis resulted the ratio of chi-square to degrees of freedom was X2(860)=3338.32, p<0.01; the

root mean square error of approximation (RMSEA) = .06; standardized root mean square residual (SRMR) = .06; comparative fit index (CFI) = .95; goodness-of-fit index (GFI) = .69; non-normed fit index (NNFI) = .94; normed fit index (NFI) = .94; relative fit index (RFI) = .93. The scale had a Cronbach alpha coefficient of 0.96 in both analyses. The Cronbach alpha coefficient of the scale in the current study is 0.94, indicating that it had high reliability. Example items were given below:

Item 2: Holding the students responsible for the topics in the exam which were not covered in the class. (Öğrencileri derste anlatmadığı konulardan sınavda sorumlu tutması.)

Item 9. Having a romantic relationship with his/her student. (Öğrencisi ile duygusal ilişki yaşaması.)

Item 20: Using the course materials prepared by others without reference. (Başkalarının hazırladığı ders materyallerini referans vermeden kullanması.)

Item 43: Behaving inattentive when talking about sensitive issues (religion, private life, etc.). (Hassasiyet içeren konular (din, özel hayat, vb.) ile ilgili konuşurken özensiz davranması.)

Procedure

We administered the scale to 541 conveniently selected senior pre-service teachers from seven different majors at four different state universities located in Ankara, Turkey. The data was collected in the Spring 2017 and Fall 2017 semesters during class hours. The participants were informed about the purpose of the research and asked for voluntary participation in it. They provided information about their gender, major and GPA, and were asked to select a response on a five-point Likert scale (1=I do not find this ethical to 5= I find this ethical with 3=undecided) which reflected their ethical stances towards professional ethics in teaching. A score close to 1 would show that the pre-service teachers had ethical perceptions in professional teaching ethics while a score close to 5 would indicate that pre-service teachers have negative ethical perceptions in professional teaching ethics.

Data Analysis

IBM SPSS 23 was used for demographic data analysis and a MBESS R package Version 1.1-9 to conduct linear regression analyses to answer our research questions.

RESULTS

We used R to explore if there was a statistically significant difference in teachers' ethical predispositions towards teaching professional ethics according to their gender, major and academic achievement as measured by their grade point average (GPA).

We conducted preliminary analyses to find out if the data was suitable for analyses prior to the main statistical analyses. Parametric tests, including linear regression analysis, are robust to violations of normality with large sample sizes (Vittinghoff , Shiboski, Glidden, & McCulloch, 2005, p. 33). The data set in the present study has more than 500 variables, making it robust to violations of normality. Skewness and kurtosis values were measured to determine whether the data met the assumption of normality. They were found to be close to zero (0.87 and 0.05 respectively) indicating evidence for normality (Tabachnick & Fidell, 2007).

As parametric tests are sensitive to outliers (Vittinghoff et al., 2005, p. 33), we explored the data set to identify outliers, if any. There were six observations which were three standard deviations away from the mean in the data set. We removed these six outliers from the data set. The standard deviation of the scale went down considerably (from 16 to 12) after removing the outliers. We used

Variance Inflation Factor (VIF) to measure multicollinearity. The variables were found to be moderately correlated, with gender having a VIF value of 1.10, student major having a VIF value of 1.21., and GPA having a VIF value of 1.24. This indicated that multicollinearity was not a problem in the present study.

Upon removing the outliers, we conducted Linear Regression Analyses with the remaining 540 cases to find out whether the perceptions of the prospective teachers about professional ethics in teaching depended on the independent variables gender, academic major and grade point average as measured by the GPA. The results of the Linear Regression Analysis and mean and standard deviations of student responses to scale items by gender and department are presented in Table 2 and 3 respectively. The results initially showed that gender was a significant predictor (p=0.015), with male respondents scoring 3.4 points higher in the variable 'scale'. Grade point average, on the other hand, was not a significant (p=0.49) predictor of scale. The majors of the respondents did not seem to have significant effect on the scale, with the sole exception of classroom teaching, which had significantly (p=0.003) lower outcomes of 'scale'.

Table 2 Results of Linear Regression Analysis (N=540)

	Estimated SD	Error	T-Value	Pr(>|t|)
Intercept	58.90	5.51	10.69	< 2e-16 ***
Gender	3.49	1.49	2.43	0.0156*
Science and Technology Teaching	-3.75	2.10	-1.79	0.0746 .
Primary School Mathematics Teaching	-0.22	2.86	-0.08	0.9399
English Language Teaching	-1.57	1.99	-0.79	0.4300
Mathematics Teaching	1.22	2.33	0.52	0.6007
Classroom Teaching	-6.28	2.17	-2.89	0.0039**
Turkish Language Teaching	-4.99	2.79	-1.79	0.0738 .
GPA	-1.09	1.59	-0.69	0.4904

Note[1]. *** = 0; ** = 0.001; * = 0.01, . = 0.05; Multiple R-squared: 0.05, Adjusted R-squared: 0.04, F-statistic: 3.506 on 8 and 512 DF, p-value: 0.0006

Note[2]. The department comparisons were made by taking the first department, Computer and Instructional Technology Education, as the main group.

Table 3. Participant Responses to Scale Items by Gender and the Department (N=540)

	M	SD
Gender*		
Male	1.41	.34
Female	1.32	.28
Department*		
English Language Teaching	1.36	.31
Science and Technology Teaching	1.30	.31
Classroom Teaching	1.25	.25
Mathematics Teaching	1.40	.40
Computer and Instructional Technology Education	1.40	.30
Turkish Language Teaching	1.28	.030
Primary School Mathematics Teaching	1.40	.27

In the next stage, the effect of prospective teachers' major on their perceptions of professional ethics in teaching was investigated while controlling for the effect of their gender. The model including student major was significant with p=0.01 when gender was used as a covariate. Table 4 presents the results of Linear linear regression analysis holding the effects of gender constant. .

Table 4. Results of Linear Regression Analysis Holding the Effects of Gender (N=540)

	Estimated SD	Error	T-Value	Pr(>|t|)
Intercept	55.29	2.48	22.33	< 2e-16 ***
Gender	3.55	1.38	2.57	0.01047*
Science and Technology Teaching	-3.47	2.07	-1.68	
Primary School Mathematics Teaching	0.84	2.81	0.30	
English Language Teaching	-1.41	1.86	-0.76	
Mathematics Teaching	0.76	2.25	0.34	
Classroom Teaching	-5.76	2.12	-2.72	
Turkish Language Teaching	-4.82	2.68	-1.80	

Note[1]. *** = 0; ** = 0.001; * = 0.01, . = 0.05; Multiple R-squared: 0.05, Adjusted R-squared: 0.03, F-statistic: 3.579 on 7 and 531 DF, p-value: 0.0009

Note[2]. The department comparisons were made by taking the first department, Computer and Instructional Technology Education, as the main group.

In the further step, the effect of GPA on pre-service teachers' perceptions of professional ethics in teaching was investigated while controlling for the effects of gender. There were 18 cases where GPA was not available. These cases were omitted in the analysis. The results showed that the GPA was not a significant predictor of pre-service teachers' perceptions of professional ethics in teaching when the gender was controlled. The effect of GPA on pre-service teachers' perceptions of professional ethics in teaching was also investigated while controlling for the effects of both gender and major. Again, GPA was not found to be a significant predictor of pre-service teachers' perceptions of professional ethics in teaching, even when both gender and major were controlled.

We used IBM SPSS 23) to investigate the properties of individual items. When the individual scale items were examined, it was noticeable that the pre-service teachers differed in their responses to the scale items. The items the pre-service teachers mostly differed in their responses to were "use of statements that show one's religious beliefs" (*sd*=.82), "using course materials prepared by someone else without citing them" (*sd*=.78), "smoking in environments where students are present" (*sd*=.78). The statements that the students mostly agreed with were "teaching under the effect of alcohol" (*sd*=.37), "coming to school under the effect of drugs" (*sd*=.26) , and "using slang in front of students"(*sd*=.34).

CONCLUSION AND DISCUSSION

The present study was designed to explore pre-service teachers' perceptions about professional ethics in teaching, with a specific focus on whether there was a statistically significant difference in pre-service teachers' ethical stances considering their gender, major and academic achievement as measured by their GPA. The major finding emerging from the results was that gender was a significant predictor of pre-service teachers' perceptions about professional ethics in teaching, and that females held significantly more ethical perceptions about the teaching profession compared to males. In other words, teachers' ethical perceptions about their profession would appear to be influenced by their gender. In accordance with the present results, previous studies have demonstrated the predictive nature of gender regarding pre-service teachers' perceptions about professional ethics in teaching (e.g. Altınkurt & Yılmaz, 2011; O'Flaherty & McGarr, 2014; Pelit & Güçer, 2006). An implication of this is to provide timely guidance and directions to pre-service teachers about professional teaching ethics which considers the difference between males and females in their interpretation of ethical decisions regarding the teaching profession.

The second major finding of the study was that pre-service teachers' majors had a significant effect on their ethical perceptions about the teaching profession when the effect of their gender was controlled. When the means of the majors were explored, pre-service classroom teachers were found to have more ethical perceptions regarding the teaching profession when compared to the other majors, which could be considered as specialized teaching areas. The results regarding the relationship between pre-service teachers' majors and their perceptions about professional teaching ethics could be discussed in two different dimensions. Initially, our results suggest a relationship between a students' major and their ethical perceptions about teaching professional ethics in teaching. The second major result regarding the relationship between pre-service teachers' majors and their ethical perceptions about the teaching profession suggest that being a pre-service teacher in a classroom teaching department could have a predictive role in perceptions about professional teaching ethics. Another explanation might be added that the participants in this study were enrolled in seven different majors. The only student major different from the others was in classroom teaching as the remaining six majors were in specialized teaching areas (e.g., primary school mathematics teaching, English Language Teaching) while classroom teaching focused on a wide variety of courses. This could also be interpreted by the age levels addressed by classroom teachers. Indeed, these results match those observed in earlier studies. Different majors influence ethical perceptions and the potential to develop university students' moral judgements on different levels (Derryberry, Snyder & Wilson, 2006). Within this scope, there are various studies comparing education majors with other majors, and most of these studies suggest that pre-service teachers are less qualified than other major students in terms of ethical perception and judgement (Cummings et al., 2001; Yeazell & Johnson, 1988). While insufficient study clearly exists relating to moral judgements of pre-service teachers (Cummings et al., 2001), there is, to the best of our knowledge, also limited earlier research comparing differences within different education majors rather than compared with other majors.

One interesting finding of the study was that academic achievement was not a significant predictor of pre-service teachers' perceptions about ethical practices in teaching even when the students' gender and majors were held constant, suggesting that pre-service teachers' stances towards professional teaching ethics is not influenced by their achievement level in the programs they were enrolled in. There is a lack of studies that investigate the relationship between pre-service teachers' perceptions of ethics and academic achievement even if there is limited research examining students enrolling in different departments. In one study focusing on business students, Karakoç (2016) found that ethical sensitivity has a positive effect on the academic performance of business students, in contrast to our own results.

When the individual scale items were examined, the pre-service teachers were found to differ in their responses to individual scale items. The results indicated that the items that pre-service teachers mostly agreed with were "teaching under the effect of alcohol", "coming to school under the effect of drugs", and "Using slang in front of students". The items where the pre-service teachers mostly differed in their responses were "the use of statements that show one's religious beliefs", "using course materials prepared by someone else without citing them", "smoking in environments where students are present". A possible explanation for this might be that some ethical rules are more universally accepted compared to others such as teaching under the effect of alcohol and or drugs. The discrepancy in some items could be partially attributed to the cultural nature of ethical rules as culture plays an important role in ethical differences among the countries (Whipple & Swords, 1992; Scholtens & Dam, 2007). To illustrate this, although the students mostly agreed that using statements showing one's religious beliefs was not ethical (*m*=1.58; *sd*=.82), among 540 students, 318 students strongly agreed that it was not an ethical behavior while 148 students agreed that the behavior was not ethical. The number of students who were undecided was 60.

The major limitation of this study is that the data were collected from four major universities in Ankara using convenience sampling, which limits the generalizability of the findings. It is also unfortunate that the study did not include any qualitative instruments (e.g., interviews) that would supplement the data from the scale we used to assess prospective teachers' perceptions of professional ethics in teaching. Notwithstanding these limitations, the findings in the present study suggest several

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courses of action for improving the quality of teacher education programs through focusing on professional teaching ethics. It may be the case that teaching professional ethics in one course on a 4-year teacher education program may not be sufficient. However, ethical practices and education would appear to be compatible with nearly every course context as professional teaching ethics is important for decision-making for the self and society as a whole and being a good person (Gülcan, 2015); for raising a generation who is ethically sensitive to negative world events for a better society (Gluchmanova, 2015) and for caring for students with more commitment (Sherpa, 2018). Furthermore, ethical codes and standards help to maintain legalization and preserve the prestige of the teaching profession as discussed by Koçyiğit, Tekel and Karadağ (2018). To conclude, it is a must to train upcoming teacher candidates with ethical sensitivity and reasoning.

A key policy priority should therefore be to organize interventions or training programs for pre-service teachers, and in-service teachers, based on exploring professional teaching ethics through active learning strategies. As research suggests: "(...) moral reasoning levels of in-service and pre-service teachers are relatively low but can be increased through proper intervention" (Cummings, Harlow & Maddux, 2007, p.1). Teacher educators and/or academicians play a significant role in this process, namely, in developing pre-service and in-service teachers' perceptions about professional teaching ethics. Thus, teacher educators' awareness of professional ethics in teaching initially could be enhanced through well-structured training programs so that they could effectively help prospective teachers and in-service teachers to develop a thorough understanding of ethical and unethical practices in the teaching profession. Case studies, well-structured discussions, scenarios requiring ethical decisions, and analysis of videos from actual local and international classrooms could be deployed in training programs or interventions about professional ethics in teaching to develop not only teacher educators but also pre-service and in-service teachers' perceptions and practices of ethics. It should be noted here that the impact of these training programs could be investigated to shed more light on how and to what extent teachers' perceptions about professional teaching ethics could be positively developed over time.

This study has thrown up a number of questions that need to be investigated. Firstly, considerably more work needs to be done to understand the relationship between prospective teachers' gender, majors and their perceptions about professional ethics in teaching. Document analysis of curricula, qualitative interviews with different stakeholders, and think-aloud protocols used in ethics related case studies or scenarios could be utilized to develop an understanding of the differences among different majors regarding the prospective teachers' perceptions about professional ethics in teaching. Cross-cultural studies could be conducted to find out if different cultural contexts influence teachers' perceptions about professional ethics in teaching as well.

Further research into pre-service teachers' ethical perceptions would be of great help in developing a better analysis of how to subsequently integrate professional ethics in teaching into teacher education and training programs. A natural progression of this work would be to explore pre-service teachers' ethical perceptions of the teaching profession through the use of questionnaires about professional ethics in teaching, well-designed case studies, scenarios requiring ethical decisions, think-aloud protocols, and semi-structured interviews to capture thinking processes utilized to make ethical decisions and\or preferences. As mentioned earlier in this section, these active and learner-based practices would also enable pre-service teachers to develop a better understanding of professional teaching ethics and more sustainable ethical practices. In attempting to achieve these goals, educators' awareness and accountability about ethics in their profession may well be nourished in the process.

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