ORIGINAL RESEARCH

The impact of wearing a white coat on the perception of older people

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Received: January 12, 2023 **Accepted:** June 19, 2023 **Online Published:** August 23, 2023
DOI: 10.5430/jnep.v13n12p36 **URL:** https://doi.org/10.5430/jnep.v13n12p36

ABSTRACT

Objective: Previous studies have demonstrated that wearing a white coat affects patients ("the white coat effect"), the individual wearing the white coat ("enclothed cognition"), and the relationship itself between both parties. The aim of our study is to determine whether our perception of an older person differs when they are interacting with a professional caregiver wearing a white coat as opposed to when the caregiver is in civilian clothing. To the best of our knowledge, no study has been conducted on this subject thus far.

Methods: In this cross-sectional study, we recorded two videos showing an older person with a professional caregiver. The videos are identical except for the caregiver's attire: white coat vs. civilian clothing. 135 volunteers from the general population took part in our online survey and watched one of the two videos. Then, the perception of the older person was evaluated with 10 pairs of opposing adjectives (such as: "independent/dependent"). Participants were asked to move the cursor between the two adjectives. Multiple regression analyses were conducted to compare the perceptions both groups.

Results: The results obtained indicate that when the caregiver is wearing a white coat, the older person at their side is perceived as significantly (14.77%) more dependent as opposed to when the caregiver is in civilian clothing. The caregiver is also perceived as significantly more competent when wearing a white coat.

Conclusions: Professional caregiver's wearing a white coat is likely to have an impact on the perception of the older people in contact with said caregivers. Older people may be perceived as more dependent if the nursing staff (at home, in nursing home) wear white coats.

Key Words: White coat, Uniform, Older adult, Professional caregiver, Ageing

1. INTRODUCTION

In today's society, ageing and older people are perceived negatively, which is a view that has worsened linearly over the past 200 years.[1–3] The discourse surrounding the pandemic has reinforced the generally accepted view of older adults as vulnerable and has exacerbated indications of ageism.[4] The medicalisation of ageing is one of the factors contributing to the increasingly negative perception of ageing.[3] Medicalisation refers to the processes by which ordinary human problems and experiences come to be defined and treated as distinct medical.[5] Thus, we tend to view aging as a single story of medical decline rather than as a normal, highly individualised process of growth.[6,7] If ageing is seen as a pathology and older people are considered as sick and vulnerable, it is not surprising to note that caregivers put on a white coat for both care and everyday activities even in settings

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where older adults live (nursing homes, their own homes).

In the 19th century, white coats were introduced into the medical field.[8] Although different in its design, it is today one of the strongest symbols of care.[9] Several studies have focused on the consequences of wearing a white coat for the patient and the wearer (e.g., healthcare professionals), and the impact on the patient-caregiver relationship (for a synthesis, see Crutzen and Adam).[10] These studies allow us to understand the issues associated with what we tend to regard as "a simple item of clothing".

The "White Coat Effect" (WCE), for example, can be described as an increase in blood pressure during a medical visit which then dissipates.[11] It is a rise in blood pressure that occurs when we are in front of a person wearing a white coat and/or in a clinical environment. Ogedegbe et al. consider that WCE appears due to a classical conditioning that can be explained as follows: the fear of getting sick and being diagnosed with hypertension (or any other condition) is an unconditioned stimulus that generates an (unconditioned) anxiety response, causing an increase in blood pressure.[12] After a number of associations with the unconditioned stimulus, the neutral stimulus, such as the white coat, becomes a conditioned stimulus and can then independently generate a conditioned anxiety response. The WCE tends to be more significant in older patients and may extend beyond the phenomenon of raised blood pressure.[13,14] Indeed, Schlemmer and Desrichard conducted a study in which 27 older subjects (aged 64 to 74) were randomly assigned one of the two experimental conditions.[15] The experimenter conducted memory tests in a neutral room for subjects in the control condition. In this condition, the researcher introduced herself as a psychologist and wore civilian attire. Under experimental conditions, memory tests were administered in a medical room, the experimenter presented themself as a neuropsychologist and wore a white coat. The results indicated an interaction effect between the environment (medical vs. neutral) and the memory self-efficacy of the older person (assessed by the Memory Self-Efficacy Questionnaire). These results demonstrated that older adults with poor memory self-efficacy experience memory impairment in a medical setting (with an experimenter wearing a white coat), whereas older persons with high memory self-efficacy experience an improvement under the same conditions.

The white coat can affect not only the patient, but the wearer (i.e., the healthcare professional) as well. When wearing a certain clothing item, we unconsciously tend to embody the characteristics associated with that piece of clothing. This is a phenomenon that Adam and Galinsky called "enclothed cognition".[16] For example, we tend to be funnier if we put on a red clown nose or more punctual if we wear a watch.[17] Similarly, when individuals wear a white coat (indicated as a nurse's coat), they tend to exhibit more pro-social behaviours, such as being more helpful to a stranger.[18] This help can be useful in many cases. However, when benevolent help is unnecessary (over-helping), it can have negative effects. For instance, when an older person is (physically) assisted to complete a task that they are capable of performing on their own, both their confidence and ability to complete the work decline.[19] We therefore assume that wearing a white coat can reinforce the disproportionate assistance we often provide to older adults as a result of our paternalistic beliefs.[20,21] This can contribute to maintaining or even increasing the dependency of the over-assisted older person. In fact, healthcare professionals who stop wearing white coats for a few months usually discover that patients (or nursing homes residents) need less help and become more independent.[22,23]

Several surveys conducted among care recipients have shown that the white coat symbolises competence and professionalism, but also power and authority, which can reinforce the dominant position of the wearer (i.e., healthcare professionals).[24–30] It can also highlight the patient's vulnerability by conjuring up illness and pain, making them the object of care.[31] Several studies conducted in nursing homes and hospital settings have shown that when caregivers remove their white coats in favour of civilian attire, interactions and relationships with older residents/adult patients improve.[22,23,29,32,33] For example, caregivers in civilian clothing interact more with residents (which decreases anxious behaviour); conversational content changes (i.e., there is significantly less care-related content, as it is replaced by more personal content); residents/patients and caregivers appreciate closer interactions and a more comfortable, "homelike" environment.[22–29] Eliminating the uniform would promote more personal, human and authentic interactions. The demedicalisation of the relationship could lead to peer-to-peer exchanges, reducing the inequality of the "dominant-dominated" or "power-dependence" dynamic.

The studies conducted thus far on the effects of wearing a white coat show some detrimental consequences of wearing this uniform on (older) patients. The white coat seems to have global consequences that affect the recipient, the care provider, and their relationship. It is therefore reasonable to assume that the white coat also affects the perception of persons who interact with the people wearing it. We might, for example, expect our perception of a care recipient to be different depending on whether the provider next to them is wearing a white coat or not. To the best of our knowledge, no study has examined the impact of caregivers wearing uni-

forms on our perception of older adults interacting with them. The aim of our study is, therefore, to fill this gap by assessing the general public's perception of an older person interacting with a professional caregiver in a white coat vs. in civilian clothing. By evoking dependence and illness, the white coat can impact the experience of older patients/residents through various mechanisms such as classical conditioning (the "White Coat Effect"), the caregiver's attitude ("enclothed cognition"), or the relational dynamic.[31] Given the multiple effects of the white coat, we hypothesise that when an older person is seen alongside a caregiver in a white coat, they (i.e., the older person) will be perceived more negatively than when the caregiver is in civilian clothing. Secondly, we will assess the general public's perception of the caregiver according to whether or not they are wearing a white coat or civilian attire. Since the white coat symbolises professionalism and competence, we expect the caregiver in a white coat to be perceived more positively than when in civilian clothing.[24–27]

2. METHODS

2.1 Participants

The data were collected using an online survey (from March to June 2020). We recruited a total of 135 subjects from the general population. A message about the online survey was posted on social media. Participation was strictly voluntary. All of the 135 subjects (65 men and 70 women) were over 18 years of age (ranging from 18 to 76; M = 41.27, SD = 13.78). While most of the participants were Belgian (97.78%), three participants were of another nationality (French or Swiss) but understood the French language. No participants were removed from the sample as they all met the two inclusion criteria of being over 18 years old and understanding the French language.

2.2 Procedure

Through a message posted on social media, we invited people who met our study's inclusion criteria to participate (voluntarily) in our online survey (completion time: about 15 minutes). Two survey links were provided and participants randomly clicked on one of the two links. The participants were thus randomly assigned to two groups. In one group ("the white coat group"), the participants completed the survey and viewed a video of an older person interacting with a caregiver wearing a white coat. In the second group ("the civilian attire group"), the participants completed the same survey and viewed the same video, but the caregiver was in civilian clothing.

Upon opening the online survey, the participants were informed of the purpose of the study. To avoid influencing their answers, the purpose of the study was partially hidden. The participants then read a form with information on data collection (confidentiality, anonymity, and rights) and gave their informed consent to take part in the study, which was approved by the Ethics Committee of the University of (blinded for review). The participants began the survey by answering a few questions about their socio-demographic characteristics. They were then told that they would be watching a short video (without sound) with "Huguette", an 80-year-old person, and "Catherine", a 26-year-old home care provider. They were asked to watch the video carefully and then answer the questions about the older person and the caregiver. At the end of the survey, the participants were debriefed about the study and its purpose (unmasked). They gave their consent for the second time, indicating that they were aware of the true purpose of the study and that any questions had been answered to their satisfaction. No participant refused to sign the second form nor asked for their data to be removed from the study.

2.3 Materials

2.3.1 *Socio-demographic characteristics*

Data were collected on the participants' age, gender, nationality, education level, and professional situation (type of profession and number of years of practice).

2.3.2 *Video*

We made two videos specifically for the study. Two volunteers agreed to be filmed for the occasion (a young person and an older person). The volunteer actors signed a consent form, allowing the videos to be broadcasted. We decided to make simple videos, short and silent, to limit the differences between them as much as possible, and thus to limit the bias. The videos (2 min 17 sec) consist of 3 parts: in the first part, the older person is peeling potatoes (60 sec), in the second one, she is walking outside (44 sec), and in the third one, she is preparing her medication for the week (in a weekly box) (33 sec). The videos thus include an everyday-life activity that is not associated with care (peeling potatoes), a neutral activity (walking outside), and an activity associated with care (sorting medication). For each of these actions, the home care professional is present and visible. She is simply positioned next to the older person, looks at her, and interacts once at a specific moment (e.g., puts medication back into the correct compartment of the pillbox). The videos are identical in all points, except that in one, the caregiver is wearing a white coat (with short sleeves) over her clothing, and in the other, she is in civilian clothing (see Figure 1).

Figure 1. Print screens of our videos with the caregiver wearing civilian clothing or a white coat

2.3.3 *Perception of the older adult*

Based on the Aging Semantic Differential (ASD) scale, which is used to assess the perception of older people, we constructed our own assessment tool based on the same evaluation method.[34] In consultation with the team of researchers at our Psychology of Aging Unit, we selected the following 10 pairs of adjectives: healthy/sick, independent/dependent, capable/incapable, friendly/unfriendly, competent/incompetent, effective/ineffective, sociable/unsociable, warm/cold, energetic/tired, serene/anxious. For each proposed pair of adjectives, participants had to indicate how they perceived the older person of the video (Huguette) by moving the cursor positioned between the two opposing adjectives. The answer given corresponded to a number between 0 and 10, which was only visible to researchers. A higher score indicated a more positive perception of the older person (see Appendix).

2.3.4 *Perception of the caregiver*

To maintain the same assessment design, the perception of the caregiver featured in the video was measured using the same method. Two pairs of adjectives were used: compe-

tent/incompetent and helpful/unhelpful. In this case, the evaluation was significantly shorter as it was a secondary objective in our study. The subjects had to answer in the same way, by moving the cursor between the two opposing adjectives. A score between 0 and 10 (visible only to the researchers) indicated the subject's response. The higher the score, the more competent/helpful the caregiver was perceived to be (see Appendix).

2.4 Data analysis

Data analyses were performed using SPSS 27.0.1.0 (IBM Corp, 2020). At first, descriptive analyses were used to report the characteristics of our sample. We did not establish controls aiming for a priori equivalence between our two groups ("the white coat group" and "the civilian attire group") because the participants did not answer all the questions and thus the groups differed from one pair of adjectives to another. Instead, and to control for variables such as gender, age, and education level, we considered these variables as covariates in our analyses. We conducted multiple regression analysis for each pair of adjectives (with gender, age, and education level as covariates). For the 'perception of the older person', we performed a total of 10 consecutive regression analysis. Each pair of adjectives was successively introduced as the dependent variable, while the 'clothing' variable ("white coat" or "civilian clothing") was the independent variable. Since it is a dichotomous nominal variable, we proceeded with a recoding where the "white coat" was coded -0.5 and "civilian clothing" 0.5. We proceeded using the same methodology for the "perception of the caregiver" analysis. Two multiple regression analyses were conducted (one for each pair of adjectives) with the same covariates (gender, age, education level). For all analysis, statistical significance was fixed at $p < .05$. To limit the risk of type I error, we decided to apply the Benjamini-Hochberg correction for the perception of the older person regressions and the perception of the caregiver regressions. Standardised residuals of the majority of the studied variables did not exhibit a normal distribution (all pairs of adjectives except for 3 – see tables below). Results for these variables (b, SE, and *p*-value) were, therefore, based on 5,000 bootstrapped resamples.

2.5 Ethics consideration

This Study was approved by the Ethics Committee of the University of Liège (Belgium).

3. Results

3.1 Sample characteristics

From our overall sample of 135 participants, 72 subjects clicked on link A of the survey, which contained the video with the white coat, and 63 subjects clicked on link B of the survey, which contained the video with civilian clothing. The participants' characteristics are presented in Table 1. The overall sample mean age is 41.27 years (minimum: 18 years; maximum: 76 years). The sample is 51.85% female and 48.15% male, with an education level mean of 14.35 years. In this study, education level refers to the number of years spent in school beginning with elementary school (6 years for primary education, 12 years for secondary school and > 12 for higher education). The variables examined (i.e., the perception of the older person and the perception of the caregiver) are presented in Table 2. The means of pairs of adjectives are indicated by group (with 0 as the most negative perception score and 10 as the most positive perception score). For each pair of adjectives, we define the group size (n) since it differs from one to the other, as the participants did not provide responses to all pairs of adjectives.

Table 1. Participant characteristics

	Overall sample (N = 135)
Gender (n, % of women)	70 (51.85)
Age (mean ± SD)	41.27 ± 3.78
Education level (mean ± SD)	14.35 ± 2.67
Primary education (n, %)	1 (0.74)
Secondary education (n, %)	44 (32.59)
Higher education (n, %)	90 (66.67)

3.2 Perception of the older person

Regression analyses conducted on the perception of the older person (ten pairs of adjectives) are shown in Table 3. Since the sample size varied across the adjective pairs (as participants did not provide responses to all pairs of adjectives), gender, age, and education level of participants were controlled by including these variables as covariates in our regression analyses. We observed a significant effect of the clothing condition (i.e., clothing worn by the caregiver in the video) for the independent/dependent pair of adjectives. More precisely, the older person in the video was perceived as more dependent in "the white coat group" (i.e., the participants who saw the caregiver wearing a white coat), compared to "the civilian attire group" (M = 4.59, SD = 2.88 and M = 5.97, SD = 2.74, respectively). When the caregiver appears in a white coat, the older person is rated as more dependent by 1.47 points on a scale of 0 to 10 (b = 1.477). In other words, the older person is considered to be 14.77% more dependent when the caregiver at her side is wearing a white coat. This effect remains significant even after applying the Benjamini-Hochberg correction ($p < .005$). We did not observe a significant effect for the other pairs of adjectives.

Table 2. Perception of the older person and the caregiver

	White coat condition		Civilian clothing condition	
	n	Mean ± SD	n	Mean ± SD
Perception of the older person*				
Healthy/sick	67	4.57 ± 3.06	60	5.28 ± 2.92
Independent/dependent	68	4.59 ± 2.88	60	5.97 ± 2.74
Capable/incapable	64	7.23 ± 2.24	61	7.39 ± 1.87
Friendly/unfriendly	68	8.19 ± 1.76	56	8.16 ± 1.89
Competent/incompetent	62	7.52 ± 2.05	58	7.55 ± 1.90
Effective/ineffective	62	7.26 ± 2.19	57	7.33 ± 2.11
Sociable/unsociable	68	8.10 ± 1.80	60	7.62 ± 1.91
Warm/cold	66	7.64 ± 2.06	56	6.91 ± 2.09
Energetic/tired	62	5.18 ± 3.02	55	4.93 ± 2.21
Serene/anxious	59	6.46 ± 2.65	52	7.12 ± 2.04
Perception of the caregiver*				
Competent/incompetent	66	7.94 ± 1.70	54	6.94 ± 1.92
Helpful/unhelpful	67	5.78 ± 3.05	53	4.68 ± 2.85

*Means ± SD without controlling for gender, age, and education level.

Table 3. Summary of regression analyses between the clothing conditions (i.e., clothing worn by the caregiver in the video) and the perception of the older person featured in the video

	Clothing condition		
	b	SE	*p*-values
perception of the older person†			
Healthy/sick‡	0.684	0.559	.2253
Independent/dependent	1.477	0.510	.0044***§
Capable/incapable	0.238	0.375	.5272
Friendly/unfriendly‡	-0.113	0.332	.7234
Competent/incompetent‡	0.009	0.359	.9794
Effective/ineffective‡	0.032	0.403	.9400
Sociable/unsociable‡	-0.468	0.362	.1995
Warm/cold‡	-0.665	0.379	.0807
Energetic/tired‡	-0.315	0.506	.5430
Serene/anxious‡	0.700	0.450	.1269

*$p \leq .05$; **$p < .01$; ***$p \leq .001$; †Gender, age, education level as covariates in all regression analyses; §p-value < .005 considered as significant based on the Benjamini-Hochberg correction; ‡Bootstrapped coefficients, standard errors, p-values.

3.3 Perception of the caregiver

Regression analyses were carried out in the same way for the "perception of the caregiver" variable. Results are reported in Table 4. With the two pairs of adjectives, the perceived competence of the caregiver appears to be significant, even after the Benjamini-Hochberg correction ($p < .025$) and with gender, age, and education level as covariates. This indicates that the caregiver appearing in the video is perceived as 8.39% more competent (b = -0.839, $p = .0138$), when wearing a white coat (M = 7.94, SD = 1.70) than when in civilian attire (M = 6.94, SD = 1.92). We did not observe a significant result for the other adjective pair (helpful/unhelpful).

3.4 Additional analysis

We performed an exploratory analysis to determine correlations that may exist between both significant variables (i.e., independent/dependent for the older person and competent/incompetent for the caregiver). The correlation between these two variables was not found to be significant, r(113) = 0.015, $p = .87$.

Table 4. Summary of regression analyses between the clothing condition (i.e., clothing worn by the caregiver in the video) and the perception of the caregiver featured in the video

	Clothing condition		
	b	**SE**	***p* value**
Perception of the caregiver[†]			
Competent/incompetent	-0.839	0.336	.0138[*§]
Helpful/unhelpful[‡]	-0.931	0.546	.0921

[*]$p \leq .05$; [**]$p < .01$; [***]$p \leq .001$; [†]Gender, age, education level as covariates in all regression analyses; [§] p-values < .025 considered as significant based on the Benjamini-Hochberg correction; [‡]Bootstrapped coefficients, standard errors.

4. Discussion

The wearing of a white coat by healthcare professionals is likely to have a negative impact on older patients or residents (i.e., raised blood pressure, reduced memory performance, reinforcement of the passive role of the care recipient, reduced quality of the caregiver-care recipient relationship, etc.). These effects manifest themselves through various mechanisms, such as the "White Coat Effect", the attitude of the caregiver ("the enclothed cognition effect"), or the modification of the relational dynamics between caregivers and patients/residents. The studies carried out to date on the impact of the white coat have never addressed the effect of wearing the white coat on our perception of older people interacting with caregivers in uniform. For example, is our perception of nursing home residents affected because the caregivers working there wear white coats? Would a home care professional wearing a white coat (rather than civilian clothing) negatively impact our perception of the older person receiving care? The aim of the present research was therefore to investigate this issue. We also considered the general population's perception of the caregiver wearing, or not wearing, a white coat.

The results we obtained confirm our hypothesis that the wearing of a white coat by the caregiver (in this case, a female home care professional) would lead to a more negative perception of the older person in interaction with said caregiver, whereas the caregiver would be perceived in a more positive manner. In fact, we observe that when the caregiver wears a white coat, participants perceive the older person as significantly more dependent than when the caregiver wears civilian clothing. Secondly, the caregiver is perceived more positively (and seen as significantly more competent) by the participants when she is wearing a white coat.

Even if our study is the first to investigate this issue, results can be considered in light of pre-existing data. The first part of our results is in line with what Richardson argued 20 years ago: "A nurse in uniform may be subtly, insidiously, but ultimately overpoweringly intimidating, thereby reinforcing dependency and the sick role of the patient."[31] Field studies have shown that when caregivers do not wear white coats, patients or residents are less dependent.[22,23] For example, in a specialised unit for older adults (with dementia), Charras and Gzil observed that after three months of providing care without wearing a white coat, staff members found the residents more autonomous (e.g., residents performed activities such as cleaning or clearing the table more spontaneously).[33] Chu and al. made the same observation in a hospital setting (with adult patients) and specified that, with a non-uniform policy in place, patients became more active and engaged instead of passively complying.[29] In contrast to these studies, in the case of our research, the dependency of the care recipient was not assessed directly, as we focused on the level of dependency perceived by members of the general population. Indeed, the behaviour of the older person was completely identical in both of our videos, only the caregiver's clothing varied. For this reason, the results obtained are innovative and open up new directions of research. Another difference and advantage of our research compared to pre-existing studies is that we only analysed the effect of the white coat. With our methodology we were able to isolate the white coat effect from other parameters (such as the effect of the environment, etc.), which is not the case for field-based studies.

However, these preliminary data must be qualified. Although we observed a strong effect of the caregiver's clothing on the perception of the older person's dependence (the older person was considered to be 14.77% more dependent when the caregiver was wearing a white coat), the other pairs of adjectives did not seem to be influenced by the caregiver's clothing. Our initial explanation for this could be that activities performed by the actors in our video are everyday-life activities (such as peeling potatoes, walking outside, and preparing medication for the week). The criterion of (in)dependence is commonly used in our language to refer to the (in)ability to carry out daily living activities. Another hypothesis is that, unlike the other adjectives, the term "dependence" might be perceived as more global (referring to a range of different things). This term may match more to what was seen in the video because we asked the participants to assess the older person not performing a specific task but engaged in a very diverse set of activities.

Our secondary analyses, relating to the perception of the caregiver wearing (or not) a white coat, confirm the existing data. The white coat is a symbol of competence, knowledge and professionalism that can inspire patient confidence and safety.[24–28] A systematic review conducted by Petrilli et al., involving 30 studies (with 11,533 participants), explored the influence of physicians' clothing on the patients' percep-

tions.[35] According to the study, adult patients prefer when their caregivers are dressed formally or wear a white coat on in 60% of cases. However, the white coat is also associated with symbols of authority and power, which can induce fear and submission.[28,30,36,37] As a result, professionals wearing a white coat could be considered, ambivalently, as competent but cold.[38] Thus, in survey results it is not uncommon to observe that patients express a preference for professionals with a white coat, while considering them less friendly and approachable than professionals with civilian attire.[25,39] In the case of our study, we only assessed the perception of competence and provided help. It would have been relevant to also assess other concepts, such as the perceived warmth as modelled in the Stereotype Content Model theory and tested in prior research.[40,41]

Despite its contribution to the scientific literature, the current study has certain limitations that should be considered in future research. Firstly, the questionnaire used was constructed for this specific occasion but is not a validated questionnaire. The pairs of adjectives used were chosen based on our objectives. However, in the future it would be interesting to conduct a pilot study based on a more extensive pool of adjective pairs and then to carry out a factor analysis to group the items (and eliminate duplicates).

Another methodological weakness is that the results obtained offer leads but are not sufficient to draw general conclusions. Firstly, the results obtained are specific to the video and therefore cannot be generalised to all older people or all caregivers. This would require a replication of the study with videos involving other older people (men and women) and other caregivers (men and women). It might also be interesting to test other environments and other types of activities. Another limitation to the generalisation of the results is that this is a fictitious and virtual situation, far from the real situations encountered in the field. For example, we asked the actress who plays the caregiver in the video to have as neutral an expression and attitude as possible, so that only her clothing would be different from one video to another. However, it is likely that the attitude of the caregiver changes depending on whether he or she is wearing a white coat or not, which is "the enclothed cognition" effect mentioned earlier. Thus, in a real situation the probably paternalistic attitude of the healthcare professional in a white coat could reinforce the mere effect of the white coat on the perception of the older person. And as such, we may perceive the older person as all the more dependent.

Finally, our innovative study opens new research perspectives but does not identify the underlying processes by which the white coat influences our perception. In future research, it may be interesting to investigate this topic further, by identifying the responsible mechanisms: the priming effect, classical conditioning, or the stereotype threat.[42]

Clinical implications

This study suggests that the white coat can influence the way we perceive an older person (and their level of dependence). Other negative consequences also exist and have been discussed in this article. At the same time, the white coat is a sign of competence for the professional caregiver. It can be appreciated by healthcare professionals for its usefulness (identification, protection) but also by older people themselves.[10,43] In the study of Eikelenboom-Boskamp et al. (2023), 92 nursing home residents indicated a preference for a professional white jacket with blue jeans, compared to three alternative types of nurses' attires (casual attire; blue polo with blue jeans; completely white uniform).

While older adults seem to prefer more formal nursing attire,[44] we cannot ignore the possible deleterious consequences of the white coat, which operate at more unconscious levels. All these factors need to be considered when thinking about wearing white coats. It is important to determine (1) whether special nursing attire is to be worn (or not), (2) the type of nursing attire to be worn, and (3) when it should be worn. There are many different types of nursing attires available today, each more or less appropriate depending on the care setting.[43] A scrub, for example, was originally a surgical attire used to provide hygienic protection. The term "scrub" is used because staff are expected to scrub themselves before operating.[45] In non-acute care settings, however, it would not be required, especially as older people do not seem to appreciate the complete uniform.[43] Depending on the type of care setting and the type of care task, the white coat would be more or less appropriate. If care is rather a way of building a relationship with the recipient - which could be the case in institutional settings such as psychiatric clinics and nursing homes - then wearing civilian clothing may be favourable. However, in these settings, a white coat may be worn at specific times (e.g., during medical tasks). It is therefore recommended to adopt the attire according to the objective sought and the patient group targeted.[46]

5. Conclusion

The present study was the first time we examined the influence of a (female home care) professional's attire (white coat vs. civilian clothing) on the general population's perception of the older person whom she is interacting with. The results obtained indicate that when the caregiver is wearing a white coat, the older person at her side is seen as significantly more dependent than when the caregiver is in civilian

clothing. We also observed that the caregiver is perceived as significantly more competent when wearing a white coat. The results obtained are specific to certain pairs of adjectives (i.e., dependence and competence of the caregiver) and we do not observe an effect of the caregiver's attire on the other 10 adjectives used. Moreover, the results are specific to the video used for this study and are therefore not meant to be generalised. Nevertheless, if other studies confirm these interesting initial leads, it will be necessary to consider the change or the removal of uniforms as it can have harmful effects on older people.

ACKNOWLEDGEMENTS
We greatly appreciate the valuable comments and assistance from members of the aging research unit. We would also like to thank all those who took the time to participate in this study.

AUTHORS CONTRIBUTIONS
C. Crutzen, PhD student, and Prof. S. Adam were responsible for study design. C. Crutzen were responsible for data collection, statistical analysis, and drafted the manuscript. Prof S. Willems revised statistical analysis. Prof. S. Adam and Prof. S. Willems revised the manuscript. All authors read and approved the final manuscript.

FUNDING
Not applicable.

CONFLICTS OF INTEREST DISCLOSURE
The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

INFORMED CONSENT
Obtained.

ETHICS APPROVAL
The Publication Ethics Committee of the Sciedu Press. The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

PROVENANCE AND PEER REVIEW
Not commissioned; externally double-blind peer reviewed.

DATA AVAILABILITY STATEMENT
The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

DATA SHARING STATEMENT
No additional data are available.

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