INFLUENCE OF THE OPTOMETRIST'S ATTIRE IN ADDITION TO WHITE COAT ON THE DOCTOR-PATIENT RELATIONSHIP

by

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May 2017

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ACCEPTED:

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ABSTRACT

Background: This study is a continuation of a project titled "Influence of Optometrist's Attire on the Doctor-Patient Relationship." The goal of this study is to extrapolate upon the findings that patients prefer their optometrist in a white coat by introducing scrubs as an option compared to professional attire. If successful, this study will increase our understanding of the optimal attire for an optometrist in order to further improve the doctor patient relationship. *Methods:* Volunteers of this study were given surveys containing one question, "Which attire option would you prefer for your optometrist?" and two pictures. One photo displayed an optometrist with professional attire and a white coat and another photo displayed an optometrist with scrubs and a white coat. Half of the participants were shown photos of a female in both attire options and half were shown photos of a male. Survey data was recorded in an Excel document. One hundred patients over the age of eighteen from the University Eye Center in Big Rapids, Michigan participated in the study. *Results:* Descriptive statistics and chi-square analysis were used to determine patient preference for doctor attire considering each gender separately. Patients preferred professional attire to scrubs in addition to white coat for both male and female optometrists. This preference was not statistically significant between genders. *Conclusions:* Optometrists can be informed by this study to enhance their patient appeal and professionalism. Our results indicate that a white coat with professional attire is the ideal ensemble to optimize the doctor-patient relationship.

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CHAPTER 1

INTRODUCTION

It has been demonstrated that most patients prefer their doctor in a white coat[1], with a stronger preference for female physicians in white coats compared to their male counterparts[2]. Older populations represent the highest percentage of patients who feel that the white coat is a necessity[3]. This preference is not necessarily intuitive, considering that many studies have shown temporarily increased blood pressure in patients due to anxiety when they see their physician in a white coat[4]. However, patients tend to value respect over friendliness in their physicians and have been shown to associate white coats with the traits of competence, confidence, intelligence, trust, and safety[5,6]. It has been suggested that the recent "bare below the elbows" policy in some healthcare centers to increase cleanliness has resulted in decreased patient trust in their physicians due to decreased use of white coats[7].

Other studies have shown an overall preference to professional attire compared to scrubs for physicians in outpatient settings[8, 9]. As with the white coat, this patient preference is stronger for female doctors than for males and is more highly preferred in older populations[2].

The increase in perceived competency that can be attained due to a doctor's choice of attire can be a powerful tool within the doctor-patient relationship. One study demonstrated that the appeal of a doctor's face does not have an effect on the patient's impression of the doctor's competency whereas their attire has a strong effect[10].

While many studies have been conducted on patient attire preferences for both doctors in general and doctors within certain medical specialties, few have been conducted specifically on the topic of attire for optometrists. Our study focuses strictly on patient attire preferences in addition to the white coat for their optometrist. The lack of literature on patient attire preferences for optometrists led the authors to assume a null hypothesis that there would be no statistically significant preference to professional attire over scrubs in addition to the white coat.

CHAPTER 2

METHODS

This study was conducted in the waiting room of the University Eye Center at the Michigan College of Optometry in Big Rapids, Michigan. A total of 100 participants over the age of 18 were included. The surveys were administered by the same optometry students who authored this study. The Ferris State University Institutional Review Board for Protection of Human Subjects approved all aspects of the study, as displayed in Appendix A.

The survey consisted of one forced choice question, "Which attire option would you prefer for your optometrist?" with two accompanying photos. One photo displayed an optometrist with professional attire and a white coat and another photo displayed an optometrist with scrubs and a white coat. Half of the surveys contained photos of a female in a white coat in both professional attire and scrub attire and half contained photos of a male. Figure 1 displays the male optometrist model and Figure 2 displays the female optometrist model. A sample of the survey is included in Appendix B.

Professional attire, as defined by the study, included dress pants, a belt, and a formal top. A formal top was considered to be a blouse for a female and a button up shirt with a tie for a male. The two photos within each survey were staged to be as similar as possible to each other with the exception of attire in order

to control for other factors. Model posture, background, hair, and facial expression were all taken into consideration.

Figure 1. Images of male optometrist model.

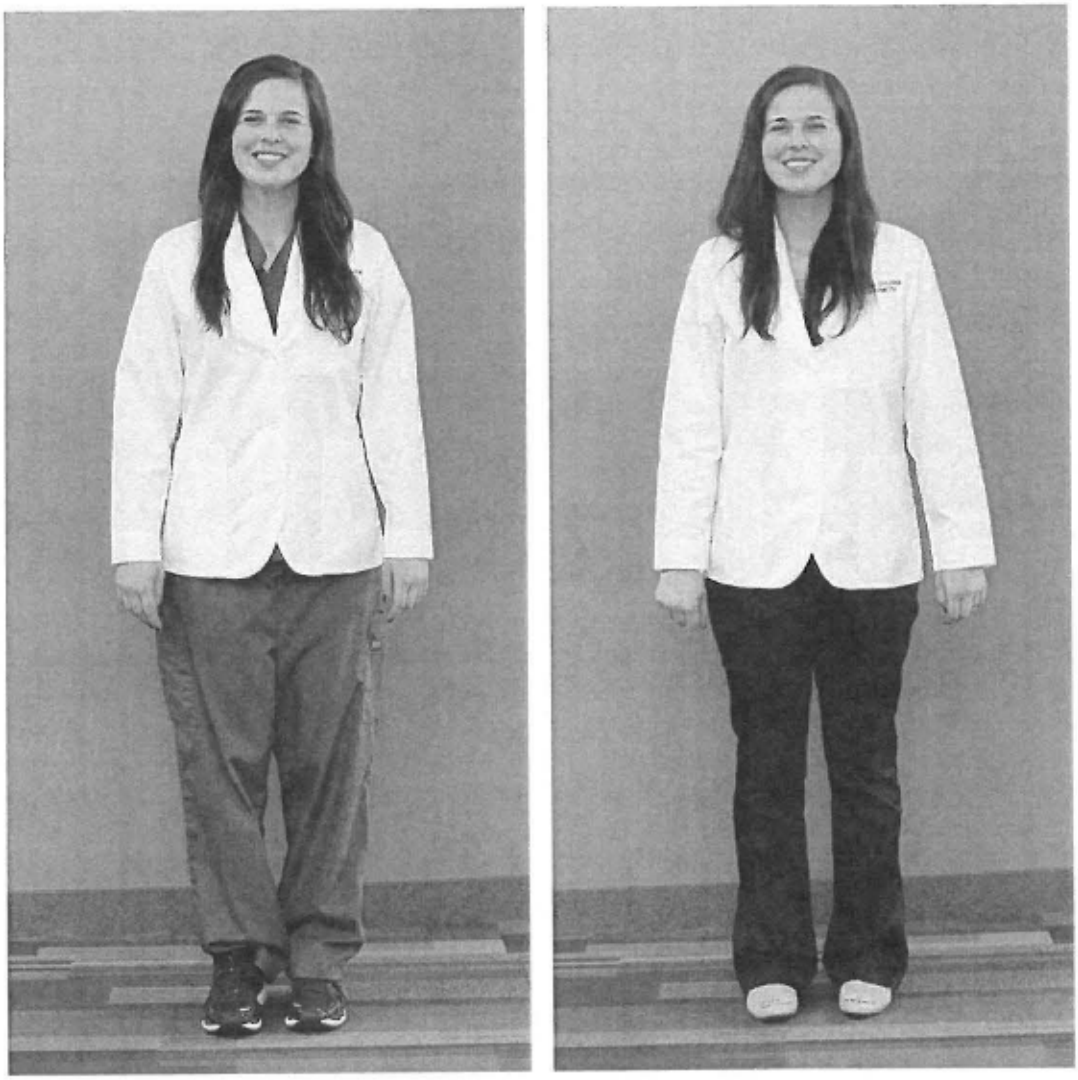


Figure 2. Images of female optometrist model.

Participants were not asked for any identifying information on their surveys. Each survey was numbered and kept in a lockbox. Survey data was recorded in an Excel document.

Statistical analysis was performed on all survey data. Chi square analysis was used to determine statistical significance of participant responses.

CHAPTER 3

RESULTS

Statistical analysis was performed on 100 surveys, 50 displaying the female model and 50 displaying the male model. Chi-square analysis was performed to assess statistical significance for three sets of data: attire preferences for the female model, attire preferences for the male model, and a comparison of the extent of the attire preference for the female model compared to the male model.

The first chi-square test was performed to assess whether a statistically significant preference was present for the female optometrist wearing scrubs compared to professional attire in addition to white coat. Table 1 reveals the observed and expected values for the female pictures. Table 2 shows a statistically significant preference to professional attire over scrubs in addition to white coat for the female optometrist model, $X^2 (1, N = 50) = 20.48, p = 0.000$.

Study Participant Preferences					
Female Attire	Observed N	Expected N	Residual	Observed Percent	Expected Percent
Scrubs	9	25	-16	18.0%	50%
Business Professional	41	25	16	82.0%	50%
Total	50	50		100%	100%

Table 1. Attire Preferences for Female Optometrist with White Coat

Test Statistics	
Female Pictures	Preference
Chi-Square	20.48
df	1
Asymp. Sig.	0.000

Table 2. Chi-Square Analysis of Female Attire Preferences

The second chi-square test was performed to assess whether a statistically significant preference was present for the male optometrist wearing scrubs compared to professional attire in addition to white coat. Table 3 reveals the observed and expected values for the male pictures. Table 4 shows a statistically significant preference to professional attire over scrubs in addition to white coat for the male optometrist model, $X^2(1, N = 50) = 32.00, p = 0.000$.

Study Participant Preferences					
Male Attire	Observed N	Expected N	Residual	Observed Percent	Expected Percent
Scrubs	5	25	-20	10.0%	50%
Business Professional	45	25	20	90.0%	50%
Total	50	50		100%	100%

Table 3. Attire Preferences for Male Optometrist with White Coat

Test Statistics	
Male Pictures	Preference
Chi-Square	32.00
df	1
Asymp. Sig.	0.000

Table 4. Chi-Square Analysis of Male Pictures

The third chi-square test was performed to assess whether there was a statistically significant difference in the preference of professional attire in addition to white coat for the female optometrist model compared to the male optometrist model. Table 5 reveals the observed male picture frequencies and the observed female picture frequencies. Table 6 shows that there was not a statistically significant difference between the frequencies of male pictures and female pictures, X^2 (1, N = 50) = 2168, p =0.141.

Preference					
Female Vs Male	Observed Male	Observed Female	Residual	Observed Percent	Expected Percent
Scrubs	5	9	-4	10.0%	18%
Professional	45	41	4	90.0%	82%
Total	50	50		100%	100%

Table 5. Male versus Female Attire Preferences

Test Statistics	
Female Vs Male	Preference
Chi-Square(a)	2.168
df	1
Asymp. Sig.	0.141

Table 6. Chi-Square Analysis of Male versus Female Pictures

CHAPTER 4

DISCUSSION

The results of this study disproved the original null hypothesis that there would be no patient preference between scrubs and professional attire in addition to white coat for an optometrist. A statistically significant preference for professional attire over scrubs in addition to white coat was seen for both the male and the female optometrist models.

There was not a statistically significant difference in this preference between the male and female optometrist models.

The results of this study correlate to studies examining attire choices for other healthcare providers. It has been well established that patients have increased respect for doctors in white coats, which is why both attire options presented in our surveys included this aspect. In line with our data, other studies have shown an overall preference to professional attire compared to scrubs for physicians in outpatient settings[8,9]. However, in contrast to our study's findings, one study found that the patient preference for professional attire in addition to white coat is stronger for female doctors than for males[2].

There are a few notable limitations to this study. First, the low number of participants was a limitation. While the pool of survey takers was large enough to extrapolate statistically significant data, an increased number of participants

would have increased the validity of our findings. Second, the rural location of the clinic where our study took place may have led to a high percentage of participants sharing similar backgrounds. This limitation reduces the applicability of our findings to more diverse clinical settings. Third, increased attire options such as a professional skirt compared to professional slacks for females and glasses compared to contacts for both female and male optometrists would have allowed this study to further uncover the preferred attire for optometrists. Fourth, an exploration of more diverse age groups would have been beneficial. While our results were able to indicate that our volunteers in general prefer professional attire, involvement of a broader range of ages would have allowed for comparisons between age groups and unique conclusions to be made regarding each age group's preferences.

Clearly, there is further research to be done on the topic at hand. Few studies involving optometrist attire are currently in existence. Future data collection with minimized limitations will allow for more light to be shed on this topic.

The results of both our study and numerous other studies indicate that the doctor patient relationship has the potential to be significantly affected by the doctor's choice of attire[4]. Our statistical analysis indicates that a white coat with professional attire is the ideal ensemble to optimize the doctor-patient relationship. Optometrists can be informed by this study to enhance their patient appeal and professionalism.

REFERENCES

1. Lands VW, et al. The Effect of an Orthopedic Hand Surgeon's Attire on Patient Confidence and Trust. Hand. 2018 Jan 1. 15:1177-8.

2. Iram, S, et al. Preferences of ophthalmic plastics patients and their caregivers toward the doctors' attire and initial communications: A tertiary eye care study. Indian Journal of Ophthalmology. 2016 June. 64(6):448-51.

3. Petrilli CM, et al. Understanding the role of physician attire on patient perceptions: a systematic review of the literature--targeting attire to improve likelihood of rapport (TAILOR) investigators. BMJ Open. 2015 Jan 19. 5:10-78.

4. Tocci G, et al. Prevalence and clinical outcomes of white-coat and masked hypertension: Analysis of a large ambulatory blood pressure database. Journal of Clinical Hypertension. 2018 Jan 25. 10:1111-81.

5. Chung, H, et al. Doctor's attire influences perceived empathy in the patient-doctor relationship. Patient Education Counselors. 2012 Dec. 89(3):387-91.

6. Jennings JD, et al. Physicians' Attire Influences Patients' Perceptions in the Urban Outpatient Orthopaedic Surgery Setting. Clinical Orthopedic Related Res. 2016 Sept. 474(9):1908-18.

7. Dancer, SG, Duerden BI. Changes to clinician attire have done more harm than good. J R College of Physicians Edinburgh. 2014. 44(4):293-8.

8. Kurihara, H, Maeno, T. Importance of physicians' attire: factors influencing the impression it makes on patients, a cross-sectional study. Asian Pacific Family Medicine. 2014 Jan 8. 13(1):2.

9. Rehman SU, Neitert PJ, Cope DW, Kilpatrick AO. What to wear today? Effect of doctor's attire on the trust and confidence of patients. The American Journal of Medicine. 2005;118:1279-86.

10. Lee, SH. Do not judge according to appearance: patients' preference of a doctor's face does not influence their assessment of the patient-doctor relationship. Acupuncture Medicine. 2012 Dec. 30(4):261-5.

APPENDIX A

IRB APPROVAL LETTER

FERRIS STATE UNIVERSITY

Institutional Review Board for Human Subjects in Research

Office of Research & Sponsored Programs, 220 Ferris Drive, PHR 308 · Big Rapids, MI 49307

Date: February 23, 2016

To: Dr. James Miller and Ms. Courtney Schneider
From: Dr. Gregory Wellman, IRB Chair
Re: IRB Application #160208 (*Ways to improve patient compliance: A look into retail pharmacy*)

The Ferris State University Institutional Review Board (IRB) has reviewed your application for using human subjects in the study, "*Ways to improve patient compliance: A look into retail pharmacy*" (#160208) and determined that it meets Federal Regulations *Exempt-category 1C*. This approval has an expiration date of three years from the date of this letter. **As such, you may collect data according to the procedures outlined in your application until February 23, 2019.** Should additional time be needed to conduct your approved study, a request for extension must be submitted to the IRB a month prior to its expiration.

Your protocol has been assigned project number (#160208), which you should refer to in future correspondence involving this same research procedure. Approval mandates that you follow all University policy and procedures, in addition to applicable governmental regulations. Approval applies only to the activities described in the protocol submission; should revisions need to be made, all materials must be approved by the IRB prior to initiation. In addition, the IRB must be made aware of any serious and unexpected and/or unanticipated adverse events as well as complaints and non-compliance issues.

Understand that informed consent is a process beginning with a description of the study and participant rights, with the assurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the study via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document and investigators maintain consent records for a minimum of three years.

As mandated by Title 45 Code of Federal Regulations, Part 46 (45 CFR 46) the IRB requires submission of annual reviews during the life of the research project and a Final Report Form upon study completion. Thank you for your compliance with these guidelines and best wishes for a successful research endeavor. Please let us know if the IRB can be of any future assistance.

Regards,

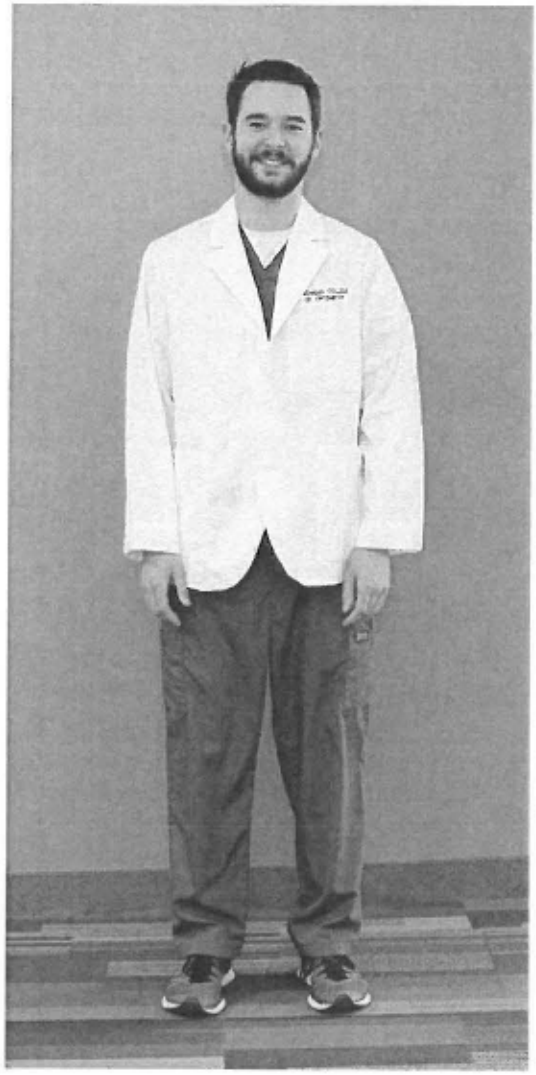
Ferris State University Institutional Review Board
Office of Research and Sponsored Programs

APPENDIX B

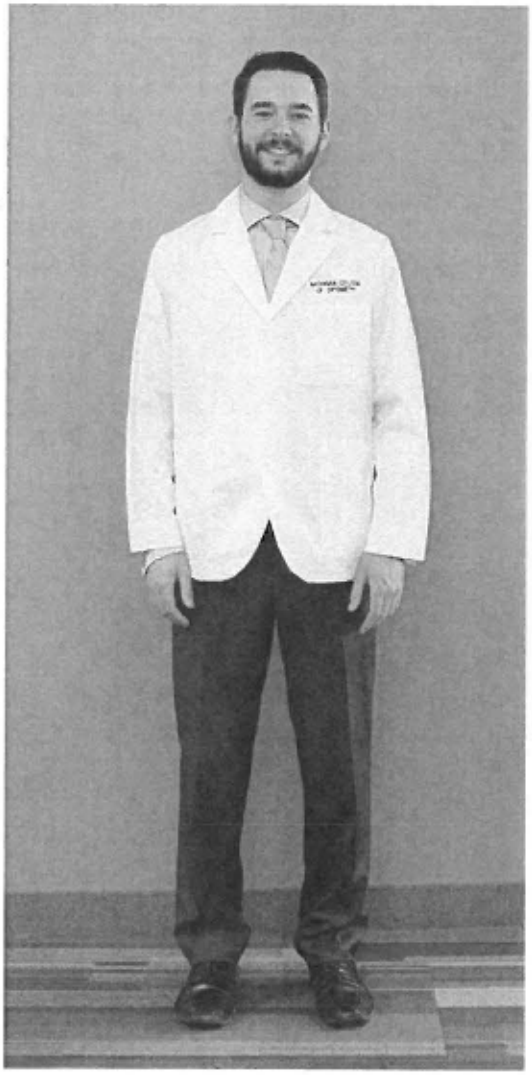
SURVEY PRESENTED TO PATIENT

Which attire option would you prefer for your optometrist? (circle A or B)

A

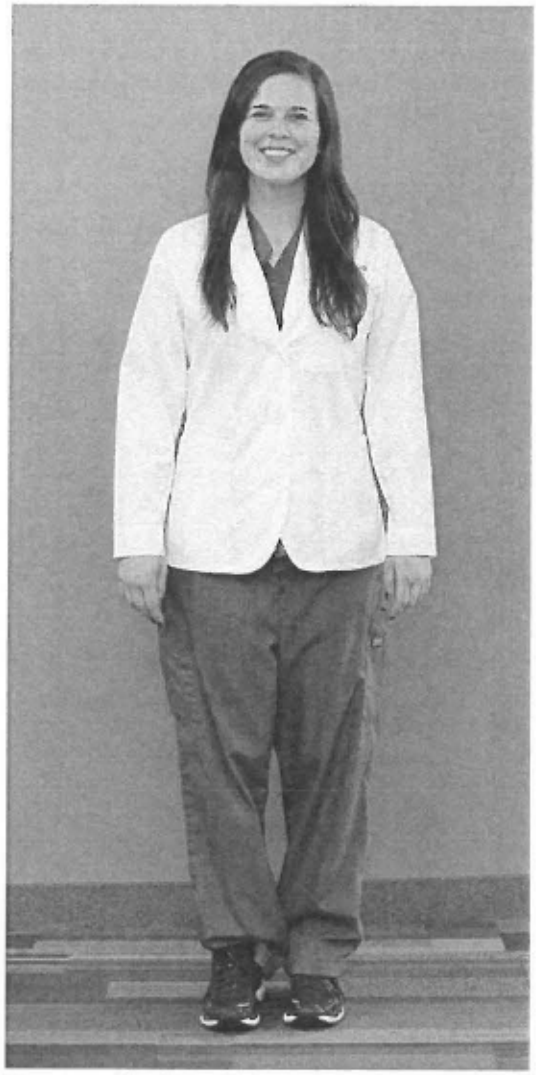


B



Which attire option would you prefer for your optometrist? (circle A or B)

A



B