Are there more roles for men than for women in theater plays?

Sacit Hadi Akdede

Adnan Menderes University

Nazilli İİBF İsabeyli Kampusu Nazilli Aydin Turkey

shakdede@adu.edu.tr

tlf.:+90 537 604 2004

fax: +90 256 347 7016

(Corresponding Author)

Aynur Uçkac

Adnan Menderes University

Nazilli İİBF İsabeyli Kampusu Nazilli Aydin Turkey

auckac@adu.edu.tr

Abstract

This paper empirically investigates whether there are more roles written for men than those written for women in theater plays. A novel data set that is derived by the authors themselves by using the archives of Turkish State Theaters is employed. It is found in the paper that there are more roles written for man than those written for females in theater plays. Plays by female authors have a relatively higher ratio of female roles to male roles even though the number of female roles is smaller on average. Plays by Turkish authors do have a smaller ratio of female to male roles. It is also found that plays that are produced in the 1970s compared to other ten years since 1950s, have a higher ratio of female to male roles. Tragedy and comedy are no different than other plays that are no comedy and no tragedy in terms of the ratio of female to male roles.

Keywords: Female actors, Male actors, Female representation, Theater, Turkish State Theaters.

1. Introduction

This paper empirically investigates whether the number of roles written for females is smaller than those written for males in theater plays. Women have increased their role in social life over time. The increased role of women in social life can be represented or seen in many artistic and cultural production and consumption (participation/attendance). It is an empirical fact that the overall labor force participation rate of females in many sectors has also increased over the last several decades. Therefore, the increased representation of females in art and culture sector either as artists (producers of art) and participants or consumers of artistic and cultural goods is not unexpected. In fact, in many art fields, females as artists or consumers of art have been increased considerably. This paper, however, investigates a different type of representation of females in arts; to what extent females take parts or occupy some place in the topics or subjects of a play in live theater. In another words, this paper empirically investigates female engagements in the events that are subjects of theater plays. The empirical measure, in this paper, of female engagements in the events or female related events that are subject of theater plays is the ratio of female to male roles in a play. This paper, therefore, is based on the question whether live theater plays have smaller female roles than male roles. In another words, this paper sheds some light on whether females occupy a place in live theater not as a producer or a consumer (audience) of a play, but as a subject of the play. The distinction is important; female representation does not mean, in this paper, as the increased number of artists or increased female consumption of or participation to different art forms. If live theater is a mirror for a society in which it exists, as usually claimed to be so from time to time by theater people, what should be the ratio of roles written for females to those written for males? A research by the Guardian newspaper, in collaboration with Elizabeth Freestone of Pentabus Theatre, shows that women are still under represented, with a persistent 2:1 male-to-female ratio in major England theaters. This ratio

includes all occupations in 10 subsidized theaters from set designers to directors. The following table also gives some descriptive statistics about the female and male actors in 10 mostly subsidized theaters.

Table 1. Actors employed in England

Theatre	Number of actors employed in the 2011-12 season	Male Actors	Female Actors	% Female
National Theatre	404	267	137	34
RSC	257	160	97	38
Royal Court	117	61	56	48
Chichester	147	91	56	38
Northern Stage	29	15	14	48
Royal Exchange	94	58	36	38
Birmingham	52	31	21	40
Leicester	89	53	36	40
Liverpool	110	70	40	36
Young Vic	107	61	46	43
Total	**1406**	**867**	**539**	**38**

Resource: Research by Elizabeth Freestone and the Guardian.
http://www.theguardian.com/news/datablog/2012/dec/10/women-in-theatre-research-full-results#data

Table 1 show that Northern Stage and Royal Court had the highest female actor ratio with 48 %. The National Theater had the worst female actor ratio with 34%. Is this because the number of female actors is less than the number of male actors so that managers of theaters or directors choose plays with smaller number of female roles? Or is this because, in many existing plays, the number of female roles written is smaller than that of male roles? Therefore, any play the managers of theaters or directors pick will have smaller number of female roles written anyway. In other words, it is worth to investigate whether this observed 2:1 (in most theaters male to female actors ratio is greater than 2:1) male to female ratio in major England theaters is a result of the followings

-the artistic directors of major England theaters picked the plays with smaller female roles since these directors observe that there are more male actors in the market than female actors.

Therefore, occupational choice of male and females in being actors or the geographical locational choice of actors in a given moment was the main determinants of this 2:1 ratio

-the artistic directors picked the plays with different considerations and realized that chosen plays have smaller female roles.

These two scenarios actually address one important issue in theater productions. Do playwrights take the existing number of female and male actors into consideration when they write their plays? In other words, does existing number of female and male actors affect the playwrights in terms of how many female and male roles they write in their plays? Playwrights would not really know how many actors there are in the market. What is the direction of causality of this 2:1 ratio? Is it smaller number of female actors, therefore smaller number of female roles written or smaller number of roles written for females, as a result smaller number of female actors?

The research by the Guardian, unfortunately, does not answer this question although it gives very useful descriptive statistics about theaters and their different aspects. The research, analyzing the top 10 subsidized theatres in England for the 2012-13 season, looked at female representation in a variety of areas from actors employed to the number of playwrights commissioned for the financial year 2011-12. Board of directors, chief executives and creative teams were also examined[1]. If the live theater plays mirror the social life of a society, then should we conclude from this research in the Guardian that females occupy smaller place in life in its different dimensions since there are more men appearing on stages and in theater plays? If theater is a mirror for the existing world, what would be the possible explanation for this empirical evidence that there are more male roles written than female roles in theater plays?

[1] http://www.theguardian.com/news/datablog/2012/dec/10/women-in-theatre-research-full-results#data

There might be more than one answer for this question. For example, a play can be about only women with no roles at all for female actors. Therefore, the relationship between theater plays and social life might be multidimensional. However, this current paper does not investigate this multidimensional relationship in greater detail. This paper empirically investigates, by using a unique data set organized by the authors themselves by using the archives of the Turkish State Theaters (TST), whether there is smaller number of female roles than male roles in theater plays. Playwrights take several constraints into considerations when they write their plays. One of the possibilities is that there might be smaller number of female actors. However, we assume that playwrights do not worry too much about the availability of female actors when they write their plays since it is known in the history of theater that male actors, in the old times, also acted for female roles by using makeup, wearing wigs etc. In addition, playwrights might not know the descriptive statistics about the number of female and male actors in the market. There is also no organic link between theaters and playwrights. That is, there are no "home-playwrights or resident playwrights" for many theaters. Therefore, playwrights, most of the time, are not writing their plays according to predetermined orders of theater companies. Although playwrights take into consideration of different constraints for "stagebility" of their plays, we assume that scarceness or availability of female actors is not one of the big constraints, at least for modern times. The evidence that we can use to support our argument is the fact that in many TV sitcoms and series, male to female ratio is close to 1:1 or smaller than 1. The data we collected by investigating major fourteen TV series in Turkey show that the ratio of male actors to female actors is close to 1 on average. In seven of the series, the number of female actors is even much higher than that of male actors. Therefore, scarcity of female actors is not a major concern for managers or producers of the TV sitcoms and series or films. Female actors are easily available for TV and films.

Even though, availability of female actors might not be a main concern for playwrights, it is known that the number of total roles in a theater play is one of the major constraints that playwrights take into consideration when they write their plays. It is understandably known that theater companies or groups, especially private theaters, prefer plays with smaller number of roles, smaller cast. Plays with smaller number of roles have proportionate decorations and therefore smaller production costs. In other words, plays with smaller number of roles have higher probability to be staged. This is also an empirical finding that is reached by personally interviewing many private theater managers and directors in Istanbul.

More crude answer to the question of why there is smaller number of female roles in theater plays would be that the world is a male-dominant world and live theater reflects this fact better than TV and cinema. Cinema and other TV sitcoms and series have a smaller ratio of male to female actors. Cinema and TV sitcoms and series don't really reflect the world as it is, they reflect it in a sense more ideal world. They only need to get audience attention because they deal with various ratings. Movies and TV shows and series are subject to the rules of market economy compared to live theater. The live theater in almost every country is subsidized by the public institutions or central governments. Therefore TV sitcoms, series and movies try to meet the audience demand. They are inclined to produce more popular shows with more popular taste. As a result, they include more action that can be achievable with more females and sex compared to the live theater (Ceulemans and Fauconnier, 1979). If this observation is somewhat acceptable, then live theater as compared to cinema and TV series really does a good job for understanding, explaining, and depicting the real world. Therefore, there should be nothing there to be surprised when one sees more male roles than

female roles in live theater if real life is male-dominant in various aspects of society. This paper does not intent to answer all the questions that it raises here. It provides, however, empirical evidence that there are more roles written for men than those written for women in live theater plays that are included in the repertory pool of Turkish State Theater (TST). This paper, therefore, empirically uses a novel data set derived from the archives of TST. This data set is organized by the authors themselves using the archives of TST and is used first time in this current paper. In addition, this type of archives of plays, to the best of our knowledge, is not prepared for any other country yet.

The paper is organized as follows. The next section briefly summarizes the relevant literature. Section three gives descriptive statistics and includes regression analysis. Finally, section four concludes the paper.

2. Brief literature review

There is not much directly related literature to this current paper. To the best of our knowledge, the number of female and male roles in theater plays by using a relevant data set has not been studied before since related data is not available for many countries. For this reason, gender related art and culture literature is briefly reviewed here.

The gender related literature about economics of arts and culture can mainly be summarized in two different aspects: the production and consumption (participation/attendance) of artistic and cultural good and services. The production side is related to the differences in the number and social status of female and male artists in different artistic and cultural goods productions, whereas the consumption side is related to the gender based differences in consumption of artistic and cultural products and

attending/participation to the artistic and cultural activities. The production side is also investigating the wage differences or inequalities between male and female artists.

This current paper, however, as mentioned in the paragraph above is not in the line of these research paths. This current paper in a sense investigates how women as the protagonists are represented in live theater plays. The meaning of "representation" is related to the number of female characters or roles compared to the male characters or roles written in theater plays. This paper, as far as we know, is the first in its kind by empirically investigating many plays by many authors from all over the world in the archives of TST. In addition, the number of female and male characters is not documented in different literature forms before. For example, the number of main male and female characters in major novels and stories would be a good comparison to understand the relative strength of different literature forms in explaining the existing world. Unfortunately, we lack this sort of data for now.

Since this paper is not about the gender based consumption or production of artistic and cultural goods, gender differences in consumption (participation/attendance) and production side of art and culture sector is summarized very briefly and without much detail as mentioned in the first paragraph of this section. Therefore, although there is huge literature about gender differences in consumption and production of artistic and cultural goods and services, this topic is beyond the scope of this current paper. It is found in the literature that gender is an essential determinant of cultural participation (cultural consumption). In particular, women are considerably and significantly more likely than men to participate in high-status (highbrow) cultural activities (Christen, 2010). There is a huge literature on cultural consumption that documents that females are more likely than men to participate

more highbrow cultural activities such as theater, opera-ballet, art museums, classical music concerts etc. (DiMaggio 1982, 2004; DiMaggio and Mohr 1985; Cherbo and Peters 1995; Bryson 1996; Katz-Gerro and Shavit 1998; Cuadrado and Frasquet 1999; Katz-Gerro 1999; Bihagen and Katz-Gerro 2000; Dumais 2002; Chan 2010; Christin 2012). Even though females are participating more than males to highbrow cultural activities such as live theater, why is there smaller number of female roles written in theater plays compared to male roles? Are females only audience, and not protagonists? There might be different reasons for this empirical finding. These reasons are ranging from the playwrights' constraints as mentioned earlier to representation of women and social life in different literature forms. One reason for this empirical finding, however, might be that the number of female playwrights might be smaller than the number of male playwrights. In fact, the research by the Guardian shows that in ten mostly subsidized theaters, 35 % of new plays are written by female playwrights. In addition, Canadian Art Council's research documents some descriptive statistics about the number of artists according to sex and occupation. Table 2 below shows the relevant descriptive statistics. This table is taken from the report prepared by Hill and Capriotti (2009).

Table 2. Artists by sex and occupation, 2006

Occupation	Female	Female %
Actors and comedians	5385	46%
Artisans and craftspersons	10550	61%
Authors and writers	13305	54%
Conductors, composers and arrangers	815	35%
Dancers	6270	86%
Musicians and singers	17510	52%
Other performers	2360	65%
Producers, directors, choreographers and related occupations	8145	36%
Visual artists	9635	56%
All 9 arts occupations	73980	53%
Overall labour force	8720710	48%

Source: Analysis by Hill Strategies Research based on a 2006 census custom data request

Table 2 gives some descriptive statistics about Canadian art sector. Although it can be seen from the table that percentage of female actors is smaller than percentage of male actors, the difference is not really significant. However, female authors and writers constitute a higher percentage in Canadian case. Table 2 above does not give the disaggregated author/writer numbers according to different literature forms such as novels, plays, stories, essays, and etc. Therefore, we don't have enough information about the percentage of female playwrights in the Canadian case. These figures give information about the production side of artistic production related to gender differences. We don't have comparable statistics for other countries. Therefore, it is not safe to claim that percentage of female authors is higher in other countries.

With regard to gender inequality in artistic production, there is a considerable literature. Cowen (1996) states that most renowned artists are male. Cowen (1996) lists four different hypotheses to understand why there are more male artists than female artists, mentioning the reasons from cultural and social barriers to females. Heikkinen and Karhunen (1996) indicates that female artists make less money than male artists although different art forms show different income structures. There is also gender based difference in the public funds to artists (Heikkinen and Karhunen, 1996). Male artists are getting publicly funded more than female artists. These, in a sense mechanism designs and cultural policies, can give different types of incentives to different artists. Therefore, the number of female artists and as a result, representation of women in different art forms can be increased by relevant cultural policies.

Dielby (2009) studies the historical processes of authorship in film and TV industries. Female writers dominated the film industry in the silent era (1900-1927). After the silent era, the structure of film industry and Hollywood had changed. It is transformed from hierarchical

to market structure and this transformation went along with other factors. Male writers dominated Hollywood after the transformation of film industry in the 1950s (Dielby, 2009).

A paper by Coulangeon et al. (2005) investigates the gender differentials in artistic production in France. They found that the gender differentials of artistic careers might be highly sensitive to the cross- national variations in the organization of artistic training, in the respective shares of private and public funding of the arts, and in the kind of access artists have to social rights. Particularly, the peculiarity of the French systems of artists unemployment insurance, the so-called "intermittens du spectacle" scheme, probably undermines the gender gap, relatively to other countries in which such schemes do not exist, (Coulangeon et al., 2005: 384). In other words, cultural policies of different countries can give different type of economic and social incentives to both sexes or favor only one sex in terms of choosing their occupations in artistic and cultural sector.

In the nineteenth century, when the custom of having male actors play female roles began to change, theaters began to need women actors and dancers and women began to systematically be employed in theater and dance troupes. But in the world of music, while men performed publically (i.e., for the church or court) in the two major areas in which western music developed – sacred and religious music, instrumental music – women were kept out of the public eye (Escal and Rousseau-Dujardin, 1999 cited in Coulangeon et al. 2005)

Coulangeon et al. (2005; 385) also states that for actors, the effect of aging differential exists but is manifested differently. The main inequality lies in the fact that whereas for men, experience accumulated on the job market works to reduce career integration uncertainty after turning 25 and 35, that effect is not as strong for women. In contrast, female dancers are not observed to benefit less from their job experience than male ones. Coulangeon et al (2005;

385) also explains that in the case of performing artists, the sex ratio effect seems to show up in the vulnerability differential that affects men's and women's careers, to the detriment of women. This difference, they argue that, is greatest in the arts sector where women are a minority, and much slighter in situations of parity.

Nochlin (1988) addresses the question of "Why have there been no great women artists?" and points to major areas of intellectual obfuscation beyond the specific political and ideological issues involved in the subjection of women. Basic to the question are many naive, distorted, uncritical assumptions about the making of art in general, as well as the making of great art (Nochlin, 1988: 153).

In terms of participation into artistic and cultural activities, Muniz, et al. (2013) studies individual decisions related to participation in sports and cultural activities and discuss gender differences in the allocation of leisure time toward these activities. For their empirical analysis, they focus on a subsample of people aged 18 and 65 years, assuming that the working age population will be different from other social groups. In addition they are interested in analyzing the effect of wages on individual decision as well. They found that there is a negative effect of marriage on participation in cultural activities. This effect is greater for females. In another words, there is some literature that also emphasize the fact that females are participating in arts and culture less than males if females are married and have small children. Thus the negative effect of marriage on participation in both cultural activities and sports is greater for females. Children have a negative effect on participation and the frequency of participation in cultural activities for both parents, but the influence of this variable is higher for women (Muniz, et al. 2013).

In another recent paper by van Hek and Kraaykam (2013), it is found that females participate to high culture more than males. In terms of consumption of arts and culture, the literature consistently finds that females are participating to high culture products after controlling the regressions for many characteristics of different nations.

Apart from production and consumption of art and culture, reception of art is also studied, especially in sociology of art. Garlick (2004) studies the reception of art in society. The paper states that public opinion in the Western societies has long held that art belongs to the domain of feminine. Garlick (2004) argues that engaging with works of arts, in terms of reception, not participation, has, today, a peculiarly feminine character that is largely unacknowledged both in the literature on participation in the arts and in studies of men and masculinities. Garlick (2004) uses art museums as empirical research units to make a point in not only participation in arts, but also in reception that arts belong to domain of feminine.

As can be seen from the brief literature review, in many artistic forms and in participation and production of arts, females have increased their visibility. We now turn back to the live theater plays for representation of females. The following section gives the descriptive statistics about the data set used in the paper and regression analysis.

3. Data and Statistical Analysis

Turkish State Theaters keeps the records of plays that are accepted into the repertory pool over the last 60 years. Every year many plays, translations or originally Turkish language, are submitted to the dramaturgy department of TST to be evaluated for the purpose of inclusion in the repertory pool. Not every submitted play is accepted into the repertory pool. Plays go through very technical examination by a group of theater people such as directors, authors, and dramaturges. Very small percentage of submitted plays is accepted every year. After a play is accepted to be in the repertory pool of TST, a director should find

it suitable to put it on stage. Then a play gets staged in one of the 18 branches in 18 different main cities of Turkey. Therefore, acceptance into the repertory pool does not guaranty production of the play. The procedure is as follows: a director should pick a play that is already in the repertory pool. The choice of a director might depend on many considerations. However, the availability of female actors is not a major concern since TST can employ many female actors if necessary for the play that is decided to be produced. One of the main constraints of the directors to decide what play to produce is the technical capabilities of scenes of theaters. Different cities have theaters with different technical capabilities.

TST is an important public institution to produce subsidized theater all over Turkey since 1949. The detailed descriptive information about TST and its administrative structure is given in Akdede and King (2006). The data set used in this paper uses the information about the plays that are in the repertory. The repertory pool of TST has near three thousand plays. Some of those plays are dropped out of the data set since some important information such as the author of the play, number of actors, etc. is missing. Therefore, total number of plays that is included in the statistical analysis in this current paper is less than 3000. We get the records about the plays from the Dramaturgy department of TST. We classified the plays according to the seasons that they are staged starting from the 1950s and according to genre of the plays such comedy and tragedy. Some descriptive statistics about plays in TST repertory is given in this section.

Table 3. Number of female and male roles

	All Plays		Plays by Turkish Authors (Turkish Language)		Already Produced Plays (Turkish and translations)	
	Female Roles	Male Roles	Female Roles	Male Roles	Female Roles	Male Roles
Mean	3.67	7.97	3.77	8.60	3.66	8.24
Maximum	32	62	32	62	20	62
Obs. (% of all plays)	2611(100 %)		1351(51.7 %)		1311(50.2 %)	

Source: Authors' own derivation from the repertory of TST

The percentage of female authors in all plays is 11.2 percent. Already produced plays have a little bit smaller female author percentage, 8.1 percent. 51.7 percent of all plays are written by the Turkish authors or in Turkish language. Already produced plays constitute 50.2 percent of all plays.

Table 4. Number of female and male roles by female authors.

	All Plays by Female Authors		Plays by Turkish Female Authors	
	Female Roles	Male Roles	Female Roles	Male Roles
Mean	3.83	5.78	4.05	6.35
Maximum	15	36	15	36
Obs. (% of all plays)	293 (11.2 %)		147 (5.6 %)	

Source: Authors' own derivation from the repertory of TST

Table 4 shows that the percentage of plays written by female authors is very small. There is even smaller percentage for the plays written by Turkish female authors. Theater world seems to be a male dominant world in which men from actors to authors constitute a much higher ratio in terms of employment.

Table 3 and Table 4 show that theater plays have more roles written for males than those written for females. These tables include plays since 1950s. Total number of plays that are used in the regressions in the following section is 2524. Not all the plays above tables are suitable for the regression analysis since some plays are missing some information such as

number of female and male roles and identity of the author. Therefore, some observations are dropped out to reduce the size of data set to be 2524. We can now proceed to the regression analysis in the following section.

3.1.Regression Analysis

There is no theoretical and empirical work alike as to what determines the ratio of number of female roles to number of male roles in either cultural economics or theater. Playwrights and directors/managers face different constraints in their work of writing and directing plays. We assume that playwrights don't worry too much about the availability or scarceness of female actors. They write their plays and submit it to TST. It is not known what and how a playwright thinks when she writes her play. She can be inspired or affected by many factors. There is no way to include these factors as independent variables into regression analysis. However, we know from our data set whether a playwright is a female or not, Turkish or not. We also know what play is already produced in what season and what play is not. This information can be included as independent variables to understand the ratio of female to male roles in a play. Therefore, the dependent variable is the ratio of number of female to male roles. There are two different regression sets. The ratio of number of female to male roles is the dependent variable in all regressions, both the first and second set of regressions. In the first set, we have only one regression and all plays in the repertory both already produced and not produced are included in the regression analysis. This regression shows in a sense the determinants of dependent variable from the perspectives of both playwrights and directors since both already produced plays and not produced plays are included in the data set. In the second set, we run a series of regressions. In these regressions, only produced plays are included. These regressions in a sense show the determinants of dependent variable form the directors' perspective. Among independent variables are dummy variables for plays written by female authors, national authors, already staged plays, and

interactive dummy for national and female authors. Seasonal dummies and genre of plays also included in the second set of regressions. Table 5 and Table 6 show the results of first and the second set of regressions respectively.

Table 5. All plays in the repertory pool of the Turkish State Theaters

Dependent Variable : Log(Female Roles / Male Roles)		
Independent Variables	Coef.	t-Stat.
Constant	-0.608***	-21.456
Female Author	0.454***	4.671
National Author	-0.155***	-4.558
Already Staged Plays	-0.033	-1.049
National Female Authors	-0.012	-0.105
R-Squared	0.034	F-stat. (Prob.): 22.46 (0.000)
No. of obs.	2524	

***Prob.<0.01, **Prob.<0.05, *Prob.<0.10

Table 5 shows the results of the regression analysis that uses the information about all the plays in the repertory of the Turkish State theaters. Constructing the dependent variable as a ratio would make the dependent variable more like a continuous variable which is more suitable for a classical linear ordinary least squares (OLS) regression analysis. We excluded the plays with all male (zero female roles) or female roles (zero male roles) since we are interested in the ratio of the roles. In addition, if we did not have dependent variable as a ratio of female to male roles, then we would have the difference between male and female roles. In that case, the dependent variable would be more like a discreet choice model and OLS would not be appropriate to estimate the relationship. Our main purpose is to estimate the most appropriate and simple regression. It seems to be that OLS in this case is the most appropriate one.

It is observable in Table 5 that the ratio of female roles to male roles is higher in the plays written by female authors. The gender effect is observable. Female authors write plays in which there are relatively more roles for females. Regression results in Table 5 show that already staged/produced plays don't have a different ratio of female to male roles. This result

can be interpreted in the following way: directors choose the play first and then ask for the actors for audition. In other words, directors are not taking into consideration of the state theaters' actor pool in terms of the number of female and male actors. Besides, State Theaters has a policy of visiting actors. If a play is decided to be put on stage, the availability of actors in terms of their gender is not a main constraint on State Theaters. To check the relationship between already produced/staged plays and the ratio of female to male roles, we run another regression with a dummy variable as the dependent variable that takes the value of 1 if a play is already produced or staged and zero if a play is not already produced. The independent variable is the ratio of female to male roles along with other control variables. This regression is estimated by probit model. No significant relationship is found in the regression. This can be interpreted that the ratio of female to male roles in plays does not affect the "stagebility" of a play.

We don't have any information regarding the directors of the plays. This can be another point to check in the future research if data is available. Plays that are written by the national/Turkish authors, whether female or male, have smaller ratio of female to male roles as the coefficient of this variable is statistically significant and negative. This means that in plays by Turkish authors, there are relatively smaller roles for females. It is not obvious how to interpret this result. Is Turkish social life relatively more male dominant? And do theater plays capture this dominance very well? To answer this question, the relationship between theater as art forms and society that it reflects should be investigated in a greater detail. This investigation, however, is outside the scope of this paper. Table 6 below shows the results of the second set of regressions.

Table 6. Regression Results for Only Produced/Staged Plays.

Dependent Variable	Log (Female Roles / Male Roles)					
	Reg. 1	Reg.2	Reg.3	Reg.4	Reg.5	Reg.6
Ind. Variables	Coef. (t-stat.)	Coef. (t-stat.)	Coef. (t-stat.)	Coef. (t-stat.)	Coef. (t-stat.)	Coef. (t-stat.)
Constant	-0.63*** (-11.99)	-0.67*** -12.76)	-0.67*** -12.48)	-0.74*** -12.66)	-0.64*** -12.14)	-0.58*** -10.29)
Female Author	0.52*** (3.88)	0.49*** 3.64	0.49*** 3.64)	0.53*** 3.90)	0.50*** 3.66)	0.54*** 3.92)
Nat. Author	-0.09* (-1.83)	-0.11** -2.25	-0.11** -2.279	-0.10** -2.01)	-0.10** -2.12)	-0.07 -1.58)
Nat. Female Author (NFA)	-0.09 (-0.49)	-0.21 -1.08	-0.20 -1.00)	-0.20 -1.05)	-0.24 -1.21)	-0.12 -0.64)
Plays in 2000s	0.12 1.17)	0.11 1.07	0.10 1.01	0.16 1.52)	0.13 1.25)	0.15 1.46)
Plays in 1990s	0.03 0.41)	0.04 0.59	0.04 0.63	-0.02 -0.36)	0.02 0.28)	0.00 -0.07)
Plays in 1980s	-0.01 -0.19)	-0.02 -0.23	-0.01 -0.18	-0.07 -0.99)	-0.03 -0.42)	-0.03 -0.46)
Plays in 1970s	-0.06 -0.81)	-0.04 -0.55	-0.04 -0.54	-0.10 -1.35)	-0.06 -0.83)	-0.09 -1.24)
Plays in 1960s	-0.08 -1.08)	-0.05 -0.71	-0.05 -0.66	-0.11 -1.49)	-0.07 -0.93)	-0.11 -1.44)
Plays in 1970s (NFA)	0.65*** 3.61	0.78*** 3.63	0.77*** 3.58	0.71*** 3.61)	0.78*** 3.65)	0.64*** 3.65)
Plays in 1960s (NFA)	-0.23 -0.66	-0.07 -0.18	-0.06 -0.17	-0.08 -0.22	-0.06 -0.16	-0.24 -0.69
Plays in 1980s (NFA)	-0.02 -0.07	0.08 0.29	0.07 0.25	0.04 0.16	0.09 0.33	-0.01 -0.04
Plays in 1990s (NFA)	-0.24 -0.67	-0.20 -0.56	-0.20 -0.53	-0.22 -0.59	-0.23 -0.61	-0.28 -0.78
Plays in 2000s (NFA)	-0.04 -0.07	0.14 0.30	0.13 0.27	0.04 0.08	0.14 0.29	-0.06 -0.12
Plays for children	-0.33*** (-4.42)					-0.37*** -4.87
Tragedy		0.05 0.49				-0.05 -0.49
Comedy			0.07 1.05			-0.03 -0.38
Plays				0.18*** 3.80		
Other Plays Category					-0.16** -2.13	-0.23*** -2.93
R-Squared	0.04	0.03	0.03	0.04	0.03	0.05
No. of Obs.	1257	1257	1257	1257	1257	1257
F-Stat.(Prob.)	4.07*** (0.00)	2.52*** (0.00)	2.56*** (0.00)	3.51*** (0.00)	2.84*** (0.00)	3.89*** (0.00)

***Prob.<0.01, **Prob.<0.05, *Prob.<0.10

Table 6 above shows the results of six different regressions with different dummy variables about the genre of the plays and theater seasons for every decade since 1950s. These regression results are about the plays that are already staged/produced since 1950s. Dramaturgy department of TST classifies the plays with different names or categories. Main categories are drama/tragedy and comedy. Children plays are also one of the main categories. There are also plays with the following adjectives: historic plays, documentary drama, musical plays, youth plays, absurd plays, and a few of other plays like poetic plays. All these categories are classified into one category here in the regression analysis as the "other category plays". TST also classifies the plays with the name of only "plays". It is not clear why an identifying name is not given to those "plays". These plays are not drama/tragedy, not comedy, not children plays, and not "other plays category". Therefore, for the purpose of our regression analysis, we have five categories of plays: tragedy, comedy, children plays, plays, and other plays category.

It is observable, in Table 6, that plays by female authors have higher ratio of female to male roles in all regressions. This result is consistently confirmed. In every regression and the regression in the first set, it is observed that plays by female authors have higher ratio of female to male roles since the coefficient of the female author dummy variable is statistically significant and positive. In the second set of regressions as well, it is found that plays by national or Turkish authors have smaller ratio of female to male roles since the coefficient is statistically significant and negative. This result is also confirmed in the first set of regression as well. Regression 6 in Table 6 uses the variable "plays" as comparison (base) category since we have 5 dummy variables for the genre of the plays. All regressions in the second set use 1950s as the base period. Every other period (decade) is compared with respect to base period (1950s) in terms of the ratio of female to male actors. As observed in the regression 6 that children plays and plays in the "other plays category" have smaller ratio of female to

male roles, compared to plays in "plays" category. There is no systematic difference among tragedy, comedy, and "plays" in terms of the ratio of female to male roles. In children plays, it is interesting that there are relatively more male roles. How this empirical finding affects the drama education of children is beyond the scope of this paper. However, there is one observation that should be mentioned. Actors in children plays in Turkey are generally young people around their 20s. In addition, children plays are not seen as prestigious as other plays. Social status of children plays is not as high as other plays, even in the actors' perspective, in Turkey. For that reason, for parents of young females, it might not be socially desirable to be an actor in children plays. Historic plays, youth plays, musicals have smaller female to male roles ratio compared to plays in the "plays" category.

It is also observed in Table 6 that plays that are produced in the 1970s have systematically higher ratio of female to male roles compared to 1950s, which is the base period. However, all the other periods don't have a significant difference with the years of 1950s. Is this because TST produces same plays over the years except 1970s? Or is this because even if TST produces newly written plays, the theater world is more or less the same in terms of the ratio of female to male actors? It is impossible to answer this question without the information about the dates of the plays they are written. TST unfortunately does not have this information in the data set. This finding of positive and significant coefficient for the dummy variable for the 1970s is interesting since in the 1970s there was political instability in the government but at the same time there was huge political consciences in terms of social class and gender differences among the young people of Turkey. Those years are the most political years in terms of opposition movement outside of Turkish Parliament. There were ideas of equality between man and woman and also between working class people. It would be worth to investigate, in another paper, whether these social movements affected the plays produced or staged in those years in Turkey.

4. Conclusion

This paper empirically investigates whether there is smaller number of female roles written in live theater plays than that of male roles. It is found in the statistical analysis that number of female roles is smaller than that of male roles in theater plays. There might be several explanations for this empirical fact. One would be that theater reflects the real social life very well and the real life might be male dominant. Therefore, there is nothing to be surprised to see more male roles on theater scene. However, we don't discuss this argument in the paper since this discussion requires the information about the relationship between theater play by play and social life. Research in theater field in terms of relationship between theater plays and social life would be useful to better understand why there are more roles for males than for females. It is our hope that this paper would initiate this type of research in the future.

Another explanation for why there are more roles for males would be the fact that there are more male playwrights. In fact we observe in the statistical section that there are more male playwrights in general.

We can now list some of our findings. On average, plays, both Turkish and non-Turkish, have more male roles than female roles. The possible reasons of this empirical finding are discussed in the paper. This paper uses a novel data set that is derived by the authors themselves by using the archives of TST repertory pool. The empirical analysis also shows that plays by female authors have higher ratio of female to male roles. Female authors write plays with relatively more female roles. This finding is important since more female authors there are, more roles for females. Representation of females both as actors and protagonists in the theater world would be increased by increased number of female authors.

It is also found in the paper that plays by Turkish authors or Turkish Language plays have smaller ratio of female to male roles. The reasons for this finding require further research about the relationship between theater as an art form and social life with its different perspectives.

It is found that children plays and plays in "other plays category" have smaller ratio of female to male actors.

For further work, if more information about directors and playwrights is available, this information can be included into the analysis.

As a cultural policy, there should be some more incentives for females to be authors. Cultural policies can be designed in that way so that the number of female authors can be increased. With increased number of female authors, there would be increased number of female roles in theater.

References

Akdede, S. H., & King, J. (2006) Demand for and Productivity analysis of Turkish public theater. *Journal of Cultural Economics*,30 ,3 ,219-231.

Bihagen, E., & Tally Katz-Gerro. (2000). Cultural Consumption in Sweden: The Stability of Gender Differences. *Poetics* 27:327-349.

Bryson, B. (1996). Anything but Heavy Metal: Symbolic Exclusion and Musical Dislikes. *American Sociological Review* 61:884-899.

Ceulemans, M., & Fauconnier, G. (1979). *Mass Media: The Image, Role, and Social Conditions of women*. UNESCO, Paris.

Chan, T. W. (2010). *Social Status and Cultural Consumption*. Cambridge: Cambridge University Press.

Cherbo, J. M., & Monnie P. (1995). *American Participation in Opera and Musical Theatre, 1992*. Carson, Calif: Seven Locks Press.

Christin, A. (2012). Gender and highbrow cultural participation in the United States. *Poetics* 40: 423-443.

Cowen,T. (1996). Why women succeed, and fail, in the arts. *Journal of Cultural Economics*, 20, 93-113.

Cuadrado, M., & Frasquet, M. (1999). Segmentation of Cinema Audiences: An Exploratory Study applied to Young Consumers. *Journal of Cultural Economics* 23:257-267.

DiMaggio, P. (1982). Cultural Capital and School Success: The Impact of Status Culture Participation on the Grades of U.S. High School Students. *American Sociological Review* 47:189-210.

------. (2004). Gender, Networks, and Cultural Capital. *Poetics* 32: 99-103.

DiMaggio, P., & Mohr, J.(1985). Cultural Capital, Educational Attainment, and Marital Selection. *American Journal of Sociology* 90:1231-1261

Dumais, S. (2002). Cultural Capital, Gender, and School Success: The Role of Habitus. *Sociology of Education* 75,1: 44-68.

Katz-Gerro, T. (1999). Cultural Consumption and Social Stratification: Leisure Activities, Musical Tastes, and Social Location. *Sociological Perspectives* 42,4: 627-646.

Katz-Gerro, T., &Yossi S. (1998). The Stratification of Leisure and Taste: Classes and Lifestyles in Israel. *European Sociological Review* 14,4: 369-386.

Christen, A. (2010). *Gender and Highbrow Cultural Participation in the United States, Princeton University* Center for Arts and Cultural Policy Studies, Working Paper #42.

Coulangeon, P.,& Ravet, H.,& Roharic, I. (2005). Gender Differentiated Effect of Time in Performing Arts Professions: Musicians, Actors, and Dancers in Contemporary France. *Poetics*, 33, Iss.5-6, 369-386.

Dielby, Denise,D. (2009). Gender inequality in culture industries: Women and men writers in film and television. *Sociologie du travail* 51, 237–252

Garlick, S. (2004). Distinctly Feminine: On the Relationship Between Men and Art. *Berkeley Journal of Sociology,* 48, 108-125.

Hakim, C. (1996) .The Sexual Division of Labour and Women's Heterogeneity. *The British Journal of Sociology*, Vol.47, No.1, 178-188.

Heikkinen, M.,& Karhunen, P. (1996). Does Public Support Make a Difference and for Whom? *Journal of Cultural Economics*, 20, 341-358.

Hill, K., & Capriotti,K. (2009), *Statistical insights on the arts, Vol. 7 No. 4* Hill Strategies Research Inc., Ontario.

Muñiz, C.,& Rodríguez, P., & Suárez ,M. J., (2013). Sports and Cultural Habits by Gender: An Application Using Count Data Models. *Economic Modelling*, 36, pp.288-297.

Nochlin, L. (1988). *Why Have There Been No Great Women Artists? Women, Art and Power*. pp.145-178, Harper & Row , New York.

Van Hek, M., & Kraaykam, G. (2013). Cultural consumption across countries: A multi-level analysis of social inequality in highbrow culture in Europ. *Poetics* 41, 323–341