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## **The Relationship Between Pre-service Teachers' Attitudes towards Research and Their Academic Dishonesty Tendencies**

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### **Abstract**

The aim of this study is to examine the relationship between the research attitudes of the pre-service teachers and their academic dishonesty tendencies. This study employs a quantitative method with a correlational design consisting of 659 volunteer pre-service teachers from the faculty of education of a state university in East of Turkey. The data of the study were gathered through "Attitudes toward Research Scale" and "Academic Dishonesty Tendency Scale". The analysis of the obtained data showed that there is a significant difference between the two genders in favor of the female pre-service teachers on both the attitudes towards research and the tendency of academic dishonesty. It was found that the academic dishonesty tendencies of the senior year pre-service teachers are higher than that of the sophomore year pre-service teachers. There is a negative meaningful relationship between the academic dishonesty tendencies of the pre-service teachers and their attitudes towards the research.

**Keywords:** Attitude towards research, academic dishonesty, pre-service teachers

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## Introduction

Research can be defined as a process in which a person tries his/her best in order to find answers to curious questions as well as a systematic approach that is followed to find answers to problems (Shavelson, 1996). Research can be perceived as an art of "how to do" rather than an academic field of study, and it requires skills and experience. This experience lead people to be able to conduct independent research and criticize others' research activities (Simon & Burnstein, 1985). Scientific research can be defined as a process that establishes a continuous ongoing interaction between methods, findings and theories, and provides understanding of testable models and theories on the fields like education, economics, physics, molecular biology, etc. (Shavelson & Towne, 2002) as well as collecting data for specific purposes via systematic processes and analyzing those collected data (McMillan & Schumacher, 1984).

Research should be performed in a systematic, skeptical and ethical way. What is meant by systematic is the seriousness of what researchers do, why and how they do it. By skepticism, it is meant that there is a possibility that thoughts may not be confirmed. This also includes thinking about alternative assumptions and interpretations, and examining the initial observed results carefully. Being ethical means to follow the code of conduct that guarantees the concerns and inferences of those who are involved in the research or are likely to be affected by the research (Robson, 2013). In addition, research ethics help researchers conduct high quality research in an ethical way (Johnson & Christensen, 2014).

Determining research attitudes is important for the development of a positive attitude among students and their ease of learning (Papanastasiou, 2005). Research attitudes define feelings about research. These feelings include negative thoughts, anxiety, fear of failure, inadequacy, and lack of interest (Bolin, Hag Lee, GlenMaye & Yoon, 2012). When the literature on reseach attitudes of teachers, pre-service teachers, and students is reviewed, it is found that the pre-service teachers have negative attitudes towards research (Papanastasiou, 2005; Butt & Shams, 2013). For example, teachers are not interested in research due to the lack of time, lack of comprehension, lack of confidence in research findings (Shkedi, 1998). On the other hand, students find research difficult and boring (Adams & Holcomb, 1986). Female teachers have a more positive research attitude than male ones (Williams & Coles, 2003). Even if students are aware of the importance of research, they are anxious about the research process and they are afraid of conducting a research and they feel weak (Morgenshtern, Freymond, Apyapong & Greeson, 2011). Students, who believe that research is useful, feel less anxious and have an increased interest in research (Bolin et al., 2012). Papanastasiou (2005) stated that the students who encounter some obstacles during research and the ones who do not understand the research process exactly have negative attitude towards research. In addition, he explained that graduate students have positive research attitude since they believe it will help them in their professional life.

Academic dishonesty is often used as a synthesis of the concepts of cheating and plagiarism. Academic dishonesty is described as the tendency of an individual to intentionally commit plagiarism, passing off someone else's work as his own by not giving citation of any academic work. In addition, fraudulent academic documents, blocking or harming others' academic work, directing other individuals to conduct academic dishonesty (Hulsart & McCarthy, 2011), and individuals' wrong declarations in academic work (Krueger, 2014) may also be included as academic dishonesty. Academic dishonesty includes all kinds of fraud in educational settings, from plagiarism to deception and fabrication (Jurdi, Hage & Chow, 2012). Academic honesty center (1999) defines academic dishonesty as cheating, plagiarism, deception, a student's unfair advantageous position from other students and dishonest behaviours about academic achievement (Wideman, 2008). Other researchers may also use the information produced by academic dishonesty (Petress, 2003). As a result, academic dishonesty can cause a negative effect on the development of people and society (Imran ve Nordin, 2013).

There are several studies about academic dishonesty and the types of it in the literature. Findings of some of those are; students declare that they choose academic dishonesty to avoid academic failure (Thomas, 2017), more than half of the students participated in the study had applied to different forms of academic dishonesty within the last six months (Hensley, Kirkpatric & Burgoon, 2013), female students tend to be less fraudulent than male students (Nonis & Swift, 2001; Straw, 2002; Szabo & Underwood, 2004), among the high school students, 3rd year students tend to cheat less than the 1st and 2nd year students (Szabo & Underwood, 2004), younger individuals are more likely to cheat than adults (Straw, 2002), 95% of high school students confessed that they have cheated throughout their education life (Wangaard & Stephens, 2011), students with low grades tend to have more academic fraud than students with high grades (Hensley, Kirkpatric & Burgoon, 2013) and tend to cheat more (Yardley, Rodriguez, Bates & Nelson, 2009), international undergraduates are more likely to be fraudulent than domestic students (Beasley, 2016), despite the fact that students find academic dishonesty wrong, they commit it because of the pressure of university studies and family expectations (Finchilescu & Cooper, 2017) and masters students are more likely to perpetrate academic fraud than PhD students (Yang, 2012).

In addition, there are also findings about the causes of such unethical behaviors in the related literature. Some of those are as follows; the need for students to achieve higher success in a shorter time (Cummings, Maddux, Harlow & Dyas, 2002; Straw, 2002; Whiteman & Gordon, 2001), students' perceptions that some of the lessons are unimportant, the teachers' irrelevant and permissive attitudes (Gerdeman, 2000), students' lack of confidence, feeling under pressure, and need to be approved by peers and their parents (Raffetto, 1985), the absence of prohibitive penalties and prohibitions of academic dishonesty (Macdonald & Carroll, 2006), peer effect (Brown, 2002; Myrick, 2004; Petress, 2003), time constraints and helping a friend (Yardley et al., 2009).

We believe that if teachers develop good research skills, which is essential for learning and generating their own reflections and ideas, and demonstrate ethical behavior during their pre-service preparation period, they will be good role models for their students when they start their professional lives. The main objective of this study is to examine the relationship between pre-service teachers' research attitudes and their tendency to academic dishonesty. In the literature review, it was not encountered to a study about the relationship between research attitudes and academic dishonesty tendency, hence we believe that this study will be a contribution to the related field. In this study, we tried to answer to the following questions:

a) Does the score of pre-service teachers' research attitudes reveal significant difference according to gender?

b) Does the score of pre-service teachers' academic dishonesty tendency reveal significant difference according to gender?

c) Does the score of pre-service teachers' research attitudes reveal significant difference according to year of study?

d) Does the score of pre-service teachers' academic dishonesty tendency reveal significant difference according to year of study?

e) Does the score of pre-service teachers' research attitudes reveal significant difference according to department?

f) Does the score of pre-service teachers' academic dishonesty tendency reveal significant difference according to department?

g) Finally, is there a meaningful relationship between pre-service teachers' scores for Attitude towards Research Scale and Academic Dishonesty Tendency Scale?

## Methods

### Participants

The research study group consisted of 659 volunteer students from the faculty of education of a state university in the East of Turkey. For the creation of the sample, we tried to include students from various departments and different years of study as much as possible. Of the sample, 140 (21,2%) participants were from Preschool Education, 161 (24,4%) from Social Sciences Education, 199 (30,2%) from Turkish Language Education and the remaining 159 (24,1%) from Guidance and Psychological Counseling Education programs. According to gender, 440 (66,8%) participants were female and 219 (33,2%) were male. According to year of study, 157 (23,8%) participants were freshman year, 162 (24,6%) were sophomore year, 132 (20%) were junior year and 208 (31,6%) were senior year pre-service teachers.

### Research Design and Instruments

This research employs a quantitative method with a correlational design that examines the relationship between pre-service teachers' attitudes towards research and their academic dishonesty tendency. We applied "Attitudes towards Research Scale", "Academic Fraud Tendency Scale" and "Personal Information Form" to the pre-service teachers to collect data. It took approximately 30 minutes to complete the scales. We informed the participants about the purpose of the research study, confidentiality of the data collected and that they could feel free to choose the closest statement while answering the questions since there is no ultimate true answer to any question.

#### *a) Attitudes towards Research Scale*

The "Attitudes towards Research (ATR)" scale developed by Papanastasiou (2005) has been adapted to Turkish by Yapalak and Ilgaz (2013). The linguistic validity provided scale was analyzed through Confirmatory Factor Analysis (CFA) and item-total correlation and item discrimination parameters were examined. According to the obtained CFA and item analysis results, it was determined that the scale preserved its original structure in Turkish culture. The scale of ATR has 5 factors and consists of 32 items. The factors are "research usefulness for profession", "research anxiety", "positive attitudes towards research", "relevance to life" and "research difficulty". The maximum score that one can get from the scale is 224 while the minimum is 32. The Cronbach Alpha reliability coefficient of the scale is 0,82. The high scores indicate that the pre-service teachers' research attitudes are high.

#### *b) Academic Dishonesty Tendency Scale*

The Academic Dishonesty Tendency Scale (ADTS) developed by Eminoğlu and Nartgün (2009) has 4 factors and consists of 22 items. After examining the structures of these items, the identified factors are called as "tendency towards cheating", "dishonesty tendency at studies as homework, project, etc. - common", "dishonesty tendency at research and process of write up" and "dishonesty tendency towards reference" respectively. The construct validity of the scale was tested by Confirmatory Factor Analysis. The Cronbach alpha reliability coefficient of the scale is 0,88. The maximum score that can be obtained from the scale is 110 while the minimum is 22. As the score gets higher, the pre-service teachers' academic dishonesty tendency rises.

#### *c) Personal Information Form*

This form was used to gather information about the gender, the year of study and the department of the participants.

## Data Analysis

During the analysis, it was first examined whether the data were presenting a normal distribution or not and it was concluded that data were normally distributed. Independent Sample t-Test was performed to investigate the difference of scores of Attitudes towards Research Scale and Academic Dishonesty Tendency Scale according to the gender. One way ANOVA is used to compare more than two groups, i.e. to look for the difference of scores of Attitudes towards Research Scale and Academic Dishonesty Tendency Scale according to year of study and also for department. Pearson Correlation Coefficient is used to calculate the relationship between Attitudes towards Research Scale and Academic Dishonesty Tendency Scale.

## Results

Table 1 shows the results obtained from the Independent Sample t-Test analysis which was applied to determine whether there was a difference between the mean scores of the two genders according to the research attitudes of the pre-service teachers.

**Table 1.** Results of Independent Sample t-Test to determine whether Attitudes toward Research Scale scores differ according to gender

	Subscale	Gender	N	$\bar{X}$	sd	t	df	Sig. Dif.
Attitudes toward Research	Research usefulness for profession	Female	440	49.86	10.13	1.772	657	.077
		Male	219	48.36	10.47			
	Research anxiety	Female	440	34.14	8.75	4.095	657	.000
		Male	219	31.10	9.37			
	Positive attitudes toward research	Female	440	38.52	10.94	-.968	657	.334
		Male	219	39.40	10.92			
	Relevance to life	Female	440	15.13	3.62	-.507	657	.612
		Male	219	15.29	4.03			
	Research difficulty	Female	440	11.28	4.19	1.174	657	.241
		Male	219	10.89	.77			
	Total	Female	440	148.93	21.26	2.137	657	.033
		Male	219	145.04	23.58			

Table 1 depicts that when the scores of research attitudes according to gender are analysed, it is found that there is a significant difference between the two genders in “Research Anxiety” subscale [ $t_{(657)} = 4,095$ ;  $p < 0,05$ ] in favor of female pre-service teachers (average score for females ( $\bar{X} = 34,14$ ) is higher than that of the males ( $\bar{X} = 31,10$ ). Similarly, there is a significant difference in the total scores for the scale [ $t_{(657)} = 2,137$ ;  $p < 0,05$ ] in favor of female pre-service teachers (average score for females ( $\bar{X} = 148,93$ ) is higher than that of the males ( $\bar{X} = 145,04$ ). This result can be interpreted as even if the female pre-service teachers feel more anxious than male ones, their research attitudes are more positive. Table 2 presents the results of the Independent Sample t Test for analyzing pre-service teachers’ academic dishonesty tendency according to gender.

**Table 2.** Results of Independent Sample t-Test performed to determine whether Academic Dishonesty Tendency Scale scores differ according to gender

	Subscale	Gender	N	$\bar{X}$	sd	t	df	Sig. Dif.
Academic Dishonesty Tendency	Tendency towards cheating	Female	440	9.79	5.08	-3.432	657	.001
		Male	219	11.30	5.71			
	Dishonesty tendency at studies as homework, project, etc. – common	Female	440	13.40	5.88	-3.439	657	.001
		Male	219	15.10	6.25			
	Dishonesty tendency at research and process of write up	Female	440	8.90	3.65	-1.126	657	.261
		Male	219	9.24	3.81			
	Dishonesty tendency towards reference	Female	440	10.49	4.05	-3.757	657	.000
		Male	219	11.78	4.34			
	Total	Female	440	44.53	15.73	-3.841	657	.000
		Male	219	49.71	17.41			

Table 2 shows that the average scores of female pre-service teachers are higher than that of the males not only for the subscales “Tendency towards cheating”, “Dishonesty tendency at studies as homework, project, etc. – common”, and “Dishonesty tendency towards reference” but also for the total. This result suggests that female pre-service teachers tend to commit less academic dishonesty than males.

The data obtained as the result of the one-way ANOVA conducted in order to determine whether there is a difference between scores of the research attitudes and academic dishonesty tendency of the pre-service teachers according to year of study are presented in Table 3 and Table 4.

**Table 3.** Descriptive statistics on attitudes towards academic research and academic dishonesty tendency scores according to year of study

Dependent Variable	Variables	N	$\bar{X}$	sd
Attitudes toward Research	Freshman Year	157	147.71	24.16
	Sophomore Year	162	148.82	20.92
	Junior Year	132	149.59	21.97
	Senior Year	208	145.43	21.46
	Total	659	147.64	22.12
Academic Dishonesty Tendency	Freshman Year	157	46.44	16.55
	Sophomore Year	162	43.79	14.63
	Junior Year	132	45.16	17.23
	Senior Year	208	48.72	17.05
	Total	659	46.25	16.48

**Table 4.** One-way ANOVA results on the differences between the attitude towards research and the academic dishonesty tendency according to year of study

	Variance Origin	Sum of Squares	Degrees of Freedom (df)	Mean Square	F	p	Significant Difference
Attitudes toward Research Scale	Between Groups	1.740.758	3	580.253	1.187	0.314	
	Within Groups	320.080.569	655	488.673			
	Total	321.821.327	658				
Academic Dishonesty Tendency Scale	Between Groups	2.409.609	3	803.203	2.984	0.031	senior year > sophomore year
	Within Groups	176.280.404	655	269.130			
	Total	178.690.012	658				

As shown in Table 4, there is no difference according to year of study in Attitudes toward Research Scale. On the other hand, it is observed that there was a significant difference between the average scores calculated for year of study of 659 pre-service teachers ( $F_{(3-655)} = 2,984, p < 0,05$ ) in Academic Dishonesty Tendency Scale. The result of the multiple comparison test shows that this meaningful difference is in favor of the senior year pre-service teachers when they are compared with sophomore year pre-service teachers (average score for sophomore year students is lower than that of senior year students).

This result shows that senior year pre-service teachers have higher academic dishonesty tendency than the sophomore year pre-service teachers. The effect size variable was calculated as  $\eta^2 = 0,013$ , which indicates the ratio of the dependent variable to the variance explained by the independent variable, and this shows that the year of study variable has a weak effect on academic dishonesty tendency.

In order to explore whether pre-service teachers' departments affect their research attitudes and academic dishonesty tendency, again one-way ANOVA was used. The results were depicted in Table 5 and Table 6.

**Table 5.** Descriptive statistics on attitudes towards academic research and academic dishonesty tendency scores according to department

Independent Variable	Department Variable	N	$\bar{X}$	Sd
Attitudes toward Research Scale	Preschool Education	140	144.87	22.12
	Social Sciences Education	161	150.15	22.70
	Turkish Language Education	199	149.13	22.45
	Guidance and Psychological Counseling Education	159	145.66	20.32
	Total	659	147.64	22.12
Academic Dishonesty Tendency Scale	Preschool Education	140	45.74	16.44
	Social Sciences Education	161	45.35	17.29
	Turkish Language Education	199	46.90	17.55
	Guidance and Psychological Counseling Education	159	46.80	14.21
	Total	659	46.25	16.48

**Table 6.** Results of one-way ANOVA used to determine whether Attituded toward Research Scale and Academic Dishonesty Tendency Scale differ according to department

	Variance Origin	Sum of Squares	df	Mean Squares	F	p
Attitudes toward Research	Between Groups	3150.641	3	1050.214	2.159	.092
	Within Groups	318670.687	655	486.520		
	Total	321821.327	658			
Academic Dishonesty Tendency	Between Groups	297.556	3	99.185	.364	.779
	Within Groups	178392.456	655	272.355		
	Total	178690.012	658			

The results shown in Table 6 reveals no meaningful difference between the attitudes towards research and the tendency of academic dishonesty according to departments [ $F_{ATR(3-655)} = 2,159, p < 0,05$ ;  $F_{ADTS(3-655)} = 0,364, p < 0,05$ ].

Pearson Product-Moment Correlation Coefficient is to used to determine the relationship between Attitudes towards Research Scale and Academic Dishonesty Tendency Scale for pre-service teachers and Results are presented in Table 7.



**Table 7.** The relationship between pre-service teachers' research attitudes and their academic dishonesty tendencies

	Attitudes toward Research	Academic Dishonesty Tendency
Attitudes toward Research	Pearson Correlation	-.207
	p	.000
Academic Dishonesty Tendency	Pearson Correlation	-.207
	p	.000

Table 7 shows that there is a negative correlation [ $r=-0,207$ ,  $n=659$ ,  $p<0,01$ ] between pre-service teachers' research attitudes and their academic dishonesty tendencies.

### Discussion and Conclusion

When the research attitudes of pre-service teachers are examined according to gender, it is found that there is a significant difference in favor of the female pre-service teachers. This shows that female pre-service teachers' have more positive attitudes than the male pre-service teachers. This result is similar to the results of Williams and Coles (2003).

Similarly, when the academic dishonesty tendency of pre-service teachers are examined according to gender, it is found that there is a significant difference in favor of the female pre-service teachers. This shows that female pre-service teachers tend to commit less academic dishonesty when compared to male pre-service teachers. Hensley, Kirkpatrick and Burgoon (2013), Jensen, Arnett, Feldman and Cauffman (2002), Newstead, Franklyn-Stokes and Armstead (1996) and Wideman (2008) have found similar results in their studies. Eret and Ok (2014) and Akbulut, Uysal, Odabaşı and Kuzu (2008) concluded in their studies that female pre-service teachers plagiarize by internet less than male pre-service teachers. The research conducted by Yang (2012) presented that girls criticize academic dishonesty more than boys. As there are studies that presented opposite findings (Graham, Monday, O'Brien, & Steffen, 1994), there are also others that could find no difference in academic dishonesty according to gender (Beasley, 2016).

When the research attitudes of the pre-service teachers are examined according to year of study variable, it was found that junior year pre-service teachers has the highest average score ( $\bar{X} = 149,59$ ), while the senior year ones have the lowest average ( $\bar{X} = 145,43$ ). However, no statistically significant difference is found between the research attitudes of pre-service teachers and their year of study.

When the academic dishonesty tendencies of the pre-service teachers are examined according to year of study, it was found that senior year pre-service teachers have the highest average score ( $\bar{X} = 48,72$ ), while the sophomore year ones have the lowest average ( $\bar{X} = 43,79$ ). It has been determined that there is a significant difference in favor of sophomore year pre-service teachers compared to senior year pre-service teachers for academic dishonesty tendencies. This result indicates that sophomore year pre-service teachers are less inclined towards academic dishonesty than senior year pre-service teachers. This result may be due to the fact that senior year students feel high pressure of maintaining high GPAs, that a partial course may be irrelevant for their professional lives, that the teachers do not pay attention to academic integrity and that the penalties for sanction are not functional. Iyer and Eastman (2006) specified that the students with low GPA tend to commit more academic dishonesty. However, there are studies that show the opposite results; Wideman (2008) stated that younger students cheat more. Beasley (2016) explained that this is because younger students are more ignorant than older students. This study reveals no meaningful difference between the attitudes towards research and the tendency of academic dishonesty according to departments.

The main finding of this study is that there is a significant negative correlation between pre-service teachers' research attitudes and their academic dishonesty tendencies. This result shows that the higher the academic dishonesty tendencies of pre-service teachers, the more negative attitude towards research. Thomson (2017) on his study about academic dishonesty, determined a negative correlation between students' learning climate, mind-set, individualism and motivation and academic dishonesty. In his study, Thomson (2017) stated that students will commit less academic dishonesty and have higher motivation if the teachers support the class environment with discussion, problem solving and question based applications. Davis, Drinan, and Bertram Gallant (2006) reported that only 2% of those who committed academic dishonesty were reported in one of their institutions, while Happel and Jennings (2008) pointed out that only 1,5% of students who committed academic dishonesty in college were penalized.

In this context, policies should be produced for the prevention of academic dishonesty and the existing penalties should be put into practice. If the penalties are not deterrent, the penalties must be reviewed. Finchilescu and Cooper (2017) concluded that a group of university students pointed out that the lack of clear rules on academic dishonesty and inconsistent practices led to academic dishonesty. Thus, the research attitudes can be increased to the extent to which academic dishonesty can be reduced.

The pre-service teachers should follow the new developments in their fields, have knowledge about the new applications and learn the scientific research process very well so that they can give their students a better education. In this context, the tendency for academic dishonesty will decrease if the pre-service teachers learn the process of scientific research in accordance with its rules and can make appropriate scientific research according to these rules.

On the basis of the findings of this study, it is suggested to add practical activities to the contents of the lectures to develop pre-service teachers' research skills, to check the conformance to ethical rules of the research reports prepared by pre-service teachers in more detail and give detailed feedback to the students, create homeworks that courage originality, give precise and explicit definition of academic dishonesty and what kinds of sanctions they will face in situations contrary to ethical rules in the syllabus of the lectures. The "Scientific Research Methods" course taken by the students during their undergraduate period cover ethical issues. In addition to that, a new course related to ethics could be added to the undergraduate curriculum.

### **Limitations**

There are some limitations of this study. The first limitation is that all of the survey respondents attend the same university. For the generalization of the findings the study could be repeated for various universities in Turkey. It is found that there is significant difference between research attitudes and academic dishonesty tendency according to departments. This could be because of the limited type of departments. It is suggested to include pre-service teachers from other faculties like computer education, mathematics and science education and foreign language education for further research.

The types of academic dishonesty that the pre-services teachers commit and how often they do it could not be addressed in this study. Moreover, the reasons for the students to commit academic dishonesty could be examined in detail. Another limitation is that pre-service teachers' attitudes towards research and academic dishonesty tendencies are limited to scores obtained through a data collection tool.

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