Study of the Impacts of Medical Dramas on High School Students' Career Aspirations and Expectations

Madeline Garcia[1] and Leah Sievering[#]

[1]Immaculate Heart High School, USA
[#]Advisor

ABSTRACT

Medical dramas can present inaccurate representations of the medical profession, yet they are watched by millions of individuals around the world each year. Due to this dilemma, previous research has focused on various societal effects of medical dramas, such as their spread of misinformation regarding CPR. To fill a gap in this existing conversation, this study investigated how medical dramas impact high school students' career aspirations and expectations. Through utilizing a mixed method of electronic questionnaires distributed to high school students and semi-structured interviews with a variety of medical professionals, this study found that while medical dramas are unlikely to be determining factors for high school students' career aspirations, they do have an effect on these aspirations, such as exposing their high school viewers to previously unknown specialties. Additionally, a thematic analysis of gathered data revealed that high school students' expectations for careers in medicine are largely inconsistent with the experiences of medical professionals in terms of high school students' lack of recognition of the systemic obstacles to patient care. Consequently, many high school students are developing unrealistic career aspirations based on misunderstandings of the medical profession.

Introduction

Picture this, you are a surgical intern working at a busy city hospital when an ambulance arrives. The doors of the ambulance open to reveal a patient bleeding on a stretcher with an unexploded bazooka shell lodged in their chest. Once the patient is carefully wheeled into an operating room, you help to successfully remove the bazooka shell from the patient. However, instead of a happy ending, the bazooka shell violently explodes as it is being carried away by a bomb technician. This is the plotline of *Grey's Anatomy* season two episode seventeen. The aforementioned dramatic plotline is pertinent given the American Time Use Survey's 2018 report that nearly 80% of the population of the United States watches television on a daily basis, with millions watching popular medical dramas, such as *Grey's Anatomy*, each year (Krantz-Kent 2018, 1; Porter 2021). In addition, viewing platforms to watch these medical dramas have expanded and continue to expand as Netflix, on which subscribers are able to watch *Grey's Anatomy* and other medical dramas, currently boasts 214 million global paying subscribers, an increase of about 4.4 million compared to the third quarter of 2021 (Sherman and Subin 2021). This means that millions of individuals, including high school students, are exposed to the highly dramatized plotlines of medical dramas each year, regardless of their accuracy.

Given this high level of viewership, it is imperative to conduct research on the societal impacts of watching such medical dramas. For example, resident physician at Oak Hill Hospital in Brooksville, Florida, Natalie Negrón attests that her love of science since childhood can be attributed to the fact that she "was primed to love medicine after watching hundreds of episodes of *ER* and *Grey's Anatomy*" (Negrón 2016, 146). In

contrast, Dr. Alison Walker, associate editor of the *British Medical Journal,* attests that from her work experience she realized that "medicine [is not] the glamorous and easy job that so many medical dramas make it out to be" (Walker 2015). Understanding the impacts of medical dramas on career choices is therefore necessary in order to evaluate if media sources are capable of encouraging individuals to enter certain professions, like Negrón, or misinforming the public, like Dr. Walker. High school students are an ideal population to study these impacts as most are in the process of identifying their career aspirations, according to the United States Bureau of Labor Statistics, and are thus susceptible to external influences during this process (Torpey 2015). In order to pursue such research, the following study will answer the question: To what extent does the portrayal of medicine in medical dramas affect high school students' career aspirations and how do these students' expectations for their careers in medicine compare with the real experiences of medical professionals?

Literature Review

Theoretical Models of Career Influences

Various theoretical models have been proposed in order to address career development and decision making, most notably the Social Cognitive Career Theory (SCCT) and Carpenter and Foster's later supporting framework. According to decorated psychology researcher Robert Lent and his colleagues Steven Brown and Gail Hackett, the SCCT describes how the three social cognitive processes of beliefs of self-efficacy, expectations of outcome, and career goals and intentions affected career development (Lent, Brown, and Hackett 1994, 87-88). In relation to the SCCT, Carpenter and Foster's threefold framework focuses on classifying career choice factors as intrinsic, extrinsic, or with interpersonal dimensions. For the sake of clarity, intrinsic factors include "self-interest, job satisfaction, and learning experiences," extrinsic factors include "job security, guaranteed job opportunities, high salaries, prestigious professions, and future benefits," and interpersonal factors include "parental support, family cohesion, peer influence, and interaction with educators" (Akosah-Twumasi et al. 2018, 4). However, what is the significance of these three identified factors?

Carpenter and Foster's framework is significant as it may be applied more specifically to examine career influences for medical professionals when evaluating existing literature and the data gathered for the sake of this study. This is demonstrated in the work of researchers from the Pakistan Journal of Medical Sciences who found that the major motivation behind selecting a career in the medical field for medical students was the perception of it being a "prestigious profession followed by altruism," which can be categorized as extrinsic and intrinsic factors respectively (Hassan, Shahzad, and Waqar 2020, 941). Furthermore, researchers from the UK Medical Careers Research Group enter this conversation with their findings that, for doctors both one year and five years after graduating medical school, "Enthusiasm for and commitment to the [medical] specialty was the greatest influence on career choice," reflecting intrinsic factors (Lambert, Smith, and Goldacre 2016, 416). These identified motivations fall within the three aforementioned categories of intrinsic, extrinsic, and interpersonal dimension and thus will be utilized as a guide for classifying high school students' motivations in this study.

Notably, the importance of understanding these factors and how they can be utilized, as previously demonstrated, is supported by several researchers. In particular, Josephine Nyamwange of Masai Mara University states, "Given the importance of making the right career choice, it is imperative that individuals are aware of the factors that influence such weighty decisions and do so from a point of knowledge" (Nyamwange 2016, 96). Nyamwange substantiates this declaration with her findings that of her 296 respondents, 91.9% indicated that having prior knowledge on what a career entails is vital to developing interest in that career (98). However, Nyamwange fails to address the potential flaws of her conclusion, specifically the danger of establishing a "point of knowledge" using unreliable sources, such as popular television shows.

Social Theories for Understanding the Effects of Television Viewership

The media, including popular television shows, has been posited to impact viewers' perception of reality, and thus formations of "point[s] of knowledge," through cultivation theory (Nyamwange 2016, 96). Professor George Gerbner, an expert in the study of communications, developed cultivation theory as a means to understand the "consequences of growing up and living in a cultural environment dominated by television" (Morgan, Shanahan, and Signorielli 2009, 34). The theory is guided by the hypothesis that the more individuals watch television, the more likely they are to perceive the real world in manners which reflect the most common and recurrent messages of the television world (34). Researchers Beth Hoffman et al. take this theory one step further by positing that with regards to medical dramas, cultivation theory explains why viewing these programs influences the "public perception of real-life outcomes such as the behavior of health care professionals, the set up of health care settings (e.g. hospitals), and the impact of medical interventions on disease progression" (Hoffman et al. 2017, 108).

Admittedly, this theory has been widely debated since its introduction. For example, researchers Mark Harmon et al. performed secondary analysis of claims that linked duration of television viewing with consumerist values and life dissatisfaction to conclude that cultivation theory minimizes the importance of "active audience program selectivity," or audience engagement, in these connections (Harmon et al. 2019, 268). However, this is addressed, and cultivation theory is supported, by the concepts of aesthetic distance and entertainment-education theory. Aesthetic distance is the phenomenon produced by various narrative forms which combines "emotional engagement and the detachment necessary for critical reflection" (Gauthier 1999, 23). Similarly, the entertainment-education theory postulates that through transportation into a storyline and involvement with characters, "viewers retain messages presented in fictional television" and are thus likely to consider the behavior on screen as both "desirable" and worth emulating (Hoffman et al. 2017, 108) These two theories have guided the direction of this study as they can be applied to understand the societal impacts of medical dramas in particular.

Medicine in Television

Although the general public may be unlikely to consult medical journals, the millions who watch medical dramas, such as *Grey's Anatomy* and *ER*, are still being presented with information on the medical field. Nevertheless, how much is the general public engaging with and retaining this information? Candace Cummins Gauthier of the University of North Carolina addresses this question by explaining that "Aesthetic distance in response to medical drama allows the viewer to identify emotionally with the characters portrayed and yet retain a detached perspective from which critical evaluation of their choices and actions is possible," and thus engage with the presented material (23). However, medical professionals often have limited influence on these television representations, creating disconnects between medical realities and media portrayals (Hooker and Pols 2006, 1). Consequently, this leaves the general public engaging with and retaining sometimes unreliable information about the medical field.

Building off of this potential for disparities between reality and portrayal, a wide variety of effects of medical dramas have been previously studied. For example, through television content analysis, the researchers Serrone et al. found that there were disparities between depictions of trauma patients in *Grey's Anatomy* and the real-life experiences of trauma patients, in terms of demographics and treatment (Serrone et al. 2018, 2-3). Similarly, researchers Cindy Bitter, Neej Patel, and Leslie Hinyard used television content analysis to conclude that medical dramas misrepresent the demographics, etiologies, and outcomes of cardiac arrest (Bitter, Patel, and Hinyard 2021, 2-4). Bitter, Patel, and Hinyard are not alone in their findings as several other studies by respected university researchers Susan Diem, John Lantos, and James Tulsky as well as Alismail et al. have also concluded that misinformation about cardiac arrest, especially CPR, is spread through television depictions

(Diem, Lantos, and Tulsky 1996, 1578; Alismail et al. 2018, 85). In summation, all of these studies concluded that the discrepancies present in medical dramas likely contribute to the public's false expectations of medical treatments for traumatic injuries and/or cardiac arrest (Serrone et al. 2018, 2-3; Bitter, Patel, and Hinyard 2021, 2-4; Diem, Lantos, and Tulsky 1996, 1578; Alismail et al. 2018, 85).

While the aforementioned sources focus on the negative impacts of medical dramas, other studies consider their dual and positive impacts. Through uniquely considering both positive and negative effects as she conducted television content analysis, researcher Eszter Nádasi concluded that *Grey's Anatomy* can potentially lead to more social trust in female surgeons, like Meredith Grey (Nádasi 2020, 48). However, Nádasi also noted that *Grey's Anatomy* can curate a misinformed view of entering the medical field through its lack of discourse about the heightened challenges of becoming a surgeon for women and individuals of color (49). Finally, connecting back to career influences, researchers Stephen Timmons and Stuart Nairn concluded that one of the factors that led to the development of the field of emergency medicine was its "high and positive media profile" (Timmons and Nairn 2015, 13). When considered in conjunction, these studies reveal the far-reaching abilities of the media, especially medical dramas, to influence the general public's view on topics of medical treatments and medical professionals.

What is it about medical dramas that enables them to have such far reaching societal impacts? The work of researchers Helena Bilandzic, Cornelia Schnell, and Freya Sukalla helps answer this question. These researchers report that medical dramas establish a captivating dynamic between heroes and antiheroes in the high intensity setting of a hospital; in medical dramas there is often the "the doctor-hero saving lives with his or her expert knowledge" while "characters who completely fall out of the doctor-hero schema … serve as 'foils for the hero'" (Bilandzic, Schnell, and Sukalla 2019, 609). Characters' roles as "doctor-hero[es]" are dramatically established by a common "'struggle against both disease and bureaucracy to do what is medically and morally correct for the patient'" (609). In addition, according to researcher Kevin Goodman, guided by the trailblazing medical drama *ER*, modern medical dramas have achieved perceptions of medium to high degrees of clinical accuracy through the use of medical jargon and highly detailed depictions of patients (Goodman 2007, 182). Therefore, by taking the theme of good versus evil and tailoring its conflict to befit the medical career in a seemingly accurate manner, medical dramas are able to create engaging content for a broad audience. This broad audience includes more than 80% of medical and nursing students as determined in the study by cardiologist and published researcher Matthew Czarny and several of his colleagues (Czarney et al. 2008, 3). The engaging nature of medical dramas directly ties into their effects on viewers given the aforementioned phenomena of cultivation theory, aesthetic distance, and entertainment-education theory.

The Gap

Despite the demonstrated abilities of medical dramas to influence popular culture, there is currently limited research on how medical dramas may influence career aspirations and/or expectations. In addition, high school students' career aspirations are particularly understudied given that the majority of published research focuses on the aspirations of college and graduate students. Upon completing a systematic review of available literature discussing the influences of medical dramas on public health, researchers Hoffman et al. discovered that only approximately 5.3% (or 1 out of 19) of the studies analyzed involved participants under the age of 18 (Hoffman et al. 2017, 110). This is especially notable given the study published by psychology researchers from the University of California, Berkeley who found that higher levels of education, such as college and graduate school, are strong predictors of better cognitive performance and appear to boost reasoning skills (Guerra-Carrillo, Katovich, and Bunge 2017). Consequently, given the differences of high school students compared to college and graduate students in terms of reasoning skills, which are involved in the development of career aspirations, research is needed to investigate high school students specifically. In summary, within the existing body of

literature, a gap exists in analyzing high school students' career aspirations in relation to medical dramas that this study fills.

Hypothesis

Based on my analysis of the pre-existing literature, I have developed the hypothesis that while medical dramas may not be the determining factor in career choice, they will contribute to high school students' awareness of, enthusiasm towards, and personal interest in the medical field. Additionally, I hypothesize that these students' expectations for their careers in medicine will have identifiable differences when compared with the real experiences of medical professionals.

Method

In order to achieve the goal of this project, as identified by my research question, I utilized a mixed method survey approach of both questionnaires and interviews. These two methods are identified by Julie Ponto from Winona State University as the "most common" means of data collection for survey research (Ponto 2015, 170). By utilizing these methods in conjunction, I was able to study my topic both quantitatively, through my questionnaire, and qualitatively, through my interviews. This proved vital in addressing my research question which in and of itself is multifaceted as it focuses on high school students' career aspirations as well as their expectations for medical careers.

Use of Questionnaires for Initial Data Collection

I first distributed a questionnaire electronically via Google Forms to private high school students in Los Angeles, specifically students from Cathedral High School (CHS), Immaculate Heart High School (IHHS), Saint Francis High School (SFHS), and Providence High School (PHS). These schools were selected as they each have programs for students interested in STEM, such as the Math Club at CHS, the Pre-Med Club at IHHS, the Sports Medicine Club at SFHS, and the Medical Focus Program at PHS, meaning that each school likely contains populations of interest for this project, which are students with career aspirations in medicine and/or students who self-identify as viewing medical dramas. The questionnaire utilized multiple choice, short answer, and Likert-type scale questions in order to measure the variables of interest, including aspirations of pursuing a medical career and viewership of medical dramas (see Appendix A for the questionnaire and Appendix B for the informed consent). The questions were designed in this fashion given that many experts recommend utilizing the Likert scale for researchers "attempting to measure less concrete concepts," such as attitudes and opinions, and that the Likert scale is "frequently used in medical education and medical education research" (Sullivan and Artino 2013, 541-542). Therefore, the variables being studied and the design of this questionnaire align with my research question.

Use of Interviews for Secondary Data Collection

After distributing the questionnaires, I conducted interviews via Zoom with a variety of medical professionals whose careers ranged from emergency room physicians to registered nurses. In a semi-structured interview format, the medical professionals were asked a variety of questions ranging from the challenges they face as medical professionals to their opinions on medical dramas (see Appendix C for the interview questions and Appendix D for the informed consent). For the sake of clarity, a semi-structured interview format is defined by

Shazia Jamshed, from the Department of Pharmacy Practice at the International Islamic University of Malaysia, as interviews where the respondents are asked to "answer preset open-ended questions … [which is a method] widely employed by different healthcare professionals in their research" (Jamshed 2014, 87). My choice of incorporating these semi-structured interviews into my research design is further supported by Jamshed's statement that only through adopting qualitative methods, such as "one-to-one interviews," can a researcher "extrapolate the thought process, analyzing and estimating the issues [at hand] from an in-depth perspective" (88). Thus, my use of semi-structured interviews also aligns with my research question.

Once I finished gathering all of my data, I compared the high school students' short answers responses to the medical professionals' interview responses using thematic analysis. Specifically, I created a code of recurrent themes from each set of responses and compared the themes to identify key commonalities and differences (see Appendix E for the code used). This use of thematic analysis is identified by researchers, such as Mai Linneberg of Aarhus University and Steffen Korsgaard of the University of Southern Denmark, as crucial for "increasing the quality of … analysis and findings" and as "[c]entral to qualitative analysis" in order to reduce "large amounts of empirical material and [make] data readily accessible for analysis" (Linneberg and Korsgaard 2019, 261). Applying these benefits to my own project, my use of thematic analysis allowed me to reduce the subjectivity of my data analysis and clearly identify how the high school participants' expectations for careers in medicine compare with reality as experienced by the medical professionals.

Use of Mixed Method Approach

Not only do these two methods of questionnaire and interview data collection have their individual merits, but the literature and my own data support that their benefits are heightened when used in tandem in a mixed method approach. This is because mixed methods are vital when "no one method is adequate to address the planned research aims" and are useful in "reduc[ing] the potential for measurement and non-response error" thus "ensur[ing] better sample coverage" (Ponto 2015, 170). In this research project, given the multifaceted nature of the research question and thus the data required, a mixed method approach was needed as other individual methods, such as television content analysis or oral histories, were inadequate to "address the planned research aims" as Ponto identified (170). Overall, my use of a mixed method approach generated both quantitative and qualitative results which helped me to draw conclusions regarding both the frequencies and motivations behind high school students' career aspirations in the medical field and expectations for the medical profession within the context of viewing medical dramas.

Results

Given the multifaceted nature of both my research question and method, the results are organized into quantitative and qualitative subsections. The quantitative subsection details the results of the multiple choice and Likert-type scale statements from the electronic questionnaire using percentages, graphs, and a table to reveal trends in the data through frequency of responses. Conversely, the qualitative section details the results of the short answer questions from the electronic questionnaire and the interviews conducted with medical professionals using thematic analysis as compiled into a chart of common themes and example statements.

Quantitative Results

In total, 107 private high school students from Los Angeles responded to the electronic survey with 73.6% reporting that they are considering a career in the medical field and 25.2% reporting that they watch medical dramas. Going beyond these general characteristics, as demonstrated in Figure 1, the majority of participants,

40%, reported watching *Grey's Anatomy* with *The Good Doctor* following in second at 15% and *Chicago Med* and *E.R.* tied for third at 10% each. Of the participants who reported watching medical dramas, 84% reported that they watch medical dramas for 1 to 3 hours per week. Strikingly, when asked whether viewing medical dramas impacted their view of the medical profession, 39.6% responded "no," 34.0% responded "maybe," and 26.4% responded "yes."
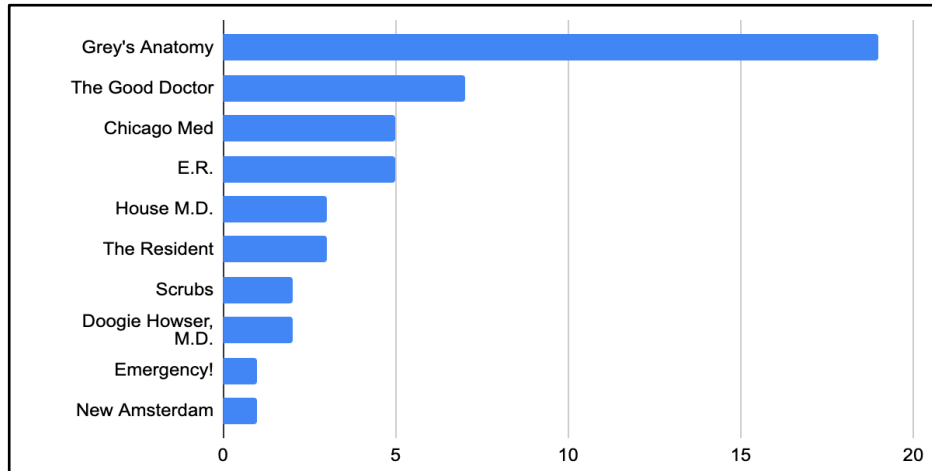
Figure 1. Number of high school students who watch popular medical dramas.

Participants were then asked to identify their career influences regarding the medical field, as illustrated in Figure 2. The most common career influences were "Enthusiasm for the career," "Concern for the wellbeing of others," "Personal interest in STEM," and "Eventual financial prospects." Specifically pertaining to my research question, "Watching medical dramas" was identified as a career influence in less than ten participants, making it one of the least commonly identified career influences.
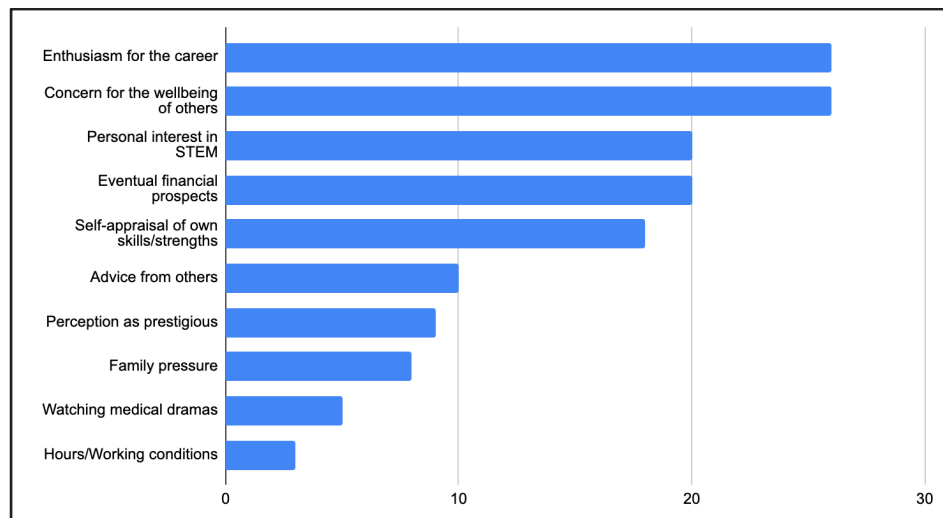
Figure 2. Comparison of high school students' career influences regarding the medical field.

In order to determine how high school students are learning about the medical profession, besides through medical dramas, participants were asked to identify their other major information sources. As demon-

strated in Figure 3, "Talking with family members/friends," "School," and "Social media" are the most commonly consulted sources. The implications of medical dramas and social media being used to learn about the medical profession will be discussed in terms of unreliability in the following sections.
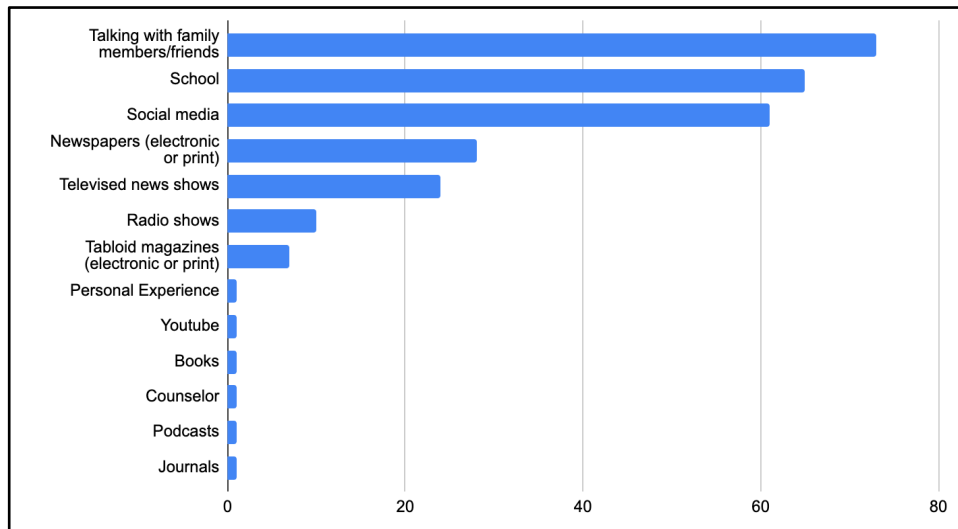
Figure 3. Sources, other than medical dramas, used by high school students to learn about the medical profession.

The electronic questionnaire also included Likert-type scale statements for students to rate on a scale of 1 ("strongly disagree") to 5 ("strongly agree") where 3 is considered "neutral." Since determining the frequency of responses is most aligned with my research aims, the mode, or most frequent response for each statement, is identified in Table 1 below. As corroborated by the data in Table 1, participants seem to believe that they understand the challenges involved in the medical profession and assume that these challenges are universal, rather than isolated to specific medical professionals (see statements 7 and 8). In addition, the data supports the conclusion that, although medical dramas do not solely determine viewers' career choices, they may unconsciously or subtly contribute (see statements 5, 11, and 13). The two aforementioned conclusions directly pertain to answering my research question. For clarity, a key is included below Table 1 to highlight when only a fraction of the five answer choices were represented for a statement and to clarify when only relevant portions of the participants were analyzed for a particular mode.

Table 1. Summary of Likert-type scale statements.

Statement	Mode(s)
1) "I aspire to pursue a career in medicine because of my personal interest in STEM."	4
2) "I aspire to pursue a career in medicine because of its perceived wealth and prestige."	4
3) "I aspire to pursue a career in medicine because of the influence of my family members, friends, teachers, or community."	4
4) "I aspire to pursue a career in medicine because of its portrayal in non-fiction media."	1
5) "I aspire to pursue a career in medicine because of medical dramas."	1

6) "I have a family member, friend, or mentor who is a medical professional."	5
7) "I understand the challenges which may come with becoming and being a medical professional."	4
8) "I believe that if I become a medical professional I will face some of the challenges suggested in the previous question."	5 *
9) "I watch medical dramas because I am interested in becoming a medical professional."	3 **
10) "I became interested in becoming a medical professional through watching medical dramas."	2 **
11) "My aspiration to pursue a career in medicine has been *positively* impacted by viewing medical dramas."	4 ***
12) "My aspiration to pursue a career in medicine has been *negatively* impacted by viewing medical dramas."	1 ***
13) "My aspiration to pursue a career in medicine has *not* been impacted by viewing medical dramas."	1 and 5 ***
14) "I watch medical dramas for entertainment."	5 **
15) "I watch medical dramas for knowledge on the medical profession."	2 **
16) "I believe that medical dramas are a reliable source of information on the medical profession."	1
17) "I believe that medical dramas are an unreliable source of information on the medical profession."	4
18) "I believe that medical dramas are a reliable source of information on medical procedures."	1
19) "I believe that medical dramas are an unreliable source of information on medical procedures."	5

Key
* - No participants responded with a score of 1 or 2 ** - Only participants who responded "yes" to watching medical dramas were considered ***- Only participants who responded "yes" to wanting to pursue a career in medicine were considered

Qualitative Results

The results of the thematic analysis conducted on the high school students' short answer responses are displayed below in Table 2. Although the majority of participants reported that they regard medical dramas as highly dramatized and largely inaccurate, many also asserted that they can have difficulty discerning between the fact

and fiction depicted. However, this discernment was noted as being easier when a participant had personal connections to and/or experiences with the medical profession, such as family members who are medical professionals or hospital volunteer experience.

The high school student participants had varied answers on whether medical dramas impacted or continue to impact their career aspirations regarding the medical field, making it difficult to determine a clear theme and thus not represented in Table 2. However, their responses are useful in understanding how medical dramas are potentially impactful. Some participants reported that they "decided to go into the medical field before watching any medical dramas" and therefore were not at all impacted while, in contrast, others reported that medical dramas are what "initially sparked [their] interest in medicine." Between these two ends of the spectrum, the most common response was that although medical dramas were not a determining career influence, they enabled participants to learn about aspects of the career such as the "academic stamina" needed and the variety of specialties possible. This exposure to a variety of specialties was reflected in high school student participants' specific career goals in medicine, ranging from dermatology to evolutionary medicine. However, around 19% of all respondents aspired to be a type of surgeon, admittedly the most common career of protagonists in popular medical dramas such as *Grey's Anatomy*.

Table 2. Themes of high school students' short answer responses.

Theme	Examples
Medical dramas as highly dramatized	• "All of them [medical dramas] focus on the drama that happens within the doctor's social circle rather than the actual practices." • "I know everything in these shows is either exaggerated or not scientifically accurate." • "Medical Dramas make the medical field seem significantly more dramatic and interesting than it truly is."
Medical dramas as largely inaccurate	• "Everything I have seen about them [medical dramas] I don't treat as realistic." • "I know everything in these shows is either exaggerated or not scientifically accurate." • "Medical dramas are romanticized and not completely accurate."
Difficulty distinguishing between fact and fiction in medical dramas	• "Part of me believes that hospitals are very fast-paced and intense and complicated like on TV shows while another part of me believes that nothing I've heard about hospitals from TV shows is true." • "Most of the time medical dramas are accurate but sometimes they are not accurate and seem highly unrealistic."
Heightened ability to determine reliability based on personal connections and/or experiences	• "Because I have actual experience with volunteer work and family members in the medical field, I understand how much of a stretch and

	inaccurate these dramas are.” • “People without [personal] experience [with the medical profession] I believe will be much more susceptible to believing that the medical field is similar to how it is portrayed in shows.”
Challenge of high levels of studying to become a medical professional	• “Long hours of studying in college or university” • “Extensive memorization and knowledge of medical science”
Challenge of maintaining a balance between personal and professional life while becoming and as a medical professional	• “Toll on personal life” • “Balancing your job or studying with family time”
Challenge of long education process to become a medical profession	• “The extensive amount of school.” • “You have to do a lot of schooling”
Challenge of high levels of stress becoming and as a medical professional	• “It seems like a very stressful career path.” • “Being a medical professional comes with a lot of stress from constantly having someone else's life in your hands.”

The results of the thematic analysis conducted on the ten medical professionals’ interview responses are displayed below in Table 3. Although the majority noted that medical dramas are both highly dramatized and largely inaccurate, many conceded that different medical dramas have different degrees of reliability. In particular, the interviewees widely agreed that *Grey’s Anatomy* is one of the most highly dramatized and inaccurate popular medical dramas, yet this is the medical drama that the greatest percentage (40%) of high school student participants reported watching. Additionally, the medical professionals identified an underrepresentation of the importance of teamwork in patient care as a leading factor in medical dramas’ inaccuracy. Finally, one interviewee even noted that medical dramas lead to the public’s misunderstandings of cardiac arrest and CPR, corroborating the television content analysis study done by Cindy Bitter, Neej Patel, and Leslie Hinyard which was mentioned previously in the literature review.

Table 3. Themes of medical professionals’ interview responses.

Theme	Examples
Medical dramas as highly dramatized	• “You shouldn’t use something that is so clearly highly dramatized in order to get eyeballs on the set in order to really make decisions.” • “Overall they [medical dramas] are very poor in terms of realism.” • “It [The medical profession] is not as glamorous as it looks on *House* and *Grey's Anatomy*.”
Medical dramas as largely inaccurate	• “You watch these shows and see this doctor

	just run in and save somebody and I'm always pointing to my wife and saying 'That would never happen. It wouldn't work like that.'" • "If someone undergoes a cardiac arrest on a television program you see doctors running to the bedside and doing chest compressions and then the person wakes up … And unfortunately it's just really inaccurate to how CPR actually works so it can make setting realistic expectations [with a patient] very challenging."
Different medical dramas having different degrees of accuracy	• "From least to most accurate I would say *Grey's Anatomy* then *House* then *ER* and then *Scrubs*." • "The first medical drama I watched and actually respected was *ER*."
The importance of a healthcare team in providing patient care	• "You never have just one person who fixes everything ... there is a team behind it." • "Doctors generally are not these individual amazing people. They work in teams and work with a bunch of other people."
Challenge of maintaining a balance between personal and professional life while becoming and as a medical professional	• "There is a lot of personal sacrifice. There are years where you will be in training while your friends are advancing their personal lives." • "The divorce rate in medicine is very high." • "Expect drastic relationship changes. Honestly I would recommend staying single as long as you can."
Challenge of the institutional/systemic problems of the medical system in terms of patient care	• "The best care possible, I may know what that is but my patient may not be able to get it because of their insurance or some other red tape of the health system at large." • "Especially now given that insurance and government is involved …You might know what is medically best for a patient but their insurance doesn't pay for it."

Interesting relationships are revealed when the themes from the high school students' short answer responses are compared with the themes from the medical professionals' interviews. While both the high school student participants and medical professionals agreed on the dramatization and inaccuracy of medical dramas, none of the high school student participants named the underrepresentation of teamwork as a reason for this inaccuracy. In addition, while the majority of high school students acknowledged the challenge of maintaining

a balance between personal and professional life for medical professionals, none identified systemic or institutional challenges of the medical system. This is especially pertinent given that such challenges were described in over 50% of the medical professionals' interviews, such as an inability to treat patients because of a lack of insurance coverage.

Discussion

The aforementioned findings constitute a new understanding. This is because this study not only involved the participation of a traditionally underrepresented population, high school students, but also fills the deficit in current literature concerning both the development of high school students' career aspirations and the impacts of medical dramas on career aspirations. In summation, my findings have led me to conclude that high school students' expectations for careers in medicine are largely inconsistent with the experiences of medical professionals in terms of recognizing systemic obstacles to patient care and that medical dramas likely impact high school students' career aspirations to a small yet notable extent. This new understanding affirms both facets of my aforementioned hypothesis. Moreover, while medical dramas do not appear to be determining factors in high school students' career aspirations, they are responsible for exposing their high school viewers to previously unknown specialties. Consequently, the population most impacted by medical dramas' misinformation on such aspects of the profession are those who have had limited exposure to medicine because of few relationships with medical professionals and/or limited experience with the medical system. In addition, this impact is moderated by the duration with which high school students view medical dramas. Since the overwhelming majority of surveyed high school students reported watching medical dramas only 1-3 hour per week, which was the shortest duration of the answer choices provided, it is reasonable that any impact on their aspirations would be limited.

However, medical dramas were described by both the surveyed high school students and interviewed medical professionals as largely overdramatized and inaccurate. Despite this acknowledgement of their inaccuracy, without personal connections to the medical field, many high school student participants seemed to have difficulty discerning between accurate content versus inaccurate content. This is especially noteworthy given that, when asked about their viewing of specific medical dramas, the highest percentage of high school students reported watching *Grey's Anatomy* yet the majority of interviewed medical professionals asserted that *Grey's Anatomy* is one of the most overdramatized and inaccurate medical dramas. Moreover, according to a majority of the high school students' responses, social media is a commonly consulted source for information about the medical profession. This means that, through viewing medical dramas such as *Grey's Anatomy* as well as utilizing social media platforms, which are largely unregulated for accuracy of content, high school students are constantly being confronted with unreliable content concerning the medical profession.

Carpenter and Foster's framework for career development, which was described previously, can be used to categorize and thus further analyze the most common career influences for high school students which were revealed by my research, as shown in Figure 2. Specifically, "Enthusiasm for the career" and "Personal interest in STEM" can be identified as intrinsic factors while "Concern for the wellbeing of others" and "Eventual financial prospects" can be identified as extrinsic factors. Strikingly, this categorization reveals a lack of interpersonal factors, or "parental support, family cohesion, peer influence, and interaction with educators," driving the majority of surveyed high school students (Akosah-Twumasi et al. 2018, 4). The reasons for this deficit should be specifically investigated in future research before conclusions are drawn. Notably, despite their lack of interpersonal factors, these identified career influences coincide with the career influences identified in previous studies, such as the perception of medical as a "prestigious profession followed by altruism" as well as "Enthusiasm for and commitment to the [medical] specialty" (Hassan, Shahzad, and Waqar 2020, 941; Lambert, Smith, and Goldacre 2016, 416). Such similarities substantiate the new understanding that the career

influences which drive individuals to pursue the medical profession may originate earlier in life than previously expected and therefore have longer duration.

Limitations

When evaluating these findings, it is important to note that there are several limitations to my research. First, the mixed-method utilized for this research relied on the self-reporting of participants, which, while necessary to obtain results that would answer my research question, can be unreliable as participants may not report truthfully. Second, my findings lack generalizability. In terms of the electronic questionnaires, although 107 high school students from four different high schools were surveyed, these were only private school students from Los Angeles. Therefore, their responses are not representative of a larger American or international population, despite the diversity found in Los Angeles. In terms of the medical professional interviews, only ten professionals were able to be interviewed, which provided a breadth of information yet yielded only a fraction of representation of the variety of medical specialties. Looking to the future, to increase the generalizability of these findings, a similar study would need to be conducted featuring a random sampling of more participants.

Conclusion

The new understanding presented by this research project illuminates multiple avenues for future research. Most closely related to the original project would be a similar study featuring participants outside of Los Angeles in order to determine whether these findings were impacted by the unique characteristics of the participants' city of residence. Conversely, departing from medical dramas altogether, another study could investigate how non-medical televised dramas, such as legal dramas, impact the development of career aspirations, such as aspirations of becoming a lawyer. Such studies would be able to join my research in filling the gap in the available literature concerning high school students' career aspirations and the influence of various forms of media on these aspirations.

      Finally, as my research has revealed that medical dramas can play a role in the development of high school students' career aspirations and that many students consult social media for information on the medical profession, the reliability of available media must be addressed as a pressing issue. A seemingly logical solution would be increased regulations of both medical dramas and social media sources to ensure increased reliability in their information on the medical profession and improvement in their use of disclaimers. These regulations could be most effectively implemented if enforced by a related government agency, such as the Federal Communications Commission which "regulates interstate and international communications through cable, radio, television, satellite and wire," thus encompassing both medical dramas and social media platforms ("Federal Communications Commission"). However, the implementation of such regulations is highly unlikely due to the First Amendment right to free speech and the necessity of medical dramas to retain their entertaining nature in order to attract large audiences. Therefore, a more actionable solution would be the development of new more reliable sources of information on the medical profession and of opportunities for high school students to gain hands-on experience with the medical profession. These measures would enable high school students to more accurately learn about the profession, and its variety of specialties, away from the television screen. Only with such measures can high school students maximize their ability to distinguish fact versus fiction when viewing medical dramas and ultimately develop realistic career aspirations based on an understanding of the reality of the career.

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References

Akosah-Twumasi, Peter, Theophilus I. Emeto, Daniel Lindsay, Komla Tsey, and Bunmi S. Malau-Aduli.
2018. "A
Systematic Review of Factors That Influence Youths Career Choices—the Role of Culture." *Frontiers in
Education* 3 (58): 1-15. https://www.frontiersin.org/articles/10.3389/feduc.2018.00058/full.

Alismail, Abdullah, Nicole Meyer, Waleed Almutairi, Noha Daher. 2018. "CPR in Medical TV Shows: Non-
Health
Care Student Perspective." *Advances in Medical Education and Practice* 8 (9): 85-91. https://www.ncbi
.nlm.nih.gov/pmc/articles/PMC5808693/#:~:text=Conclusion,falsely%20in%20most%20medical%20shows.

Bilandzic, Helena, Cornelia Schnell, and Freya Sukalla. 2019. "The Cultivation of Idealistic Moral
Expectations:
The Role of Television Exposure and Narrative Engageability." *Mass Communication & Society* 22 (5): 604-
630. https://search.ebscohost.com/login.aspx?direct=true&db=asn&AN=138105230&site=ehost-live.

Bitter, Cindy C., Neej Patel, and Leslie Hinyard. 2021. "Depiction of Resuscitation on Medical Dramas:
Proposed
Effect on Patient Expectations." *Cureus* 13 (4): 1-6.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8112599/.

Czarny, Matthew, Ruth Faden, Marie Nolan, Edwin Bodensiek, and Jeremy Sugarmen. 2008. "Medical and
Nursing
Students' Television Viewing Habits: Potential Implication for Bioethics." *American Journal of Bioethics* 8
(12): 1-8. https://search.ebscohost.com/login.aspx?direct=true&db=asn&AN=35670955&site=ehost-live.

Diem, Susan, John Lantos, and James Tulsky. 1996. "Cardiopulmonary Resuscitation on Television —
Miracles and Misinformation." *The New England Journal of Medicine* 334 (24): 1578-1582.
https://www.nejm.org/doi/full/10
.1056/nejm199606133342406.

"Federal Communications Commission." *USAGov*. https://www.usa.gov/federal-agencies/federal-
communications
-commission.

Gauthier, Candace Cummins. 1999. "Television Drama and Popular Film as Medical Narrative." *Journal of
American Culture* 22 (3): 23-25. https://search.ebscohost.com/login.aspx?direct=true&db=asn&AN=3812797
&site=ehost-live.

Goodman, Kevin. 2007. "Imagining Doctors: Medical Students and the TV Medical Drama." *AMA Journal of
Ethics*

9 (1): 182-187. https://journalofethics.ama-assn.org/article/imagining-doctors-medical-students-and-tv-medical
-drama/2007-03.

Guerra-Carrillo, Belén, Kiefer Katovich, and Silvia A. Bunge. 2017. "Does Higher Education Hone Cognitive Functioning and Learning Efficacy? Findings From a Large and Diverse Sample." *PLoS ONE* 12 (8). https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0182276.

Harmon, Mark D., Maria Fontenot, Nicholas Geidner, and Abhijit Mazumdar. 2019. "Affluenza Revisited: Casting
Doubt on Cultivation Effects." *Journal of Broadcasting and Electronic Media* 63 (2): 268-284. https://search.ebscohost.com/login.aspx?direct=true&db=asn&AN=137129826&site=ehost-live.

Hassan, Madeeha, Fatima Shahzad, and S.H. Waqar. 2020. "Seeking Motivation for Selecting Medical Profession as
a Career Choice." *Pakistan Journal of Medical Sciences* 36 (5): 941-945.https://search.ebscohost.com/login.aspx?direct=true&db=asn&AN=144392061&site=ehost-live.

Hoffman, Beth, Ariel Shensa, Charles Wessel, Robert Hoffman, and Brian Primack. 2017. "Exposure to Fictional
Medical Television and Health: A Systematic Review." *Health Education Research* 32 (2): 107-123. https://www.jstor.org/stable/48509763.

Hooker, Claire and Hans Pols. 2006. "Health, Medicine, and the Media." *Health and History* 8 (2): 1-13. https://www.jstor.org/stable/40111540.

Jamshed, Shazia. 2014. "Qualitative Research Method-Interviewing and Observation." *Journal of Basic and Clinical Pharmacy* 5 (4): 87-88. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4194943/.

Krantz-Kent, Rachel. 2018. "Television, Capturing America's Attention at Prime Time and Beyond." *U.S. Bureau of
Labor Statistics* 7 (14): 1-11. https://www.bls.gov/opub/btn/volume-7/television-capturing-americas-attention.htm.

Lambert, Trevor, Fay Smith, and Michael Goldacre. 2016. "Changes in Factors Influencing Doctors' Career Choices
Between One and Five Years After Graduation: Questionnaire Surveys of UK Doctors." *Journal of the Royal Society of Medicine* 109 (11): 416-425. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5117178/.

Lent, Robert W., Steven D. Brown, and Gail Hackett. 1994. "Toward a Unifying Social Cognitive Theory of Career and Academic Interest, Choice, and Performance." *Journal of Vocational Behavior* 45 (1): 79-122. https://www.sciencedirect.com/science/article/pii/S000187918471027X?via%3Dihub.

Linneberg, Mai S. and Steffen Korsgaard. 2019. "Coding Qualitative Data: A Synthesis Guiding the Novice." *Qualitative Research Journal* 19 (3): 259-270. https://www.researchgate.net/publication/332957319_Coding_qualitative_data_a_synthesis_guiding_the_novice.

Morgan, Michael, James Shanahan, and Nancy Signorielli. 2009. "Growing Up With Television: Cultivation Process." In *Media Effects: Advances in Theory and Research*, edited by Jennings Bryant and Mary Beth Oliver, 34-49. https://books.google.com/books?hl=en&lr=&id=2BeOAgAAQBAJ&oi=fnd&pg=PP1&ots=M5x0mTy8kg &sig=Oroy9oqcb8wVcJrTUtC09lFNH9o#v=onepage&q&f=false.

Nádasi, Eszter. 2020. "Surgeons, Surgeries, and Operating Rooms in Television Medical Series." *Információs Társadalom* (2): 33-54. https://search.ebscohost.com/login.aspx?direct=true&db=asn&AN=148916489 &site=ehost-live.

Negrón, Natalie. 2016. "How Internships Changed My Life: Advice From One Pre-Med to Another." *BIOS* 87 (4): 146. https://www.jstor.org/stable/44211262.

Nyamwange, Josephine. 2016. "Influence of Student's Interest on Career Choice Among First Year University Students in Public and Private Universities in Kisii County, Kenya." *Journal of Education and Practice* 7 (4): 96-102. https://eric.ed.gov/?id=EJ1092415.

Ponto, Julie. 2015. "Understanding and Evaluating Survey Research." *Journal of the Advanced Practitioner in Oncology* 6 (2): 168-171. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4601897/.

Porter, Rick. 2021. "'Station 19,' 'Grey's Anatomy,' 'Big Sky' Surge in Multiplatform Viewing (Exclusive)." *The Hollywood Reporter.* https://www.hollywoodreporter.com/tv/tv-news/greys-anatomy-station-19-big-ratings -muiltiplatform-1235050616/.

Serrone, Rosemarie O., Jordan A. Weinberg, Pamela W. Goslar, Erin P. Wilkinson, Terrell M. Thompson, Jonathan L. Dameworth, Shawna R. Dempsey, and Scott R. Petersen. 2018. "Grey's Anatomy Effect: Television Portrayal of Patients with Trauma May Cultivate Unrealistic Patient and Family Expectations After Injury." *Trauma Surgery & Acute Care Open* 3 (1): 1-4. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5887783/.

Sherman, Alex and Samantha Subin. 2021. "Disney Makes the Tread Clear: Growth is Slowing for Streaming Services." *CNBC.* https://www.cnbc.com/2021/11/10/disney-netflix-and-other-streaming-services-subs -arpu-q3-2021.html.

Sullivan, Gail M. and Anthony R. Artino, Jr. 2013. "Analyzing and Interpreting Data From Likert-Type Scales." *Journal of Graduate Medical Education* 5 (4): 541-542. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3886444/.

Timmons, Stephen and Stuart Nairn. 2015. "The Development of the Specialism of Emergency Medicine: Media and Cultural Influences." *Health* 19 (1): 3-16. https://www.jstor.org/stable/26650245.

Torpey, Elka. 2015. "Career Planning for High Schoolers." *U.S. Bureau of Labor Statistics* 1-13. https://www.bls
.gov/careeroutlook/2015/article/career-planning-for-high-schoolers.htm.

Walker, Alison. 2015. "Writing About Your Work Experience in Your Personal Statement—Case Examples." *British
Medical Journal* 350. https://www.jstor.org/stable/26973518.