PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (**http://bmjopen.bmj.com/site/about/resources/checklist.pdf**) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Understanding Patient Preference for Physician Attire: A Cross-Sectional Observational Study of Ten Academic Medical Centers in the United States
AUTHORS	Petrilli, Christopher; Saint, Sanjay; Jennings, Joseph; Caruso, Andrew; Kuhn, Latoya; Snyder, Ashley; Chopra, Vineet

VERSION 1 – REVIEW

REVIEWER	José Baddini-Martinez Internal Medicine Department, Medical School of Ribeirão Preto, University of São Paulo, Brazil
REVIEW RETURNED	10-Jan-2018

GENERAL COMMENTS	This is a well designed and well written study about a relevant issue regarding patient-physician relationships. I have only a few comments: a) The authors state that there were 14 different versions of working questionnaires, depending on different images of physicians used for data collection in section A (page 8, line 24). Therefore, we have to assume that each patient gave ratings of five individual domains for only one gender and only one dressing code. Assuming that this is the case, Figure 2 should be redone. It must exhibit the numbers of patients who evaluated each of the 7 distinct dressing options. Although the authors state in the legend of Figure 2 that "Female model is pictured for illustrative purposes. The data reflects ratings of physicians attire for both male and female physician models", I am afraid that this approach may lead to difficulties in understanding the results. I suggest to the authors replacing the pictures of Figure 2 by the respective written names. b) Page 26, line 35: Does Table 1 really show the "number of different doctors seen in the past year"? According to what is written in page 11, line 19, I suppose that Table 1 shows "number of physician visits in the past year", what is a somewhat distinct type of information. c) As this paper has a cross sectional design, we are only discussing about the first impressions that different dress codes may exhibit in the patients. In addition, we are discussing about patients' expectations and stereotypes. When prospective studies were conducted with physicians using different clothes, such as surgical scrubs or white coats in an emergency unit, the type of clothing did not influence the degree of satisfaction expressed by the patients after the encounter (Fisher RL et al, Am J Obstet Gynecol, 2007; Li SF et al, J Emerg Med, 2005; Edwards RD et al. Am J Surg, 2012). These data suggests that, although appearance may be important immediately before and in the initial moments of contact, the attitude

	and behavior demonstrated by the physician during the appointment are the actual determining factors of the final assessment of the care provided. I suggest that the authors comment on these aspects in the Discussion section. d) References: the titles of several journals are written in full, rather than being typed in their abbreviated form. e) Page 4, line 3: “indicate that that physician”. f) Page 14, line 35: Discussion instead of Conclusions.

REVIEWER	Pedro C. Aravena Universidad Austral de Chile. Chile.
REVIEW RETURNED	15-Jan-2018

GENERAL COMMENTS	The objective of this article is to evaluate the influence of the physicians dress on the patient preferences. The group of researchers have experience in this topic according references of previous reports. However, in this article there are some doubts and questions that must be need resolved. INTRODUCTION Page 7, line 8: The article say "To date, no studies have taken that can dress, if influence, and if so, what types of attire might be most relevant" and "characteristics (eg, age and gender) or region is not known. " This sentence contradicts what already exists in the literature (Hofmann J et al., Acta Paediatr 2012; 101 (12): 1260-4; Nihalani ND et al., Community Ment Health J 2006; 42 (3): 291 -302; Sebo P et al., Swiss Med Wkly 2014; 144: w14072; Lill MM et al., BMJ 2005; 331; (7531): 1524-7; Sotgiu G et al., Patient Prefer Adherence 2012; 6: 361-7; Lozic S, et al., Rev Med Chile 2017; 145: 987-995). In other hand, I suggest to clarify the main and specific objective of this article (for example, the sub-analyzes could be made by variation according patients characteristics). MATERIAL AND METHODS In the title and objective of the study a National study is mentioned. However, researchers use only ten academic hospitals in the United States. What are these hospitals? What is the geographical location? The selection criteria and reasons are not clear. Likewise, there is no calculation of sample size based to hypothesis that grounds the participation of the total number of respondents. It is not clear at what time, where (settings places) and how patients were surveyed. What department or section of hospitals did they belong? Are these hospitals doctors and students use always a white coat? How did the researcher delivered and collected the survey print document? Did the patients respond in the waiting room? Did the patients have any help in case of questions? These questions must be resolved since a selection and measurement bias could be influenced. Page 10, line 3: What do you mean "outpatient"? Patients were surveyed "outside" the hospital? This word is not clear. Page 10, line 33: It is not clear the hypothesis that the researchers proposed for to verify with the statistical tests and the level of significance. CONCLUSIONS Page 15, line 24: According to the sentence "For instance, we found that the location where care is delivered (eg, hospital vs. clinic) as well as context of care (eg, emergency room or surgery) affected preferences." It is not clear where is the location of the hospital that the patients responded to the survey. This must be clarified.

	Line 31: "we observed that certain respondent characteristics such as age, gender, and education also influenced their preferences" However, in the methodology a statistical analysis is not considered according to age and gender of the respondents. In addition, the level of education of patients was not measured. I suggest clarifying. Page 16, line 52, the sentence: "Physician attire may offer an important variable variable in the doctor-patient relationship that could improve patient experience and satisfaction and ultimately produces better outcomes" coincides with the conclusions of a recent report from a public hospital in Chile (Lozic et al., 2017). There it is demonstrated that patients over sixty years old are more conservative, perceiving the use of formal clothes and white coat have a higher level of expertise and training of the physicians. Using a logistic regression model showed that the dress and appearance of the doctor is a very important factor when choosing the doctor and follow their indications. I suggest your reading and consideration. FINAL COMMENTS This research is relevant according their content and results, considering the experience of the researchers and that is currently the study with the largest number of patients participed in the United States. However, it is still necessary to clarify some questions that have been written that could improve the internal and external validity of the data.

REVIEWER	Selena Au University of Calgary
REVIEW RETURNED	26-Jan-2018

GENERAL COMMENTS	National survey study on patient preferences for physician attire. Methodology is similar to the original done by Rehman et al in 2005. Commendable difference is size of survey, and incorporation of inpatients (Rehman was only GIM outpatients). Introduction – Please reword last paragraph: “To date, no studies have examined whether physician attire may influence satisfaction…” – I’m not sure attire influence on satisfaction is the main finding of this paper . Expressed preference, while a component of satisfaction, is a different construct altogether. Introduction – There has been studies done in outpatient and ER settings, so we do know there is variation in findings. Suggest rewording: Weaknesses of previous studies is implementation in same setting only, thus inpatient and outpatient findings cannot be compared within same survey. Study design: How were these 5 domains (trust, knowledgeability etc) chosen? If based on previous studies, those should be referenced. Perceived influence: Interesting finding of 53% finding physician attire was important, but only 36% note this influences how happy they are with their care. My interpretation is that patients value a sharply dressed physician, but overall, they place satisfaction on other care processes. Maximizing strength of paper: I think the paragraph “Variations on patient preferences” adds the most to the current literature. Previous studies have noted some difference in preferences based on

	participant gender, age, etc. But because of the size of this survey, this paper is best positioned to highlight this variation. For example, “importance of physician attire” – Does this vary by age? I would hypothesize that younger respondents may place less importance than previous generations. Similarly, one of the unique qualities of this paper is that it is positioned to compare patient preferences when they are inpatients vs outpatients (presumably sicker vs less sick). Perhaps less importance is placed on attire when more a patient is more critically ill? Table 2 and 3 can be further developed to highlight the variable answers based on differences in respondent characteristics (e.g. splitting columns for inpatient vs outpatients). Otherwise, despite the size of the survey, the findings are not different than what is known previously presented by many smaller studies. Discussion: Good paragraph elaborating on what I noted above, that the strength of this paper is that the large number of respondents in varied settings allow context Consideration for improving discussion: I think “adding to body of literature” noting patients care about physician attire is one perspective. However, it’s been over 10 years since the original literature came out. My general sense is that the trend in these papers have noted less importance on white coats. So while there may be still that 53% that find attire important… has this changed over the last decade? Strengths discussion: I’m not sure that having one model per survey was necessary to limit bias/confounding. It just makes for easier statistical analysis. With adequate sample size, more advanced techniques have been used so that despite varying race/gender of models, bias is not an issue. It may even have been a missed opportunity as study question given a large enough sample size to examine the question (e.g. Does white coat matter more to patients on female physicians? Does white coat matter more to patients on non-Caucasian physicians? – These are physician groups who are less traditionally identified as the MD by patients, and the white coat may be used as an identification aid.) Good paragraph on infection control debate (can't bring up white coats without this counterpoint argument - 2014 editorial in JAMA by Kuehn. If the suggested guideline is for MDs to "hang up white coat" before actual patient interaction, does this negate any satisfaction benefits?) Discussion: As I noted above. The findings of the current study are not surprising to me, and I am still not certain that white coats increase satisfaction. Merely that some patients have expressed preference. The more important question is why there is this preference – The domains examined by the authors are some possible explanations (i.e. white coats trigger feelings of trust) – But there in lies the problem with these surveys in that it only offers pre-populated options of why, and it is not open ended dialogue. If the issue is identification of providers, that may be better solved with proper nametag and introduction, thus avoiding the whole infection control issue all together.

VERSION 1 – AUTHOR RESPONSE

POINT BY POINT RESPONSE TO REVIEWERS:

EDITORIAL REQUIREMENTS
- Please revise your title to state the research question, study design, and setting (location). This is the preferred format for the journal.
- Please revise the 'Strengths and limitations' section (after the abstract) to ensure this is as concise as possible. This section should contain up to five short bullet points that are no longer than one sentence each.

AU: Thank you again for your timely review of our manuscript. We have revised our title to meet the preferred format for BMJOpen from “A National Randomized Study Evaluating Patient Preferences for Physician Attire” to “Understanding Patient Preference for Physician Attire: A Cross-Sectional Observational Study of Ten Academic Medical Centers in the United States”

Additionally, we have shortened each bullet in our ‘Strengths and limitations’ section to one sentence each. The new bullets read as follows:

- This is the largest study to date that examines patient preferences for physician attire.
- The study design and survey instrument were carefully designed to limit biases associated with physician images.
- Our finding show that patients appear to care about attire and may expect to see their doctor dress in a certain way, which has policy implications for institutional dress codes.
- The providers pictured in our survey instrument were young, slender, and Caucasian, which may limit generalizability of findings.
- While soliciting patient responses while hospitalized helps generate validity, it is possible that reported impressions may not reflect actual preferences.

Reviewer: 1
This is a well-designed and well written study about a relevant issue regarding patient-physician relationships.

AU: We thank the reviewer for their kind words.

The authors state that there were 14 different versions of working questionnaires, depending on different images of physicians used for data collection in section A (page 8, line 24). Therefore, we have to assume that each patient gave ratings of five individual domains for only one gender and only one dressing code. Assuming that this is the case, Figure 2 should be redone. It must exhibit the numbers of patients who evaluated each of the 7 distinct dressing options. Although the authors state in the legend of Figure 2 that “Female model is pictured for illustrative purposes. The data reflects ratings of physicians attire for both male and female physician models”, I am afraid that this approach may lead to difficulties in understanding the results. I suggest to the authors replacing the pictures of Figure 2 by the respective written names.

AU: We thank you author for their comment. While we originally felt our footnote stating “Female model is pictured for illustrative purposes only”, we agree with your comment and have recreated figure 2 to include both the male and female photographs. We hope this change makes it more clear to the reader.

Page 26, line 35: Does Table 1 really show the “number of different doctors seen in the past year”? According to what is written in page 11, line 19, I suppose that Table 1 shows “number of physician visits in the past year”, what is a somewhat distinct type of information.

AU: We thank the reviewer for this comment and identification of an area where we can more clear and consistent with our terminology. In our survey, patients were asked “How many different doctors have you seen in the past year?” We felt this terminology was necessary given the study design of including both outpatient clinical encounters (where one visit typically includes one physician) and inpatient encounters (where each hospital visit could include a number of independent patient-physician interactions).

We have changed the wording of page 11, line 19 to now read “38% of respondents reported having seen 6 or more physicians in the past year (Table 1).”

As this paper has a cross sectional design, we are only discussing about the first impressions that different dress codes may exhibit in the patients. In addition, we are discussing about patients’ expectations and stereotypes.
When prospective studies were conducted with physicians using different clothes, such as surgical scrubs or white coats in an emergency unit, the type of clothing did not influence the degree of satisfaction expressed by the patients
after the encounter (Fisher RL et al, Am J Obstet Gynecol, 2007; Li SF et al, J Emerg Med, 2005; Edwards RD et al. Am J Surg, 2012). These data suggests that, although appearance may be important immediately before and in the initial moments of contact, the attitude and behavior demonstrated by the physician during the appointment are the actual determining factors of the final assessment of the care provided. I suggest that the authors comment on these aspects in the Discussion section.

AU: We appreciate the thoughtful feedback and agree that our study was focused on physician attire, patient demographic information that could impact their opinions on attire, and the setting of care. We have clarified this in our discussion as recommended. Page 17, Line 19 now reads as follows

“Second, while approaching patients as they were receiving care helps generate validity, it is possible that reported impressions may not reflect actual preferences on attire but rather current feelings related to their care. Prior studies have shown that the impact of attire on patient satisfaction has to be considered in the context of the behaviors and attitude of the physician during the encounter. The survey did not have questions to capture the other dynamics of the doctor-patient relationship, which may help further explicate responses.9”

References: the titles of several journals are written in full, rather than being typed in their abbreviated form.

AU: We greatly appreciate the reviewer’s attention to detail. We have reviewed and updated the journal term list in EndNote. All journal references are now presented in their abbreviated form.

Page 4, line 3: “indicate <u>that that</u> physician”.

AU: Thank you for finding this redundant word. We have removed the unnecessary second ‘that’ from the sentence.

Page 14, line 35: Discussion instead of Conclusions.

AU: Thank you for bringing this formatting issue to our attention. We have adjusted the heading of this section to read, “Discussion” as recommended.

Reviewer: 2

The objective of this article is to evaluate the influence of the physicians dress on the patient preferences.

The group of researchers have experience in this topic according references of previous reports. However, in this article there are some doubts and questions that must be need resolved.

AU: We thank the reviewer for taking the time to review our paper.

INTRODUCTION
Page 7, line 8: The article say "To date, no studies have taken that can dress, if influence, and if so, what types of attire might be most relevant" and "characteristics (eg, age and gender) or region is not known. " This sentence contradicts what already exists in the literature (Hofmann J et al., Acta Paediatr 2012; 101 (12): 1260-4; Nihalani ND et al., Community Ment Health J 2006; 42 (3): 291 -302; Sebo P et al., Swiss Med Wkly 2014; 144: w14072; Lill MM et al., BMJ 2005; 331; (7531): 1524-7; Sotgiu G et al., Patient Prefer Adherence 2012; 6: 361-7; Lozic S, et al., Rev Med Chile 2017; 145: 987-995). In other hand, I suggest to clarify the main and specific objective of this article (for example, the sub-analyzes could be made by variation according patients characteristics).

AU: We agree with the reviewer that this statement could be reworded to emphasize how our study is unique. While other studies have looked at attire and patient demographics, our study aimed to incorporate hospitalized and ambulatory visits as well as achieve a much larger sample size that currently reported in the literature.

We have revised the concluding paragraph that begins on page 7, Line 8 to read as follows:

“Therefore, we performed a cross-sectional survey of patients receiving care across the US using a standardized questionnaire to better understand the impact of physician attire across different clinical settings (e.g., hospitalized vs. ambulatory clinic visits). In addition, we aimed to analyze a larger sample of patients from multiple health systems than has been previously reported in the literature.”

MATERIAL AND METHODS
In the title and objective of the study a National study is mentioned. However, researchers use only ten academic hospitals in the United States. What are these hospitals? What is the geographical location? The selection criteria and reasons are not clear. Likewise, there is no calculation of sample size based to hypothesis that grounds the participation of the total number of respondents. It is not clear at what time, where (settings places) and how patients were surveyed. What department or section of hospitals did they belong? Are these hospitals doctors and students use always a white coat? How did the researcher delivered and collected the survey print document? Did the patients respond in the waiting room? Did the patients have any help in case of questions? These questions must be resolved since a selection and measurement bias could be influenced.

AU: Thank you for this comment and feedback. The health systems chosen were based on a convenience sample but spanned all four major regions of the US. We have added more details in our methods section on Page 7, Line 35 that reads: “The participating sites were spanned four main geographic regions of the US.”

Regarding the sample size calculation, we added a section to describe the sample size calculation to the methods section on Page 7, Line 51. That section now reads as follows:

“Sample size calculation

It was assumed that responses between two attire forms would be normally distributed on the 1-10 scale between attire types. An estimated standard deviation of 2.2 was used. If our study included at least 816 patients, (assuming a two-sided alpha error of 0.05), we expected to have 90% power to detect differences for effect sizes of 0.50 on the 1-10 scale. Fewer subjects would be needed if the standard deviation were smaller."

With respect to further details on survey collection, we have added several sentences to the methods section beginning on Page 7, Line 42 that now reads as follows:

"Outpatients were approached in waiting rooms of general medicine and medical subspecialty clinics, while inpatients were approached in their hospital rooms when admitted to non-surgical units. At all sites, the questionnaire was administered by research staff using paper instruments. The surveys were administered during normal business hours at times convenient to each sites' research staff. Respondents were allowed to request help filling out the form from any visitor accompanying them. The research staff delivered the paper instrument and returned approximately 5-10 minutes later to pick-up the completed form."

Page 10, line 3: What do you mean "outpatient"? Patients were surveyed "outside" the hospital? This word is not clear.

AU: On Page 7, Line 40 the term outpatient was defined in the sentence that reads "The questionnaire was administered to adult patients that were receiving care in clinics (outpatients) or admitted to the hospital (inpatients)."

Additionally, as above, we further defined that in this manuscript we are referring to "general medicine clinics and medical subspecialty clinics".

Page 10, line 33: It is not clear the hypothesis that the researchers proposed for to verify with the statistical tests and the level of significance.

AU: Our main hypothesis is that physician attire impacts how patients perceive their physician. Our survey was designed to investigate how changes in attire affected patient perceptions of their physician, as described on Page 8, Line 31:

"The questionnaire had four sections: in the first section, respondents were asked to rate the physician depicted across five domains including knowledge, trust, care, approachability, and comfort. In the second section, respondents were presented with seven photographs of the same physician wearing different attire and asked to select their preference in various clinical settings. The third and fourth sections sought respondents' general opinions regarding physician attire, demographic data and frequency of interactions with physicians."

We also aimed to capture data from patients in different clinical settings to assess differences in preferences. We have updated the methods section to specify the demographic data that was utilized in our analysis.

"Data from paper questionnaires were entered independently and in duplicate. Since respondents were not required to answer all questions, the denominator for individual questions (and associated response rate) varied. Descriptive statistics (means, percentage) and standard deviation (SD) were initially used to tabulate results. Differences in the mean composite rating scores from the physician ratings section were assessed using one-way ANOVA. To reduce the potential for Type I error, post-estimation pairwise comparisons were performed using the Tukey-Kramer method.2 Differences in proportions for categorical data were compared using the Z-test. Bivariate comparisons between

respondent age, gender, and level of education and corresponding respondent preferences for attire were assessed using Chi-squared tests. A two-sided p-value of less than 0.05 was considered statistically significant. All analyses were performed using Stata 14 MP/SE (StataCorp, College Station, TX)."

To improve clarity of our hypothesis and significance testing, we edited the sentence on Page 8, Line 29 which previously read: "Bivariate comparisons between respondent characteristics and preferences for attire were assessed using Chi-squared tests." to now read "Bivariate comparisons between respondent age, gender, and level of education and corresponding respondent preferences for attire were assessed using Chi-squared tests."

CONCLUSIONS
Page 15, line 24: According to the sentence "For instance, we found that the location where care is delivered (eg, hospital vs. clinic) as well as context of care (eg, emergency room or surgery) affected preferences." It is not clear where is the location of the hospital that the patients responded to the survey. This must be clarified.
Line 31: "we observed that certain respondent characteristics such as age, gender, and education also influenced their preferences" However, in the methodology a statistical analysis is not considered according to age and gender of the respondents. In addition, the level of education of patients was not measured. I suggest clarifying.

AU: Regarding the location of care, per our response to the previous comment – we have added more detail to the methods section beginning on Page 7, Line 42 to clarify the setting where the instrument was distributed.

"Outpatients were approached in waiting rooms of general medicine and medical subspecialty clinics, while inpatients were approached in their hospital rooms when admitted to non-surgical units. At all sites, the questionnaire was administered by research staff using paper instruments. The surveys were administered during normal business hours at times convenient to each sites' research staff. Respondents were allowed to request help filling out the form from any visitor accompanying them. The research staff delivered the paper instrument and would return approximately 5-10 minutes later to pick-up the completed form."

Regarding the reviewer's comment on respondent characteristics, we hope that our response to the previous comments and feedback on the methods section address this concern. Please see our reply earlier with respect to respondent charcateristics.

Page 16, line 52, the sentence: "Physician attire may offer an important variable variable in the doctor-patient relationship that could improve patient experience and satisfaction and ultimately produces better outcomes" coincides with the conclusions of a recent report from a public hospital in Chile (Lozic et al., 2017). There it is demonstrated that patients over sixty years old are more conservative, perceiving the use of formal clothes and white coat have a higher level of expertise and training of the physicians. Using a logistic regression model showed that the dress and appearance of the doctor is a very important factor when choosing the doctor and follow their indications. I suggest your reading and consideration.

AU: We greatly appreciate the reviewer for bringing this paper to our attention. After reviewing the paper, it does add to the growing literature on patient preference of their physician's attire. We have added it to our discussions (ref 48) that begins on Page 16, Line 49 as follows:

"Third, we add to the growing body of evidence that suggests patients have important preferences regarding attire.9 10 27-47 As further demonstrated by a recent study, these preferences may evolve

over time, as demonstrated by variation in preferences by respondent age.48 Physician attire may offer an important modifiable variable in the doctor-patient relationship that could improve patient experience and satisfaction and ultimately produce better outcomes.49-51

FINAL COMMENTS
This research is relevant according their content and results, considering the experience of the researchers and that is currently the study with the largest number of patients participated in the United States.
However, it is still necessary to clarify some questions that have been written that could improve the internal and external validity of the data.

AU: We appreciate the thorough nature of the comments provided by the reviewer. We hope that the updates in our revised manuscripts and our responses above have addressed these questions and strengthened our submission.

Reviewer: 3
National survey study on patient preferences for physician attire. Methodology is similar to the original done by Rehman et al in 2005. Commendable difference is size of survey, and incorporation of inpatients (Rehman was only GIM outpatients).

AU: We appreciate the reviewers' comments on our study design.

Introduction – Please reword last paragraph: "To date, no studies have examined whether physician attire may influence satisfaction…" – I'm not sure attire influence on satisfaction is the main finding of this paper . Expressed preference, while a component of satisfaction, is a different construct altogether.

AU: We greatly appreciate this feedback and it is congruent with another reviewer's comment. We have revised the final paragraph of our introduction section that begins on Page 7, Line 8 to now read as follows:

"Therefore, we performed a cross-sectional survey of patients receiving care across the US using a standardized questionnaire to better understand the impact of physician attire across different clinical settings simultaneously (e.g., hospitalized vs. ambulatory clinic visits). In addition, we aimed to analyze a larger sample of patients from multiple health systems than has been previously reported in the current literature for a single study."

Introduction – There has been studies done in outpatient and ER settings, so we do know there is variation in findings. Suggest rewording: Weaknesses of previous studies is implementation in same setting only, thus inpatient and outpatient findings cannot be compared within same survey.

AU: Thank you again for your comment. We hope the changes to the final paragraph of the introduction section on Page 7, Line 8 help to clarify. The final sentences now read as follows:

"Therefore, we performed a cross-sectional survey of patients receiving care across the US using a standardized questionnaire to better understand the impact of physician attire across different clinical settings simultaneously (e.g., hospitalized vs. ambulatory clinic visits). In addition, we aimed to analyze a larger sample of patients from multiple health systems than has been previously reported in the current literature for a single study."

Study design: How were these 5 domains (trust, knowledgeability etc) chosen? If based on previous studies, those should be referenced.

AU: Thank you for the reviewer's feedback. The domains were selected from a review of the domains included in studies identified in our previously published systematic review in BMJ Open by Petrilli et al (ref 9). On Page 8, Line 3, we described the development as follows:

"The questionnaire was developed from a systematic review that examined the role of physician attire on patient preferences and satisfaction.9 A multidisciplinary team of psychometricians, research scientists, choice architects, survey experts, and bioethicists developed the study instrument."

Perceived influence: Interesting finding of 53% finding physician attire was important, but only 36% note this influences how happy they are with their care. My interpretation is that patients value a sharply dressed physician, but overall, they place satisfaction on other care processes.

AU: We agree with the reviewer that patient satisfaction is multifactorial. We've identified attire as an easily modifiable factor that could help improve the patient experience, if the data supports such a claim. Ultimately, every patient encounter is unique, but our goal with this study was to better understand overall patient perceptions of physician attire using a more standardized approach in a geographically diverse and larger sample size than had previously been studied.

Maximizing strength of paper: I think the paragraph "Variations on patient preferences" adds the most to the current literature. Previous studies have noted some difference in preferences based on participant gender, age, etc. But because of the size of this survey, this paper is best positioned to highlight this variation. For example, "importance of physician attire" – Does this vary by age? I would hypothesize that younger respondents may place less importance than previous generations. Similarly, one of the unique qualities of this paper is that it is positioned to compare patient preferences when they are inpatients vs outpatients (presumably sicker vs less sick). Perhaps less importance is placed on attire when more a patient is more critically ill?

AU: We greatly appreciate the reviewer's response here. We agree and highlight these findings as strengths of our study in the discussion section beginning on Page 17, Line 49.

Table 2 and 3 can be further developed to highlight the variable answers based on differences in respondent characteristics (e.g. splitting columns for inpatient vs outpatients). Otherwise, despite the size of the survey, the findings are not different than what is known previously presented by many smaller studies.

AU: We appreciate the reviewer's feedback regarding the additional analysis. Unfortunately, them this was not something we had predetermined and would not want to look for spurious associations in the absence of hypotheses.

Discussion: Good paragraph elaborating on what I noted above, that the strength of this paper is that the large number of respondents in varied settings allow context

AU: We appreciate the kind words of the reviewer here and hope the changes in our revision have only strengthened this paper.

Consideration for improving discussion: I think "adding to body of literature" noting patients care about physician attire is one perspective. However, it's been over 10 years since the original literature came out. My general sense is that the trend in these papers have noted less importance

on white coats. So while there may be still that 53% that find attire important… has this changed over the last decade?

AU: We appreciate the reviewer's comments. One of the weaknesses of our systematic review resulted from the heterogeneity of survey instruments across the included studies. Therefore, our intention was to complete the largest multi-center using a standard questionnaire at each institution to definitively answer this question in a high-quality study.

Strengths discussion: I'm not sure that having one model per survey was necessary to limit bias/confounding. It just makes for easier statistical analysis. With adequate sample size, more advanced techniques have been used so that despite varying race/gender of models, bias is not an issue. It may even have been a missed opportunity as study question given a large enough sample size to examine the question (e.g. Does white coat matter more to patients on female physicians? Does white coat matter more to patients on non-Caucasian physicians? – These are physician groups who are less traditionally identified as the MD by patients, and the white coat may be used as an identification aid.)

AU: We appreciate the author's opinion and feedback. We agree this is certainly a worthwhile area for further research. We aimed to study the impact of the 7 attire configurations and felt that minimizing other factors (i.e., more models in the attire would introduce all those factors mentioned by the reviewer) would best allow us to see the impact of the clothes/outfits on how patients perceive their physician.

Good paragraph on infection control debate (can't bring up white coats without this counterpoint argument - 2014 editorial in JAMA by Kuehn. If the suggested guideline is for MDs to "hang up white coat" before actual patient interaction, does this negate any satisfaction benefits?)

AU: We thank the reviewer for their comment. While there continues to be an ongoing debate around the infectious risk of white coats and other articles of physician clothing. There is no data to prove that white coats, ties or other forms of attire lead to increased nosocomial infection transmission. Therefore, until data on infection transmission is available, we do not believe that it should negate the potential patient satisfaction benefits outlined in our paper. This is not dissimilar from hand hygiene – which is something that is expected of us, regardless of the evidence supporting the activity.

Discussion: As I noted above. The findings of the current study are not surprising to me, and I am still not certain that white coats increase satisfaction. Merely that some patients have expressed preference. The more important question is why there is this preference – The domains examined by the authors are some possible explanations (i.e. white coats trigger feelings of trust) – But there in lies the problem with these surveys in that it only offers pre-populated options of why, and it is not open ended dialogue. If the issue is identification of providers, that may be better solved with proper nametag and introduction, thus avoiding the whole infection control issue all together.

AU: We appreciate the reviewer's comments. We agree with your feedback and have included this as a limitation of our study. However, we feel this study provides new and important evidence that physician attire has an impact on how patients perceive their physician. While the results may not be surprising to many, we think some will be surprised. Furthermore, this study provides the largest sample of respondents on a standardized survey in both the ambulatory and inpatient settings. How and why white coats evoke trust may be in part be due to provider identification and will require more qualitative work to understand – beyond the scope of this survey. Ultimately, this is in line with one of our main discussion points: this data suggests that identifying areas where you could adjust a dress code at your individual institution/clinical setting could be a modifiable variable in the doctor-patient relationship that could improve patient satisfaction.

VERSION 2 – REVIEW

REVIEWER	José Antônio Baddini Martinez Medical School of Ribeirão Preto, Univesity of São Paulo, Brazil
REVIEW RETURNED	12-Mar-2018

GENERAL COMMENTS	The presente version of the paper is superior to the initial one and deserves to be accepted for publication.

REVIEWER	Pedro C. Aravena Universidad Austral de Chile Chile
REVIEW RETURNED	15-Mar-2018

GENERAL COMMENTS	The purpose of the study is to determine the impact of physician attire across different clinical settings in relation to the choice and confidence of patients in different hospitals of the United States. Researchers have made the suggested changes clearly fulfilling the purpose of the study. I believe that the study does not require more changes.

REVIEWER	Selena Au University of Calgary
REVIEW RETURNED	15-Mar-2018

GENERAL COMMENTS	Multiple comments from last review not addressed, but many were for points of consideration only. My specific recommendation at this point is that the term "impact" is used several times incorrectly within the paper in intro/discussion/conclusion. Impact implies direct causality and not association. Thus you are reporting perceived preferences and theoretical satisfaction, not actual impact. In the intro you write "sought to better understand the impact of physician attire on satisfaction" - that can only be done via a trial and not survey methodology. For intro, consider "To date, no studies have examined expressed preferences to physician attire, association to satisfaction, and influencing contextual factors."

VERSION 2 – AUTHOR RESPONSE

Editorial Requirements:
- Please include further information in the manuscript regarding the source of the images used in survey instrument and whether all the appropriate permissions have been obtained.

AU: Thank you for bringing this requirement to our attention. We have added additional information to the paragraph on Page 10, Lines 10-15 which now reads as follows:

“Photographs of the same Caucasian male and female physician donning such attire were taken by a professional photographer (Scott Soderberg, Michigan Photography, University of Michigan) with strict attention to facial expressions, pose, lighting, and other non-verbal cues as these may influence preference or likability. The male and female physician models were volunteer members of the research team, and each provided expressed written consent to allow the publication of their photographs.”

Reviewer(s)' Comments to Author:

Reviewer: 1
Reviewer Name: José Antônio Baddini Martinez Institution and Country: Medical School of Ribeirão Preto, Univesity of São Paulo, Brazil Please state any competing interests: None declared

Please leave your comments for the authors below The presente version of the paper is superior to the initial one and deserves to be accepted for publication.

AU: We sincerely appreciate the reviewer's kind words.

Reviewer: 2
Reviewer Name: Pedro C. Aravena
Institution and Country: Universidad Austral de Chile, Chile Please state any competing interests: None declared

Please leave your comments for the authors below The purpose of the study is to determine the impact of physician attire across different clinical settings in relation to the choice and confidence of patients in different hospitals of the United States.
Researchers have made the suggested changes clearly fulfilling the purpose of the study.
I believe that the study does not require more changes.

AU: We thank the reviewer for their positive feedback on our revised manuscript.

Reviewer: 3
Reviewer Name: Selena Au
Institution and Country: University of Calgary Please state any competing interests: None declared

Please leave your comments for the authors below

Multiple comments from last review not addressed, but many were for points of consideration only. My specific recommendation at this point is that the term "impact" is used several times incorrectly within the paper in intro/discussion/conclusion. Impact implies direct causality and not association. Thus you are reporting perceived preferences and theoretical satisfaction, not actual impact. In the intro you write "sought to better understand the impact of physician attire on satisfaction" - that can only be done via a trial and not survey methodology. For intro, consider "To date, no studies have examined expressed preferences to physician attire, association to satisfaction, and influencing contextual factors."

AU: We thank the reviewer for their comments and feedback. We have removed the inappropriate use of the word "impact" in two areas of our manuscript.

The paragraph in the introduction that begins on Page 7, Line 8 now reads as follows:

"To date, no studies have examined expressed preferences to physician attire, association to satisfaction, and influencing contextual factors. Therefore, we performed a cross-sectional survey of patients receiving care across the US using a standardized questionnaire to better understand patients' perceived preferences of physician attire across different clinical settings (e.g., hospitalized vs. ambulatory clinic visits)."

The sentence in the discussion on Page 18, Line 20 now reads as follows:

“Prior studies have shown that the potential impact of attire on patient satisfaction has to be considered in the context of the behaviors and attitude of the physician during the encounter.

The sentence in the discussion on Page 19, Line 38 now reads as follows:

In summary, while physician attire cannot replace excellent clinical care, our data suggest that it may influence how patients perceive care and perhaps how willing they are to trust their doctors.