

## How does Doctor-Patient Communication Differ Based on the Gender of Doctor and the Gender of Patient? An Analysis of Entertainment-Education Based Network Medical Drama Grey's Anatomy

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### Abstract

This study content analyzed the total of 12 episodes of Grey's Anatomy of season six. Total of twenty-four episodes of the season six, in which total of sixty eight (N=68) units of doctor-patient (characters) interactions were coded. This study aimed to find whether there is any significant difference in the communication between doctor and patient due to their gender difference. This study didn't find a significant difference in terms of doctor-patient communication influenced by the gender of the doctor. The study found that the patients have interacted more to the female doctor characters than to the male doctor characters; however, the difference is not significant except in two categories: patient providing information on past medical diagnosis, and patient seeking information on adjustment/coping ( $p < .05$ ). In average, patients have communicated more with the female doctor characters than the male counterparts (Male:  $n=28$ , Female:  $n=40$ ).

**Keywords:** Doctor; Patient; Communication; Gender; Content analysis

### Introduction

Past studies show that audiences are affected by the health-related information depicted in medical dramas as well as other popular television shows. A majority of regular television viewers consider TV as their primary source of health information [1,2]. Pollard and Beck further mention, "...many regular viewers of soap operas report learning about health from soap operas, and many report taking some action as a result" [2]. Further, a growing body of evidence demonstrates that popular prime-time TV programs provide a unique opportunity for the viewing public to learn health-related information and even modify their attitudes and behaviors [3-5].

Some past studies suggest that entertainment media play a key role in shaping viewers' conceptions of reality. Cultivation theory argues that when people are exposed to a consistent set of messages, they incorporate information from their television viewing into their understanding of the world around them [6]. Many studies have been conducted on the topic of the efficacy of entertainment-education programs in the USA and outside of USA, however, there are very few studies conducted on how doctor-patient communication differ based on the gender of doctor character and the gender of patient characters in entertainment television programs (mainly network TV dramas).

Because television has been a good means to convey health-related information, past research shows that the modeling of behavior plays an important role in behavior change. In this line of research, Bandura (starting from 1977, 1986, 2002, and 2004) has demonstrated that individuals are far more likely to mimic a behavior that they have seen being performed than one that was recommended, but not demonstrated. Bandura's work also suggests that not all models are equally effective. Rather, viewers appear more likely to mimic models—in this case, television characters—that they perceive to be similar to them [7].

Past research on entertainment-education (E-E) has established that viewers often use some of the demographic nature and characteristics, such as age, ethnicity, and gender to establish similarity to television characters. In the context of health related medical dramas that viewers

pay attention, and use to evaluate their similarity with the models of the drama, one of the important dimensions is the gender of the models [8]. Similarly, studies have proposed that health related narratives might have a greater impact on viewers who are the same sex as the character experiencing the health issue [9,10].

Similarly, some prior studies on core medical fields have stated that despite the growing presence of women in the medical workforce, and with the fact that women receive more total and extensive health services than men, the impact of patient or provider sex on the process of physician-patient communication during the medical visit has received relatively little emphasis in the literature [11]. Another clinical study has also found that compared to male physicians, female physicians have been engaged in more positive talk, partnership-building, question-asking, and information-giving. Similarly, when female compared to male physicians, patients engaged in more positive talk, more partnership-building, question-asking, and information-giving related to both biomedical and psychosocial topics.

Thus, past studies on medical field and clinical settings (not E-E context) have shown doctor-patient communication, and the role of doctor gender and that of patient gender. But there is a lack of studies conducted on the pattern of how doctor-patient communication in the medical dramas can differ based on the gender of doctor and the gender of patient. Even more, in the non-clinical, or particularly in the context of network television medical drama, there are very few studies conducted so far. In the non-medical setting, there are fewer studies which have content analyzed health content on television entertainment

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shows [12,13]. One study did a systematic research on health content in popular primetime television programs [13]. However, the study did not focus exclusively on medical dramas; it examined the health content in a variety of programs including comedies and dramas. Only one study, to the knowledge of the author, has so far fairly recently conducted a similar nature of research that has examined the role of character gender in prime time television health portrayals. The study has content analyzed 1,291 health-related storylines from three spring seasons (2004–2006) of the ten most popular American television programs and measured the frequency of male and female characters in prominent roles, and how storylines differed with the sex of the ill or injured character. Therefore, more research is needed to systematically examine the pattern of how doctor-patient communication can differ based on the gender of doctor and the gender of patient.

Due to the significant lack of prior research in this area, this study attempts to contribute by content analyzing on how doctor-patient communication can differ based on the gender of the doctor and the gender of the patient characters in one of the popular network entertainment television programs--*Grey's Anatomy*. This study consists of 12 episodes from season six of *Grey's Anatomy* (ABC). Manganello et al. suggest that for a representative assessment of contents on television programs for behavior-level variables, a random sample of five episodes of weekly television programs is sufficient, while three episodes may be acceptable if variation is minimal. A random sample of seven episodes is needed for character-based analyses. In comparison, this study will be comprehensive.

As the objective of the study is to enhance current understanding of the role and impact of gender in the communication between doctor and patient characters in the medical entertainment programs, the most recent available DVDs were used. As season -7 of *Grey's Anatomy* is being broadcasted, and not concluded yet, season -7 is not selected for the study.

## Literature Review

### Effects of entertainment-education programs and related theoretical perspectives

For the purpose of this research, the author would like to discuss two important theories regarding E-E: (1) social cognitive theory, and (2) cultivation theory. Social cognitive theory deals with how individuals learn behaviors from observing others performing the behavior in the media, or in other contexts. Similarly, cultivation theory deals with the question of how a positive relationship between television viewing and perception of social reality is established. In this process, viewers develop a view of social reality that is similar to that presented on television [6]. Morgan, Shanahan and Signorielli state that "...the central hypothesis guiding cultivation research is that those who spend more time watching television are more likely to perceive the real world in ways that reflect the most common and recurrent messages of the television world..." (Ibid, p. 34). Media portrayals of health issues affect not only audiences' perceptions of the incidence and prevalence of health risks, but perceptions about medical professionals and medical treatments as well. Tayal documented that medical drama viewers expected medical treatments to be like those seen on television.

Most of the medical dramas are considered a type of entertainment-education (E-E). According to the E-E scholars, media messages are purposely designed and implemented to entertain and educate audience members [8,9]. The term "entertainment-education" is used in the area of research that examines how narratives delivered in an

entertainment format can influence audience members' real-world knowledge, attitudes, and behaviors about an issue (ibid.). Singhal and Rogers defined entertainment-education (E-E) as "the intentional placement of educational content in entertainment messages". These scholars further described E-E as a communication strategy that can be used to "disseminate ideas to bring about behavioral and social change". Entertainment-education is quite popular in the developing countries like Nepal, India, Bangladesh, and around the world. It is also considered as a cost-effective means to communicate health information in an engaging format to a mass audience [10].

With the use of narratives, E-E programs engage viewers in a health issue for longer duration, and in greater depth than traditional health campaigns [9]. In most of the health related E-E s programs, the shows are designed in series or episodic format, and the health messages are repeated in multiple forms through various positive and negative role models who find themselves in different situations, and not in a singularly repetitive way".

Similarly, uses and gratifications theorists as well as cultivation theory researchers have also shown a relationship between specific social judgments and television exposure based on television's ability to cultivate or construct viewers' social reality [14]. Past research in the field of uses and gratification theory have attempted to understand the effects of a mass medium to its consumer (such as Rubin, 1979, 1983; Ang, 1985; Mead, 2003, 2004; Frisby, 2004). The overall findings have indicated that the audiences will tend to seek out a desired medium because it fulfills (gratifies) individual's needs or interests. Such need for gratification may be entertainment, information, or social purposes. The audience member is also identified as an active participant, selecting what he/she feels will best serve a personal need.

Similarly, on the other hand, cultivation theory argues, "when people are exposed to a consistent set of messages, they incorporate information from their television viewing into their understanding of the world around them" [3]. Cultivation theory has been applied to a number of television genres including violence, romantic relationships, and healthcare in a number of different types of programming including soap operas, sitcoms, dramas, and mini-series' [15]. Cultivation theory is "a theoretical background for the discussion of the influences of mass media on an individual's construction of life satisfaction judgments" [16] and this theory asserts that television viewing blurs our perception of the line between social reality and television reality, encouraging television audiences to adopt a repetitive and homogenous view of the world [16].

Similarly, while discussing demographically, cultivation theory researchers have shown that sex, age, and health status of viewers are the predictors of fear of illness [17]. For example, Brodie et al. and Van Mierlo both found that girls, older adolescents, non-Caucasians, and viewers with poor health status were most likely to be afraid of illness. Interestingly, non-Caucasian adolescent viewers are also more likely to both report learning more health information from medical dramas and report that they would like to see more health issues covered on medical dramas [3,17]. According to Ye, the more health oriented a person is, the more likely he or she is to perceive a better life condition, and thus have higher life satisfaction. This trend holds across various types of health programming on television, including news reports, talks shows, sitcoms, and dramas [15].

On the other hand, the traditional approach of health communication stresses the importance of the medium while disseminating the E-E message, however, it has recently been realized

that merely broadcasting via television and intruding to peoples' living rooms doesn't guarantee that one can change the knowledge behavior of the audience. Therefore, it is pertinent to discuss one of the important aspects of E-E, i.e., Bandura's social cognitive theory (SCT).

The author would like to mention one of his important points which is relevant to analyze research from the communication point of view: "social cognitive theory is founded in an agentic perspective...people are self-developing, pro-active, self-regulating, and self reflecting..." [18]. Discussing the mechanisms governing the observational learning, Bandura states that according to social cognitive theory of mass communication, individuals are more likely to model the behavior of others they perceive to be similar to themselves [18]. Seeing someone similar to oneself overcome obstacles and succeed in the face of adversity enhances individuals' beliefs in their own abilities--or self-efficacy--with regard to a particular behavior. People have cognitive representational processes. Human retention involves an active process of transforming and restructuring information conveyed by modeled events into rules and conceptions for memory representations.

Because Bandura's social cognitive theory is the foundational theoretical approach for this research, the author wishes to discuss more on the theoretical approach to find the ways to fit into the study and help answer the research questions.

In the context of this study, in which the author is going to assess the impact of the gender in the interaction between the doctor and patient characters in a medical drama, it is quite relevant to analyze Bandura's theoretical assumption in further detail. Bandura suggests that models of the same gender are viewed as more credible and instill stronger efficacy beliefs and behavioral intentions than do models of a different gender. Feelings of similarity to a model contribute to viewers' identification with that model, a broader concept that may also include feelings of liking and wanting to be like a particular character [19]. According to Slater, Bandura's theoretical concept of identification suggests that identification is an approach of a narrative that helps audience member experience the similarity with the character of the narrative. In a film, for instance, what we see is that if the hero (whom we have our sympathy) is perceived to be similar to one of us (audiences). If the hero attempts to be one of us, he may be more effective with regard to the audience knowledge, attitudes, and behavior. However, there is a condition of how much have we (as an audience member) been able to submerge into the depth of the narrative, or how much has it been able to influence us as being one of the characters of the narrative. The success or failure of such a narrative can certainly have impact.

### **Studies on gender role in doctor-patient communication conducted outside the field of entertainment education (E-E)**

Although there is a lack of studies conducted from the perspective of gender role in the doctor-patient communication in the field of mass communication, particularly on entertainment-education, other disciplines-- such as patient education and counseling, and the field of clinical and community medicine, among others, have conducted studies on the role of gender in the communication between the doctor and patient.

While discussing about the past studies conducted in the clinical settings to assess the role of gender of both doctor and patient in the delivery of interaction between the doctors and patients, it is pertinent to mention here that my study doesn't have to do with the real physical communication between the doctor and patients. This study attempts

to analyze the communication between doctors and patients as depicted on the television and find the role of gender in the process. As the author mentioned above, according to cultivation analysis, television contributes the viewers' conceptions of social reality. The author stresses that the study of past literature, which focused on the live communication between the doctor and patient, and studied the gender role is what the author is doing in the context of medical drama. Most of the studies the author mentions here are conducted in the real clinical settings, and most of these have found that female doctors devote more time to psychosocial counseling than male doctors, who spend more time on technical practice behaviors, such as medical history taking, physical examination and treatment planning.

Similarly, past studies have also found that female physicians also do significantly more preventive services. In two separate studies, one using videotapes of medical visits at the Family Practice Clinic of the University of California, suggest that female doctors provide more preventive services and psychosocial counseling; male doctors spend more time on technical practice behaviors, such as medical history taking and physical examination [20]. The patients of female doctors are more satisfied, even after adjusting for patient characteristics and physician practice style" [21]. The author further mentions that female patients make more medical visits and have higher total annual medical charges; their visits include more preventive services, less physical examination, and fewer discussions about tobacco, alcohol and other substance abuse [21].

Similarly, some past studies have also found that medical visits by women doctor had a higher percent of time spent on physical examination, structuring the intervention, patient questions, screening, and emotional counseling. Visits by male doctors involved a higher percentage of time spent on procedures and health behavior counseling. More eligible men than women received exercise diet, and substance abuse counseling [22].

### **Research Questions**

RQ 1: Are there significant differences in the communication between doctor and patient due to their gender difference?

This is the overarching research question, which is further broken down into two more questions:

- a. Does the gender of the doctor affect the communication between doctor and patient?
- b. Does the gender of the patient affect the communication between the doctor and patient?

RQ2: Are there significant differences in:

RQ2-a: doctors' and patients' asking questions relating to health topic (to each other)

RQ2-b: doctor and patients' asking verbal behavior related question (such as positive talk, negative talk, etc.) to each other,

RQ2-c: doctor and patients' attitude towards seeking or giving health education and counseling (among each other)

RQ2-d: doctors' and patients' communicating about psychological topics (among each other), and,

RQ2-e spending the amount of time during their visits (round ups), when the corresponding characters (either doctor or patient) are female as opposed to male?

## Method

### Sample

Given the importance of mass media in disseminating health information, and due to the need of a systematic research in this area, this study has content analyzed in how doctor-patient communication can differ based on the gender of doctor and the gender of patient characters in entertainment television. *Grey's Anatomy* has been chosen for this study. *Grey's Anatomy* is one of the top-ranked primetime network medical dramas in the United States. *Grey's Anatomy* had an average of 19.3 millions of viewers from 2007 to 2009. *Grey's Anatomy* was nominated for the Emmy award for outstanding drama series and golden globe award for the best television series-drama for the seasons 2006-2007 and 2000-2001, respectively [23].

As the objective of the study is to enhance current understanding of the role and impact of gender in the communication between doctor and patient characters in the medical entertainment programs, the most recent available season (season six) has been chosen for the study. Out of total twenty four episodes of the season six, the author randomly selected twelve episodes for this study. Since this study has considered each doctor-patient interaction as the unit of analysis, there appeared adequate amount of data for the study and it was decided to randomly select only 12 episodes from season six. As season seven was being broadcasted on the network at the time of the study, and not concluded yet, the most current season (season seven) could not be selected for the study.

### Units of analysis

Each interaction taken place between doctor character and the patient character in the storyline was considered as the primary unit of analysis for this study. The unit of analysis was defined on the basis of the minimum time that the patient character and the doctor character were visually shown for at least 5 seconds and had either one way or two way communication with each other in each interaction. If the doctor character or patient character were very briefly (less than 5 seconds) shown or verbally mentioned in a screenshot, it was not coded. Below are the variables and definition of variables (Table 1).

## Data Analysis

### Preliminary analysis: Reliability

Scott's pi was used to assess the reliability check.

All reliability checks were conducted by having a second coder independently score a random 10% sample (which was 1.5 episodes of *Grey's Anatomy*, i.e. 10% of the entire sample, and this study conducted inter-coder reliability of 2 random episodes which is more than 10%) and calculating the Scott's *pi* between the two coders. In this process, the statistic's normal range begins from .00 (agreement at chance level) to 1 (perfect agreement), and a value of less than .00 indicates agreement less than chance [24]. Table 2 presents reliability data.

### Role of doctor's gender on doctor-patient communication

This study didn't find a very significant difference in terms of doctor-patient communication influenced by the gender of the doctor. In general, patients have put their concerns and have interacted more to the female doctor characters than to the male doctor characters; however, the difference is not significant except in two categories: patient provide information on past medical diagnosis ( $p < .05$ ), patient seek information on adjustment/coping ( $p < .05$ ). Here, more patients have been found seeking information on coping/adjustment from male doctor characters than female doctor characters. Similarly, more patients have been found seeking information on their relationship from their male doctor characters than female characters ( $P < .001$ ). In average, patients have communicated more with the female doctor characters than the male counterparts (Male:  $n = 28$ , Female:  $n = 40$ ) Table 3.

### Role of patient gender on doctor-patient communication

Table 3 below shows that on average doctors have communicated more to the male patients than the female patients but the difference caused by the gender of the doctor is statistically insignificant except in one category of communication: doctor discussing on previous medical diagnosis ( $p < .05$ , here doctors' communication with male patients is significantly higher than their female counterparts) and while analyzing the entire group (though the difference is insignificant, but doctors communicate more with male patients than the female ones) (Table 4).

### Doctor's ethnicity and doctor-patient communication

Since there are more than two categories, basic analysis model of one way analysis of variance (ANOVA) was run with doctor's ethnicity as the case. Available combinations (female-female, female-male, male- female, male- male-- as possible contrasts were performed, and specifically, the author tested whether the female doctor-female patient

Variables	Definition	Coding categories
1. Demographic	Age, gender, ethnicity and position of the doctor character and patient character.	Age, gender, ethnicity of both doctor and patient and position of the doctor.
2. Health topic	Health topic related questions -illness or health problems, doctor's and patient's concerns about medical, therapeutical or psychological information, and questions and concerns about any specific medical instruction.	Doctor to patient questions (on illness, health problems, about family members, open-ended questions, closed ended questions). Patient to doctor questions (on health problems, therapeutic, psychological and other medical related instructions)
3. Responding to emotions	Communication that conveys emotional content through various levels of emotional statements.	Doctor to patient: personal life, positive talk, negative talk, building partnership, instruction. Patient to doctor: personal life, positive talk, negative talk, seeking info/instruction/suggestions
4. Patient Education and counseling	For this study, patient education and counseling means information and counseling skills that assist patients in making sense of their condition and coping with the medical regimen and lifestyle demands of treatment.	On education and medical topics: Doctor- patient communication: symptoms of illness, previous medical diagnosis, information on the use of medicine, information on treatment process. patient-doctor communication:
5. Length of visit and amount of time (patient talk to doctor)	Length of visit means the amount of time (in minutes) the doctor visit to patient. 'Amount of time patient talk to doctor: total amount of time the patient talks to the doctor for questions and information.	Minutes spent by doctor, Times (frequency) of prior visit to doctor, and minutes the patient talked to doctor.

**Table 1:** Variables and definition of variables: The variables are defined below for the purpose of clarity.



Variables	Scott's Pi
Does the doctor ask questions about illness/health problems?	65.91%
Does the doctor ask questions about family members?	93.01%
Does the doctor ask Info from family members?	76.00%
Does the doctor ask open-ended questions?	85.69%
Does the doctor ask closed-ended questions?	81.37%
Does patient ask doctor about medical/therapeutic related questions?	86.67%
Does the patient ask doctor about psychological information?	42.31%
Do the patient's family members ask questions/get info from doctor?	100.00%
Does the patient ask doctor to clarify any instruction?	73.21%
Doctor engages in communication about personal life	100.00%
Doctor involves into positive talk (laughs, agrees, approves etc.)	84.17%
Doctor involves into negative talk (disgrace, criticize etc)	83.29%
Doctor attempts to build partnership	100.00%
Doctor provides instruction (on the process)	86.81%
Patient engages in communication about personal life	73.21%
Patient involves into positive talk	73.21%
Patient involves into negative talk	100.00%
Patient asks for instruction and suggestions	86.43%
Doctor discusses with patients on symptoms of illness	86.43%
Doctor discusses on previous medical diagnosis	44.10%
Doctor provides information on use of medicine	72.22%
Doctor provides information on treatment process	100.00%
Patient shares info on symptoms of illness	73.21%
Patient provides info on past medical diagnosis	100.00%
Patient attempts to seek info on use of medicine	72.22%
Patient attempts to seek info on treatment process	70.00%
Doctor informs the patient about prevention	62.96%
Doctor counsels patients on life-style and quality of life	100.00%
Doctor suggests patients on adjustment/coping strategies	100.00%
Doctor counsels patients on relationships	42.31%
Doctor counsels patients on feeling and emotion	65.91%
Doctor counsels patients on emotional and social adjustment	100.00%
Patient asks doctor about his/her life in the future	100.00%
Patient seeks info on prevention	84.13%
Patient seeks info on adjustment /coping	62.96%
Patient seeks info on relationship	42.31%
Mention of prior visit to doctor	76.00%

**Table 2:** Reliability Coefficient (Scott's Pi).

combination differed from the average of the other combinations. No significant differences were observed in any of these combinations. Due to the previously established relations, the author focused to observe any significant potential differences but couldn't be found.

### Patient ethnicity and doctor-patient communication

For this combination as well, one way analysis of variance (ANOVA) was run with patient ethnicity the case. Available combinations (female-female, female-male, male- female, male- male--all possible contrasts were performed, and specifically, the author tested whether the female patient -female doctor combination could be different from the average of the other combinations. No significant differences were observed in any of these combinations. The author focused to observe any significant potential differences along the line of combination between female-female, but it was not supported.

### Position of doctor and doctor-patient communication

The result showed that there is no significant difference in doctor patient communication due to the impact of the position of the doctor.

### Doctor's gender and effect on the length of communication during visit

As shown in Table 4 below, female doctor characters' visits were

	Male (n=28)		Female (n=40)		
Categories of patient talk	Mean	Sd.	Mean	Sd.	t-value
Patient asks doctor about medical questions	.61	.497	.63	.490	-.147
Patient asks doctor about psychological info	.46	.508	.55	.504	-.687
Patient's family members ask Dr. question/ get info	.57	.504	.38	.490	1.600
Patient asks dr. to clarify any instruction	.79	.418	.60	.496	1.668
Patient engages in comm. about personal life	.68	.476	.60	.496	.659
Patient involves into positive talk	.82	.390	.68	.474	1.392
Patient involves into negative talk	.14	.356	.28	.452	-1.345
Patient asks for instruction and suggestions	.71	.460	.50	.506	1.813
Patient shares information on symptoms of illness	.61	.497	.53	.506	.666
Patient provides inf. on past medical diagnosis	.29	.460	.10	.304	1.870*
Patient attempts to seek info on use of medicine	.25	.441	.15	.362	.989
Patient seeks info on treatment process	.57	.504	.48	.506	.775
Patient asks Dr. about his life in the future	.54	.508	.43	.501	.890
Patient seeks information on prevention	.39	.497	.20	.405	1.696
Patient seeks information on adjustment/ coping	.61	.497	.38	.490	1.905*
Patient seeks information on relationship	.54	.508	.25	.439	2.413**
Patient mentions of prior visit to doctor	.11	.315	.13	.335	-.224

\*P<.05. \*\*P<.01. \*\*\*P<.001.

**Table 3:** Doctor's gender effect on doctor-patient communication.

	Male (n=37)		Female (n=31)		
Categories of doctor talk	Mean	Sd.	Mean	Sd.	t-value
Doctor asks patient questions about illness	.84	.374	.71	.461	1.242
Doctor asks questions about family member	.38	.492	.48	.508	-.865
Doctor asks questions to get info frm family	.38	.492	.29	.461	.761
Doctor asks open-ended questions	.38	.492	.35	.486	.198
Doctor asks closed ended questions	.19	.397	.19	.402	-.045
Doctor engages on comm about person life	.43	.502	.45	.506	-.156
Doctor involves into positive talk	.76	.435	.71	.461	.430
Doctor involves into negative talk	.22	.417	.16	.374	.572
Doctor attempts to build partnership	.62	.492	.55	.506	.602
Doctor discusses with patient on symptoms	.57	.502	.61	.495	-.374
Doctor discusses previous medical diagnosis	.27	.450	.10	.301	1.894*
Doctor provides info on the use of med	.22	.417	.19	.402	.228
Doctor provides info on treatment process	.70	.463	.71	.461	-.062
Doctor provides info on prevention	.16	.374	.19	.402	-.331
Doctor counsels patients on quality of life	.27	.450	.13	.341	1.471
Doctor suggests patient on coping/ adjustmt	.32	.475	.32	.475	.015
Doctor counsels patient on relationship	.27	.450	.13	.341	1.471
Doctor counsels patients on feel and emotion	.35	.484	.19	.402	1.469
Doctor counsels on emotion n social adjustment	.41	.498	.23	.425	1.605

\*P<.05

**Table 4:** Patient's gender effect on doctor-patient talk.

	Male Doctor (n=28)		Female Doc (n=41)		
Categories of variables	Mean	Sd.	Mean	Sd.	t-value
Time taken (patient uttering to doctor)	.68	.335	.73	.423	-.496

**Table 5:** Doctor's gender and effect on the length of communication during visit No significant p-value was observed.

	Male Patient (n=28)		Female Patient=41)		
Categories of variables	Mean	Sd.	Mean	Sd.	t-value
Time taken (doctor uttering to patient)	.707	.4889	.748	.4306	-.377

**Table 6:** Patients' gender and effect on the length of communication No significant p-value was observed.

longer than male doctor characters (mean of male/female doctor character=.675/.755 respectively, although there is no significant p value). Consistent with this, patients made more (though not significantly) communication with female doctor characters in terms of time length. They made to male doctors (M=.68) and female doctor (M=.72). Due to the very insignificant amount of difference in result, THE ATHOR did not produce the case of female and male patients with the male and female doctor and characters separately. However, it was found that female patients spoke more to female doctors than did patients in the other cells (here p value is insignificant) (Tables 5 and 6).

## Discussion and Limitation

The main aim of this research was to examine the role of gender in one of the E-E based medical drama-- *Grey's Anatomy*, a popular prime time television program, and to assess whether the gender does have any impact on the communication between the doctor and patient characters of the drama. The study was based on the content analysis of *Grey's Anatomy* and it could not find significant differences in communication associated with the gender of the doctor and gender of the patient characters.

This study content analyzed the total of 12 episodes of *Grey's Anatomy* of season six. Total of twenty-four episodes of the season six, in which total of sixty-eight (N=68) units of doctor-patient (characters) interactions were coded. This study was guided by the following research questions: are there significant differences in the communication between doctor and patient due to their gender difference? Under this overarching question, there were two associated research questions, which were attempting to know whether gender of the doctor and gender of the patient could affect the communication between the doctor and patient characters in the drama. Similarly, the second research question was in search of the significant difference (or p- value) in the following overarching variables (these are the larger, group-wide variables which have further more breakdowns) in the condition of gender differences:

- In doctors' and patients' asking questions relating to health topic
- In doctor and patients' asking verbal behavior related questions
- In doctor and patients' attitude towards seeking or giving health education
- In doctors' and patients' communicating about psychological topics
- Spending the amount of time during their visits.

Though this study didn't have any hypotheses to test, however, based on the previous findings in the clinical and medical-psychological studies, the author had an assumption that the result of this research would also support the previous findings, but it didn't (except the few cases). As mentioned in the literature review, most of the previous studies (though they were conducted in different settings and not based on entertainment medical dramas) had found that female doctors devote more time to psychosocial counseling than male doctors, who spend more time on technical practice behaviors, such as medical history taking, physical examination and treatment planning. Similarly, previous studies had also found that female physicians do significantly more preventive services...studies suggest that female doctors provide more preventive services and psychosocial counseling; male doctors spend more time on technical practice behaviors, such as medical history taking and physical examination, among others [20].

However, the result of this study only partially supported those claims as mentioned above. Here, the author would like to state that the above mentioned studies were conducted in real doctor-patient conversation, in a real clinical setting, whereas, this study is based on an entertainment oriented medical drama. Therefore, it is perhaps not appropriately reasonable to seek a similar relationship from these widely diverse fields. For the research question 1, the result could not find significant differences in the communication between doctor and patient occurred due to their gender difference. While studying the role of doctor's gender on doctor-patient communication, in general, patients have put their concerns and have interacted more to the female doctor characters than to the male doctor characters (though the significance is quite minimal). However, the difference is significant at least in two categories: in terms of patient providing information on past medical diagnosis ( $p < .05$ ), and in patient seeking information on adjustment/coping ( $p < .05$ ). Here, more patients have been found seeking information on coping/adjustment from male doctor characters than the female doctor characters.

While the result of the study shows not much significant difference in communication between the doctor and patient due to the impact of the gender of the doctor and patient characters, THE ATHOR can neither suggest for nor discard the application of Bandura's social cognitive theory especially in the context of social modeling (in the context of medical drama).

One of the most significant limitations, (and perhaps one of the reasons for not revealing the significant difference) of this research is the small sample size. The sample for this study consisted one of the most popular shows but it remained quite a limited in size because it was only of a season.

Another important limitation of this research could be that- while it demonstrates a very insignificant difference in the roles of gender in the interaction between the doctor and patient characters, the study doesn't directly test the impact of these portrayals on the knowledge, attitudes and behavior of viewers. We can't establish any relationship unless we do the real test. Further study is suggested on that.

## Conclusion

In this study, patient characters visiting female and male doctor characters had similar experiences in most of the categories and in only few categories things appeared significantly different way. Consistent with the previous studies (as the author has discussed more detail in literature review) visits to female doctor characters were longer to the patients (female Mean=.74 versus male Mean=.68, which is not

statistically significant difference though). According to the coded frequency data, unlike the previous studies, male doctor characters made more positive statements, used more partnership language, asked more questions about medical and psychosocial issues. Male doctors also received more partnership statements and more medical information from their patients. It appears that male who are doctors work to create a positive interpersonal climate, whereas, female doctors try to be good listeners (because they spent more time with the patients).

In the meantime, it is also interesting to note some psycho-social behaviors on which male and female physicians did not differ that much, such as emotional support (through explicit verbal statements, positive talk, counseling on lifestyle, counseling on emotional and social adjustment, building relationship with doctor and patients, seeking information etc) indicates that there is no such a significant difference in the psychological treatment based on the gender of the doctor or patients. This finding goes in contrast to the previous findings (though the previous findings don't have to do anything with the study of EEs and medical dramas). Most of the research which the author has cited in literature review has found female physicians to be more empathic and to convey more information; earlier research also found that female patients receive more information than male counterparts.

In sum, for most of the differences or similarities that have been found in the behavior of male and female doctors are not consistent with the literature on gender differences, and hypotheses that female doctors are more conversant, listening, expressive and have stronger interpersonal orientations than male physicians. This is not found in the context of *Grey's Anatomy*. It is perhaps because of differences in the medium of research. Medical setting in a television drama and that in a real hospital or clinic are significantly contrasting things and it is not surprising that the outcome of the research could not be the same. Further research will be needed to establish the generalizability of all of these findings with a much bigger sample size and possibly two or three medical dramas instead of one.

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