Influence of Apparel on the Doctor-Patient Relationship

Written by:
Clay J. Connolly BS
Jason V. Cvetkovski BS

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This research project was overseen by:

David G Durkee, OD, MPH, FAAO
Assistant Dean for Clinical Education
Michigan College of Optometry

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by

Clay J. Connolly

Jason V. Cvetkovski

Has been approved

May 2017

APPROVED:

_____, Faculty Advisor

ACCEPTED:

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Doctoral Candidate

Abstract

Background: There are a large number of factors that influence the doctor-patient relationship, one of which being the doctor's attire during their interactions. There has been very little research done in the area of influence of a doctor's attire. This study will evaluate the patient perception and effects of attire on the doctor - patient relationship.

Methods: Participants completed a survey after evaluating pictures of the same optometrist dressed in 4 of the most common clinic outfits. The surveys were completed by patients seen at the University Eye Center at Ferris State University in Big Rapids, Michigan.

 Results: Data analysis shows findings for biases patients form about a doctor based upon their attire. Inferences of interest include: trustworthiness, level of knowledge, how personable the clinician is, and their level of experience.

Discussion: The study confirmed that patients will form different opinions and act differently towards their doctor based upon what they are wearing. Different outfits resulted in different outcomes.

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Introduction

The doctor-patient relationship is a multifaceted interaction that is heavily influenced by modifiable factors. Non-verbal factors including hairstyle, posture, and apparel play a big part in the initial first impression that a patient makes upon the doctor. Once realized, these non-verbal factors are easily modified. Initial opinions formed from the first impression can be difficult to change. It is of high value to present yourself to patients in a certain way in order to secure trust, represent knowledge, and exude personality.

A white coat in today's society represents that of cleanliness and is synonymous with the apparel of a doctor. Although the white coat was not introduced until the turn of the 19th century, when nurses and physicians began to wear white in order to bring a "pureness" into the field of medicine. Apparel is different in many parts of the world, displaying differences in culture, climate, and religion. Although everyday apparel may be diverse and dependent on geographical location, apparel of clinicians across the world is mainstreamed. The white coat has become universally accepted as the standard among many physicians throughout the world. Views on apparel vary with age, it was found that older individual perceived scrubs to be less appropriate attire than younger subjects, but overall white coats were deemed the most appropriate clothing style for doctors[1]. Therefore, displaying that attire is one of the important factors that inspires patient confidence in physicians.

Although white coats display cleanliness to the general public, much concern in today's medical field is that of transmission of disease via white coat. Certain countries in the world have modified coat design in order to combat the transmission of disease. The Society for Healthcare Epidemiology of America ran a meta-analysis on Healthcare Personnel Attire in Non-Operating-

Room Settings, overall showing that patients express preferences for certain types of attire, with most surveys indicating a preference for formal attire, including a preference for a white coat. Patient generally did not perceive white coats, formal attire, or ties as posing infection risks; however, when informed of potential risk associated with certain types of attire, patients were willing to change their preference for physician attire. It was confirmed that contamination occurs for all types of apparel, including scrubs, neckties, and white coats, with pathogens such as S. aureus, MRSA, and gram-negative bacilli. Leading to Society of Healthcare Epidemiology (SHEA) releasing a statement that "Health care personnel (HCP) apparel can hypothetically serve as a vector for pathogen cross-transmission in healthcare settings; however, no clinical data yet exist to define the impact of HCP apparel on transmission." These studies have lead hospitals and professional health settings to change their apparel in order to decrease transmission of pathogens. As in the U.K.; groups of doctors have now adapted "bare below the elbows" suggesting that health professionals avoid wearing white coats altogether[2].

Studies performed by Landry M, Dornelles AC, Hayek G, and Deichmann RE back the idea that patients prefer white coats despite knowledge of theoretic concerns of disease transmission. The study done in England showed that 69.9% of the 153 patients surveyed preferred doctors to wear white coats. When locations were compared, a higher proportion of outpatients preferred coats versus a hospital setting. Patients disliked bare-below-the-elbow attire, scoring in the lowest on comfort and confidence. Surprisingly; 86.9% of participants would still feel comfortable with a doctor who wore a white coat, knowing the information regarding risk of coat-carried infections[3].

"White Coat in Primary Care: What do Patients Think Today?" was a cross-sectional survey study conducted in Switzerland in 2011. The study was aimed to assess patient preference

for general practitioner to wear white coats in Switzerland. 1,637 patients participated, overall, wearing a white coat was considered important by only 34% of participants. Geographical location can impact the way we perceive certain apparel, as in this study showing that a white coat is not as important as other studies in different geographical location have indicated.

Overall, many factors are taken into account when choosing the best apparel for the doctor to wear. Disease transmission, comfort, and geographical location all come into play when deciding what to wear. Based on several surveys and varying results dependent on location, it is highly important to tailor attire in the location of practice.

Methods

Participants in this study consisted of various patients aged 18 and over, who were seen at the University Eye Center at the Michigan College of Optometry at Ferris State University, located in Big Rapids, Michigan. Patients that participated in this study were seen in the various clinics inside the University Eye Center including primary care, medical surgical, and contact lens. The study was initiated in January 2017 and ceased in February 2017. A total of 52 participants were included in the study. The Ferris State University Institutional Review Board for Protection of Human Subjects approved all aspects of the study.

The study consisted of an initial demographic information along with a 10 question survey. Demographic collection was obtained on all participants. Information collected consisted of participant's gender, age range, ethnicity, and occupational status. Options available for age included; 18-25, 26-39, 40-65, and 65 or over. Options available for ethnicity included; Caucasian, Asian, African American, Latin American, or Other. Options available for occupational status included; Student, Part-Time, Full-Time, Unemployed, Disabled, and

Retired.   The surveys were handed to patients during the time of dilation at their comprehensive eye exam. Each survey included a page of images consisting of a male and female optometrist in comparable apparel as the answer options for the 10 question survey. A sample of the survey is shown in Appendix A. All participants were handed the same survey in an unclosed envelope. Once the participant completed the survey, they were instructed to fold the survey and enclose the envelope prior to returning it back to the student clinician.

All surveys included a separate page with 8 images of optometrist; 4 of the images of a male optometrist and 4 of the images of a female optometrist. The optometrist were shown in 4 different comparable male to female apparel options. The optometrist were shown in a formal outfit with white coat, a business casual outfit with white coat, a business casual outfit only, and a scrub only outfit. The formal apparel for the male optometrist was defined by dress pants, button shirt, tie, and a white coat. The formal apparel for the female optometrist was defined by a high collared dress and white coat. The business casual including white coat outfit for the male optometrist was defined by dress pants, button shirt without a tie, and a white coat. The business casual outfit including a white coat for the female optometrist was defined by dress pants, dress shirt, necklace, and a white coat. The business casual outfit for the male optometrist was defined by dress pants, button shirt without a tie. The business casual outfit for the female optometrist was defined by dress pants, dress shirt, and a necklace. The surgical scrub outfit for both the male and female optometrist included a blue surgical scrub top and a blue bottom surgical scrub pant. Both optometrist model (female and male) are shown in Figure A. Option A was formal wear with white coat, Option B was business casual with white coat, Option C was business casual, and Option D was surgical scrubs. Surveys were to be answered in a forced choice method with options A, B, C, or D; only one option was able to be answered for each of the 10

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questions. All surveys were completed anonymously and no personal identification was

included. The data was analyzed and classified by gender, age, ethnicity, and occupational status.

Figure A. Images of both male and female optometrists. Including options, A (dress with coat), B (business casual with coat), C (business casual without coat), and D (surgical scrubs).

Results

A grand total of 52 surveys were fully completed and gathered by 52 individuals. A total of 15 males completed the survey in comparison to 37 females. In regards to demographics of the participants, 94.2% were Caucasian, 1.9% were Black, 1.9% were Asian and 1.9% identified as another ethnicity. No participants identified themselves as Hispanic. 15.3% of participants were students, 71.1% were working part or full time, 3.8% were disabled, 3.8% were retired and

5.7% were unemployed. Lastly, in regards to age of the participants, the largest group was 40-65 year-olds. Overall the participant population is rather representative of the area surrounding the University Eye Center at the Michigan College of Optometry, but being a rural community and a respectively un-diverse town the study is not an accurate representation of the average clinic across the country.

When analyzing the survey answers, all questions were found to have an answer or answers that was more than 100% more common that the others. The questions that were found to be most pronounced were 2, 6 and 8. The table following this paragraph shows the distribution of answers and their significance. Some of the most interesting results are written in green for positive attributes and red for negative attributes.

	% Formal w/ WC	% Business Cas. w/ WC	% Business Cas	% Scrubs
Most likely to see for annual exam	38.46	48.07	11.53	1.92
Least likely to see for annual exam	5.76	0	32.69	61.53
Most trustworthy	40.38	34.61	17.31	7.69
Least trustworthy	9.62	1.92	44.23	44.23
Most knowledgeable in the eye care field	46.15	36.54	5.77	11.54
Least knowledgeable in the eye care field	1.92	0	38.46	59.62

Most likely to listen to prescribed plan	42.31	44.23	9.62	3.85
Least likely to listen to prescribed plan	0	1.92	42.31	55.77
Most personable and friendly	15.38	32.69	38.46	13.46
Least personable and friendly	40.38	3.84	19.23	36.54

Table 1, Full Results of Surveys

In summation ,were are able to conclude that participants did in fact form opinions about the clinician based upon what he or she was wearing. The summary of questions and there most common answers are found in Table 2. The survey did not give one most common answer to all of the desirable traits of clinician so a "perfect uniform" cannot be found. With this being said, a clinician's attire can be tailored to embody a certain characteristic, but not all of the desirable characteristics, based on this study.

Question	**Most Common Response**	**Percent of Participants**
Most likely to see for annual exam..	Business Casual with White Coat	48
Least likely to see for annual exam..	Scrubs	61.5
Most trustworthy…	Formal with White Coat	40.4
Least trustworthy…	Equal Business Casual and Scrubs	44.2 / 44.2
Most knowledgeable in the eye care field..	Formal with White Coat	46.2
Least knowledgeable in the eye care field..	Scrubs	59.6
Most likely to listen to prescribed plan…	Business Casual with White Coat	44.2

Least likely to listen to prescribed plan…	Scrubs	56
Most personable and friendly…	Business Casual	38.5
Least personable and friendly…	Formal with White Coat	40.4

Table 2, Most common responses to each question

The results of this survey are obviously only a small sample from one geographical area, and for that reason several for studies will need to be performed to form an accurate consensus. Areas where this study's results are lacking include the number of participants and the demographic diversity of those participants. In regards to the quality of the data collected, the survey answers are authentic, uncontaminated by outside factors, and deemed professional by the university's IRB.

Discussion

The results were rather straightforward, but also very interesting. The general consensus was that if the clinician is wearing a white coat they are more knowledgeable, trustworthy and should be listened to. Furthermore, although a formal attire was well respected, the clinician were only viewed as less friendly in comparison to the clinician wearing business casual clothes with a white coat. On the other end of the spectrum, a clinician without a white coat was found to be less knowledgeable and less trustworthy, but marginally more friendly. Lastly, scrubs were found to be negative in every possible category.

There has always been little doubt by the general public that a doctor's attire would influence a patient's perception of them. With that being said there does seem to be quite a debate as to what attire distills what message into the patient. For example, the fact that a necktie is viewed as one of the most formal details that a clinician can have, maybe positive in that the clinician appears to be well committed to what they are doing, but might be perceived by the

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patient as more of symbol that the doctor is more business oriented and more prestigious than the patient themselves. This idea and many others like it are the reason we set out on this survey. If clinicians are knowledgeably of how their attire affects their patients' perceptions of them they can use that to their advantage and further the doctor-patient relationship entirely.

Although this study did show a wide variety of attire choices and both a female and male doctor, we are confident that there are many other physical or aesthetic factors that play into the doctor-patient relationship. One realm of factors that we did not explore was the details of the clothes themselves, such as: color, quality, scent, fit, and condition, all of which are undoubtedly important. Also we did not factor in physical attributes outside of the clothes themselves such as personal hygiene, grooming, the age of the clinician and the attractiveness of the clinician. With all of this being said, the conclusions we draw from this survey must be taken with a grain of salt.

Upon completing our project, our research team compared our results to similar studies that have been performed in the past. One large study that we found was performed by the Oschener Medical Clinic and found that the most statistically significant factor in a doctor's attire is the white coat and what was under the white coat hailed in statistical significance [4]. To the contrary, a study from the University of Michigan in 2015 found that individuals over the age of 50 are more particular about their doctor wearing formal attire in addition to their white coat, as opposed to Gen Y and Gen X individuals who were more willing to accept a less formally dressed physician [5]. Furthermore, a Review of Optometry article from 2004 stated that patient's preferred seeing a physician wearing a white coat and formal attire, but did note negative effects of the white coat such as elevated stress levels in patients, barriers to personal connection and a fear or distrust noted in pediatric patients [6].

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Our project is one of many that can contribute to the ever-controversial topic of what a doctor should wear while they are in clinic. Our data is sound and can be used to help finally settle the debate at hand, but there are a few factors of the study that could have used some altering. First and foremost, our survey should have separated the attire from the models in our survey. Showing our models face, emotional expression, physical build and age could have very well skewed our participants' perception of the doctors based on characteristics other than their attire. Additionally, the research may have been more beneficial if we separated the female and male portions of the survey. Separating the survey by sex may have shown any biases in patients to hold one sex to a higher standard than another.

In an ever-changing environment like a doctor's office, the importance of keeping a solid doctor-patient relationship is paramount. The relationship can often lead to an improved level of care and can further the healthcare field as a whole. Using scientific research like that collected in this study can be utilized to manipulate a patient's perception and ensure that the messages and plans a doctor is relaying to a patient are completely unadulterated.

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Appendix A

Survey Presented to Participant

Attachment of Images to coincide with Survey

Influence of Apparel on the Doctor - Patient Relationship

Part One:

Please circle one of the following:

Gender

Male   Female   Other

Age

18-25   26-39   40-65   65+

Ethnicity

Caucasian   Asian   African American   Latin American   Other

Occupational Status

Student   Part-Time   Full-Time   Unemployed   Disabled   Retired

Part Two:

After reviewing the images shown on the last page, please answer the following questions with the appropriate letter of your choice (A, B, C or D). Please respond truthfully and to the best of your abilities. All participants' responses will remain anonymous. Participants will not be contacted to further elaborate about their responses.

Which optometrist. . .

1. Would you **most** likely go to for your annual eye exam   _____

2. Would you *least* likely go to for your annual eye exam   _____

3. Seems **most** trustworthy?   _____

4. Seems *least* trustworthy?   _____

5. Seems **most** knowledgeable in the eye care field?   _____

6. Seems *least* knowledgeable in the eye care field?   _____

7. Would you be **most** likely to listen to when prescribed a treatment plan   _____

8. Would you be *least* likely to listen to when prescribed a treatment plan   _____

9. Seems the **most** personable and friendly?   _____

10. Seems the *least* personable and friendly?   _____

A   B   C   D