

Does the Appearance and Mannerism of Doctors Affect Doctor-Patient Relationship? A Cross-Sectional Study among General Population in Malaysia

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Abstract

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Background: A strong doctor–patient relationship is crucial for effective diagnosis and treatment. This study aimed to determine the community’s perception toward doctors’ physical appearance, mannerisms, and association with the doctor–patient relationship in Malaysia. **Methods:** This cross-sectional study was conducted among the general adult population in Malaysia. Data was collected via an online survey and analyzed using SPSS version 27. **Results:** A total of 389 respondents participated in this study. Over half (55.53%) considered professional attire with a white coat is important, and 90.75% preferred doctors to wear name tags. The respondents paid more attention to mannerisms if they were younger age group (18-30 years) rather than the older age group (50 years and above) (Adjusted OR = 4.64, 95%CI: 1.90, 11.36). While the respondents with higher education levels (Postgraduate) were more attentive to mannerisms compared to respondents with SPM – Secondary Education level (Adjusted OR = 6.77, 95%CI: 1.26, 36.53). **Conclusion:** The respondents demonstrated increased trust, confidence, and approachability and were more willing to share personal information with doctors dressed in formal attire with a white coat along with name tags. Most respondents felt that both the physical appearance and mannerisms of doctors played a significant role to form a good doctor–patient relationship. Mannerism was considered more important for the doctor–patient relationship among younger aged and higher educated people.

Keywords: Attire, Physical Appearance, Mannerism, Doctor–patient relationship, Malaysia

Introduction

The doctor–patient relationship is the cornerstone of all patients’ health and well-being (Mun et al., 2019). It can be defined as a concordant relationship in which the patient knowingly seeks the physician’s aid, and the physician knowingly accepts the person as a patient (Puiu, 2022). Establishing a strong and meaningful doctor–patient relationship is essential to obtain personal information, the proper diagnosis, and creating a practical treatment plan (Naughton, 2017). This relationship is dependent upon many factors including the physician’s persona and eccentricity. Symbolic interaction theory correlated the white coat adorned by doctors since the 19th century with the competent authoritative figure they expect in them to ably assist them, a professional who will treat patients with the same respect that they award their own person (Sotgiu et al., 2012).

The first impression a doctor gives in the initial consultation with a patient is crucial in the formation of a doctor–patient relationship. One of the many factors that help in developing a good first impression is the physical attire of the physician (Aitken et al., 2014). Majority of previous studies have proven that a physician’s attire, such as clothing and cleanliness, plays an important role in the patient’s perception of the doctor, mainly regarding the professionalism, capability, and trustworthiness of the doctor (Mun et al., 2019; Naughton, 2017). Among Italian patients, a properly dressed doctor with a name tag gives an impression of sincere interest in their patients while

an untidy doctor conveys that the doctor seems to be disinterested (Sotgiu et al., 2012). However, participants did not have much preference towards the physical attire of the doctor in the UK (Aitken et al., 2014).

In addition to physical attire, body art might also have an influence on the perspective of the patients. A tattoo is a permanent image, pattern, or word on the skin which is created with the aid of needles to add multi-colours under the skin that could fade over time (Puiu, 2022; Hauri and Hohl, 2015; Bäuml, 2020). From the perspective of the patients in the USA, the confidence of the doctors could be lowered if the practitioners had tattoos (Johnson, Doi and Yamamoto, 2016). In hospital settings in the USA, patients considered healthcare providers with prominent tattoos as less professional, efficient, or approachable than non-tattooed healthcare providers (Westerfield et al., 2012). Moreover, some patients felt uneasy when being treated by a tattooed dentist (Laskin, Sabti and Carrico, 2021).

Body piercings are body modifications that involve puncturing and creating a hole through which a piece of jewellery can be inserted and commonly done at the ear, mouth, nose, and eyebrows (Preslar and Borger, 2022). After a long history of negative stigmatization, the practice of body piercing has become a mode of self-expression and a tool for enhancing one's appearance in the modern world (Koch et al., 2004). A previous study conducted among medical school faculty revealed that approximately half of the respondents (48%) considered it was inappropriate for a physician to have a nose stud (Newman et al., 2005). Johnson et al. reported that a visible piercing on a medical care provider directly affects patients' perception of and trust in the provider's capabilities (Kyle and Mahler, 1996). Although many previous studies have been successful to throw light on the attitude of the public towards piercings, the tension between the right of a doctor to have a body piercing and the effect it might have on the doctor-patient relationship has been scarcely discussed (Kyle and Mahler, 1996; Newman et al., 2005).

Hair colour and hairstyle are two potentially important yet modifiable cues regarding the appearance of a physician (Kyle and Mahler, 1996). Hair style and hair colour were shown to have an influence on people's perception regarding their professionalism (Opie and Phillips, 2015). Among Italians, they preferred doctors wearing formal dresses with their hair cut short, particularly for male doctors (Sotgiu et al., 2012). Although studies have been conducted on how hair colour affects professionalism, not much research was conducted to find the way it will affect the doctor-patient relationship.

Compassion indicates the ability to sympathize & empathize whilst treating the patient rather than the disease. The time and attention a doctor allocate to interact with the patient should be fair and not hurried nor dawdling and is indicative of the virtue of patience (Chipidza, Wallwork and Stern, 2015). A patient entrusts a doctor with their health, and to do so they need to assess the expertise of the doctor which they correlate not only to his/her qualification and station but also to the level of confidence they exhibit in clinical practice. Communication and vocalization between the two parties are crucial, the patient would assess and be assured by the doctors' ability to express medical terms in layman's language and the clarity and appropriateness of verbal and non-verbal communication (Johnson, Doi and Yamamoto, 2016). A plethora of studies has been done throughout the globe in this area of research, most of which conclude that regardless of cultural barriers, a healthcare provider's physical appearance is important, though not as important as a mannerism cultivating virtues of compassion, patience, and confidence amongst many others (Aitken et al., 2014; Johnson, Doi and Yamamoto, 2016). Although few studies had conducted regarding the perspective of patients on the symbolic association of the white coat with a doctor (Johnson, Doi and Yamamoto, 2016) and the attire of a dentist (Ramainor et al., 2021), none of these studies have focused on the effect of physical appearance and mannerisms on the doctor-patient relationship. Thus, it is arising need to emphasize the importance of physician persona and mannerisms in the doctor-patient relationship for effective delivery of healthcare. This study aimed to determine the community's perception and attitudes toward doctors' physical appearance, mannerisms, and its association with the doctor-patients relationship in Malaysia.

Methods

Study design and setting

This cross-sectional study was conducted among the general adult population in Malaysia in 2023.

Sample size and sampling

The expected frequency of confidence and trust in formal attire and white coat (62.5%) (Zahrina et al., 2018), 5% margin of error, and 95% confidence level yields the estimated sample of 360 for this study. A convenience sampling method was employed to recruit respondents.

Data collection

Data was collected from the adult general population in Malaysia via an online self-administered questionnaire. Section one of the questionnaire included socio-demographic data. Section two of the questionnaire was regarding the attire of a doctor, where the pictures of a doctor dressed in a white coat, business attire, scrubs, and casual were demonstrated by the model while maintaining the environment as constant (Appendix). The respondent's perception of the effect of the attire of the doctor was collected by using a five-point Likert scale (strongly agree/agree/neutral/disagree/strongly disagree).

The third section was regarding whether tattoos affect the doctor-patient relationship and how the size, location, or design of the tattoos affect the perception of the respondent. Section four was regarding whether a doctor having piercings or coloured hair affects the doctor-patient relationship by asking questions regarding the appropriateness of tattoos in different locations and the vividity of hair colour. Section five was regarding how the mannerism of the doctor influences the doctor-patient relationship in which ten conditional statements were included. The responses were recorded with a five-point Likert scale. The questionnaires were content validated by six experts and translated into Malay language.

The content validity index of the items 0.8 and above were included in the final questionnaire. The reliability analysis of the respondents' perception on the appropriate mannerism of a doctor reported to have Cronbach's alpha of 0.818. This suggested that the items used to measure this perception have good reliability and internal consistency.

Data analysis

Data analysis included frequency counts and descriptive statistics such as mean, median, and standard deviation. The association between doctors' physical appearance and mannerisms with the doctor-patient relationship was examined using logistic regression analysis. Odds ratios (ORs) were calculated, with the level of significance set at $p < 0.05$ and a 95% confidence interval (CI). All analyses were conducted using IBM SPSS version 27.

Ethical consideration

Ethical approval to conduct this study was granted from Research Ethics Committee, Manipal University College Malaysia (MUCM), Malaysia (Reference No: MUCM/ Research and Ethics Committee – 002/2023).

Results

A total of 389 respondents participated in this study. Table 1 reports the demographic characteristics of the respondents. The majority of the study sample (61.6%) represented the age group of 18-30 years, followed by the respondents older than 50 years group representing 15.72%. Approximately two-thirds are females (62.72%). 57% were educated up to a degree level. Urban residents consisted of 74% of the study sample (Table 1).

Table 1: Sociodemographic characteristics of respondents

Variable	Frequency (%)
Age (years)	
18 -30	239 (61.60)
31-40	35 (9.02)
41-50	53 (13.66)
50 years and above	61 (15.72)
Gender	
Male	145 (37.28)
Female	244 (62.72)
Ethnicity	
Malay	112 (28.79)
Chinese	61 (15.68)
Indian	165 (42.42)
Others	51 (13.11)
Education level	
SPM	16 (4.11)
Diploma	100 (25.71)
Degree	223 (57.33)

Postgraduate*	50 (12.85)
Employment status	
Yes	160 (41.13)
No	229 (58.87)
Income	
Unemployed	177 (45.60)
<RM4850 per month	77 (19.85)
RM4850 - RM10970	86 (22.16)
>RM10970 per month	48 (12.37)
Residential area	
Urban	288 (74.00)
Non-urban	101 (26.00)

Note: Postgraduate* including master's and PhD.

Table 2 reports the respondents' perception of doctors' physical appearance and mannerisms in the clinical setting. More than half of the respondents (55.53%) perceived that it is important for a doctor to be dressed in formal attire with a white coat, while the majority (90.75%) preferred a doctor to wear a name tag. In terms of general physical appearance, 54.50% agreed that ear piercing was appropriate, 87.66% for short nails and 72.80% revealed that hair colour could make a difference in their perception (Table 2).

Table 2: Respondents' perception on doctors' physical appearance and mannerism in clinical setting

Items	Frequency (%)
How important is it for a doctor to be dressed in a white coat?	
Important	216 (55.53)
Neutral	128 (32.90)
Not important	45 (11.57)
Would you prefer a doctor with a nametag?	
Yes	353 (90.75)
No	7 (1.80)
Irrelevant	29 (7.45)
Does the attire of a doctor matter more if the doctor was	
Female	21 (5.40)
Male	11 (2.83)
Does not matter	357 (91.77)
Does a doctor have a tattoo matter more if the doctor was	
Female	24 (6.17)
Male	13 (3.34)
Does not matter	352 (90.49)
Does a doctor having piercings matter more if the doctor was	
Female	36 (9.25)
Male	72 (18.51)
Does not matter	281 (72.24)
Does a doctor have coloured hair matter more if the doctor was	
Female	20 (5.14)
Male	44 (11.31)
Does not matter	325 (83.55)
Which of the following location(s) of piercings do you feel is appropriate for a doctor?	
Ear piercing	212 (54.50)
Nose piercing	128 (32.90)
Eyebrow piercing	49 (12.60)
Lip piercing	37 (9.51)
In your opinion, does it make a difference if a doctor has coloured hair?	
Yes	283 (72.80)
No	106 (27.20)
Regarding the hair style of male doctors, which of the following would you prefer?	
Short hair	185 (47.56)
Long hair styled in a ponytail	11 (2.83)
Irrelevant	193 (49.61)
Would you prefer a doctor to have?	
Short, trimmed nails	341 (87.66)
Long nails	1 (0.26)
Irrelevant	47 (12.08)

Would you prefer your doctors' nails to be	
With nail polish	9 (2.31)
Without nail polish	163 (41.90)
Irrelevant	217 (55.78)
How much time do you think a doctor should allocate for each patient?	
Less than 5 minutes	7 (1.08)
5 - 10 minutes	169 (43.44)
10 - 30 minutes	207 (53.21)
More than 30 minutes	6 (1.54)
In your opinion, does it make a difference if a doctor has a tattoo?	
Yes	140(35.99)
No	249(64.01)
In your opinion, does it make a difference if a doctor has piercings?	
Yes	130 (33.42)
No	259 (66.58)
Does it make a difference if a doctor has coloured hair?	
Yes	106 (27.25)
No	283 (72.75)
Does the manners of a doctor make a difference?	
Yes	377 (96.92)
No	12 (3.08)

Table 3 presents the respondents' perception on the effect of appearance to build up trust, confidence, and doctor-patient communication. More than half of the respondents (53.5% to 71.2%) revealed that the doctors wearing their preferred attire were more likely to be trusted, confident and built-up good communication. While 57.1% to 65% considered that doctors having tattoos was not a matter for them. Similarly, 48.8% to 56% considered that it did not matter if the doctor had their preferred hairstyles, nails, and piercings to build up trust, confidence, and doctor-patient communication (Table 3).

Table 3: Respondents' trust and doctors' appearance in clinical setting

Variable	Wearing your most preferred attire			Having Tattoos			Your preference towards piercings, hairstyles and nails		
	Yes	No	Does not matter	Yes	No	Does not matter	Yes	No	Does not matter
	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)
Trust the doctor more	244 (62.70)	28 (7.20)	117 (30.10)	33 (8.50)	105 (27.00)	251 (64.50)	124 (31.90)	60 (15.40)	205 (52.70)
Have more confidence in the doctor	277 (71.20)	12 (3.10)	100 (25.70)	37 (9.50)	99 (25.40)	253 (65.00)	131 (33.70)	56 (14.40)	202 (51.90)
Feel the doctor is more approachable	264 (67.90)	30 (7.70)	95 (24.40)	41 (10.50)	126 (32.40)	222 (57.10)	133 (34.20)	66 (17.00)	190 (48.80)
Be more willing to share personal information	208 (53.50)	53 (13.60)	128 (32.90)	35 (9.00)	128 (32.70)	228 (58.30)	101 (26.00)	79 (20.30)	209 (53.70)
Revisit for a follow up	236 (60.70)	22 (5.70)	131 (33.70)	45 (11.60)	92 (23.70)	252 (64.80)	114 (29.30)	57 (14.70)	218 (56.00)

Table 4 presents the respondents' perception of the appropriate mannerism of a doctor. The majority of the respondents (78.90% to 98.50%) agreed and strongly agreed that they appreciate and prefer the doctors to show their sympathy, understand their financial status, treating with respect and professionalism (Table 4).

The association between demographic characteristics and respondents' perception of the important factor for the doctor-patient relationship. The respondents' perception of the importance of both professional attire and mannerism was applied as a reference in this analysis. It was more likely that respondents paid more attention to mannerisms if they were younger age group (18 – 30 years) rather than the older age group (50 years and above) (Adjusted OR = 4.64, 95% CI: 1.90, 11.36). While the respondents with higher education levels (Postgraduate)

were more attentive to mannerisms compared to respondents with SPM level (Adjusted OR = 6.77, 95%CI: 1.26, 36.53) (Table 5). The model Goodness-of-Fit, Pearson chi-square ($P = 0.99$) and therefore model fit the data well.

Table 4: Respondents' perception on the appropriate mannerism of a doctor

Statement	Strongly disagree and disagree	Neutral	Agree and strongly agree
	n (%)	n (%)	n (%)
I appreciate doctors who can understand my physical and emotional pain.	1 (0.30)	8 (2.10)	380 (97.70)
I believe doctors should understand my financial situation.	14 (3.60)	59 (15.20)	316 (81.20)
I feel doctors should treat me with respect and dignity and more as a human than a disease.	2 (0.50)	13 (3.30)	374 (96.10)
I feel more confident with doctors who exhibit confidence in practice.	-	6 (1.50)	383 (98.50)
I feel reassured if a doctor does not attend to non-work-related calls during consultation.	7 (1.80)	75 (19.30)	307 (78.90)
I prefer doctors not to eat or drink during consultation.	9 (2.30)	60 (15.40)	320 (82.30)
I feel reassured if a doctor is more composed and not panicked.	-	9 (2.30)	380 (97.70)
I would appreciate it more if the doctor explained the situation in simple language without confusing me.	1 (0.30)	6 (1.50)	382 (98.20)
I would appreciate it if a doctor could deliver bad news in a more considerate way.	3 (0.80)	25 (6.40)	361 (92.80)
I feel reassured with a doctor who can examine me without making me feel uncomfortable.	1 (0.30)	77 (19.80)	311 (79.90)

Discussion

The physical appearance of a doctor at first impression is crucial in the formation of a doctor-patient relationship. This cross-sectional study was conducted to determine whether the appearance and mannerisms of doctors affect the doctor-patient relationship among the general population of Malaysia.

Over half of the respondents preferred doctors in formal attire with a white coat, followed by casual wear, scrubs, and business attire. This aligns with previous Malaysian studies, where the white coat was deemed most appropriate for dentists (Ramainor et al., 2021). Furthermore, it was preferred in government hospitals and a higher expectation among male primary care doctors (Zahrina et al., 2018). Similar preference was reported in Saudi Arabia that the patients did not prefer doctors wearing modern clothes (Zahrina et al., 2018). All studies conducted across this area of research derived similar results denoting that people were more lenient towards the attire of a doctor donned with a white coat underneath professional or formal attire. Therefore, medical doctors should be attentive to their attire to meet the patients' expectations and to build a good doctor-patient relationship.

Most respondents preferred doctors to wear a name tag, consistent with a randomized trial where 96% valued name tag use (Schmid, Gerber and Farshad, 2015). Short nails and conservative hair color were also seen as important, aligning with findings from Brazil, where extravagant hair, long hair, and earrings, especially in male doctors, which caused discomfort to patients (Yonekura et al., 2013). Nail hygiene among healthcare providers is important to prevent infection (Yonekura et al., 2013) and long nails were considered as a negative quality of healthcare providers in Lebanon (Ayoub, Fares and Fares, 2015). Controversial appearances and behaviors would attract disapproval regardless of whether it was in relation to health care personnel or not. This is why we attribute this similarity across our study and previous similar studies where, socially frowned upon behaviors such as visible and large tattoos, brightly coloured hair, and oddly placed piercings have a more negative impact on the perception of the patient towards the doctor.

The doctor-patient relationship is central to healthcare, and patients' perceptions of doctors' mannerisms largely depend on how well doctors demonstrate humanistic values in their interactions. According to the results from our study, most respondents also perceive that they can have a good doctor-patient relationship with doctors who exhibit patience, confidence, and compassion as well as appropriate verbal and non-verbal communication. This result supports a similar study done in Malaysia which found that dentists who possessed comprehension as well as empathy toward patients' problems while examining the patients were preferred more (Ramainor et al., 2021).

Table 5: Association between the demographic characteristics and respondents' perception on important factor in doctor-patient relationship

Variable	Professional Attire			Mannerism		
	Adjusted OR	95%CI	P	Adjusted OR	95%CI	P
Age (years)						
18 -30	0.17	0.02, 1.36	0.095	4.64	1.90, 11.36	<0.001
31-40	0.48	0.04, 5.87	0.568	2.73	0.97, 7.67	0.056
41-50	0.71	0.10, 5.09	0.734	1.86	0.69, 5.01	0.219
50 years and above	Ref:					
Gender						
Female	1.39	0.33, 5.90	0.652	1.05	0.66, 1.66	0.835
Male	Ref:					
Ethnicity						
Malay	1.88	0.19, 18.84	0.592	0.92	0.43, 1.96	0.829
Chinese	2.67	0.17, 41.69	0.484	0.73	0.31, 1.72	0.474
Indian	0.38	0.02, 6.70	0.510	0.58	0.28, 1.19	0.138
Others	Ref:					
Education level						
Postgraduate	0.74	0.05, 12.23	0.832	6.77	1.26, 36.53	0.026
Degree	0.53	0.04, 6.33	0.614	3.84	0.81, 18.19	0.090
Diploma	0.45	0.03, 6.60	0.563	3.24	0.66, 15.78	0.146
SPM	Ref:					
Employment status						
Unemployed	1.42	0.18, 11.32	0.739	0.85	0.40, 1.83	0.685
Employed	Ref:					
Income						
Not earning	0.70	0.04, 11.92	0.802	1.56	0.62, 3.92	0.347
<RM4850 per month	1.05	0.12, 8.85	0.966	1.17	0.48, 2.81	0.734
RM4850 - RM10970	0.49	0.06	4.24	1.01	0.43, 2.36	0.987
>RM10970 per month	Ref:					
Residential area						
Non-urban	1.57	0.35, 6.99	0.556	0.90	0.53, 1.51	0.683
Urban	Ref:					

In this study respondents with higher education levels were more attentive to mannerisms compared to a less educated person. This finding could be related to the fact that less educated patients considered patient-centered care is too much information and communication (Rademakers et al., 2012). Health literacy plays a crucial role as respondents with higher education levels were more likely to prioritize doctor mannerisms, which could reflect their greater awareness of communication standards and rights within healthcare. While making shared decision for patient management, higher health literacy is crucial to reduce potential risk associated with misunderstanding of health information, misinterpreting treatment options, or failing to engage effectively in management planning (Muscat et al., 2021). Higher health literacy also contributes to increased awareness of patients' rights, communication standards, and the importance of shared decision-making. Therefore, promoting health literacy across all population groups could improve not only the doctor-patient relationship but also health outcomes and patient satisfaction.

In the meantime, younger respondents (18-30 years) revealed that the manner of the doctors is more important for them compared to the attire to establish a doctor-patient relationship. Meanwhile, the older people in the USA preferred doctors wearing formal attire and donning white coats when compared to the younger respondents (Petrilli et al., 2018). It might highlight the fact that the younger generation is more attentive to mannerisms while the older generation is attentive to physical appearance. This trend might be reflected to evolving generational expectations, especially among Generation Z, who tend to prioritize emotional intelligence, clear communication, emotional expression, and social awareness in interpersonal interactions (Rothschadl, 2025). Therefore, effective communication, transparency, and emotional support are often more valued than formal attire for Gen Z.

Furthermore, this generational shift may be influenced by the immersion in digital technology, usage of social media and online health content (Rothschadl, 2025; Jiao et al., 2023). Higher exposure to digital platforms and media among Gen Z will be more likely to expect for patient-centered, compassionate, and inclusive care for patients (Grundnig et al., 2022; Schnelle and Jones, 2023).

One of the limitations of the study was that since it was a cross-sectional study, the changes in the perception of patients toward physical appearance and the mannerism of doctors over time is not known. Also, the sample size was relatively small, with most of the respondents being in the age group of 18-25 years, implying that the age groups were not represented equally. Although the questionnaire was presented in two languages, English and Bahasa Melayu, the language barrier would have affected some respondents perceiving the questions. As questionnaires were distributed as a convenience sample, therefore it might limit the generalizability of the findings.

Conclusion and recommendations

The respondents demonstrated increased trust, confidence, and approachability and were more willing to share personal information with doctors dressed in formal attire with a white coat along with name tags. Our findings regarding the preferred attire of the doctor were similar regardless of the doctor's gender. The majority felt that ear piercings, nasal piercings, natural hair colours, and short, trimmed nails were more suitable for doctors and short hair in male doctors was more favored. A physician's ability to portray compassion, patience, expertise, and proper communication was strongly considered as important aspects of mannerism in building up a strong doctor-patient relationship. In general, most respondents felt that both the physical appearance and mannerism of doctors played a significant role in the formation of a good doctor-patient relationship. Mannerism was considered more important for the doctor-patient relationship among younger aged and higher educated people. Therefore, healthcare providers should adapt their communication style to be more patient-centered and emotionally responsive, particularly for younger or more educated patients.

Future research must be conducted in a hospital setting to acquire more knowledge on whether the physical appearance and mannerism of doctors would influence the doctor-patient relationship. Furthermore, research could be conducted in Malaysia on a wider scale to expand the generalizability of the findings of the study with respect to ethnicity and age. Since our study was one of the few which studied the effect of mannerisms on the doctor-patient relationship, further studies can also be done in this area of research to have a better understanding of how important the mannerisms of doctors are. Based on this study, doctors can also take into account that by wearing formal attire with a white coat and practicing mannerisms such as compassion, confidence, patience, attentiveness, composed and appropriate verbal and non-verbal communication, they are able to form a strong doctor-patient relationship with their patients.

Author contributions

DKB, KR, ATR, DUG conceptualized the study design and collected the data. MLNNH and HHKS conducted the data analysis. DKB, KR, ATR, DUG prepared the manuscript. MLNNH, NN, SM, and TMK reviewed and revised the final manuscript.

Conflicts of interest

The authors declare that they have no competing interests.

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Data sharing statement

Data will be available upon request to the authors.

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References

- Aitken, S. A., Tinning, C. G., Gupta, S., Medlock, G., Wood, A. M. and Aitken, M. A. (2014) 'The importance of the orthopaedic doctors' appearance: a cross-regional questionnaire based study', *Surgeon*, 12(1), pp. 40-6.
- Ayoub, F., Fares, Y. and Fares, J. (2015) 'The Psychological Attitude of Patients toward Health Practitioners in Lebanon', *N Am J Med Sci*, 7(10), pp. 452-8.
- Bäumler, W. (2020) 'Chemical hazard of tattoo colorants', *Presse Med*, 49(4), pp. 104046.
- Chipidza, F. E., Wallwork, R. S. and Stern, T. A. (2015) 'Impact of the Doctor-Patient Relationship', *Prim Care Companion CNS Disord*, 17(5).
- Grundnig, J. S., Steiner-Hofbauer, V., Drexler, V. and Holzinger, A. (2022) 'You are exactly my type! The traits of a good doctor: a factor analysis study on public's perspectives', *BMC Health Services Research*, 22(1), pp. 886.
- Hauri, U. and Hohl, C. (2015) 'Photostability and breakdown products of pigments currently used in tattoo inks', *Curr Probl Dermatol*, 48, pp. 164-9.
- Jiao, W., Chang, A., Ho, M., Lu, Q., Liu, M. T. and Schulz, P. J. (2023) 'Predicting and Empowering Health for Generation Z by Comparing Health Information Seeking and Digital Health Literacy: Cross-Sectional Questionnaire Study', *J Med Internet Res*, 25, pp. e47595.
- Johnson, S. C., Doi, M. L. and Yamamoto, L. G. (2016) 'Adverse Effects of Tattoos and Piercing on Parent/Patient Confidence in Health Care Providers', *Clin Pediatr (Phila)*, 55(10), pp. 915-20.
- Koch, J. R., Roberts, A. E., Armstrong, M. L. and Owen, D. C. (2004) 'Religious belief and practice in attitudes toward individuals with body piercing', *Psychol Rep*, 95(2), pp. 583-6.
- Kyle, D. J. and Mahler, H. I. M. (1996) 'The Effects Of Hair Color And Cosmetic Use On Perceptions Of A Female's Ability. ', *Psychology of Women Quarterly*, 20, pp. 447-55.
- Laskin, D. M., Sabti, F. and Carrico, C. K. (2021) 'Patients' Attitudes Toward Tattooed Practitioners', *J Oral Maxillofac Surg*, 79(2), pp. 277-278.
- Mun, H. W., Kim, J. H., Ahn, J. H., Chang, I. B., Song, J. H. and Oh, J. K. (2019) 'Patient's Preference on Neurosurgeon's Attire and Appearance: A Single Center Study in Korea Cross-Sectional Study', *Biomed Res Int*, 2019, pp. 3893049.
- Muscat, D. M., Shepherd, H. L., Nutbeam, D., Trevena, L. and McCaffery, K. J. (2021) 'Health Literacy and Shared Decision-making: Exploring the Relationship to Enable Meaningful Patient Engagement in Healthcare', *Journal of General Internal Medicine*, 36(2), pp. 521-524.
- Naughton, C. A. (2017) 'Expanding Dress Code Requirements in the Doctor of Pharmacy Program', *Am J Pharm Educ*, 81(3), pp. 60.
- Newman, A. W., Wright, S. W., Wrenn, K. D. and Bernard, A. (2005) 'Should physicians have facial piercings?', *J Gen Intern Med*, 20(3), pp. 213-8.
- Opie, T. R. and Phillips, K. W. (2015) 'Hair penalties: the negative influence of Afrocentric hair on ratings of Black women's dominance and professionalism', *Frontiers in Psychology*, 6.
- Petrilli, C. M., Saint, S., Jennings, J. J., Caruso, A., Kuhn, L., Snyder, A. and Chopra, V. (2018) 'Understanding patient preference for physician attire: a cross-sectional observational study of 10 academic medical centres in the USA', *BMJ Open*, 8(5), pp. e021239.
- Preslar, D. and Borger, J. (2022) *Body Piercing Infections: StatPearls Publishing*. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK537336/> (Accessed: 8 March 2023).
- Puiu, T. (2022) *Why tattoos are permanent – it's not what you think*. Available at: <https://www.zmescience.com/science/biology/why-tattoos-are-permanent-0554/> (Accessed: 7 March 2023).
- Rademakers, J., Delnoij, D., Nijman, J. and de Boer, D. (2012) 'Educational inequalities in patient-centred care: patients' preferences and experiences', *BMC Health Serv Res*, 12, pp. 261.
- Ramainor, A. D., Azizol, I. M., Ibrahim, N. M. and Alias, A. (2021) 'Dentist's Appearance: Does It Matter?', *Malaysian Journal of Science, Health and Technology*, 7(2), pp. 70-75.
- Rothschadl, F. (2025) 'Generational differences in emotional intelligence in global human resource management', *World Journal of Advanced Research and Reviews*, 26, pp. 3858-3868.
- Schmid, S. L., Gerber, C. and Farshad, M. (2015) 'Position of the Physician's Nametag - A Randomized, Blinded Trial', *PLOS ONE*, 10(3), pp. e0119042.
- Schnelle, C. and Jones, M. A. (2023) 'Characteristics of exceptionally good Doctors-A survey of public adults', *Heliyon*, 9(2), pp. e13115.
- Sotgiu, G., Nieddu, P., Mameli, L., Sorrentino, E., Pirina, P., Porcu, A., Madeddu, S., Idini, M., Di Martino, M., Delitala, G., Mura, I. and Dore, M. P. (2012) 'Evidence for preferences of Italian patients for physician attire', *Patient Prefer Adherence*, 6, pp. 361-7.
- Westerfield, H. V., Stafford, A. B., Speroni, K. G. and Daniel, M. G. (2012) 'Patients' perceptions of patient care providers with tattoos and/or body piercings', *J Nurs Adm*, 42(3), pp. 160-4.
- Yonekura, C. L., Certain, L., Karen, S. K., Alcântara, G. A., Ribeiro, L. G., Rodrigues-Júnior, A. L. and Baddini-Martinez, J. (2013) 'Perceptions of patients, physicians, and Medical students on physicians' appearance',

Rev Assoc Med Bras (1992), 59(5), pp. 452-9.

Zahrina, A. Z., Haymond, P., Rosanna, P., Ho, R., Rajini, A. R., Low, B. T. and Lee, P. Y. (2018) 'Does the attire of a primary care physician affect patients' perceptions and their levels of trust in the doctor?', Malays Fam Physician, 13(3), pp. 3-11.

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Appendix: Photographs of various attire in male and female doctors

Below is a series of photographs depicting doctors dressed in four different attires.



Figure 1. Male: (a) Formal attire with white coat, (b) Business attire with coat & tie, (c) Scrubs, (d) Casual attire e.g., T-shirt & jeans



Figure 2. Female: (a) Formal attire with white coat, (b) Business attire with coat, (c) Scrubs, (d) Casual attire e.g., T-shirt & jeans