AMBIVALENT SEXISM, AMBIVALENCE TOWARD MEN AND DEMOGRAPHIC VARIABLES AS PREDICTORS OF TURKISH COLLEGE STUDENTS' ATTITUDES TOWARD MEN IN SOCIAL AND WOMEN IN NATURAL SCIENCES

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Approval of the Graduate School of Social Sciences

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I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Science.

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This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Science.

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ABSTRACT

AMBIVALENT SEXISM, AMBIVALENCE TOWARD MEN AND DEMOGRAPHIC VARIABLES AS PREDICTORS OF TURKISH COLLEGE STUDENTS' ATTITUDES TOWARD MEN IN SOCIAL AND WOMEN IN NATURAL SCIENCES

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The aim of this thesis was to investigate the effects of ambivalent sexism, ambivalence toward men and demographic variables on attitudes toward men in social and women in natural sciences. 217 METU students participated in the study. Results of hierarchical regression demonstrated that sex, major, political view, department satisfaction and benevolence toward men (BM) significantly predicted attitudes toward men in social sciences; whereas sex, major, political view, hostile sexism (HS), hostility toward men (HM) and BM significantly predicted attitudes toward women in natural sciences. Additional analysis revealed main and interaction effects of sex and major on attitudes toward men in social sciences. Additional analysis also revealed main effects of sex and major on attitudes toward women in natural sciences.

This thesis aims to contribute to literature by assessing (1) the relationship between sexism and attitudes toward individuals in gender atypical departments, and (2) the effects of demographic variables such as gender, major and political view on attitudes toward individuals in gender atypical departments.

Keywords: ambivalent sexism, ambivalence toward men, gender atypical education, attitudes toward men in social sciences and attitudes toward women in natural sciences.

ÖZ

ÇELİŞİK DUYGULU CİNSİYETÇİLİK, ERKEKLERE YÖNELİK ÇELİŞİK TUTUMLAR VE DEMOGRAFİK BİLGİLERİN SOSYAL BİLİMLERDE OKUYAN ERKEKLER VE FEN BİLİMLERİNDE OKUYAN KADINLARA YÖNELİK TUTUMLAR ÜZERİNDEKİ ETKİSİ

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Bu tezin amacı çelişik duygulu cinsiyetçilik, erkeklere yönelik çelişik tutumlar ve demografik bilgilerin sosyal bilimlerde okuyan erkekler ve fen bilimlerinde okuyan kadınlara yönelik tutumlar üzerindeki etkilerini araştırmaktır. 217 ODTÜ öğrencisi bu araştırmaya katılmıştır. Yapılan regresyon analizlerinin sonuçlarına gore; cinsiyet, bölüm, politik görüş, bölüm memnuniyeti ile erkeklere yönelik korumacı tutumların sosyal bilimlerde okuyan erkeklere yönelik tutumları anlamlı olarak yordamıştır. Ayrıca, cinsiyet, bölüm, politik görüş, düşmanca cinsiyetçilik, erkeklere yönelik korumacı tutumlar ve erkeklere yönelik düşmanca tutumlar fen bilimlerinde okuyan kadınlara yönelik tutumları anlamlı olarak yordamıştır. Katılımcıların cinsiyet ve bölümlerinin sosyal bilimlerde okuyan erkeklere yönelik tutumları üzerinde anlamlı etkisi olduğu tespit edilmiştir. Buna ek olarak katılımcıların bölüm ve cinsiyetlerinin fen bilimlerinde okuyan kadınlara yönelik tutumlarını da anlamlı olarak etkilediği belirlenmiştir.

Bu tez literature; (1) cinsiyetçilik ve atipik bölümlerde okuyan kadın ve erkeklere yönelik tutumlar arasındaki ilişkiyi tespit ederek ve (2) cinsiyet, bölüm ve politik görüş gibi demografik bilgilerin sosyal bilimlerde okuyan erkekler ve fen bilimlerindeki kadınlara yönelik tutumlar üzerindeki etkisini tespit ederek katkıda bulunmayı hedeflemektedir.

Anahtar Kelimeler: çelişik duygulu cinsiyetçilik, erkeklere yönelik çelişik tutumlar, cinsiyet-atipik bölümlerde okuyan öğrencilere yönelik tutumlar.

Anneme…

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CHAPTER 1

INTRODUCTION

The general view of the society is that there are certain jobs which are suited for men, and certain jobs which are suited for women. This line of thought has its reflections on education too. All individuals make some sort of classification in their minds about which field a man should study in, and which field a woman should do. Although there are crossovers, most occupations and majors are allocated to members of one sex or the other.

Effects of gender stereotypes and discrimination on education choice can be observed by merely looking to figures about the gender distribution in natural sciences and social sciences departments. In Turkey there are 592.569 male and 411.705 female students in state and private universities, when we look to technical universities (where there is either only natural sciences departments, or most of the departments are natural sciences related) this gap between the number of male and female students enlarges. In METU there are 9.201 male and 4.899 female students, in Yıldız Teknik there are 13.296 male and 5.697 female students, in ITU there are 10.205 male and 3.465 female students, finally in Gebze Yüksek Teknoloji there are 993 male and 178 female students (MEB, 2000). 70 percent of the students in major technical universities of Turkey are men. In the United States 34 percent of physical sciences students and 35 percent of math-computer science students are women (National Science Foundation, 1996). In Sweden statistics for the gender distribution

for application to different university programs in the year of 1988 are as follows. 79 percent of applicants for engineering departments are men; respectively women constitute only 21 percent of applicants. We can see the reverse of this gender distribution when we look at social sciences applications. 71 percent of applicants to social sciences are women, and the remaining 29 percent are men (Dryler, 1998). This distribution is not a result of mere chance, if one looks at other countries' gender distribution statistics, one will find similar ratios. There are reasons for this pattern, and those points will be highlighted later in this thesis.

In literature there are several studies, dealing with different aspects of unbalanced gender distribution to certain departments. However, mainly, studies are about women in natural sciences, who constitute a minority group in natural sciences related university departments, and occupations (Alper, 1993; Burelli, 1993; Etkowitz, Kemelgor, Neuschatz, Uzzi, & Alonzo, 1994; Joyce & Farenga, 2000; Mason & Kahle, 1988; McCarty-Terry & Baird, 1997; Sonnert, 1995; White, Kruczek, & Brown, 1989). On the other hand, in literature studies focusing on the men in social sciences are limited in number, although they constitute a minority group in social sciences related university departments (Chusmir, 1990; Kulik, 1998). This thesis aims to make a contribution to this literature by investigating attitudes towards men in social sciences (ATMISS), how men in social sciences are perceived by male and female university students, also attitudes toward women in natural sciences (ATWINS), the way they are perceived by male and female university students and the relation of ATMISS and ATWINS with sexism, namely

ambivalent sexism and ambivalence toward men by Glick and his colleagues (e.g, Glick & Fiske, 1996; Glick & Fiske, 1999).

In this thesis following points will be elaborated upon; firstly an overview of Turkish education system and reasons for the prestige difference between natural sciences (including engineering) related departments, and social sciences related departments will be presented. Secondly, general gender conceptualization of individuals, and what kind of a role gender plays in an individual's life, and the related literature will be highlighted. Then, the issue of uneven gender distribution, possible reasons for, and the related literature about it will be elaborated upon. Thirdly, insight about Glick and Fiske's (1996) ambivalent sexism definition, and its' relation to this study will be given. Finally, the hypotheses and the aims of the thesis will be presented.

1.1. Turkish Education System & the Perception of Natural and Social Sciences

After their first year in high school, students choose different focus departments of ''natural sciences- mathematics'' (fen- matematik, for students who want to choose natural sciences or engineering departments in university), ''Turkish- mathematics'' (Türkçe- matematik, for administrative departments, psychology and law school, etc.), and ''Turkish- social sciences'' (Türkçe- sosyal, for social sciences departments in university). In first year of high school all students take basic mathematics, physics, biology, chemistry, Turkish, history, geography, and elective social sciences (depending on what kind of faculty the particular high school has, it can be sociology, psychology or philosophy). Beginning from their second year

students who chose natural sciences- mathematics department take continue to take advanced Turkish, history, and geography classes as well as advanced mathematics, physics, chemistry, and biology classes. Turkish- social sciences students, on the other hand, take advanced Turkish, social sciences, and a less comprehensive version of mathematics. In sum, natural sciences- mathematics students take classes covering three fourth of ÖSS topics and Turkish- social sciences students take classes covering only half of the topics. As a result students in Turkish- social sciences department enter this ‘university competition with certain disadvantage.

In Turkey high school graduates can enter a university program after entering the university student selection exam (ÖSS). Graduates are placed to university programs by their grade in ÖSS. In this exam all (regardless their major in high school) students must answer questions about mathematics, physics, biology, chemistry, Turkish literature and grammar, history, geography, philosophy, psychology, and sociology in the first part of the exam. There are 120 questions in the first part of ÖSS, 30 of which are mathematics questions, 30 Turkish literature and grammar, and remaining 60 questions are distributed for the other 8 fields as follows; 30 for natural sciences (physics, chemistry, and biology), and 30 for social sciences (history, geography, philosophy, psychology, and sociology). Students are supposed to find correct answers for as many questions as they can to receive high scores. The second part of the ÖSS exam contains 4 different tests (each have 30 questions) and students must answer two of these tests, which are related to their focus department in high school, hence the university department they want to enter.

However all students are encouraged to answer tests which are not related with their department choice, in order to receive higher points (Radikal, 2006).

Engineering departments recruit students with highest ÖSS scores. If one looks to top 100 students, one will see that all of them have chosen a branch of natural sciences or engineering (as its' natural extension). As a matter of supply-demand, departments with highest admission scores are natural science or engineering departments.

It is clear that natural sciences- mathematics students have a more comprehensive curriculum in terms of classes covering ÖSS topics. Turkish- social sciences students' curriculum focuses on social sciences; however there are only 30 social sciences questions, and they don't take any natural sciences classes. Their curriculum makes them experience certain handicap. On the other hand natural sciences- mathematics students take courses focusing on their own department, as well as courses focusing history, geography and Turkish. They master in more topics and are able to answer more questions correctly, which are not from their focus department.

Natural sciences- mathematics students invest more effort, have more resources (variability, and comprehensiveness of their classes), accordingly they receive higher scores, answer more questions correctly for receiving adequate scores to enter those natural sciences, and engineering departments, which have high admittance thresholds. Turkish- social sciences students on the other hand require

less correct answers to enter social sciences departments with lower admittance thresholds.

The threshold differences between natural and social sciences departments create a prestige difference between natural sciences, and social sciences. Natural sciences and engineering departments are seen more prestigious than social sciences departments. Natural sciences, and engineering departments require more effort both in university exam, and high school, they have higher admittance thresholds, in other words they are hard to achieve, and what is hard to achieve is better, or it is seen so. Parents and students want what is best for their future, and in Turkey the best is natural sciences departments.

Some university exam preparation schools (dershane) pay money to natural sciences high school (fen lisesi) students with potential to receive highest scores in ÖSS (Radikal, 2006). These preparation schools aim to use these possible prize winner students, and their prestige to make more money. This may be a sign for prestige difference. Another sign may be number of departments in Turkish universities in natural and social sciences. In Boğaziçi University there are twelve natural sciences related departments and five social sciences related departments. In Bilkent university there are nine natural sciences related departments and five social sciences related departments. When we look to ODTÜ the difference is bigger, there are twenty-three natural sciences related departments and only six social sciences related departments, this may be normal because it is a technical university after all. When we look to three of most prestigious universities in Turkey the difference

between the numbers of natural sciences related departments and social sciences related departments is striking. In total these universities have forty-four natural sciences and seventeen social sciences related departments, and only one of them has the label 'technical' in its' name.

Parents want their children to achieve the best. They send them to university exam preparation schools; they hire tutors to enhance their children's mathematics knowledge, and so on. Being an engineer, physician or scientist is difficult. And what is difficult is prestigious. The prestige difference between natural sciences and social sciences may be a driving force- for students who seek a prestigious career -to choose natural sciences over social sciences. Possibly, male students pursue prestige, hence natural sciences, being stereotypically instrumental (Balkan, 1966).

1.2. Sex Distribution in Different Departments and Its Relevance to Gender Issues

If we look to proportions of male students in social sciences, and female students in natural sciences, we will end up with low figures. It is a fact that most of the men study in natural sciences, and most of the women study in social sciences (in the population of students of natural, and social sciences). For instance in France, 24 percent of physicists, and 20 percent of mathematicians are women, and in European countries only 25 percent of natural sciences related department graduates are women (Women's International Network News, 1998). In United States women constitute only 16 percent of the scientists, and engineers (Alper, 1993). On the other hand 73 percent of psychology students are women (National Science

Foundation, 1996). In UK women are underrepresented in all levels of natural sciences; only one third of undergraduates, 20 percent of graduate students, and research assistants, 2 to 4 percent of non-professor faculty, and finally less than 1 percent of professors are women (Stewart, 1994).

Above mentioned figures prove that there is an imbalance in sex distribution to different departments (social sciences and natural sciences). However, the question of ‘‘How does gender affects students educational choice?’’ remains unanswered. Following paragraphs aim to present an answer to this question.

Right after the birth, humans are treated differently according to their sex. As the person ages, this differentiation changes its’ pattern (family environment, school, work environment, etc.), but the sex differentiation continues to exist, and manipulate the individual’s life until the day he or she dies. The gender indoctrination continues after birth as parents provide their children with ‘sex appropriate’ clothing, toys, and hairstyles. Parents begin to teach their infants the way a girl or a boy must behave in the very beginning of their both psychological and physical development. Girls are encouraged to be expressive, and boys are encouraged to be instrumental (Schaffer, 1988). Gender socialization has its’ consequences both for men, and women. According to stereotypical gender roles males should be instrumental, and females communal (Balkan, 1966). Gender of an individual enters the equation in-almost- everything about that individual, including education, and career choices. Moreover socialization process, which begins in early childhood, conveys sex-related stereotypes of occupations (Kulik, 1997). Students’

gender is an important factor when they make a decision about their education. Hence, gender is an important factor affecting sex distribution in different departments.

Shemesh (1990) claimed that males tend to choose so called 'hard sciences' such as mathematics, chemistry, engineering, etc., and females tend to choose so called 'soft sciences' such as philosophy, business, zoology, etc. as their major. Also, it is reported that men tend to pick technical majors, and women prefer non- technical majors such as humanities or nursing (Dryler, 1998). In relation to that according to England (1992), sex-role socialization is a crucial factor determining both gender-typical, and gender- atypical behaviors. This includes gender-typical and gender-atypical education choices. Dryler (1998) found that although there is an increment in gender-atypical education choices (for males, social sciences, humanities, etc., and for females engineering departments, etc.), gender-typical education choices continue to be the main trend.

One may say that the imbalance in sex distribution to different departments is because of ability differences (such as math ability) between men and women rather than different sex-role socialization. Examples given in following lines will illustrate insight about imbalanced sex distribution in different departments. It is known that mathematics is seen as a male field of study (Tiedemann, 2002), and for a long time this was attributed to ability differences between men and women (Tapia & Marsh II, 2003). However there is also controversial evidence such that girls are more successful in mathematics in elementary school (Unger & Crawford, 1992) or

that there is no gender difference in terms of mathematics ability (Sprigler & Alsup, 2003). Teachers' gender stereotypes and their differentiating treatment to male and female students affect students' performance in math (Tiedemann, 2002) and it is reported that socio-cultural (such as sex-role socialization) and specific social context factors play an important role on students' beliefs about, hence performance in mathematics (De Corte & Op 't Eynde, 2003). According to above mentioned information it can be said that gender imbalanced attendance to mathematics related fields (natural sciences) is not related with the ability difference between men and women. Yet, still most males study in natural sciences, and females in social sciences, and mathematics has the male domain image, as a result natural sciences are seen as the ''male thing'' and social sciences as ''female thing''. Impact of gender in imbalanced sex-distribution will be elaborated in detail in following paragraphs.

Joyce & Farenga (2000) reported that there was no difference between high-ability, and average-ability girls, in terms of number of science (natural sciences are meant) courses they chose (mean for high-ability girls was 2.38, and mean for average-ability girls was 2.18, out of given 12 science course choices). They concluded that, their decisions in selecting science courses were based on their gender roles, rather than their academic abilities. Accordingly, Nosek, Banaji & Greenwald (2002) argued that although in appearance, ''anything is possible for anyone'' sentence is articulated loudly, in reality individuals' group memberships (in this case gender) and expectancies from that particular group, affect their choices of study field and career. They investigated women's attitudes toward math in relation to their group

identification and math stereotype (seeing math as a male domain). They have found that women with high group identification (being female) and who believe the stereotype that math is a male domain tend to have negative attitudes toward math. They have also found that even women in math related majors have significantly more negative attitudes toward math than men in these majors. This information means that regardless their major; women have more negative attitudes toward math and gender stereotypes have powerful impact in everyone's life.

Gender of an individual affects the way he or she perceives people studying in mathematics related fields, as well as the way he or she perceive mathematics. In a study, measuring high school biology students' attitudes toward women in science, McCarty-Terry & Baird (1997) found that among four factors (gender, science ability, level of education a student plans to complete, and career interest), gender of the student was accounted for the most variance in students' attitudes towards women in science, which is measured by Erb & Smith's (1984) Women in Science Survey (WISS). That is, female students had more favorable attitudes toward women in science than men had. Science ability, level of education aspired, and career interest explained second, third, and fourth largest variance respectively. Women with high science ability, high level of education aspired, and multiple career interest in science had most favorable attitudes toward women in science, whereas men with low science ability, low level of education aspired, and non-science career interests had least favorable attitudes toward women in science. Researchers claimed that by identifying students with lower attitudes toward women in science more influential intervention programs can be both designed, and applied.

Gender stereotypes affect future occupational choices as an extension of education choice. Foskett & Hemsley-Brown (1999) argued that career-related idea formation is based on ideas, perception, and images that begin to form early in one's life. Those points made by Foskett & Hemsley-Brown bring gender socialization into mind. Moreover, it is reported that occupational stereotypes affect high school students, when they are making their university major decisions (Betz & Fitzgerald, 1987). High school students in Israel label occupations like pre-school teacher, social worker, occupational therapist and psychologist as feminine occupations, and they label physicist, aeronautics engineer and machine technician as masculine occupations (Kulik, 1997). Accordingly, college students rate occupations like engineering, architect, and physician as masculine occupations, and occupations like nurse, flight attendant, dietitian, and elementary teacher as feminine occupations (White, Kruczek, Brown, & White, 1989). They also found that there was no gender difference in terms of labeling occupations as having feminine or masculine connotations. This finding makes sense, when one considers that gender roles are adopted by the majority of the society, both by men, and women. However, female high school students' interests in male-typed occupations do increase, when projective gender distributions in these occupations are manipulated (Heilman, 1979). Female high school students see male-typed occupations as viable career choices when they are led to believe that number of women in these occupations is going to increase. This proves that people's conceptions about male and female occupations can be changed as the possibility of gender-atypical career choices are reminded to them. Also Kulik (2000) found that female high school students make less sex-typed evaluations of occupations than male high school students, which

contradicts with White et al. findings and indicates that not all women adopt gender stereotypes at the same extent. Since education choices and occupational idea formation are influenced by sex-role socialization and gender stereotypes, intervention programs are mediated in various countries. Following paragraph presents insight about those programs.

There is a trend in USA since 70's towards a gender balanced education (Thompson-Tetreault, 1986). Intervention programs are designed to promote gender- balanced learning environment for science, science- related classes and positive attitudes towards education in natural sciences. This kind of programs show certain promise to encourage –especially- female students to pursue education, and business careers in science related fields (Mason & Kahle, 1988). Recently, a curriculum change has been made in natural sciences and technology courses in Turkish elementary schools (Kotan, 2006). This change aims to increase female students' participation to natural sciences and technology classes and- as mentioned earlier- to encourage female students to pursue education in natural sciences. Firstly, in class materials (books, worksheets, etc.) there will be female scientist examples and/or role models as well as male ones. Secondly, teachers will give female and male students equal speaking rights. Finally, girls will be encouraged and assisted to overcome their negative attitudes toward or lack of personal experience in natural sciences by their teachers and parents co-operation. Tindall & Hamil (2004) stated that early childhood environment, the-resultant science-related interests (of girls), gender stereotypes, family expectations, classroom management and instructional practices, testing procedures, instructional materials are reasons for gender disparity

in science and science education. When one compares changes made by Turkish Ministry of Education and reasons stated by Tindall and Hamil, one sees that problems in curriculum are well spotted and adjustments are carefully made.

Although intervention programs are useful and positive steps toward gender balanced education, traces of the imbalanced sex distribution in education can be still observed in career choices of individuals. Dolton & Makepeace (1993) made a study about women's participation in the work force in teaching, and other occupations. They found that female teachers, if the family commitments are at the same level (marital status, number of children, and age of the eldest child), are more likely to be in the work force than females in other occupations. They also noted that 60 percent of teaching work force in UK is constituted by women. Also, Affleck, Stout-Morgan & Hayes (1989) asked college students to write essays about how their life would be when they are twenty-five and fifty years old, most frequently reported aspired occupation by female participants is being a teacher and both male and female participants saw household works and child care mainly as the woman's responsibility. This information leads one to think that teaching is a female occupation. In other words, teaching as a gender typical occupation for women.

In an article named ''is there a 'female style' in science?'' (Gibbons & Kopper, 1993) various experiences of female scientists were recited. All anecdotes have the same mainframe; women try to create a non-competitive, self-directed working environment, whereas men seek, and endorse competition. Researchers don't give an exact result about the existence of a certain 'female style' in science, but it tells

one that in the world of science faculty gender is an issue. In another study (Etkowitz, Kemelgor, Neuschatz, Uzzi, & Alonzo, 1994) it was stated that in natural sciences departments such as chemistry, physics, computer science, biology, and electrical engineering when there is a moderate increment in number of women (who are defined as a minority group), and no change in the structure of work environment, women continue to experience lower self-esteem, segregation in access to informal sources of information, and stigma. It is clear that women having natural sciences related careers experience difficulties in terms of their way of thinking. Also they are seen as a minority group only because of their gender.

There are striking studies examining women in natural sciences in later stages of the field. For example, although the number of women chemists is increasing in general, there is no increment in number of women chemists who hold a managerial or academic position (Burrelli, 1993). It was found that there was no difference between men and women in terms of amount of interest to these positions, so the difference in number of women and men in managerial or academic positions can't be attributed to women's lack of interest to these positions. This gives us the freedom to speculate that, it may be just another example of good-old-fashioned ''glass ceiling effect'', which is the prevention of women to rise in their careers just because of their sex (Morrison, White, Van Velsor, & the Center for Creative Leadership, 1987).

In order to evade the uncertainty of speculation on ''glass ceiling effect'' the following studies can be given; Sonnert & Holton (1995) declared that in general,

studies addressing gender inequity in academic circles focus on education, and early period of career. They investigated whether women experience the glass ceiling effect in later periods of their career. They founded that women in chemistry, physics, mathematics, and engineering encounter glass ceilings, whereas women in biology were in similar positions with their male colleagues. Nevertheless another point about the women in biology was highlighted in another article (The Economist, 1996). This article states that since 1988 more than a half of biology graduates are females, this is an amazing distribution compared with other fields of natural sciences. However, more women than men quit studying biology or working as a biologist in various levels of the field. Gender may be the key reason behind the withdrawal. As mentioned earlier, according to Dolton & Makepeace's (1993) findings, women in non-teacher occupations are more likely to quit their job, than woman teachers, who are working in a 'female occupation'. Those female biologists may be sacrificing their profession for their family commitments. All in all, women in gender atypical (natural sciences related) occupations are low in number in high status positions. Their gender is an obstacle for them to reach high status positions and they experience many kinds of negativities even if they succeed in their occupation. An example might be given by a study of Heilman, Wallen, Fuchs & Tamkins (2004). They state negativities experienced by women who succeed in male gender-typed jobs. Women who are successful in a male gender-typed job are less liked than their male counterparts, and they experience negative outcomes for their career (in terms of job evaluation and recommendation for organizational reward distribution). This kind of negativities may be the reasons why women in non-teacher (gender-atypical) occupations are more likely to quit.

On one side of imbalanced sex distribution to different departments, women experience much negativity on different levels of their education life and career. Until now woman side of the imbalanced sex distribution to different departments was given. Now, some in depth information about men in gender atypical majors will be given.

One of the few studies, which included men in social sciences in gender distribution literature, is made by Kulik (1998). Kulik's study is about inter- intra-gender differences in life orientations and attitudes toward work. In this study gender-atypical students were operationally defined according to Chusmir's (1983) 'less than 30 percent' criteria (for either sex) of gender-atypical careers. This criteria means that, an occupation is defined as gender-atypical when less than 30 percent of the participants evaluate it as an appropriate occupation for members of a sex. By this point of view gender-typical men are determined as engineering students and gender-atypical men are psychology and social work students of social sciences faculty. Respectively, gender-typical women are social sciences students and gender-atypical women are engineering students. Kulik investigated the intra-gender differences in terms of level of involvement with gender identity. It was assumed that, those in gender-atypical departments would be highly involved with their gender identity, compared to their counterparts in gender-typical departments. That is, men in gender-atypical departments would be more likely to emphasize their 'masculinity', whereas women in gender-atypical departments would be more likely to emphasize their 'femininity' in order to preserve their gender identity. Results showed that men in gender-atypical departments have more masculine orientations

such as achievement, independence, competitiveness and control. The difference between gender-typical and gender-atypical women was insignificant in terms of level of involvement with gender identity. On the other hand sex-typing of occupations was also measured and both male and female gender-atypical students had more liberal views in labeling masculine occupations than their gender-typical counterparts. Opposite to Kulik's findings, Chusmir (1990) found that men in nontraditional occupations (gender atypical) share same traits and characteristics as their female colleagues and are confident with their masculinity although they score lower than men in traditional occupations in Bem's (1974) androgyny scale.

Sex differences in different departments, gender-typical and gender atypical departments have been studied. It is obvious that gender stereotypes and sex-role socialization is a crucial determinant for sex distribution. Moreover, by this review of relative literature, it can be seen that sexism is relevant to imbalanced sex distribution. Therefore, this thesis aims to compare gender-typical and gender-atypical students in terms of level of sexism, rather than level of involvement with gender-identity. Kulik's study will be highlighted later in discussion part again and differences and/or similarities between two studies will be discussed.

1.3. Ambivalent Sexism & Ambivalence toward Men

Ambivalent sexism is developed to re-conceptualize sexism, since earlier explanations of sexism includes only unitary hostility toward women (Glick & Fiske, 1996). The researchers argued that sexism is ambivalent including both

hostility and subjectively positive feelings and stereotypes about women. Glick & Fiske (1996) portrait the hostile and benevolent sexism in the following quote:

> *''Hostile sexism (HS) seeks to justify male power, traditional gender roles, and men's exploitation of women as sexual objects through derogatory characterizations of women. Benevolent sexism (BS)… relies on kinder and gentler justifications of male dominance, and prescribed gender roles; it recognizes men's dependence on women…'' (p. 121).*

Both hostile and benevolent attitudes are related to traditional gender roles. Both of these constructs' attitude objects are women and both constructs include paternalism, gender differentiation and sexuality; however they are like different reviews of the same film made by two rival critiques. Hostile sexism encompasses a dominative paternalism, competitive gender differentiation and hostile heterosexuality with women. Three subfactors point out three distinct facets of negativity toward women. Dominative paternalism emphasizes the view that women should be controlled by men. Individuals who support dominative paternalism try to justify patriarchy by viewing women as not being fully competent adults. Competitive gender differentiation justifies male structural power. Men are perceived to be capable of governing social institutions and this situation leads to downward comparison between males and females. Competitive gender differentiation also connotes negative stereotypes about women and negative perception of so called ''feminine'' traits, hence competitive gender differentiation endorses the idea that, in general, men are better than women. Hostile heterosexuality emphasizes perceiving women as merely sex objects. That is, women are elements of sexuality, who fulfill men's sexual cravings and women should be feared, because they can use sexual attraction in order to control men. In

sum, according to this view women are seen as subordinates, who must obey, and comply, at best they are seen as rivals to be tamed, otherwise they will try to control men.

On the other hand benevolent sexism includes protective paternalism, complementary gender differentiation and intimate heterosexuality. Protective paternalism highlights ‘‘power brings responsibility’’ ideology, which means men as owners of power have a responsibility to protect women. Men are dependent on women as wives, mothers and romantic partners and so women should be loved, respected and cherished. Complementary gender differentiation indicates dyadic dependency of men and women. It stresses benevolent view of traditional roles of women (e.g., wife, mother) and their traits (e.g., loving, caring). Women complete men by staying at home and taking care of the family members. In other words, women are defined as what men are not, however they are not perceived negatively. Instead, women are perceived as the other or better half of men. Intimate heterosexuality is caused by men’s sexual motivation toward women, their desire to have intimate feelings and heterosexual relationship. It endorses a romanticized view of women in terms of sexuality; hence women are seen as trophies to win or distant objects of admiration. In sum, women are seen as powerless, fragile, poor creatures, which constantly need help, affection, and protection. Nevertheless, unlike hostile sexism, dyadic power of women is acknowledged. This romanticized view of women was stated also by Williams (1987). According to Williams throughout history, women were depicted as loyal, faithful, and submissive wife, daughter and mother who in turn should be protected, and loved. Although

benevolent attitudes toward women are positive in the eye of the men, they endorse sexism, and inequality between the two genders as much as hostile sexism (Glick & Fiske, 2001).

Ambivalent sexism brought a conceptual clarification to sexism. Besides the theoretical refinement of sexism, Glick & Fiske (1996) developed a new scale called Ambivalent Sexism Inventory (ASI), consisting of 22 items. The scale not only measures hostile sexism but also benevolent sexism. Glick & Fiske theorized ambivalent sexism in U.S. and they applied ASI to American participants. After validating ASI for American sample, they started to research the effects of ambivalent sexism and the validity of ASI on different cultures. Glick and his colleagues (2000) investigated ambivalent sexism in different cultures. They applied ASI to men and women in 19 different countries (including Turkey). They have found that benevolent sexism was evident in all cultures as well as hostile sexism. This finding consolidated the idea that- as suggested by researchers- sexism was ambivalent in its nature. ASI proved to measure ambivalent sexism reliably in different cultures. It was also found that participants associated HS with negative stereotypes and BS with positive stereotypes. Another finding indicated that, in countries with high levels of sexism women adopt BS and men adopt HS. Researchers claimed that women in these countries adopt BS as a form of self-defense, in order to avoid hostility. In sum ambivalent sexism theory proved to be a valid theory across different cultures and ASI proved to be a valid measure of ambivalent sexism.

In literature there are several studies, investigating the relationship between ambivalent sexism and other psychological constructs, made both in U.S. and other parts of the world (e.g., Cuddy, Fiske & Glick, 2004; Glick, Lameiras & Rodriguez-Castro, 2002; Yakushko, 2005). Turkey is one of the countries, where studies related with ambivalent sexism are conducted. ASI was adapted Turkish by Sakallı-Uğurlu (2002), who investigated the relationship between ambivalent sexism and various other psychological constructs. One study examined the relationship between ambivalent sexism and attitudes toward wife beating among Turkish college students (Sakallı, 2001). In this study it was found that male participants with more positive attitudes toward patriarchy and higher levels of hostile sexism found wife beating more acceptable. In a similar study the relationship between ambivalent sexism and attitudes toward wife abuse in Brazil and Turkey was investigated (Glick, Sakallı-Uğurlu, Ferreira & De Souza, 2002). Their results showed that higher levels of HS and BS were positively related with favorable attitudes toward wife abuse in both countries. However, only HS was accounted for unique variance in attitudes toward wife abuse, suggesting that HS was used as justification of abuse and BS fails to operate, once the patriarchic rights of men are challenged by women. In another study Sakallı-Uğurlu & Beydoğan (2002) examined the relationship between ambivalent sexism and attitudes toward woman managers among Turkish college students. They found that higher level of HS and more favorable attitudes toward patriarchy was related with less favorable attitudes toward woman managers, where as BS was not significantly related with attitudes toward woman managers. It was also found that men held less favorable toward woman managers than women. The relationship between ambivalent sexism and attitudes toward women who

engage in premarital sex in Turkey was investigated in another article (Sakallı-Uğurlu & Glick, 2003). According to results higher levels of BS was found to be significantly related to unfavorable attitudes toward women who engage in premarital sex among both male and female participants.

Above mentioned studies' results show that HS is related with issues where violence, abuse and exclusion of women from male dominated groups (in this case people who hold a managerial position) were present. BS was related with issues where women should be sacred and untouched subjects of morality. In other words results showed that different aspects of ambivalent sexism tap in different issues related with women. As seen in all these studies HS (hostile sexism) and BS (benevolent sexism) are good predictors of attitudes toward several issues in Turkey. Similarly, HS and BS might be important predictors to understand how men in social sciences are perceived and how women in natural sciences are seen.

Glick & Fiske (1999) not only focused on ambivalent attitudes toward women but also ambivalence toward men. They attempted to measure women's ambivalence toward men, and developed ambivalence toward men inventory (AMI). They tried to assess women's perception of the general relationship between genders. They gave the following status quo; men have more structural power (as the majority in the patriarchal society), and women have the dyadic power (men are dependent on women as mothers, wives, etc.). By ambivalent sexism toward women they argued that men's dependence on women brought benevolence, hence ambivalence (together with hostility). Notwithstanding the counterintuitive nature of the notion,

they suggested that women's dependence on men would bring ambivalence to their perception. In detail, dependence would bring resentment to men's structural power (hostility), as well as admiration (benevolence). Both Hostility toward men (HM) and Benevolence toward men (BM) are constituted by three distinct subfactors. HM and BM stands on different levels in terms of views on paternalism, gender differentiation and sexuality. Hostility toward men encompasses resentment of paternalism, compensatory gender differentiation and heterosexual hostility. Resentment of paternalism emphasizes the resentment of the dominant group's power and higher status by the subordinate group. Compensatory gender differentiation emphasizes resistance against men (dominant group) by using negative stereotypes and highlighting negative qualities of power. In this way women differentiate themselves from men in a positive way. Heterosexual hostility stresses that women resent men's sexual aggression and domination, which brings violence and gender inequality. On the other hand Benevolence toward men includes maternalism, complementary gender differentiation and heterosexual attraction. Maternalism highlights the view that in some aspects men are weaker than women and they should be nurtured and protected. Complementary gender differentiation emphasizes attribution of positive qualities (e.g., intelligence, competence, etc.) to the dominant group (men) by the subordinate group (women). Heterosexual attraction stresses the importance of the romantic relationship between men and women. This view reflects that a woman is incomplete without a man in her life and vice a versa. Results of their applications were satisfactory, and they verified that women had ambivalent attitudes toward men (both hostile and benevolent attitudes at the same time).

Glick and his colleagues (2004) investigated the impact of ambivalence toward men and reliability of AMI in diverse cultures. They applied AMI to men and women in 16 different countries (including Turkey). Results indicated that AMI reliably measured ambivalence toward men in diverse cultures and it was positively correlated with ASI. It was also found that HM was associated with negatively valenced stereotypes and BM was associated with positively valenced stereotypes about men. In sum ambivalence toward men proved to be a valid theory across different cultures and AMI proved to be a valid measure of ambivalence toward men. AMI is also included in the present study to examine its' association with attitudes toward men in social sciences and women in natural sciences.

1.4. Aims and Hypotheses of the Thesis

This thesis aims to investigate university students' attitudes towards men in social sciences, as well as women in natural sciences. As indicated earlier many studies (e.g., Joyce & Farenga, 2000; McCarty-Terry & Baird, 1997; Tindall & Hamil, 2004) examined how women in natural sciences are perceived, but few studies investigated men in social sciences (e.g., Kulik, 1998). By focusing on both gender in different educational areas the thesis aims to give insight about both sides of the issue. In this way, this thesis aims to contribute to the literature, by including the men in social sciences, who as a minority group pursue a ''gender atypical'' education. This thesis also aims to unveil the link between attitudes toward individuals in gender atypical education and ambivalent sexism/ ambivalence toward men. In Turkey the relationship between ambivalent sexism and attitudes toward wife beating, attitudes toward wife abuse, attitudes toward women who

engage in premarital sex and attitudes toward woman managers are previously investigated. In other words, women's- as a minority group- exposure to sexist attitudes are investigated. Those studies proved that sexist attitudes were related with justification of practicing violence against women, unfavorable attitudes toward women in managerial positions, etc., indicating that women as a minority group are affected by ambivalent sexism in various areas of life. This thesis aims to contribute to literature by investigating the relationship between ambivalent sexism and attitudes toward women in natural sciences, who are a minority group. Moreover, this thesis aims to contribute to literature by investigating the relationship between ambivalence toward men and attitudes toward men in social sciences, who are constitute another minority group. Additionally demographic variables such as sex, major, political view and department satisfaction will be taken into account, while investigating these relationships. In this point of view, following research questions are proposed:

1. Is there a significant effect of demographic variables (sex, major, political view and department satisfaction), HS, BS, HM and BM on predicting attitudes toward women in natural sciences?

Hypothesis 1: It was expected that sex, major, political view, departmental satisfaction, HS, BS, HM and BM would predict attitudes toward women in natural sciences. Especially, sex and HS would predict attitudes toward women in natural sciences, since earlier studies (e.g., Sakallı, 2001; Glick et al, 2002) demonstrated that these variables are important predictors to understand sexism relevant issues.

Hypothesis 2: Since this thesis is mainly focused on sex and major choice, effects of sex and major (natural sciences or social sciences) on attitudes toward women in natural sciences will be investigated separately. It was expected that there will be an interaction effect of sex and major on attitudes toward women in natural sciences.

2. Is there a significant effect of demographic variables (sex, major, political view and department satisfaction), HS, BS, HM and BM on predicting attitudes toward men in social sciences?

Hypothesis 3: It was predicted that attitudes toward men in social sciences would be predicted by sex, major, political view, departmental satisfaction, HS, BS, HM and BM. Since attitudes toward men in social sciences are the dependent variable here, ambivalence toward men and demographic variables would be more important predictors.

Hypothesis 4: Since this thesis is mainly focused on sex and major choice, effects of sex and major (natural sciences or social sciences) on attitudes toward women in natural sciences will be investigated separately. It was expected that there will be an interaction effect of sex and major on attitudes toward men in social sciences.

CHAPTER 2

METHOD

2.1. Participants

222 Middle East Technical University students from natural sciences and social sciences departments participated in this study. 106 of the participants were male (50 of them from social sciences and 56 from natural sciences) and the remaining 116 were female (66 of them from social sciences and 50 from natural sciences). Data was checked for outliers and five cases were identified as outliers. Those cases were excluded. Remaining 217 subjects' descriptives are as follows. Participants' ages was changing between 17 and 34, with a mean age of 21.16 (SD=1.92). Most of them were sophomores (33.6%), juniors were second (26.3%), freshmen were third (25%), seniors were fourth (13.8%), and there were only two master student (0.9%). One participant did not write department (0.5%). More than half of the participants lived (or came from) in metropolis (52.1%), participants from minor cities were second (40.6%), towns third (6.5%) and two participants did not state where they were living (or came from) (0.9%). Family incomes of participants were as follows; 31 % had 1000 ytl or below income, 37.4 % had between 1000 ytl and 2000 ytl income, 20.9% had between 2000 ytl and 4000 ytl and 10.7 % had above 4000 ytl income. 30 participants did not state their family's income (13.8%) and mean income was 2421.14 ytl. Most of the participants stated that they were from middle class (43.3%). 32.3 % of the participants stated that they were slightly above middle class. 17.1 % of the participants stated that they were below middle class,

whereas 6 % of the participants stated that they were in high economic class. Three participants did not respond (1.4%). Participants were asked to report their level of satisfaction with their department, most of the participants were satisfied (79.3%), remaining 20.2 % were not satisfied and one participant did not report level of satisfaction (0.5%). 62.7 % of the participants reported that they would not change their department if they had a chance, 36.4 % reported that they would change their department, if they had a chance. Most of the sample reported that their political view was left-wing (57.2%), 20.4 % of the sample were liberals and 19.4 % have right-wing political view. Only six participants did not respond (2.8%). Sample characteristics are given in Table 2.1.

2.2. Measures

Participants filled the following questionnaires: a measure of demographic variables, Attitudes Toward Men in Social Sciences Scale (ATMISSS), Attitudes Toward Women in Natural Sciences Scale (ATWINSS), Ambivalence Toward Men Inventory (AMI) and Ambivalent Sexism Inventory (ASI).

2.2.1. Demographic variables

Participants were asked to indicate their age, sex, major, class, income, place they spend most of their life (village, town, city, metropolis), family income, socio-economic status, politic view, level of satisfaction with their major, and thoughts about changing their major.

Table 2.1 Sample Characteristics

Demographic Variables	*Mean/ Frequencies*	*Participation Rate*
Gender		
Male	101 (50 in SS, 51 in NS)	46.5%
Female	116 (66 in SS, 50 in NS)	53.5%
Age	21.16 (SD= 1.92)	
Region		
Metropolis	113	52.1%
City	88	40.6%
Town	14	6.5%
Village	0	0%
Missing	2	0.9%
Class		
Freshmen	54	24.9%
Sophomore	73	33.6%
Junior	57	26.3%
Senior	30	13.8%
Master Student	2	0.9%
Missing	1	0.5%
Income		
≤ 1000 ytl	58	31%
1000- 2000 ytl	70	37.4%
2001- 4000 ytl	39	20.9%
> 4000 ytl	20	10.7%
Missing	30	13.8%
Economic Class		
Low	37	17.1%
Middle Class	94	43.3%
Above Middle Class	70	32.3%
High	13	6%
Missing	3	1.4%
Department Satisfaction		
Satisfied	172	20.2%
Not Satisfied	44	79.3%
Missing	1	0.5%
Department Change		
Yes	79	36.4%
No	136	62.7%
Missing	2	0.9%
Political View		
Left-wing	124	57.2%
Liberal	45	20.7%
Right-wing	42	19.4%
Missing	6	2.8%

2.2.2. Attitudes toward Men in Social Sciences Scale (ATMISSS)

2.2.2.1 Development of the Scale

This scale was developed by the writer in 2004 at Attitude Measurement and Scale Development Course at METU. Item pool was created by Social Psychology graduate students and one associate professor of social psychology. Moreover, students from Middle East Technical University were interviewed and their opinions were taken into account, while developing items. Total item pool consisted of 80 items, eliminating badly worded and irrelevant items, initial scale consisted of 51 items. Participants were expected to rate items on a 6 point Likert-type response set, where 1 stands for totally disagree and 6 stands for totally agree. Higher scores indicate unfavorable attitudes toward men in social sciences.

ATMISSS was administered to natural and social sciences students at METU (N=187). 97 of them were men and 90 of them were women. Participants had a mean age of 22.08 (SD=2.01) and they aged between 18 and 27.

2.2.2.2 Validity of ATMISSS

It was considered that scale had four sub-groups of; appropriateness of social sciences to men, viewing men in social sciences as lazy individuals, thinking that men in social sciences had an unsuccessful education life, and thinking that men in social sciences chose this department unwillingly.

Initially Principal axis Factor analysis with varimax rotation was run. Items with loadings above .30 were taken to analysis. Items 1, 2, 10 23 and 28 were not loaded

to any factor and 11 factors were found which explained 69% of variance. Confusing, repetitive items and items which had high correlations with each other were discarded. After an inspection of items and their factor loadings, 17 items were taken to the final scale and another Principal axis Factor analysis with varimax rotation was run. Four factors were forced and these four factors explained 71.56% of the variance and it suited to initially assume four subgroups. First factor explained 49.7% of the variance and items 1, 2, 4, 5, 6, and 8 loaded to this factor. Items 10, 11, 16, and 17 loaded to second factor, this factor explained 8.7% of variance. Third factor explained 7.04% of the variance and items 7, 9, 12, and 15 are loaded to this factor. Finally items 3, 13, and 14 loaded to last factor and this factor explained 6.03% of the variance.

However, with current sample those factors were not extracted. Items and four factor model was re-inspected and it was decided that a two factor model would be more suitable for the sake of validity. That is, first and last factors (appropriateness of social sciences to men and thinking that men in social sciences chose this departments unwillingly) would constitute the first factor (view of social sciences as a gender atypical field for men), whereas second and third factors (men in social sciences as lazy individuals and thinking that men in social sciences had an unsuccessful education life) would constitute the other factor (low prestige view of men in social sciences). Another Principal Factor Analysis with a varimax rotation was performed. Scree plot indicated a two factor solution, confirming the expectations. Two factors explained 61.11% of variance. KMO and Bartlet's test gave the Kaiser-Meyer-Olkin Measure of sampling adequacy as .92, pointing that

factorability of R assumption was satisfactory. First factor explained 30.81% of variance and second factor explained 30.29 of variance. Items loaded to factors between .50 and .84. Items 1, 2, 3, 4, 5, 6, 8, 13, and 14 loaded to first factor. Items 7, 9, 10, 11, 12, 15, 16 and 17 loaded to second factor.

2.2.2.3 Reliability of ATMISSS

Cronbach's Alpha coefficient of the scale was .93 in pilot study, which indicated high internal consistency. In present study the same Cronbach's Alpha coefficient was obtained (α=.93), which proved the strong internal consistency of the scale once again. First and second factors (view of social sciences as a gender atypical field for men and low prestige view of men in social sciences) of the scale had the Cronbach's Alpha coefficient of .89 and .90 respectively, again indicating high internal consistency. Each subscale had only two items having more than .70 correlation (items 2 and 4 in first subscale; items 10 and 17 in second subscale), which gives a reasonable rating in terms of items' redundancy. All item-total correlations were above .20 (ranging between .43 and .78). Item's multiple squared correlations were also above .20. Item-total correlations of first factor were higher than .20 (ranging between .53 and .81). Item's multiple squared correlations of first factor were above .20 except for item 6 which met the criteria marginally (.194). Item's total correlations of second factor were above .20 (ranging between .62 and .78). Item's multiple squared correlations of second factor were above .20.

ATMISSS was also tested for split-half reliability technique, which revealed satisfactory results. As a result of analysis, gender atypical view of men in social

sciences had adequate alpha values for both part (Cronbach's α for part 1= .88, Cronbach's α for part 2= .68). Split-half reliability for low prestige view of men in social sciences was also satisfactory (Cronbach's α for part 1= .80, Cronbach's α for part 2= .84).

Both in pilot study and in this thesis ATMISSS provided satisfactory reliability scores and it proved to measure attitudes toward men in social sciences in a two factor structure validly. In sum ATMISSS proved to be a reliable and with the theoretical ramifications made on the factor structure valid measure.

2.2.3. Attitudes toward Women in Natural Sciences Scale (ATWINSS)

2.2.3.1 Development of the Scale

ATWINSS was originally developed by Can (2000). It was aimed to measure attitudes towards women in science career. This scale was adapted to measure attitudes towards women in natural sciences education by Gülçür & Köymen (2002). The scale consists of 27 items. Participants responded to items on 6 point Likert-type response set. 1 stands for totally disagree and 6 stands for totally agree. Higher points indicate unfavorable attitudes toward women in natural sciences.

2.2.3.2 Reliability and Validity of ATWINSS

Gülçür & Köymen (2002) showed that ATWINSS have an adequate reliability (α= .86) and a four factor structure. Those factors are; gender atypical view of natural sciences for women, stereotypical gender roles of women in natural sciences, opportunities for women in natural sciences and difficulty of natural sciences for

women. In this thesis ATWINSS had a good reliability score (α= .87) and initial four factors were extracted. Four subscales had Cronbach's Alpha coefficients of .90, .86, .75 and .66 respectively. Item four which was in the last subscale was excluded from the scale, because it lowered the subscale's reliability considerably. When item four was deleted from the analysis, Cronbach's Alpha coefficient reached to .74 from .66. Using Principal Axis Factor Analysis with varimax rotation, four factors explained 59.6% of variance. KMO and Bartlet's test gave the Kaiser-Meyer-Olkin Measure of sampling adequacy as .91, pointing that factorability of R assumption was satisfactory. Items 1, 2, 3, 6, 7, 8, 9, 11, 18, 26 and 27 are loaded to first factor, which explained 23.4% of the variance. Items 5, 13, 15, 19, 21, 22, 23 and 24 are loaded to second factor explaining 18.04% of the variance. Items 10, 12, 17 and 25 are loaded to third factor and explained 10.4% of the variance. Finally, items 14, 16 and 20 are loaded to the last factor and explained 7.8% of the variance. Item-total correlations of the first factor were above .20 (ranging between .32 and .79). Item's multiple squared correlations of first factor were above .20 except for item 11 (.148). Item-total correlations of the second factor were above .20 (ranging between .46 and .75). Item's multiple squared correlations of the second factor were above .20. Item-total correlations of factor three were above .20 (ranging between .36 and .65). Item's multiple squared correlations of the third factor were above .20 except for item 10 which met the criteria marginally (.198). Finally, item-total correlations of factor four were above .20 (ranging between .52 and .62). Item's multiple squared correlations of the factor four were higher than .20.

2.2.4. Ambivalence toward Men Inventory (AMI)

AMI was developed by Glick and Fiske (1999). It has two subscales, which are Hostility toward Men (HM) and Benevolence toward Men (BM) subscales. AMI aims to reflect the difference between women's hostile and benevolent prejudices and stereotypes about men. In course of developing the scale Glick and Fiske made three studies with a total sample of 954 individuals. In first study they gave a 133 item scale named ''Women, Men, and Their Relationships'' which formed the initial item pool. In second study participants filled a 32 item version of AMI (which was derived from the first study). In third study researchers used older adults as well as university students (which was the general sample of the previous two studies). The final scale consists of 20 items which had the best performance in three studies.

In three studies AMI yielded acceptable reliability scores. AMI had Alpha scores varying between .83 and .87. HM subscale had Alpha coefficients between .81 and .86. BM subscale had Alpha scores between .79 and .83. There was moderate and positive correlation between AMI subscales.

AMI was adapted to Turkish by Sakallı-Uğurlu (2006). Turkish version of AMI was also used in the study of Glick et al. (2004). In present study reliability scores for AMI, HM and BM are .86, .81 and .87 respectively. Item total correlations for AMI were between .16 and .57, for HM were between .32 and .62, for BM were between .43 and .71. Item 2 was excluded from analysis, because it did not perform well (item-total correlation was lower than .20), based on a similar exclusion of item 3 by Glick et al (2004) due to poor performance of the item. 6 point Likert-type response

was used, where 1 stands for totally disagree and 6 stands for totally agree. Higher scores indicate higher levels of ambivalence toward men.

2.2.5. Ambivalent Sexism Inventory (ASI)

ASI was developed by Glick and Fiske (1996). The scale aims to measure ambivalent sexist attitudes toward women. ASI consists of 22 items and two subscales of Hostile Sexism (HS) and Benevolent Sexism (BS). Each subscale has 11 items which are designed to measure attitudes about power (for HS dominative paternalism, for BS protective paternalism), gender differentiation (for HS competitive, for BS complementary) and heterosexuality (for HS hostile heterosexuality, for BS intimate heterosexuality). Studies made with six different samples revealed Cronbach's Alpha scores for ASI between .83 and .92, for HS between .80 and .92, for BS between .73 and .85. Researchers tested confirmatory factor-analytic models with five independent samples and found that two factor model with three subfactors (only for BS) was the best fitting factor structure. They explained the failure to find three subfactors for HS (dominative paternalism, competitive gender differentiation and heterosexual hostility) by indicating the difficulty to distinguish these concepts empirically (Glick & Fiske, 1997).

ASI was adapted to Turkish by Sakallı-Uğurlu (2002). Cronbach's alpha score for ASI was .85 and subscales HS and BS had reliability scores of .87 and .78 respectively. Researcher reported that according to the Factor Analysis with varimax rotation ASI explained 51.07% of the variance for the sample. Four factors were found (HS and three subfactors of BS). HS explained 25.69% of the variance and

eleven items were loaded to this factor. Three subfactors of BS (protective paternalism, complementary gender differentiation and heterosexual intimacy) explained 13.01%, 7.22% and 5.14% of the variance respectively. It was also reported that two factor model (HS and BS) was run and items loaded to same factors found in the original study.

In present study Cronbach's Alpha scores for ASI, HS and BS are .88, .89 and .84 respectively, which are satisfactory. Item total correlations for ASI were between .25 and .61, for HS were between .46 and .72, for BS were between .31 and .70. 6 point Likert-type response set was used, where 1 stands for totally disagree and 6 stands for totally agree. Higher points indicate higher levels of ambivalent sexism.

2.3 Procedure

Participants were informed about the purpose of this thesis and they received bonus points for their final grades, instructors provided alternative ways for receiving bonus points (writing a response paper about a topic), in order to prevent the participants to feel obliged to take part in this thesis study. Also, participants were assured about the confidentiality of the information they gave. Data was gathered from two 'introduction to psychology and one social psychology' course, in three sessions in total. It took participants twenty to thirty minutes to fill the questionnaires. Participants, who wanted more information about the topic, were informed after the sessions privately.

CHAPTER 3

RESULTS

After checking the data for univariate and multivariate outliers and excluding cases as such, mean total scores for each scale (ATMISSS, ATWINSS, AMI and ASI) were calculated. Data was analyzed according to hypotheses with the method of regression.

3.1 Descriptive Information about the Study variables

When participants' several scores on scales were inspected, it was found that, they did not viewed social sciences as a gender atypical field for men, as a general trend (M= 2.34, SD= 1.07). In terms of low prestige view of men in social sciences participants had slightly more yet still moderately negative endorsements (M= 2.54, SD= 1.08). Participants' scores on gender atypical view of women in natural sciences (M= 2.02, SD= .97) and stereotypical gender roles of women in natural sciences (M=2.61, SD= 1.02) were low. However, they endorsed opportunities for women in natural sciences (M= 3.42, SD= 1.2) and difficulty of natural sciences for women (M= 3.45, SD= 1.30) more. HS was endorsed more (M= 3.56, SD= 1.05) than BS (M= 3.25, SD= 1.01) and HM was endorsed more (M= 3.88, SD= .93) than BM (M= 3.27, SD= 1.12). Table 3.1 can be referred for the general view of the descriptive information about the study variables.

3.2 Gender Differences among the Study Variables

One way ANOVA was conducted in order to examine main effects of the gender on the study variables. There was a significant difference between men and women in gender atypical view of men in social sciences, low prestige view of men in social sciences, gender atypical view of women in natural sciences, stereotypical gender roles of women in natural sciences, hostility toward men, benevolence toward men and hostile sexism (refer to Table 3.2). Men (M= 2.67, SD= 1.2) endorsed gender atypical view of men in social sciences more than women did (M= 2.06, SD= .85). Low prestige view of men in social sciences was endorsed more by men (M= 2.88, SD= 1.06) than women (M= 2.24, SD= 1.01). Gender atypical view of women in natural sciences was also endorsed more by men (M= 2.49, SD= 1.05) than women (M= 1.62, SD= .68). Men (M= 3.16, SD= .98) endorsed stereotypical gender roles of women in natural sciences more than women (M= 2.12, SD= .77). In terms of hostility toward men, women (M= 4.16, SD= .93) had higher scores than did men (M= 3.56, SD= .83). On the other hand men (M= 3.75, SD= 1.01) endorsed benevolence toward men more than women (M= 2.86, SD= 1.05). Finally, hostile sexism was endorsed more by men (M= 4, SD= 1.03) than women (M= 3.18, SD= .91). Table 3.1 provides detailed information.

Table 3.1 Descriptive Information about and Gender Differences among Study Variables

Variables	*Cronbach Alpha (α)*	*General* *M*	*SD*	*Women* *M*	*SD*	*Men* *M*	*SD*	*MS Error*	*F*
Social Sciences Gender Atypical	.89	2.34	1.07	2.06	.85	2.67	1.20	20.15	18.93*
Low Prestige View of Men in Social Sciences	.90	2.54	1.08	2.24	1.01	2.88	1.06	21.90	20.30*
Natural Sciences Gender Atypical	.90	2.02	.97	1.62	.68	2.49	1.05	40.35	52.58*
Stereotypical Gender Roles of Women in NS	.86	2.61	1.02	2.12	.77	3.16	.98	58.74	75.83*
Opportunities for Women in NS	.75	3.42	1.20	3.49	1.24	3.35	1.15	1.05	.72
Difficulty of NS for Women	.74	3.45	1.30	3.30	1.29	3.62	1.30	0.95	.73
HS	.89	3.56	1.05	3.18	.91	4.00	1.03	36.36	38.19*
BS	.84	3.25	1.01	3.16	1.09	3.36	.90	2.28	2.22
HM	.81	3.88	.93	4.16	.93	3.56	.83	19.84	26.84*
BM	.87	3.27	1.12	2.86	1.05	3.75	1.01	42.40	39.64*

*df= 1, 216; p< .001

3.3 Correlations among the Study Variables

For further exploration of study variables their correlations with each other was investigated. Namely, correlations between demographic variables (sex, major, political view and department satisfaction), subfactors of ATMISSS, ATWINSS, AMI and ASI were examined. Table 3.3 contains correlations among the study variables.

In order to explore the correlations among the study variables, Pearson's two-tailed correlation analysis was conducted. According to results there was a significant correlation between Gender atypical view of men in social sciences and Low Prestige View of Men in Social Sciences ($r = .68$, $p < .01$). Gender atypical view of men in social sciences was also significantly correlated with Benevolence toward Men, Gender Atypical view of Natural Sciences for Women, ($r = .51$, $p < .01$; $r = .56$, $p < .01$ respectively).

Low Prestige View of Men in Social Sciences was significantly correlated with Benevolence toward Men, Gender Atypical view of Natural Sciences for Women, Stereotypical Gender Roles of Women in Natural Sciences and Difficulty of Natural Sciences for Women ($r = .36$, $p < .01$; $r = .48$, $p < .01$; $r = .39$, $p < .01$; $r = .38$, $p < .01$ respectively).

Gender Atypical View of Natural Sciences for Women was significantly correlated with Stereotypical Gender Roles of Women in Natural Sciences, Opportunities for Women in Natural Sciences (negatively) and Difficulty of Natural Sciences for

Women (r= .71, p< .01; r= -.24, p< .01; r= .50, p< .01 respectively).Gender Atypical View of Natural Sciences for Women was also significantly correlated with Benevolent Sexism and Hostile Sexism (r= .25, p<.01; r= .54, p<.01; respectively).

Stereotypical Gender Roles of Women in Natural Sciences was significantly correlated with Opportunities for Women in Natural Sciences (negatively) and Difficulty of Natural Sciences for Women (r=-.25, p< .01; r= .42, p< .01 respectively). It was also significantly correlated with Benevolent Sexism and Hostile Sexism (r= .17, p< .01; r= .50, p< .01 respectively). Opportunities for Women in Natural Sciences was (negatively) significantly correlated with Difficulty of Natural Sciences for Women (r=-.46, p< .01). Difficulty of Natural Sciences for Women was significantly correlated with Benevolent Sexism, Hostile Sexism, Benevolence toward Men and Hostility toward Men (r= .33, p< .01; r= .39, p< .01; r= .45, p< .01; r= .30, p<.01 respectively).

Hostile Sexism was significantly correlated with Benevolent Sexism (r= .38, p< .01) and Hostility toward Men was significantly correlated with Benevolence toward Men (r= .28, p< .01). For detailed information please refer to Table 3.2.

Table 3.2 Correlations among the Study Variables

Variables	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
1.Sex	-													
2.Major	n.s.	-												
3.Political View	-.16*	.26**	-											
4.Department Satisfaction	n.s.	-.15*	n.s.	-										
5.GAVMMS[a]	-.29**	.50**	.41**	n.s.	-									
6.LPVMSS[a]	-.30**	.41**	.31**	-.17*	.68**	-								
7.GAVWNS[a]	-44**	.20**	.36**	n.s.	.56**	.48**	-							
8.SGRWNS[a]	-.51**	.22**	.37**	n.s.	.50**	.39**	.71**	-						
9.OWNS[a]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	-.24**	-.25**	-					
10.DNSW[a]	n.s.	.22**	.21**	n.s.	.38**	.38**	.50**	.42**	-.46**	-				
11.HS[a]	-.39**	.19**	.36**	n.s.	.38**	.29**	.54**	.50**	n.s.	.39**	-			
12.BS[a]	n.s.	.27**	.22**	n.s.	.34**	.23**	.25**	.17*	n.s.	.33**	.38**	-		
13.HM[a]	.33**	n.s.	.14*	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	.30**	.20**	.49**	-	
14.BM[a]	-.40**	.32**	.40**	n.s.	.51**	.36**	.49**	.46**	n.s.	.45**	.71**	.67**	.31**	-

* Correlation is significant at the .05 level (2-tailed). ** Correlation is significant at the .01 level (2-tailed). [a] = (GAVMSS= gender atypical view of men in social sciences, LPVMSS= low prestige view of men in social sciences, GAVWNS= gender atypical view of women in natural sciences, SGRWNS= stereotypical gender roles of women in natural sciences, OWNS= opportunities for women in natural sciences, DNSW= difficulty of natural sciences for women, HS= hostile sexism, BS= benevolent sexism, HM= hostility toward men, BM= benevolence toward men).

3.4 Analysis related to Research Question 1

Hypothesis 1: Predicting Attitudes toward Women in Natural Sciences by Demographic Variables, HS, BS, HM and BM

ATWINSS scale consists of four subscales; therefore the predictive power of demographic variables, HS, BS, HM and HM were investigated separately with all subscales.

3.4.1 Predicting Gender Atypical View of Women in Natural Sciences by Demographic Variables, HS, BS, HM and BM

In order to investigate the predictive power of demographic variables (sex, major, political view, department satisfaction), HS, BS, HM and BM on gender atypical view of women in natural sciences hierarchical multiple regression analysis was run. In Step 1 R was significantly different than zero $F (4, 204) = 19.62$, $p < .001$. This result means that there is a significant bivariate relationship between the demographic variables (sex, major, political view and department satisfaction) and the gender atypical view of women in natural sciences. R^2 change was .28 (SD= .83), meaning that 28% of the variance in gender atypical view of women in natural sciences is accounted by demographic variables. Only sex and political view were significantly predicting gender atypical view of women in natural sciences; $\beta = -.39$, $t = -6.42$, $p < .001$ and $\beta = .27$, $t = 4.32$, $p < .001$ respectively.

In Step 2, HS, BS, HM and BM entered the equation. After the inclusion of the second block of IVs there was a significant change in F value; $F (4, 200) = 8.52$, $p < .001$, which means that the second block of the IVs was significantly predicting gender atypical view of women in natural sciences. In this step R^2 change was .11,

meaning that 11% of the change in variance is accounted by HS, BS, HM and BM. After Step 2 sex (β= -.30, t= -4.15, p< .001), political view (β= .15, t= 2.31, p< .05) and HS (β= .30, t= 3.80, p< .001) significantly predicted gender atypical view of women in natural sciences. Please refer to Table 3.3.1 for detailed information.

Table 3.3.1 Predicting Gender Atypical View of Women in Natural Sciences

	Model 1				Model 2			
Variable	**B (SD)**	**β**	**t**	**p**	**B (SD)**	**β**	**t**	**p**
Sex	-.75 (.12)	-.39	-6.42	.000	-.58 (.14)	-.30	-4.15	.000
Major	.16 (.12)	.08	1.34	n.s.	.11 (.12)	.06	0.94	n.s.
Political View	.20 (.04)	.27	4.32	.000	.11 (.05)	.15	2.31	.022
Department Sat.	-.01 (.04)	-.01	-0.22	n.s.	-.01 (.04)	-.02	-0.26	n.s.
HS					.28 (.08)	.30	3.79	.000
BS					-.04 (.08)	-.04	-0.45	n.s.
HM					.11 (.08)	.10	1.35	n.s.
BM					.06 (.09)	.07	0.63	n.s.
R		.53				.62		
R^2		.28				.38		
Adjusted R^2		.26				.36		
R^2 Change		.28				.11		
F Change in R^2		19.62*				8.52**		
Sig. F Change		.000				.000		

*df = 4, 204, **df = 4, 200 Predictors: Sex, Major, Political View, Department Satisfaction, Hostile Sexism (HS), Benevolent Sexism (BS), Hostility toward Men (HM), Benevolence toward Men (BM). Criterion Variable: Gender Atypical View of Women in Natural Sciences.

3.4.2 Predicting Stereotypical Gender roles of Women in Natural Sciences by Demographic Variables, HS, BS, HM and BM

Hierarchical multiple regression analysis was run for testing the predictive power of demographic variables, HS, BS, HM and BM on stereotypical gender roles of women in natural sciences. In Step 1 demographic variables entered the equation and it was found that R was significantly different than zero, $F(4, 204) = 27.35$, $p < .001$. This result indicates the significant bivariate relationship between the demographic variables (sex, major, political view and department satisfaction) and the stereotypical gender roles of women in natural sciences. R^2 change was .35 (SD= .83), which means 35% of variance in stereotypical gender roles of women in natural sciences is uniquely accounted for demographic variables. Sex, major and political view significantly predicted stereotypical gender roles of women in natural sciences; $\beta = -.45$, $t = -7.89$, $p < .001$; $\beta = .12$, $t = 2.05$, $p < .05$ and $\beta = 26$, $t = 4.44$, $p < .001$ respectively.

In Step 2 HS, BS, HM and BM entered the equation. After including the second set of IVs there was a significant change in F value; $F(4, 200) = 5.06$, $p < .001$, meaning that second set of IVs significantly predict stereotypical gender roles of women in natural sciences. R^2 change was .06 (SD= .80) meaning that 6% of variance in stereotypical gender roles of women in natural sciences is accounted for the second set of IVs. Sex ($\beta = -.32$, $t = -4.46$, $p < .001$), political view ($\beta = .18$, $t = 2.89$, $p < .05$) and HS ($\beta = .24$, $t = 3.02$, $p < .05$) significantly predicted stereotypical gender roles of women in natural sciences. Please refer to Table 3.3.2 for detailed information.

Table 3.3.2 Predicting Stereotypical Gender roles of Women in Natural Sciences

	Model 1				Model 2			
Variable	**B (SD)**	**β**	**t**	**p**	**B (SD)**	**β**	**t**	**p**
Sex	-.92 (.12)	-.45	-7.89	.000	-.64 (.14)	-.32	-4.46	.000
Major	.25 (.12)	.12	2.05	.042	.19 (.12)	.09	1.54	n.s.
Political View	.20 (.05)	.26	4.44	.000	.14 (.05)	.18	2.89	.004
Department Sat.	.03 (.04)	.04	0.73	n.s.	.04 (.04)	.05	0.87	n.s.
HS					.23 (.08)	.24	3.02	.003
BS					-.08 (.08)	-.08	-0.95	n.s.
HM					-.05 (.08)	-.05	-0.64	n.s.
BM					.12 (.10)	.13	1.23	n.s.
R	.59				.64			
R^2	.35				.41			
Adjusted R^2	.34				.39			
R^2 Change	.35				.06			
F Change in R^2	27.35*				5.06**			
Sig. F Change	.000				.001			

*df = 4, 204, **df = 4, 200 Predictors: Sex, Major, Political View, Department Satisfaction, Hostile Sexism (HS), Benevolent Sexism (BS), Hostility toward Men (HM), Benevolence toward Men (BM). Criterion Variable: Stereotypical Gender Roles of Women in Natural Sciences.

3.4.3 Predicting Opportunities for Women in Natural Sciences by Demographic variables, HS, BS, HM and BM

Hierarchical multiple regression analysis was run in order to test the predictive power of demographic variables, HS, BS, HM and BM on opportunities for women in natural sciences. Neither demographic variables (F (4, 204) = .26, n.s.) nor observed variables (HS, BS, HM and BM) (F (4, 200) = .33, n.s.) did not predict opportunities for women in natural sciences.

3.4.4 Predicting Difficulty of Natural Sciences for Women by Demographic Variables, HS, BS, HM and BM

According to results of hierarchical multiple regression analysis R was significantly different than zero in Step 1; $F(4, 204) = 4.16$, $p < .003$, meaning that demographic variables significantly predicted difficulty of field for women in natural sciences. R^2 change was .08 (SD= 1.26) meaning that 8% of change in variance is accounted for demographic variables. Major ($\beta = .14$, $t = 1.98$, $p < .05$) and political view ($\beta = .16$, $t = 2.31$, $p < .05$) of the participants significantly predicted their views on difficulty of natural sciences for women.

In Step 2 HS, BS, HM and BM entered the equation. In this step R was significantly different than zero; $F(4, 200) = 10.98$, $p < .001$, meaning that the second block of IVs significantly predicted difficulty of field for women in natural sciences. R^2 change was .17 (SD= 1.15) meaning that 17% of variance in difficulty of natural sciences for women is accounted for the second block of IVs. HM ($\beta = .20$, $t = 2.41$, $p < .05$) and BM ($\beta = .25$, $t = 2.16$, $p < .05$) significantly predicted difficulty of natural sciences for women. For detailed information please refer to Table 3.3.3.

Table 3.3.3 Predicting Difficulty of Natural Sciences for Women

	Model 1				Model 2			
Variable	**B (SD)**	**β**	**t**	**p**	**B (SD)**	**β**	**t**	**p**
Sex	-.18 (.18)	-.07	-0.99	n.s	-.01 (.21)	-.01	-0.06	n.s.
Major	.36 (.18)	.14	1.98	.049	.22 (.18)	.09	1.30	n.s.
Political View	.16 (.07)	.16	2.31	.022	.01 (.07)	.01	0.07	n.s.
Department Sat.	-.08 (.07)	-.08	-1.17	n.s.	-.09 (.06)	-.09	-1.43	n.s.
HS					.19 (.11)	.15	1.71	n.s.
BS					-.02 (.12)	-.02	-0.16	n.s.
HM					.28 (.12)	.20	2.41	.017
BM					.30 (.14)	.25	2.16	.032
R	.28				.49			
R^2	.08				.24			
Adjusted R^2	.06				.21			
R^2 Change	.08				.17			
F Change in R^2	4.16*				10.98**			
Sig. F Change	.003				.000			

*df = 4, 204, **df = 4, 200 Predictors: Sex, Major, Political View, Department Satisfaction, Hostile Sexism (HS), Benevolent Sexism (BS), Hostility toward Men (HM), Benevolence toward Men (BM). Criterion Variable: Difficulty of Natural Sciences for Women.

3.5 Hypothesis 2: Effect of Major and Sex on Attitudes toward Women in Natural Sciences

3.5.1 Effect of Major and Sex on Gender Atypical View of Women in Natural Sciences

ANCOVA was performed to investigate the effect of major and sex on gender atypical view of women in natural sciences, by taking stereotypical gender roles of women in natural sciences, opportunities for women in natural sciences and difficulty of natural sciences for women as covariates. According to results

stereotypical gender roles of women in natural sciences and difficulty of natural sciences for women were significant confounding variables; $F(1, 210) = 81.77$, $p < .001$ and $F(1, 210) = 23.28$, $p < .001$ respectively. After adjusting the effect of confounding variables, a significant main effect of sex was found $F(1, 210) = 6.65$, $p < .05$. This result means that men ($M = 2.17$, $SD = .71$) had higher scores than women ($M = 1.91$, $SD = .66$) on gender atypical view of women in natural sciences. There was no significant main effect of major and no significant interaction effect of major and sex.

3.5.2 Effect of Major and Sex on Stereotypical Gender Roles of Women in Natural Sciences

According to ANCOVA results gender atypical view of women in natural sciences was found to be a significant confounding variable $F(1, 210) = 81.77$, $p < .001$. After adjusting for effect of confounding variable, it was found that sex had a main effect on stereotypical gender roles of women in natural sciences $F(1, 210) = 27.05$, $p < .001$. This result indicates that men ($M = 2.90$, $SD = .72$) had higher scores than women ($M = 2.36$, $SD = .67$) on stereotypical gender roles of women in natural sciences. There was no main effect of major and interaction effect of major and sex.

3.5.3 Effect of Major and Sex on Opportunities for Women in Natural Sciences

ANCOVA was executed in order to investigate the effect of major and sex on responses about opportunities for women in natural sciences. According to results difficulty of natural sciences was a significant confounding variable $F(1, 210) = 42.78$, $p < .001$. After adjusting for the effect of confounding variable there was no significant main or interaction effect of major and sex.

3.5.4 Effect of Major and Sex on Difficulty of Natural Sciences for Women

ANCOVA was performed in order to investigate the effect of major and sex on difficulty of natural sciences for women. Gender atypical view of women in natural sciences and opportunities for women in natural sciences were significant confounding variables; $F(1, 210) = 23.28$, $p < .001$ and $F(1, 210) = 42.78$, $p < .001$ respectively. After adjusting the effect of confounding variables, significant main effect of major and sex was found; $F(1, 210) = 5.60$, $p < .05$ and $F(1, 210) = 3.99$, $p < .05$ respectively. These results indicate that participants in natural sciences ($M = 3.62$, $SD = 1.03$) had higher scores on difficulty of natural sciences for women than participants in social sciences ($M = 3.28$, $SD = .96$), similarly women ($M = 3.62$, $SD = 1.03$) had higher scores on difficulty of natural sciences for women than men ($M = 3.29$, $SD = 1.12$). There was no significant interaction effect.

3.6 Analysis related to Research Question 2

Hypothesis 3: Predicting Attitudes toward Men in Social Sciences by Demographic Variables, HS, BS, HM and BM

ATMISSS consists of two subscales; therefore the predictive power of demographic variables, HS, BS, HM and BM were investigated separately with two subscales.

3.6.1 Predicting Gender Atypical View of Men in Social Sciences by Demographic Variables, HS, BS, HM and BM

Hierarchical multiple regression analysis was performed in order to understand the predictive power of demographic variables, HS, BS, HM and BM on gender atypical view of men in social sciences. In Step 1 R was significantly different than zero; $F(4, 204) = 30.08$, $p < .001$. This result indicated that demographic variables

significantly predicted gender atypical view of men in social sciences. R^2 change was .37 (SD= .86), meaning that 37% of the variance in gender atypical view of men in social sciences is accounted for demographic variables. Sex (β= -.21, t= -3.79, p< .001), major (β= .42, t= 7.16, p< .001) and political view (β= .26, t= 4.44, p< .001) significantly predicted gender atypical view of men in social sciences.

In Step 2 HS, BS, HM and BM entered the equation as the second set of IVs. In this step R was significantly different than zero; F (4, 200) = 4.27, p< .002. This result indicates that the second set of IVs significantly predict gender atypical view of men in social sciences. R^2 change was .05 (SD= .83), meaning that 5% of variance is accounted for the second set of IVs. Major (β= .35, t= 5.95, p< .001), political view (β= .18, t= 3.02, p< .05) and BM (β= .25, t= 2.41, p< .05) significantly predicted gender atypical view of men in social sciences. Please refer to Table 3.4.1 for detailed information.

Table 3.4.1 Predicting Gender Atypical View of Men in Social Sciences

	Model 1				Model 2			
Variable	**B (SD)**	**β**	**t**	**p**	**B (SD)**	**β**	**t**	**p**
Sex	-.46 (.12)	-.21	-3.79	.000	-20 (.15)	-.09	-1.32	n.s.
Major	.89 (.12)	.42	7.16	.000	.76 (.13)	.35	5.95	.000
Political View	.21 (.05)	.26	4.44	.000	.15 (.05)	.18	3.02	.003
Department Sat.	.06 (.04)	.07	1.30	n.s.	.05 (.04)	.07	1.23	n.s.
HS					.03 (.08)	.03	0.41	n.s.
BS					.04 (.09)	.04	0.47	n.s.
HM					-.08 (.08)	-.07	-0.92	n.s.
BM					.24 (.10)	.25	2.41	.017
R	.61				.65			
R^2	.37				.42			
Adjusted R^2	.36				.40			
R^2 Change	.37				.05			
F Change in R^2	30.08*				4.27**			
Sig. F Change	.000				.002			

*df = 4, 204, **df = 4, 200 Predictors: Sex, Major, Political View, Department Satisfaction, Hostile Sexism (HS), Benevolent Sexism (BS), Hostility toward Men (HM), Benevolence toward Men (BM). Criterion Variable: Gender Atypical View of Men in Social Sciences.

3.6.2 Predicting Low Prestige View of Men in Social Sciences by Demographic Variables, HS, BS, HM and BM

According to results of hierarchical multiple regression analysis R was significantly different than zero in Step 1; F (4, 204) = 19.46, p< .001. This result showed that demographic variables significantly predicted low prestige view of men in social sciences. R^2 change was .28 (SD= .93), meaning that 28% of variance is accounted for demographic variables. Sex (β= -.24, t= -4.03, p< .001), major (β= .30, t= 4.83, p< .001), political view (β= .21, t= 3.35, p< .001) and departmental satisfaction (β=

-.12, t= -1.97, p< .05) significantly predicted low prestige view of men in social sciences.

In Step 2 HS, BS, HM and BM entered the equation, in this step R was not significantly different than zero; F (4, 200) = .62, n.s. For detailed information please check Table 3.4.2.

Table 3.4.2 Predicting Low Prestige View of Men in Social Sciences

	Model 1				Model 2			
Variable	**B (SD)**	**β**	**t**	**p**	**B (SD)**	**β**	**t**	**p**
Sex	-.53 (.13)	-.24	-4.03	.000	-.50 (.17)	-.23	-2.94	.004
Major	.65 (.14)	.33	4.83	.000	.62 (.14)	.29	4.37	.000
Political View	.17 (.05)	.21	3.35	.001	.14 (.05)	.17	2.58	.011
Department Sat.	-.09 (.05)	-.12	-1.97	.050	-.10 (.05)	-.12	-1.98	.050
HS					.01 (.09)	.01	0.06	n.s.
BS					-.02 (.10)	-.02	-0.21	n.s.
HM					.06 (.09)	.05	0.59	n.s.
BM					.09 (.11)	.09	0.80	n.s.
R		.53				.53		
R^2		.28				.29		
Adjusted R^2		.26				.26		
R^2 Change		.28				.01		
F Change in R^2		19.46*				.62**		
Sig. F Change		.000				n.s.		

*df = 4, 204, **df = 4, 200 Predictors: Sex, Major, Political View, Department Satisfaction, Hostile Sexism (HS), Benevolent Sexism (BS), Hostility toward Men (HM), Benevolence toward Men (BM). Criterion Variable: Low Prestige View of Men in Social Sciences.

3.7 Hypothesis 4: Effect of Major and Sex on Attitudes toward Men in Social Sciences

3.7.1 Effect of Major and Sex on Gender Atypical View of Men in Social Sciences

ANCOVA was performed in order to investigate the main and interaction effects of sex and major on gender atypical view of men in social sciences with low prestige view of men in social sciences as covariate. According to results, low prestige view of men in social sciences was found as a significant confounding variable $F(1, 212) = 101.41$, $p < .001$. After adjusting the effect of confounding variable, a significant main effect of major was found $F(1, 212) = 29.65$, $p < .001$, meaning that participants in natural sciences ($M = 2.67$, $SD = .77$) scored significantly higher than participants in social sciences ($M = 2.07$, $SD = .72$). A main effect of sex was also found $F(1, 212) = 5.22$, $p < .05$, meaning that male participants ($M = 2.49$, $SD = .75$) had significantly higher scores than female participants ($M = 2.25$, $SD = .70$) on gender atypical view of men in social sciences. Finally there was a significant interaction effect of major and sex $F(1, 212) = 4.75$, $p < .05$. According to Tukey-Kramer test of difference (Hovardaoğlu, 1994) this result means that men in natural sciences ($M = 2.90$, $SD = 1.09$) had significantly higher scores than men in social sciences ($M = 2.08$, $SD = 1.04$); $q = 8.2$, $p < .001$ and women in natural sciences ($M = 2.44$, $SD = 1.05$) had significantly higher scores than women in social sciences ($M = 2.06$, $SD = .99$); $q = 3.8$, $p < .001$. Men in natural sciences also had significantly higher scores than women in natural sciences and women in social sciences ($q = 4.6$, $p < .001$ and $q = 8.4$, $p < .001$ respectively). On the other hand women in natural sciences had significantly higher scores than men in social sciences ($q = 3.6$, $p < .05$). There was no difference between men and women in social sciences. Table 3.5.1 presents

detailed information about the main and interaction effects of major and sex on gender atypical view of men in social sciences.

Table 3.5.1 Analysis of Covariance Results for the Main and Interaction Effects Major and Sex on Gender Atypical View of Men in Social Sciences

Variables	*df*	*MS*	*F*	ω^2
Low Prestige View of Men in Social Sciences (covariate)	1	54.91	101.41**	.000
Major[a]	1	16.05	29.65**	.000
Sex[b]	1	2.83	5.22*	.023
Major*Sex	1	2.57	4.75*	.030
Error	212	.54		
Total	217			

Note. [a] Major: 1= social sciences, 2= natural sciences. [b] Sex: 1= male, 2= female. *p< .05, **p<.001

3.7.2 Effect of Major and Sex on Low Prestige View of men in Social Sciences

In order to explore the effects of major and sex on low prestige view of men in social sciences, ANCOVA was performed, gender atypical view of men in social sciences was taken as covariate. According to results gender atypical view of men was found to be a significant confounding variable F (1, 212) = 101.41, p< .001. After adjusting the effect of confounding variable, a significant main effect of sex was found F (1, 212) = 4.48, p< .05. This result means that men (M= 2.69, SD= .80) had significantly higher scores than women (M= 2.45, SD= .74). There was no significant main effect of major, on the other hand there was a significant interaction effect of major and sex F (1, 212) = 5.38, p< .05. According to Tukey-Kramer test of difference there was no difference between men in natural sciences (M= 2.66, SD= 1.22) and men in social sciences (M= 2.71, SD= 1.12); q= 0.5, n.s., on the

other hand women in natural sciences had significantly higher scores (M= 2.68, SD= 1.11) than women in social sciences (M= 2.22, SD= 1.05); q= 4.6, p<.001. There was no difference between both men in social and natural sciences and women ,n natural sciences, whereas both men in social sciences and men in natural sciences had significantly higher scores than women in social sciences (q= 4.9, p< .001 and q= 4.4, p< .001 respectively). Please refer to Table 3.5.2 for detailed information.

Table 3.5.2 Analysis of Covariance Results for the Main and Interaction Effects Major and Sex on Low Prestige View of Men in Social Sciences

Variables	*df*	*MS*	*F*	ω^2
Gender Atypical View of Men in Social Sciences (covariate)	1	61.98	101.41**	.000
Major[a]	1	1.68	2.74	n.s.
Sex[b]	1	2.74	4.48*	.035
Major*Sex	1	3.29	5.38*	.021
Error	212	.61		
Total	217			

Note. [a] Major: 1= social sciences, 2= natural sciences. [b] Sex: 1= male, 2= female. *p< .05, **p< .001

CHAPTER 4

DISCUSSION

In this section the main findings of this thesis will be discussed. Central issues are major and gender of students, attitudes toward men in social sciences, attitudes toward women in natural sciences and these attitudes' relation to ambivalence toward men and ambivalent sexism. After discussing the main findings and their relation to literature, limitations of this thesis will be elaborated and some suggestions for the possible uses will be addressed.

4.1 General Evaluations of the Research Findings

4.1.1 Gender Differences among the Study Variables

In general, men endorsed gender atypical view of men in social sciences and low prestige view of men in social sciences more than women. This means that male participants viewed men in social sciences as studying in gender atypical major more than female participants and thought that men social sciences had low prestige more than female participants. In sum, men had more unfavorable attitudes toward men in social sciences than women.

Men endorsed gender atypical view of women in natural sciences and stereotypical gender roles of women in natural sciences more than women. According to this result, it may be deduced that male participants thought that for women natural sciences was inappropriate to study in, compared to female participants and that male participants had a more stereotypical view on women in natural sciences than

female participants. There was no significant gender difference on difficulty of field for women in natural sciences and opportunities for women in natural sciences.

As a trend, men had a more conservative view in terms of gender-education choice relationship, endorsing both gender atypical view of men in social sciences and gender atypical view of women in natural sciences. As discussed earlier in introduction part, it was assumed that in Turkey social sciences were viewed as having lower prestige than natural sciences. Male participants of this thesis, in line with this assumption, viewed men in social sciences as having low prestige more than female participants did. In relation with male participants' more conservative view of gender-education choice relationship, this result may be reflecting that male students in Turkey adopted the social norms, which impose the prestige difference between natural and social sciences more than female students. As mentioned previously men are-stereotypically- instrumental (Balkan, 1966) and it is known that ambition is defined as a masculine trait (Bem, 1974). Instrumental and ambitious depiction of men in literature is in line with the finding that men endorsed low prestige view of men in social sciences more than women did.

There was a significant difference between men and women in terms of HS scores; men endorsed HS more than women did. On the other hand there was no significant difference between men and women in terms of their BS scores. This finding is in line with Glick et al. (2000) finding that in countries where sexism is high, women are more likely to reject HS than men do and women adopt BS instead. Glick et al. stated that women in countries with high levels of sexism adopt BS, because BS provides the protection, idealization and affection. By adopting BS they avoid the

negativities of HS and comply with social norms in a relatively positive way. These findings may be the reason, why there was a significant difference between male and female participants in HS and no difference in BS.

According to results there was a significant difference between male and female participants in both HM and BM, however the direction of the difference is opposite in these two constructs. Women endorsed HM more than men did and men endorsed BM more than women did. These findings are in line with findings of Glick & Fiske (1999). They found that women endorse HM more and BM less than men in three different samples. They argued that this trend is a result of intergroup relations. Glick & Fiske argued that women have higher HM scores, because they show outgroup bias against men and men have higher BM scores, because they show ingroup bias. As mentioned in introduction hostility toward men (HM) depicts subjectively negative attitudes toward men, namely resentment of paternalism, compensatory gender differentiation and heterosexual hostility. Conversely, benevolence toward men (BM) enlists subjectively positive attitudes toward men, namely maternalism, complementary gender differentiation and heterosexual intimacy. In total, women, who are members of outgroup endorsed hostility toward men-which states negative attitudes-more than men (members of ingroup) did. Where, men, who are members of the ingroup endorsed benevolence toward men-which states positive attitudes- more than women (members of outgroup) did.

4.1.2 Predicting Gender Atypical View of Women in Natural Sciences by Demographic Variables, HS, BS, HM and BM

In order to investigate the predictive power of demographic variables (sex, major, political view, department satisfaction), HS, BS, HM and BM on gender atypical view of women in natural sciences hierarchical multiple regression analysis was run. Hierarchical multiple regression was performed and demographic variables and HS, BS, HM and BM entered the equation in separate steps, in order to evade the covariate effects of demographic variables in later steps and to be able to measure unique contributions of the variables. There was a significant bivariate relationship between the demographic variables (sex, major, political view and department satisfaction) and the gender atypical view of women in natural sciences. Only sex and political view were uniquely predicting gender atypical view of women in natural sciences. In other words participants' gender and political view was significantly affecting their responses in gender atypical view of women in natural sciences. Men tend to have less favorable attitudes in terms of gender atypical view of women in natural sciences than women did. This result indicates that male college students tend to have a more conservative view in terms of gender typical education. Participants with right wing political view tend to have less favorable attitudes in terms of gender atypical view of women in natural sciences than participants with left wing political view did. This result makes sense, when the importance given to equality by left wing political doctrines and conservative ideology of right wing political doctrines are taken into account. Thus, Dalmış & İmamoğlu (2000) stated that individuals with secular-leftist self identities tend to move away from a nationalist-conservative self identity and vice a versa, meaning that individuals with left wing and right wing political view tend to differentiate

themselves from the other group. The difference between participants with left wing political view and participants with right wing political view on gender atypical view of women in natural sciences taps with their tendency to differentiate themselves from the other socio-political identity. Moreover, Çaha (1996) argued that in Turkey gender equality was generally emphasized by left-wing politics. This argument is in line with results of this thesis.

In Step 2, HS, BS, HM and BM entered the equation. After the inclusion of the second block of IVs there was a significant change in F value, which means that the second block of the IVs was significantly predicting gender atypical view of women in natural sciences. HS uniquely predicted gender atypical view of women in natural sciences. This result indicates that participants with higher HS levels tend to view natural sciences as a gender atypical major for women more than participants with lower levels of HS did. This result is in line with results of Sakallı-Uğurlu & Beydoğan (2002); suggesting that participants with higher levels of HS tend to have less favorable attitudes toward women in managerial positions. Likewise, Özkan (2006) found that participants with higher levels of HS had less favorable attitudes toward women managers compared to participants with lower levels of HS. In general managerial positions are held by men, likewise natural sciences are considered to be male dominated majors. In sum, in both studies HS significantly predicted unfavorable attitudes toward women, who work or study in male dominated groups.

4.1.3 Predicting Stereotypical Gender roles of Women in Natural Sciences by Demographic Variables, HS, BS, HM and BM

Hierarchical multiple regression analysis was run for testing the predictive power of demographic variables, HS, BS, HM and BM on stereotypical gender roles of women in natural sciences. In Step 1 demographic variables entered the equation and it was found that R was significantly different than zero. This result indicates the significant bivariate relationship between the demographic variables (sex, major, political view and department satisfaction) and the stereotypical gender roles of women in natural sciences. Sex, major and political view uniquely predicted stereotypical gender roles of women in natural sciences. Male participants had higher scores than female participants on stereotypical gender roles of women in natural sciences, meaning that male participants tend to think that women in natural sciences should abide to stereotypical gender roles more than female participants did. Also, natural sciences students held less favorable attitudes than social sciences students in terms of stereotypical gender roles of women in natural sciences. This result indicates that social sciences students hold more liberal thoughts on stereotypical gender roles than natural sciences students do. Finally, participants with right wing political view thought that a career in natural sciences would hinder women from fulfilling their 'gender' roles such as cleaning and child rearing more than participants with left wing political view did. This result may be due to the conservative ideology of right wing political doctrines. These ideologies endorse traditionalism, hence traditional gender roles. Accordingly Dalmış & İmamoğlu (2000) defined individuals with right wing political view as individuals with nationalist-conservative socio-political identities, which underlined the conservatism aspect of the right wing political doctrines.

In Step 2 HS, BS, HM and BM entered the equation. After including the second set of IVs there was a significant change in F value, meaning that second set of IVs significantly predicts stereotypical gender roles of women in natural sciences. HS uniquely predicted stereotypical gender roles of women in natural sciences. Participants with higher levels of HS tend to think that women in natural sciences would neglect their 'gender' roles such as homemaking and child care more than participants with lower levels of HS did. This result is in line with general depiction of HS. According to Glick & Fiske (1996, 1997) one of HS's functions is to justify patriarchy (dominative paternalism) and patriarchy dictates to women to know their place. Therefore, participants with higher HS think that women in natural sciences should comply with stereotypical gender roles, which dictates that women should be primary caregivers and responsible for household works.

4.1.4 Predicting Opportunities for Women in Natural Sciences by Demographic variables, HS, BS, HM and BM

Hierarchical multiple regression analysis was run in order to test the predictive power of demographic variables, HS, BS, HM and BM on opportunities for women in natural sciences. Both demographic variables and observed variables (HS, BS, HM and BM) did not predict opportunities for women in natural sciences. A closer look on mean scores of this construct revealed that in general participants gave indecisive responses (M= 3.42). This may be due to poor wording of this factor's items. Another reason may be participants' irrelevance with the issue. Participants of this thesis were college students and they were relatively unfamiliar with conditions of work life, hence with opportunities for women in natural sciences. This issue will be addressed in limitations part again.

4.1.5 Predicting Difficulty of Natural Sciences for Women by Demographic Variables, HS, BS, HM and BM

According to results of hierarchical multiple regression analysis R was significantly different than zero in Step 1, meaning that demographic variables significantly predicted difficulty of field for women in natural sciences. Major and political view of the participants uniquely predicted their views on difficulty of natural sciences for women. Participants in natural sciences thought that natural sciences are difficult for women more than participants in social sciences did. Items of this construct were stressing that-compared to men-women should invest more effort to be successful in natural sciences (e.g., women who want a career in natural sciences, should work very hard to prove themselves). This construct aims to assess whether participants perceive women in natural sciences as equals of men in natural sciences in terms of the effort they should put or not. In light of this information, it can be said that participants in natural sciences thought that women should put more effort than their male counterparts in order to be successful, compared to participants in social sciences. This finding is in line with natural sciences students' and social sciences students' responses to stereotypical gender roles of women in natural sciences. Those, who think that women in natural sciences may neglect their stereotypical gender roles may also think that they should invest more effort to be successful than men do. According to results participants with right wing political view thought that natural sciences are difficult for women more than participants with left wing political view did. Again, this finding is in line with the findings of stereotypical gender roles of women in natural sciences. Those, who think that women's primary function is to be caregivers and householders, may also think that they should invest

more effort when they are involved in something different (in this case studying in natural sciences) than their primary functions.

In Step 2 HS, BS, HM and BM entered the equation. In this step R was significantly different than zero, meaning that the second block of IVs significantly predicted difficulty of field for women in natural sciences. HM and BM uniquely predicted difficulty of natural sciences for women. Participants with higher levels of HM and BM tend to have less favorable attitudes in terms of difficulty of natural sciences for women. This result is rather interesting, because difficulty of natural sciences is a subscale of ATWINSS and it was related with ambivalence toward men and not related with ambivalent sexism. Ambivalence toward men portrays the effect of patriarchal norms on how men are perceived by others (Glick & Fiske, 1999). Hostility toward men and benevolence toward men reflects subjectively negative and positive aspects of ambivalence toward men. Higher scores on either of these constructs (HM and BM) connote both resentment and acceptance of patriarchal norms of the society. In this point of view, it is logical when participants with higher levels of HM and BM tend to think that women in natural sciences should put more effort compared to their male counterparts in order to be successful in natural sciences, because natural sciences related departments are male dominant departments (Kulik, 1998). Participants with higher levels of HM tend to resent that women in natural sciences should put more effort than their male counterparts, whereas participants with higher levels of BM tend to accept this situation. All in all either group of participants acknowledge that women in natural sciences should put more effort than men in natural sciences.

4.1.6 Effect of Major and Sex on Attitudes toward Women in Natural Sciences

ANCOVA was performed to investigate the interaction effect of major and sex on attitudes toward women in natural sciences. No interaction effect of major and sex was found on any subfactor of attitudes toward women in natural sciences. Sex had a main effect on gender atypical view of women in natural sciences and stereotypical gender roles of women in natural sciences. There was no main effect of either major or sex on opportunities for women in natural sciences. Finally, there was a main effect of both major and sex on difficulty of natural sciences for women. These results did not reveal the expected interaction of major and sex on attitudes toward women in natural sciences.

4.1.7 Predicting Gender Atypical View of Men in Social Sciences by Demographic Variables, HS, BS, HM and BM

Hierarchical multiple regression analysis was performed in order to understand the predictive power of demographic variables, HS, BS, HM and BM on gender atypical view of men in social sciences. In Step 1 R was significantly different than zero. This result indicates that demographic variables significantly predicted gender atypical view of men in social sciences. Sex, major and political view uniquely predicted gender atypical view of men in social sciences. Male participants had less favorable attitudes than female participants in terms of gender atypical view of men in social sciences. This result indicates consistency, in terms of male and female participants' general attitudes about gender atypical education, because male participants had less favorable attitudes than female participants in gender atypical view of women in natural sciences too. This result consolidates the conservative (relative to female participants) attitudes toward gender atypical education.

Participants in natural sciences held less favorable attitudes than participants in social sciences. This result indicates a different trend in major, when compared to gender atypical view of women in natural sciences. In gender atypical view of women in natural sciences there was no effect of major, however in gender atypical view of men in social sciences there is a unique effect of major. This difference may be explained by presence and absence of ingroup and outgroup biases (Tajfel, 1981) for members of natural and social sciences. For women in natural sciences there were neither ingroup nor outgroup biases, hence there was no effect of the major. On the other hand for men in social sciences there were both ingroup (by participants in social sciences) and outgroup biases (by participants in natural sciences). Alternatively, participants in social sciences may be perceiving social sciences as a viable option (rather than gender atypical) for men more than participants in natural sciences do. Finally, participants with right wing political view held less favorable attitudes than participants with left wing political view. This result is-again- in line with gender atypical view of women in natural sciences. As mentioned earlier right wing political doctrines endorse traditional gender roles and traditional gender roles don't approve gender atypical behaviors (in this case education).

In Step 2 HS, BS, HM and BM entered the equation as the second set of IVs. In this step R was significantly different than zero. This result indicates that the second set of IVs significantly predict gender atypical view of men in social sciences. BM uniquely predicted gender atypical view of men in social sciences. Participants with higher levels of BM tend to have less favorable attitudes than participants with lower levels of BM did. BM reflects subjectively positive attitudes toward men

(Glick & Fiske, 1999), yet; still BM reflects sexist attitudes toward men. It defines men in regard to what women are not. In other words BM differentiates men and women in many areas of life. In light of above given information, it should be clear that participants with higher levels of BM are differentiating men and women in several layers of life. It is known that social sciences are defined as soft sciences (Shemesh, 1990) and it is a gender atypical choice for a man to study in social sciences (Kulik, 1998). In sum finding of the thesis is logical, because participants with higher levels of BM define men as what women are not and they have less favorable attitudes toward men in social sciences, which is a 'feminine' major.

4.1.8 Predicting Low Prestige View of Men in Social Sciences by Demographic Variables, HS, BS, HM and BM

According to results of hierarchical multiple regression analysis R was significantly different than zero in Step 1. This result showed that demographic variables significantly predicted low prestige view of men in social sciences. Sex, major, political view and departmental satisfaction uniquely predicted low prestige view of men in social sciences. Female participants had more favorable attitudes than male participants in terms of low prestige view of men in social sciences. As mentioned earlier in introduction part in literature men are depicted as instrumental and ambitious (Balkan, 1966) and that therefore male students may be giving more importance to prestige than female students. Moreover, it was mentioned that in Turkey natural sciences related departments are perceived to have higher prestige than social sciences related departments. Men's tendency to pursue prestige and prestigious image of natural sciences may be the reason why men had less favorable attitudes in terms of low prestige view of men in social sciences than women.

Participants in social sciences scored lower than participants in natural sciences on low prestige view of men in social sciences, meaning that they held more favorable attitudes than students in natural sciences. This result is in line with Tajfel's concepts of ingroup and outgroup bias. Students in social sciences as members of ingroup held more favorable attitudes than members of outgroup, namely natural sciences students. Participants with right wing political view tend to perceive men in social sciences as having lower prestige compared to participants with left wing political view. Right wing political view endorses conservatism and conservatism promotes status quo and disapproves unorthodox choices as cited in literature (e.g., Dalmış & İmamoğlu, 2000). In education status quo dictates that for men social sciences are less prestigious than natural sciences and to study in social sciences is an unorthodox choice. This may be the reason for the difference between participants with right wing political view and left wing political view. Moreover, this finding is another example of the general trend of political view in this thesis. Both in ATWINSS and ATMISSS (in gender atypical view of women in natural sciences, stereotypical gender roles of women in natural sciences, difficulty of natural sciences for women and gender atypical view of men in social sciences) participants with right wing political view held less favorable attitudes than participants with left wing political view. Finally, participants who have lower levels of satisfaction with their departments considered men in social sciences as having lower prestige than participants who have higher levels of satisfaction with their departments.

In Step 2 HS, BS, HM and BM entered the equation, in this step R was not significantly different than zero. In other words, ambivalent sexism and ambivalence

toward men did not significantly predict low prestige view of men in social sciences. Items of low prestige view of men in social sciences were assessing perceived level of success and perceived level of effort of men in social sciences (e.g., I think that men in social sciences have an unsuccessful education life). This construct's aim was to capture the difference between subjects who think that education in social sciences for men is associated with low prestige and who don't. Low prestige view of social sciences in Turkey is-mainly-a result of the education system (namely university entrance exam) rather than social sciences' so called soft image. In other words gender is not directly related with perceived level of prestige of social sciences. Therefore sexism is not directly related with low prestige view of men in social sciences. Specifically men in social sciences were taken as the focus group (rather than social sciences students in general), because they were a minority group with gender atypical educational choice and gender issue was investigated in a separate construct (gender atypical view of men in social sciences).

4.1.9 Effect of Major and Sex on Gender Atypical View of Men in Social Sciences

ANCOVA was performed in order to investigate the interaction effect of sex and major on gender atypical view of men in social sciences with low prestige view of men in social sciences as covariate. There was a significant interaction effect of major and sex. This result means that male participants in natural sciences viewed men in social sciences as having low prestige compared to male participants in social sciences and female participants in natural sciences perceived men in social sciences as having low prestige compared to female participants in social sciences. It is evident that intra-gender differences were present as well as inter-gender

differences. Kulik (1998) investigated inter- and intra-gender differences in life orientations and work attitudes. Researcher found that men and women in gender atypical departments (social work and psychology for men, engineering departments for women) had more liberal perceptions in terms of sex typing of masculine occupations compared to their counterparts in gender typical departments. Similarly, present finding suggest that men in social sciences had more liberal attitudes than men in natural sciences. On the other hand, present finding suggest that women in gender atypical departments have more liberal attitudes than women in gender typical departments. Women in social sciences are more aware of gender issues, because of the education they receive. Therefore they may have more liberal thoughts in terms of gender education choice relationship. Although Kulik's study and this thesis are not exactly compatible in terms of their topics, both studies report that intra-gender differences are found when students in gender atypical and gender typical departments are investigated.

4.1.10 Effect of Major and Sex on Low Prestige View of men in Social Sciences

According to ANCOVA results a significant main effect of sex was found, however there was no main effect of major. Men had less favorable attitudes than women in terms of low prestige view of men in social sciences. This result is consistent with the hierarchical regression results, where sex uniquely predicted low prestige view of men in social sciences.

There was a significant interaction effect of major and sex. Interestingly there was no difference between men in natural sciences and men in social sciences; on the other hand women in natural sciences had significantly higher scores than women in

social sciences. This finding suggests that men think that studying social sciences is associated with low prestige for men, regardless their major, whereas women differ on social sciences-low prestige for men association. Women in natural sciences associate studying in social sciences with low prestige for men more than women in social sciences do. The prestige attributed to natural sciences related departments and social sciences related departments by society affected men studying in social sciences as much as men in natural sciences. This finding makes sense, because many male students in Turkey enter social sciences related programs unwillingly. Male children state that they want to be engineer, doctor or pilot, when asked. It is difficult to find a male child who states that he wants to be a social scientist or psychologist, etc. This situation stems from societal norms, which impose certain occupations to boys and certain occupations to girls (Shemesh, 1990). Those boys enter high school and start to prepare for university exam and they see the importance given to mathematics and natural sciences classes. The importance given to natural sciences and mathematics by society and school leads them to form an idea about the prestige of natural and social sciences and normally they comply to societal norms even though they end up studying in a social sciences related department.

4.2 The Main Contributions and Conclusions of the Thesis

Women in natural sciences attracted a great deal of attention in literature (e.g., Burelli, 1993; Can, 2000; Chusmir, 1983; Erb & Smith, 1984; Joyce & Farenga, 2000) and they are researched in a variety of ways. However men in social sciences are investigated in considerably limited amount of researches (e.g., Chusmir, 1990, Kulik, 1998) and those studies focused on the level of involvement with their gender

identity. This thesis contributed to the literature by investigating attitudes toward men in social sciences. By doing so this thesis gave exploratory information about Turkish college students' attitudes toward men in social sciences. Moreover this thesis contributed to literature by revealing the link between ambivalent sexism – ambivalence toward men and attitudes toward individuals in gender atypical education, namely women in natural sciences and men in social sciences. Education and occupation choices are influenced by sex role stereotypes (Kulik, 1998). Until now, sex typing of occupations and education (gender typical-gender atypical) was linked with gender identity (Kulik, 1998) and gender socialization (Kulik, 1997). This thesis contributed to the literature by examining the effect of ambivalent sexism and ambivalence toward men, which is dependent on individuals' gender socialization and gender identity.

This thesis provided information about how individuals' demographic qualities (such as gender, major and political view), level of ambivalent sexism and level of ambivalence toward men may affect their attitudes toward men in social sciences and women in natural sciences. It was found that men in general have less favorable attitudes (compared to women) toward individuals in gender atypical departments; moreover higher levels of BM predicted less favorable attitudes toward men in social sciences and higher levels of HS predicted less favorable attitudes toward women in natural sciences.

4.3 Implications for Practitioners

Findings of this thesis may have several implications for practitioners. Results of this thesis indicated that men in general had less liberal attitudes toward individuals

in gender atypical departments than women. On the other hand it was also found that major significantly affected attitudes toward individuals in gender atypical departments. Intervention programs to promote gender equality in education focus generally on increasing female students' participation in natural sciences and mathematics classes (Kotan, 2006; Mason & Kahle, 1988), in other words gender is taken as the sole criterion in developing intervention programs. However, findings of this thesis indicated that major is a predictor of favorable or unfavorable attitudes toward individuals in gender atypical education, as well as gender and in attitudes toward men in social sciences gender and major interacted. This finding suggests that promoting gender equality by promoting involvement of girls in natural sciences alone is not enough. Gender equality in education should be created by promoting a gender-free education environment, rather than solely assisting the minority group to catch up with the majority. Intervention programs should promote education environments, where students make their choices with no second thoughts (or any thoughts for that matter) about the gender typicality of their choices.

It was found that HS uniquely predicted gender atypical view of women in natural sciences and that BM uniquely predicted gender atypical view of men in social sciences. AMI and ASI may be given to teachers prior to training for intervention programs and strategies for dealing with teachers according to their ASI and AMI may be set.

4.4 Limitations and Directions for Future Research

This thesis had certain limitations which should be taken into account. First of all, participants were METU students and results can be generalized only to Turkish

college students. Future research may be made with a more generalized sample from different socioeconomic and age groups.

Secondly, opportunities for women in natural sciences subfactor of attitudes toward women in natural sciences caused certain problems. Some items of this subscale were factual rather than attitudinal (e.g., women in natural sciences have more limited work opportunities compared with their male counterparts). Items of this subfactor should be either reworded or excluded from the scale, if ATWINSS will be used for future research. Another limitation of this construct is related with sample characteristics. Student samples may give indecisive responses, because of their relative unfamiliarity with opportunities in natural sciences related careers. Therefore, this construct might work better with samples in natural sciences related careers.

Thirdly, in future research, investigation of differences between men and women in gender typical and gender atypical departments in terms of ambivalent sexism and ambivalence toward men. This investigation may be useful for detecting possible main and interaction effects of sex and major on ambivalent sexism and ambivalence toward men, because findings of this research may be useful for generating different intervention programs to promote gender-free education environment.

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APPENDICES

APPENDIX A

Attitudes toward Men in Social Sciences Scale

Sosyal Bilimlerde Okuyan Erkeklere Yönelik Tutumlar Ölçeği

Aşağıdaki ölçek sosyal bilimlerde (sosyoloji, psikoloji, tarih, felsefe, vb.) okuyan erkeklere ilişkin tutumları ölçmektedir. Lütfen her bir ifade ile ne derece hemfikir olup olmadığınızı verilen ölçekteki sayılardan uygun olanı ifadenin yanındaki boşluğa yazarak belirtiniz.

1	2	3	4	5	6
Hiç Katılmıyorum					**Çok Katılıyorum**

_1) Başarılı bir erkek öğrenci üniveersitede fen bilimlerinde okumalıdır.[1]

_2) Oğlum olsa fen bilimlerinde okumasını tercih ederim.[1]

_3) Erkekler sosyal bilimlerde okumamalıdır.[1]

_4) Bence erkek erkek öğrencilerin fen bilimlerine yönelmeleri daha uygundur.[1]

_5) Sosyal bilimler daha çok kadınlara uygundur.[1]

_6) Oğlumun sosyal bilimlerde okumasını isterim.[1]

_7) Genellikle, sosyal bilimlerde okuyaan erkekler lisede başarısız olmuş kişilerdir.[2]

_8) Zeki erkekler fen bilimlerinde okurlar.[1]

_9) Üniversite sınavına hazırlanırken başarısız olan erkekler sosyal bilimleri tercih ederler.[2]

_10) Bence sosyal bilimlerde okuyan erkekler rahatlarına düşkün oldukları için bu bölümleri seçiyorlar.[2]

_11) Sosyal bilimlerde okuyan erkekler fen bilimlerinde okuyan erkeklere göre daha tembeldir.[2]

_12) Sosyal bilimlerde okuyan erkeklerin lisedeki başarılarının düşük olduğuna inanıyorum.[2]

_13) Sosyal bilimlerde okumak bir erkeğin ancak istemeden yapacağı bir tercihtir.[1]

_14) Sosyal bilimlerde okuyan erkeğin mantığından şüphe duyarım.[1]

_15) Sosyal bilimlerde okuyan erkeklerin başarısız bir öğrencilik hayatları olduğunu düşünürüm.[2]

_16) Sosyal bilimlerde erkekler tembeldir.[2]

_17) Sosyal bilimlerde okuyan erkekler kolaya kaçtıkları için bu bölümleri seçerler.[2]

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[1] = *Gender atpical view of men in social sciences items*
[2] = *Low prestige view of men in social sciences items*

APPENDIX B

Attitudes toward Women in Natural Sciences Scale

Fen bilimlerinde Okuyan Kadınlara Yönelik Tutumlar Ölçeği

Aşağıdaki ölçek fen bilimlerinde (mühendislik; makine, kimya, inşaat, elektrik elektronik, metalurji, vb.) okuyan kadınlara ilişkin tutumları ölçmek amacıyla hazırlanmıştır. Lütfen her bir ifade ile ne derece hemfikir olup olmadığınızı verilen ölçekteki sayılardan uygun olanı ifadenin yanındaki boşluğa yazarak belirtiniz.

1	2	3	4	5	6
Hiç Katılmıyorum					**Çok Katılıyorum**

_1) Kadınların fen bilimleri alanında okumalarını fiziksel yetersizlikleri nedeniyle uygun bulmuyorum.[1]

_2) Kadınlar erkeklere göre daha duygusal olduklarından fen bilimleri alanında başarılı olamazlar.[1]

_3) Fen bilimlerinde okuyan kadınlar fiziksel görünümlerine özen göstermezler.[1]

_4) Fen bilimleri alanında okuyan kadınlar zekidirler.[4]*

_5) Kadınların fen bilimlerinde başarılı olduğunu düşünüyorum.[2]

_6) Fen bilimleri alanında okuyan kadınlar kadınsı özelliklerini kaybederler.[1]

_7) Kadınlar erkekler gibi analitik düşünemediklerinden fen bilimleri alanında başarılı olamazlar.[1]

_8) Fen bilimleri alanında okuyan kadınlar cinsel yönden çekici değildirler.[1]

_9) Kadınların fen bilimleri alanında başarılı olmak için erkeklerden yardım almaları gerektiğine inanıyorum.[1]

_10) Kadınlara fen bilimlerinde erkekler kadar iş fırsatı tanınmaktadır.[3]

_11) Kadınların fen bilimleri alanında eğitim almalarını doğru buluyorum.[1]

_12) Kadınlara bu alanda erkekler kadar iş imkanı olmadığını düşünüyorum.[3]

_13) Fen bilimleri alanında okuyan kadınlar, erkek arkadaşlarına göre daha az başarılıdırlar.[2]

_14) Fen bilimlerinde kariyer yapmak isteyen bir kadın, kendini kanıtlamak için çok çalışmalıdır.[4]

_15) Fen bilimleri alanında kadın ve erkekler yetenek açısından farklılık göstermezler.[2]

_16) Fen bilimleri alanında çalışmanın bir kadın için yıpratıcı olduğunu düşünüyorum.[4]

_17) Fen bilimleri alanında çalışan kadınların çalışma alanları erkeklere göre daha kısıtlıdır.[3]

_18) Fen bilimleri alanında okuyan kadın erkeksi özellikler taşır.[1]

_19) Fen bilimlerinde okuyan kadınlar çalışma hayatına başladıklarında kadınlık görevlerini (ev işi, çocuk bakımı, vb.) tam anlamıyla yerine getiremezler.[2]

_20) Fen bilimleri alanında okuyan kadınlar, ilerideki çalışma hayatlarında, erkek meslektaşlarına göre daha dikkatli adımlar atmak zorundadırlar.[4]

_21) Fen bilimleri alanında okuyan bir kadının, ilerideki çalışma hayatında, çok çalışması gerektiğinden aile hayatına yeterli önemi vereceğini düşünmüyorum.[2]

_22) Fen bilimleri alanında çalışmanın bir kadının aile hayatını olumsuz etkileyeceğini düşünmüyorum.[2]

_23) Fen bilimlerinde daha fazla kadın okumalıdır.[2]

_24) Fen bilimleri alanında okuyan kadınlar ilerideki çalışma hayatlarında, hem işyerlerinde hem aile hayatlarında başarılı olabilirler.[2]

_25) Fen bilimleri alanında okuyan kadınlar ilerideki çalışma hayatlarında, kariyerlerinde ilerlerken erkeklerle eşit şansa sahiptirler.[3]

_26) Fen bilimleri alanında okuyan kadınlar ilerideki çalışma hayatlarında, başarılı olmak için erkek gibi davranmak zorundadırlar.[1]

_27) Fenbilimleri alanında okuyan kadınlardan hoşlanmam.[1]

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[1] = *Gender atypical view of women in natural sciences items*
[2] = *Stereotypical gender roles of women in natural sciences items*
[3] = *Opportunities for women in natural sciences items*
[4] = *Difficulty of natural sciences for women items*
*****= *Excluded from analysis*

APPENDIX C

Demographic Information

1) Cinsiyetiniz: ____Erkek ____Kadın

2) Yaşınız: ____

3) Bölümünüz: _____

4) Sınıfınız: _____

5) Yaşamınızın çoğunun geçtiği yer neresidir?
1) Köy 2) Kasaba 3) Şehir 4) Metropol (Ankara, İstanbul, İzmir)

6) Ailenizin toplam aylık geliri ne kadardır?
_____-____ YTL.

7) Ekonomik açıdan kendinizi aşağıdaki ölçek üzerinde nereye yerleştireceğinizi işaretleyiniz.

1	2	3	4	5	6	7
Alt sınıf						Üst sınıf

8) Aşağıdakilerden hangisi politik görüşünüzü tanımlar?

1	2	3	4	5	6	7
Radikal sol	Sol	Sola yakın	Orta	Sağa yakın	Sağ	Radikal sağ

9) Genel olarak, bölümünüzden ne kadar memnunsunuz?

1	2	3	4	5	6
Hiç memnun değilim					Çok memnunum

10) Elinizde imkan olsa başka bir bölümde okumak ister miydiniz?
____ Evet ____ Hayır

APPENDIX D

The Ambivalent Sexism Inventory (Glick & Fiske, 1996)

Çelişik Duygulu Cinsiyetçilik Ölçeği

Lütfen her bir ifade ile ne kadar hemfikir olup olmadığınızı verilen ölçekteki sayılardan birini seçerek ifadenin yanındaki boşluğa yazınız.

1	2	3	4	5	6
Hiç Katılmıyorum					**Çok Katılıyorum**

___1) Ne kadar başarılı olursa olsun, bir kadının sevgisine sahip olmadıkça, bir erkek gerçek anlamda bütün bir insan olamaz.

___2) Gerçekte birçok kadın, "eşitlik arıyoruz" maskesi altında, işe alınırken kendilerinin kayırılması gibi özel muameleler arıyorlar.

___3) Bir felaket durumunda kadınlar erkeklerden önce kurtarılmalıdır.

___4) Birçok kadın masum söz veya davranışları cinsel ayırımcılık olarak yorumlamaktadırlar.

___5) Kadınlar çok çabuk alınırlar.

___6) Karşı cinsten biri ile romantik ilişki olmaksızın insanlar hayatta gerçekten mutlu olamazlar.

___7) Feministler gerçekte kadınların erkeklerden daha fazla güce sahip olmalarını istemektedirler.

___8) Birçok kadın, çok az erkekte olan bir saflığa sahiptir.

___9) Kadınlar erkekler tarafından el üstünde tutulmalı ve korunmalıdır.

___10) Birçok kadın erkeklerin kendileri için yaptıklarına tamamen minnettar olmamaktadırlar.

___11) Kadınlar erkekler üzerinde kontrolü sağlayarak güç kazanmak hevesindeler.

___12) Her erkeğin hayatında hayran olduğu bir kadın olmalıdır.

___13) Erkekler, kadınsız eksiktirler.

___14) Kadınlar işyerlerindeki problemleri abartmaktadırlar.

___**15)** Bir kadın bir erkeğin bağlılığını kazandıktan sonra genellikle o erkeğe sıkı bir yular takmaya calışır.

___**16)** Adaletli bir yarışmada kadınlar erkeklere karşı kaybettikleri zaman, tipik olarak kendilerinin ayırımcılığa maruz kaldıklarından yakınırlar.

___**17)** İyi bir kadın erkeği tarafından yüceltilmelidir.

___**18)** Erkeklere cinsel yönden yaklaşılabilir olduklarını gösterircesine şakalar yapıp daha sonra erkeklerin tekliflerini reddetmekten zevk alan birçok kadın vardır.

___**19)** Kadınlar erkeklerden daha yüksek ahlaki duyarlılığa sahip olma eğilimindedirler.

___**20)** Erkekler hayatlarındaki kadınlara mali yardım sağlamak için kendi hayatlarını gönüllü olarak feda etmelidirler.

___**21)** Feministler erkeklere makul olmayan istekler sunmaktadırlar.

___**22)** Kadınlar erkeklerden daha ince bir kültür anlayışına ve zevkine sahiptirler.

APPENDIX E

Ambivalence toward Men Inventory (Glick & Fiske, 1999)

Erkeklere Yönelik Çelişik Duygular Ölçeği

Lütfen her bir ifade ile ne kadar hemfikir olup olmadığınızı verilen ölçekteki sayılardan birini seçerek ifadenin yanındaki boşluğa yazınız.

1	2	3	4	5	6
Hiç Katılmıyorum					**Çok Katılıyorum**

__**1)** Çiftlerden ikisi de çalışıyor olsa bile, kadın evde erkeğine bakma konusunda daha fazla sorumluluk üstlenmelidir.

__**2)** Bir erkek cinsel açıdan çekici bulduğu kadını yatağa atmak için ne gerekiyorsa yapmak konusunda tipik olarak hiç bir ahlaki değere sahip değildir.*

__**3)** Acil durumlarda erkekler kadınlara göre daha düşük olasılıkla kendilerini kaybedeceklerdir.

__**4)** Erkekler kadınlara ‘‘yardım ediyor’’ gibi gözükürken, çoğunlukla kendilerinin kadınlardan iyi olduklarını kanıtlamaya çalışırlar.

__**5)** Her kadının kendisini el üstünde tutacak bir erkeğe ihtiyacı vardır.

__**6)** Eğer kendilerine yol gösterecek kadınlar olmasaydı erkekler dünyada kaybolurlardı.

__**7)** Eğer kadının bir erkekle uzun süreli, bağlılık içeren bir ilişkisi yoksa bu hayatta gerçek anlamda kendini tamamlamış sayılmaz.

__**8)** Erkekler hasta olduklarında bebek gibi davranırlar.

__**9)** Erkekler toplumda kadınlardan fazla kontrole sahip olmak için her zaman çabalarlar.

__**10)** Erkekler temelde kadınlara maddi güvence sağlamak açısından yararlıdırlar.

__**11)** Kadın haklarına duyarlı olduğunu iddia eden erkekler bile aslında ev işlerinin ve çocuk bakımının çoğunu kadının üstlendiği geleneksel bir ilişki isterler.

__**12)** Her kadının hayran olduğu bir erkek olmalıdır.

__**13)** Erkekler başkalarını korumak için kendilerini tehlikeye atmaya daha gönüllüdürler.

__**14)** Erkekler kadınlarla konuşurken genellikle baskın olmaya çalışırlar.

__**15)** Çoğu erkek kadınlar için eşitliği sözde savunur ama bir kadını kendilerine eşit olarak görmeyi kaldıramazlar.
__**16)** Kadınlar erkeksiz eksiktirler.

__**17)** Özüne bakıldığında, çoğu erkek gerçekten çocuk gibidir.

__**18)** Erkekler kadınlara oranla risk almaya daha gönüllüdürler.

__**19)** Çoğu erkek, kadınlar üzerinde güç sahibi oldukları bir pozisyonda bulundukları anda, üstü kapalı yolla bile olsa kadınları cinsel açıdan taciz ederler.

__**20)** Kadınlar evde erkeklerine bakmalıdırlar çünkü eğer erkekler kendi kendilerine bakmak zorunda kalırlarsa bunu beceremezler.

***** = *Excluded from Analysis*